

**SUSTAINABILITY AND SUSTAINABLE
DEVELOPMENT:
AN INVESTIGATION ON THE ROLE OF
ISLAMIC FINANCE AND OTHER
DETERMINANTS IN THE OIC MEMBER
COUNTRIES**

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Abstract

For the last three decades, sustainability has become a more prominent topic of global discussion. The Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) of the United Nations are regarded as benchmarks for country-level sustainability attainment. Recognising the MDGs and SDGs as the established framework for advancing the global developmental agenda, their primary rules governing social, economic, and environmental development are compatible with Islamic tenets. This study conducts a comprehensive review of the pertinent literature to determine whether Islam promotes a distinctive model of sustainable development and contributes to framing complex development challenges. Considering Islamic finance as a tool for achieving sustainable development, this study provides a critical examination and elaboration on two primary debates. First, this study examines the impact of Islamic finance development and other determinants on the achievement of the sustainable development at the country level from 2013 to 2019. Second, the study examines the relationship between Islamic banks' sustainability disclosure practises and financial performance from 2016 to 2019. The Sustainable Development Index (SDI) and Corporate Sustainability Disclosure Practices (CSDP) scores are developed to assist the empirical stage of this study. Within these two contexts, a study of OIC member countries is considered empirically. This clarifies the nature and objectives of Islamic finance as a component of possible development policies. The evidence presented in this study does not appear to corroborate the SDI's assertion that Islamic finance has a substantial influence on sustainable development in OIC member countries. In addition, this research reveals that membership in the GCC, which is typically regarded as a benefit since it is the only high-income group in the OIC, does not necessarily correspond with a greater degree of sustainability practices at the firm level.

Keywords: Sustainable development, sustainable finance, MDGs-SDGs, Islamic finance and banking, OIC countries.

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Table of Contents

Abstract	i
Acknowledgement	ii
Table of Contents	iii
List of Tables	vi
List of Figures	vii
List of Equations	viii
CHAPTER 1	1
INTRODUCTION	1
1.1 Introduction.....	1
1.2 Research Background	1
1.2.1 Sustainability and Sustainable Development	1
1.2.2 Islamic Finance	4
1.2.3 OIC Member Countries.....	7
1.3 The Need for the Research	11
1.4 Research Outline.....	13
1.4.1 Overall Aim of the Research	13
1.4.2 Research Questions.....	14
1.4.3 Research Objectives.....	15
1.4.4 Research Significance.....	15
1.4.5 Expected Contribution to Knowledge	16
1.5 Thesis Structure	16
CHAPTER 2	20
LITERATURE REVIEW I: THE CONCEPT OF SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT	20
2.1 Introduction.....	20
2.2 Mainstreams of Development Paradigm	20
2.2.1 Development as Purely Economic Growth.....	21
2.2.2 Development as a Multidimensional Concept.....	22
2.2.3 A Shifting Development Paradigm.....	23
2.3 Theoretical Framework of Development.....	26
2.3.1 Conventional Theories.....	27
2.3.2 Non-Conventional Approaches to Development.....	37
2.4 The Concept of Sustainability	44
2.4.1 Definition	44
2.4.2 Philosophical Foundation.....	46
2.5 The Concept of Sustainable Development	51
2.5.1 Definition	51
2.5.2 History.....	53
2.5.3 Pillars of Sustainable Development.....	54
2.5.4 Sustainable Development Framework.....	58
2.6 The Concept of Corporate Sustainability	65
2.6.1 Introduction.....	65
2.6.2 Sustainability Reporting.....	65
2.6.3 Guidelines and Benchmark of Sustainability Reporting	67
2.6.4 Theoretical Framework of Corporate Sustainability Disclosure Practices Among Islamic Banks	70
2.6.5 Theoretical Framework on the Relationship between Corporate Sustainability Disclosure Practices and Corporate Financial Performance.....	76
2.7 Chapter Summary	78
CHAPTER 3	79
LITERATURE REVIEW II: ISLAMIC VIEW OF SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT	79
3.1 Introduction.....	79
3.2 Theoretical Framework.....	79

3.2.1	Islamic View of Sustainability and Sustainable Development	80
3.2.2	Islamic Legal Theories: An Approach to Sustainable Development	96
3.3	Islamic Finance and Sustainable Development	115
3.3.1	Overview of Islamic Finance	115
3.3.2	Philosophical Foundation of Islamic Finance	120
3.3.3	Principles of Islamic Finance	130
3.3.4	Islamic Financial System	130
3.3.5	Islamic Finance-Sustainable Development Nexus	135
3.4	Chapter Summary	139
	CHAPTER 4.....	140
	LITERATURE REVIEW III: MEASUREMENT AND DETERMINANTS OF SUSTAINABLE DEVELOPMENT AND CORPORATE SUSTAINABILITY	140
4.1	Introduction	140
4.2	Measurement of Development.....	140
4.2.1	Human Development Framework.....	141
4.2.2	Social Development Framework	146
4.3	Measurement of Sustainable Development	150
4.3.1	Single- and Multiple-based Indicator Measurement	150
4.3.2	Measurement of Millennium Development Goals (MDGs).....	155
4.3.3	Measurement of Sustainable Development Goals (SDGs)	157
4.3.4	Review of the Current Measurement	159
4.3.5	Factors Associated with Sustainable Development.....	161
4.4	Measurement of Corporate Sustainability Disclosure Practices	170
4.4.1	Perspectives on the Measurement of Corporate Sustainability Disclosure Practices	170
4.4.2	Studies on the Measurement of Corporate Sustainability Disclosure Practices	174
4.4.3	Factors Associated with Corporate Sustainability Disclosure Practices	180
4.5	Chapter Summary	186
	CHAPTER 5.....	187
	RESEARCH METHOD I: RESEARCH DESIGN AND METHODOLOGY.....	187
5.1	Introduction.....	187
5.2	Research Paradigm	187
5.2.1	Overview	187
5.2.2	Research Paradigm of PhD Thesis.....	189
5.3	Research Design	190
5.3.1	Overview of Research Design	190
5.3.2	Research Design of PhD Thesis.....	190
5.4	Research Method	195
5.4.1	Quantitative Method	195
5.4.2	Qualitative Method	195
5.4.3	Research Method of PhD Thesis	196
5.5	Research Approach.....	197
5.5.1	Overview of Research Approach.....	197
5.5.2	Research Approach of PhD Thesis	197
5.6	Variables for Country Level Perspective	198
5.6.1	Dependent Variable: Sustainable Development Index (SDI).....	198
5.6.2	Explanatory Variables.....	200
5.7	Variables for Firm Level Perspective.....	239
5.7.1	Dependent Variable: Corporate Sustainability Disclosure Practices (CSDP) Score	239
5.7.2	Explanatory Variables.....	240
5.8	Data Collection Method and Data Analysis	255
5.9	Ethical Approval	256
5.10	Chapter Summary	256
	CHAPTER 6.....	257
	RESEARCH METHOD II: SUSTAINABLE DEVELOPMENT INDEX CONSTRUCTION	257
6.1	Introduction.....	257
6.2	Millennium Development Goals (MDGs) Index.....	257
6.2.1	Methodology	258
6.2.2	Indicators Selection and Data Collection	259
6.2.3	Country Selection.....	267

6.2.4	Data Limitations.....	267
6.3	Sustainable Development Goals (SDGs) Index	268
6.3.1	Methodology	268
6.3.2	Indicators Selection.....	269
6.3.3	Data Collection	271
6.3.4	Country Selection.....	271
6.3.5	Data Limitation	272
6.4	Results of SDI Computation.....	272
6.4.1	General descriptive statistics of SDI.....	272
6.4.2	Empirical Distribution	278
6.5	Chapter Summary	287
CHAPTER 7.....		288
RESEARCH METHOD III: MEASURING CORPORATE SUSTAINABILITY DISCLOSURE		
PRACTICES		288
7.1	Introduction.....	288
7.2	Corporate Sustainability Disclosure	288
7.3	Methodology.....	290
7.3.1	Research Design.....	290
7.3.2	Unit of Analysis	292
7.3.3	Data Period and Collection Technique	293
7.3.4	Sampling, Population, and Data Limitations	293
7.4	Results of CSDP Score Computation	299
7.4.1	General Descriptive Statistics of CSDP Score	299
7.4.2	Empirical Distribution	306
7.5	Chapter Summary	313
CHAPTER 8.....		314
RESULT I: SUSTAINABLE DEVELOPMENT DETERMINANTS		
314		314
8.1	Introduction.....	314
8.2	Descriptive Statistics.....	315
8.3	Univariate Results.....	329
8.4	Multivariate Results	333
8.4.1	Islamic finance development variable	337
8.4.2	Other explanatory variables	338
8.5	Robustness Check: Sub-sample Analysis Using GCC Countries	342
8.6	Chapter Summary	352
CHAPTER 9.....		354
RESULTS II: DETERMINANTS OF ISLAMIC BANKS' SUSTAINABILITY DISCLOSURE		
PRACTICES		354
9.1	Introduction.....	354
9.2	Descriptive Statistics.....	355
9.3	Univariate Results.....	372
9.4	Multivariate Results	375
9.5	Robustness Check: Sub-sample Analysis Using Publicly Listed Islamic Banks.....	381
9.5.1	Univariate Results	386
9.5.2	Multivariate Results.....	389
9.6	Chapter Summary	395
CHAPTER 10.....		397
DISCUSSION, SUMMARY AND CONCLUSIONS		
397		397
10.1	Introduction.....	397
10.2	Discussion	397
10.2.1	A Missing Link between Theoretical Foundation of Islamic Moral Economy and Its Reality: Evidence from OIC Member Countries.....	397
10.2.2	Other Area-based Studies Support the Sustainable Development Condition of OIC Countries	399
10.2.3	Impact of Islamic Principles on the Results	400
10.3	Overall Summary.....	409
10.4	Contribution to Knowledge	412
10.5	Limitations of the Study and Suggestions for Further Research.....	416
Appendices.....		419

Appendix 1. Supplementary results of MDGs Index calculation	419
Appendix 2. Supplementary results of CSDP score calculation	423
Appendix 3. Supplementary information on Islamic finance principles.....	428
References.....	431

List of Tables

Table 2. 1 International development paradigm shifts toward global development.....	25
Table 2. 2 The peculiarity of scale and scope of global development	26
Table 2. 3 List of SDGs	63
Table 4. 1 Review of development measurements.....	160
Table 5. 1 Summary of positivism and phenomenology characteristics	188
Table 5. 2 Two main research paradigms from different assumptions.....	188
Table 5. 3 Summary of empirical models	194
Table 5. 4 Description of variables for investigating development determinants	235
Table 5. 5 Description of variables for investigating sustainability disclosure practices.....	253
Table 6. 1 Summary of MDGs variables included in the MDGs Index calculation.....	265
Table 6. 2 Summary of data coverage, by country	267
Table 6. 3 Summary of SDGs indicators included in the SDGs Index calculation	270
Table 6. 4 SDI values for OIC member countries, 2013-2019	274
Table 6. 5 Level of sustainable development based on SDI values.....	278
Table 7. 1 Summary of the OIC Islamic banks included in the study (2016-2019, mean)	295
Table 7. 2 CSDP score (2016-2019)	300
Table 8. 1 Summary statistics of key variables	317
Table 8. 2 Pearson correlation coefficients for key variables for SDI.....	330
Table 8. 3 Multivariate results of sustainable development determinants.....	334
Table 8. 4 Multivariate results of sustainable development determinants (sub-sample).....	345
Table 9. 1 Summary statistics of key variables	357
Table 9. 2 Pearson correlation coefficients (CSDP, financial performance and other factors).....	373
Table 9. 3 Multivariate results of the determinants of Islamic banks' sustainability disclosure practices	376
Table 9. 4 List of publicly listed Islamic banks included in the sub-sample analysis.....	383
Table 9. 5 Overall descriptive statistic	385
Table 9. 6 Pearson correlation coefficients for key variables of CSDP, financial performance and other factors (sub-sample, publicly listed Islamic banks)	387
Table 9. 7 Multivariate results of the determinants of corporate sustainability disclosure practices (sub-sample)	390

List of Figures

Figure 3. 1 The flow and relation between <i>Shari'ah</i> -oriented policy (<i>Siyasah Shar'iyah</i>), the objectives of <i>Shari'ah</i> (<i>Maqasid al-Shari'ah</i>) and public interest (<i>Maslahah</i>)	111
Figure 3. 2 The Qur'anic concept of development under the concept of building the earth (<i>i'mar al-ardh</i>)	113
Figure 3. 3 Five elements of <i>Maqasid al-Shari'ah</i> must be enriched as fundamentals of human development and well-being.	114
Figure 3. 4 The Islamic vision of development rooted in the concept of <i>Falah</i>	115
Figure 3. 5 Principles of Islamic Finance.....	130
Figure 6. 1 SDI values 2013-2019 (mean), by country.....	276
Figure 6. 2 SDI values 2013-2019 (mean), by region.....	277
Figure 6. 3 SDI values 2013-2019 (mean), by geographical location	277
Figure 6. 4 Empirical distribution of SDI values 2013-2019 (mean), by score level classification.....	279
Figure 6. 5 Empirical distribution of SDI values 2013-2019 (mean), by score level classification (%)	280
Figure 6. 6 Empirical distribution of SDI values 2013-2019 (mean) based on Income level	281
Figure 6. 7 Empirical distribution of SDI values 2013-2019 based on marginal differences (per year), by country	283
Figure 6. 8 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by country	284
Figure 6. 9 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by country	285
Figure 6. 10 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by countries' income level.....	286
Figure 7. 1 Sample distribution, by country.....	294
Figure 7. 2 CSDP score 2016-2019 (mean), by country	304
Figure 7. 3 CSDP score 2016-2019 (mean), by region	305
Figure 7. 4 CSDP score 2016-2019 (mean), by GCC/non-GCC countries	305
Figure 7. 5 CSDP score 2016-2019 (mean), by geographical location	306
Figure 7. 6 Distribution of CSDP score 2016-2019 (mean), by score range.....	307
Figure 7. 7 CSDP score 2016-2019 (mean), by countries' income level	309
Figure 7. 8 CSDP score 2016-2019 (mean), by type of bank ownership	310
Figure 7. 9 CSDP score 2016-2019 (mean), by legal origin.....	311
Figure 7. 10 The association between the CSDP score of Islamic banks and their size	312
Figure 8. 1 SDI and IFDI score, mean by country	326
Figure 8. 2 SDI and IFDI score, mean by region and legal origin.....	327
Figure 8. 3 SDI and IFDI score, mean by GCC/non-GCC and income group	327
Figure 8. 4 SDI and IFDI score, mean by climate classification and Islamic school of thoughts (<i>Madhab</i>).....	328
Figure 9. 1 Frequency distributions of CSDP score of Islamic banks (2016-2019).....	368
Figure 9. 2 Frequency distributions of the total assets of Islamic bank (2016-2019)	369
Figure 9. 3 CSDP score and Total Assets of Islamic banks (2016-2019), mean by country, region, GCC/non-GCC, legal origin, and ownership.....	370

List of Equations

(Eq. 4. 1)	175
(Eq. 4. 2)	176
(Eq. 4. 3)	179
(Eq. 5. 1)	197
(Eq. 5. 2)	198
(Eq. 7. 1)	292
(Eq. 7. 2)	292

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter discusses the thesis's broad introduction, which begins with the background and motivation of the study. The background established a connection between the concepts of sustainability or sustainable development and Islamic finance, emphasising their spread throughout the study's geographical regions. As a result, the entire motivation for this study stems from the theoretical, methodological, and practical gaps that are exhaustively discussed and splattered throughout the subsequent sections. Additionally, the following sections emphasise the study's overall aim, research questions and objectives, and expected contribution.

1.2 Research Background

To ensure a comprehensive understanding of this study, this sub-section will discuss several key terms associated with the research background, including the definition and conceptualisation of sustainability and sustainable development, the characteristics of OIC member countries, and the definition and the development of Islamic finance.

1.2.1 Sustainability and Sustainable Development

The terms 'sustainability' and 'sustainable development' are frequently used interchangeably in various publications and are not strictly distinguished (Bettencourt & Kaur, 2011; Deng, 2015; Zhu & Hua, 2017). As discussed by (Olawumi & Chan, 2018) and (Sartori, Da Silva, & Campos, 2014) because the concept of sustainable development is frequently associated with the concept of sustainability, the two terms are frequently used interchangeably, even in academic and scientific fields, as evidenced by the literature.

Regarding the definition and concept of sustainability and sustainable development, criticisms emerged. Various schools of thought argue that sustainable development is a self-contradictory concept, owing to the impossibility of sustaining infinite economic growth on a finite planet (Redclift, 2005; Wolfgang, 1999) and the contradictions inherent in its objectives (Spaiser, Ranganathan, Swain, & Sumpter, 2017). This position highlights the enormous problem –not only epistemological, but also social, political, economic, cultural, and environmental– of establishing local and global environmental policies and actions on the basis of a contradictory or ill-defined concept. As a result, authors have warned since the 1990s about the importance of rethinking sustainability as a distinct concept that now bears relevance for new environmental approaches such as ‘degrowth’ and ‘*buen vivir*’ which translated as ‘well-living society’ (Kothari, Demaria, & Acosta, 2015).

The concept of sustainable development originated in the early 1970s, when numerous works warned against the need to impose limits on the Western development model (Mebratu, 1998; Mitlin, 1992). The accumulating evidence of the negative environmental consequences of the green revolution in agriculture (Carson, 1962) industrial pollution such as the Minamata disease (Harada, 1995) and the Seveso disaster (Bertazzi, 1991) and the Western way of life and urbanisation (Meadows, Randers, & Meadows, 1972), as well as the risks inherent in sustaining the economic growth rationale as the strategy for development (Meadows et al., 1972).

As discussed by Mebratu (1998) the debates of those years resulted in the emergence of the concept of eco-development (Estenssoro, 2015), an approach that attempted to reconcile social development with the necessary respect for ecosystems in order to preserve the planet’s habitability. Although eco-development did not become a dominant concept in international policy, it was the forerunner of a new concept connecting development and sustainability.

The World Commission on Environment and Development’s (1987) report, ‘Our Common Future’ defined sustainable development as development that meets current needs without jeopardising future generations’ ability to meet their own (WCED, 1987). Afterwards, the majority of the international community accepted the statement as the new development paradigm (Alvarado-Herrera, Bigne, Aldas-Manzano, & Curras-Perez, 2017; Gore, 2015).

However, there have been some criticisms levelled at the concept and definition of sustainable development. As discussed by Mebratu (1998), Naredo (2004), for example, attributed the inability of the sustainable development agenda to its ambiguity. (Bergh, 1996) identified and analysed 12 alternative theoretical perspectives from which to define sustainable development; and (Onisto, 1999) expressed concern about the lack of a precise definition of sustainable development that incorporates natural physical laws such as the principles of thermodynamics.

According to (Mitlin, 1992), the heritage that connects the term ‘sustainable development’ to ‘economic growth’ has sparked a debate about the term’s contradictory meaning, as various authors have taken opposing positions. According to some, development –defined as economic growth– is incompatible with sustainability because an infinite growth process is impossible on a finite planet (Beckerman, 1992; Spaiser et al., 2017). Others emphasise the importance of economic growth in order to acquire the resources necessary for sustainability, an explanation that is mostly consistent with Kuznets’s hypothesis of the need for economic growth in order to acquire the means to repair environmental damage (Dinda, 2004), but remains unproven except for the correlation observed in some countries between the decline in certain contaminants and economic growth (Stern, Common, & Barbier, 1996).

Apart from the aforementioned contradictions and the concept’s diversity of interpretations (Glavič & Lukman, 2007), the literature demonstrates some consensus regarding the implications of sustainable development, and the resulting discussion introduces alternatives to the old paradigm of development. On the one hand, the notion of the complexity of real systems –understanding a system as a collection of interconnected elements that generate emergent properties– has become established on the basis of a multidimensional conceptualization, most frequently considering social, economic, and environmental dimensions as a whole, avoiding sectoral scopes and giving weight to emergent properties (Spangenberg, 2002; Valentin & Spangenberg, 2000). On the other hand, the pursuit of inter- and intragenerational equity has highlighted the importance of expanding spatial and temporal horizons (Ruggerio, 2021).

Furthermore, the term ‘development’ refers to a broad concept that encompasses a variety of dimensions: social, economic, political, and human. Prior to the 1970s, this term was frequently used to refer to rapid economic growth as a single indicator, as measured by an increase in GNP or GDP on an annual basis (Todaro & Smith, 2011). Fritz, Kaiser, and Levy (2009)

defined development as a deliberate and comprehensive economic, social, cultural, and political process occurring within a defined geographic area that is based on human rights and ecological principles and seeks to continuously improve the well-being of the entire population and all of its individuals. Modern development theories were sparked by the situation in the mid-twentieth century, when decolonisation occurred and the economic disparity between European and underdeveloped nations became apparent (Kahn, 2015). Development, in its broadest sense, has been extensively studied in order to achieve economic growth and social development. The emphasis, however, shifted away from industrial and economic development as determining factors in societal transformation (Booth, 1994).

Within the development discourse, the socioeconomic dimension plays a significant role in analysing the people's wealth. Socioeconomic development is also an interdisciplinary field of study that seeks to elucidate the causes and effects of social change. Thus, the term 'socioeconomic development' is defined as the capacity to produce an adequate and growing supply of goods and services efficiently and productively, to accumulate capital, and to distribute production fairly and equitable (Stearns & Jaffee, 1992).

In accordance with prior research (i.e., Bettencourt & Kaur, 2011; Deng, 2015; Olawumi & Chan, 2018; Sartori et al., 2014; Zhu & Hua, 2017), the terms 'sustainability' and 'sustainable development' will be used synonymously and interchangeably in this study. Chapter 2 will further concentrate on the intricacies of the talks regarding the definition, concept, and theoretical framework of sustainable development.

1.2.2 Islamic Finance

1.2.2.1 Definition

Islamic finance is defined as a financial service that is primarily focused on adhering to *Shari'ah's* (Islamic law) central tenets. *Shari'ah* is primarily based on the Holy *Qur'an*, *Hadith* or *Sunna*, *Ijma*, *Qiyas*, and *Ijtihad*. The Holy *Qur'an* is the book of revelation revealed to the Prophet Muhammad; *Hadith* or *Sunna* is the narrative related to deeds, utterances, customary practices, and behaviour of Prophet Muhammad (PBUH) during his lifetime; *Ijma* is the

consensus among religious scholars on specific issues not addressed in either the Holy *Qur'an* or the *Sunna*; and *Qiyas* is the use of analogy to provide an explanation.

There are numerous definitions of Islamic finance in the literature, ranging from relatively simple definitions for specific aspects (simply as a synonymous of Islamic banking) to more complex definitions that encompass all financial operations. Warde (2000) defines Islamic financial institutions are those that are guided by the *Qur'an's* principles in their objectives and operations. This definition implies that Islamic financial institutions are not limited to banks, but also include other types of financial intermediaries that adhere to *Shari'ah* principles. The other point of departure is that *Shari'ah* ostensibly requires Muslims to adjust every aspect of their lives and to develop a comprehensive moral system. According to Z. Iqbal and Mirakhor (2011), while the dominant Western financial system emphasises the capitalistic characteristics of economic and financial processes, Islamic finance aims to achieve actual moral and equitable resource distribution and social justice in all (Muslim) societies.

The distinction between conventional and Islamic finance is based on Islamic principles, referred to as Islamic prohibitions at times. As discussed by (El-Gamal, 2006), the five prohibitions in light of Islamic principles have been discussed by many Muslim scholars: (i) Charging or accepting *Riba* which translated into interest or usury; (ii) *Gharar*, which generally translated into excessive risk/uncertainty/speculation; (iii) *Maysir* (gambling), as an effect of pure speculation; (iv) Islamic transactions cannot involve the trading of illegal commodities in *Shari'ah* law such as alcohol or the participation in pornographic activities; and (v) No transaction shall be carried out without the consent of both parties (*'adam at-tharadhy*), and neither party should be compelled to conduct business against their will. As implementation of Islamic transactions law (*Fiqh Mu'amalat*) Contemporary banking and finance professionals created financing products that meet funding requirements while adhering to Islamic principles.

According to by El-Gamal (2006), Islamic financial institutions carry out all transactions, contracts, and operations associated with conventional finance and banking, but in accordance with *Shari'ah*. *Shari'ah* imposes such prohibitions for ethical reasons and to advance socioeconomic goals. In these instances, *Shari'ah*-compliant practises are implemented to adhere to Islamic law. Thus, El-Gamal (2006) sees both conventional modern finance and *Shari'ah* law as the origins of Islamic finance.

Historically, the practice of Islamic finance dates all the way back to the Middle Ages, when trade and commercial activities in the Muslim world were governed by Islamic contractual principles (*mu'amalah*). These Islamic-based finance principles have spread throughout Spain, the Mediterranean region, and the Baltic states, undoubtedly laying the groundwork for Western banking principles (Ayub, 2012). Islamic finance resurfaced in the modern world during the 1960s and 1970s. Between 1963 and 1967, a pioneering experiment in putting Islamic banking principles into practise was conducted in Mit-Ghamr, Egypt, by providing financial assistance to small and medium-sized enterprises (SMEs) through a profit-loss sharing arrangement.

1.2.2.2 Current Development of Islamic Financial Services Industry

Islamic finance is gaining traction in OIC member countries as a viable alternative—or even considered as the main financial system for few OIC countries— source of finance for addressing significant development challenges (SESRIC OIC, 2021). The current Islamic financial services industry has grown by 11.3% (y-o-y) to USD 3.06 trillion in 2021, up from USD 2.70 trillion in 2020.

The Islamic banking and Islamic capital market sectors both primarily contributed to the growth of the global Islamic finance industry's total worth, in which Islamic banking' share is accounted for 68.7% (growth 6.5% y-o-y) while Islamic capital market' share is 30.5% (growth 11.6% y-o-y). Despite many countries experiencing economic recessions as a result of lockdowns and increased uncertainty caused by the Covid-19 pandemic, Islamic finance demonstrated overall growth in 2021 (IFSB, 2022).

The GCC countries maintained their regional dominance as the leading Islamic finance asset domicile. The value of the GCC region's share in global Islamic finance increased by 3.5 percentage points (pp) to 52.4% in 2021. In addition, the area acquired a greater COVID-19 vaccination coverage than other regions, which aided in accelerating the reopening and recovery of their economies. South-East Asia (SEA) maintained its second-place position in terms of regional Islamic finance market share in 2021, despite a little decline to 23.5% (2020: 24.5%). In the second half of 2021, the SEA region had a greater comeback of the COVID-19 pandemic, in addition to the effects of food price inflation. The Middle East and South Asia (MESA) region formed the third-largest percentage of worldwide Islamic finance assets in

2021, accounting for 17.4% (2020: 20%). In addition to the fact that the majority of countries in the area experienced a low COVID-19 immunization rate owing to a resurgence, increasing inflation due to high oil and commodity prices had a knock-on impact on economic recovery in some others. Furthermore, despite an increase, Africa's proportion in global Islamic finance remained modest at 2.1% (2020: 1.6%). Similar to the MESA region, the Africa region's economic recovery has been hampered by inflation, currency rate instability, and a low vaccination rate. Other countries, which included Turkey, the United Kingdom (non-OIC), and the Commonwealth countries, accounted for only 4.5% of global Islamic finance assets.

It is worth noting that the proportion of Islamic banking assets to total banking assets varies by country. Apart from Iran and Sudan, where Islamic banking dominates (100%) the domestic market, Saudi Arabia, Brunei, and Kuwait are the only three countries with a domestic Islamic banking market share of more than 50% in which at 77.2%, 58%, and 51.9%, respectively. Other countries have also a sizable Islamic banking market share such as Malaysia (31.5%), Qatar (28.1%), Bangladesh (26.3%), Djibouti (25.1%), UAE (23.9%), Jordan (21.3%), and Bahrain (21.2%).

1.2.3 OIC Member Countries

1.2.3.1 Structure and History of Organisation

The Organisation of Islamic Cooperation (OIC) is an inter-governmental organisation founded in 1969 and currently consists of 57 member countries where Islam plays a significant role. These are countries with Islam as the state religion (i.e., Saudi Arabia, Iran), as well as those with a Muslim majority (i.e., Indonesia, Pakistan, Nigeria). Occasionally, members are admitted from countries where Muslims are a minority but play a significant role in the economics of region (i.e., Benin, Cameroon, Gabon). With member countries spread across four continents and a combined population of over 1.89 billion people (SESRIC OIC, 2021), the OIC is the second largest organisation after the United Nations. The OIC's objective is mainly considered as the Muslim world's collective voice that works to safeguard and protect the Muslim world's interests.

According to recent reports (Pew Research Centre, 2017; SESRIC OIC, 2020), The OIC countries account for a sizable proportion of the world's developing countries, accounting for approximately 21.60 percent of the global population, and thus possess significant human, material, and natural resources, as well as significant potential for cooperation and exchange with various sectors. Furthermore, Muslims population account for approximately 24% of the world's 7.8 billion population in 2020. Notably, the demography of OIC member states varies significantly. Pakistan, Bangladesh, and Nigeria, for example, are among the world's most densely populated countries, with populations exceeding 100 million, including Indonesia, which has a population of over 200 million. By contrast, several OIC member countries, including Suriname, Brunei, Maldives, Djibouti, Guyana, and Comoros, have populations of less than one million. In terms of regional basis, Muslims are concentrated in Asia Pacific (61.9 percent), the Middle East and North Africa (20.1 percent), and Sub-Saharan Africa (15.3 percent), with a minority in Europe and America (2.4 percent and 0.3 percent, respectively).

Historically, the OIC was established by a decision of the historic summit held in Morocco in September 1969 in response to the criminal arson of Al-Aqsa Mosque in occupied Jerusalem. In 1970, the Islamic Conference of Foreign Ministers (ICFM) held its inaugural meeting in Jeddah, where it decided to establish a permanent secretariat headed by the organisation's secretary general and they made a commitment not only to political cooperation, but also to other sectors:

“Muslim government would consult with a view to promoting among themselves close cooperation and mutual assistance in the economic, scientific, cultural and spiritual fields, inspired by the immortal teachings of Islam.” (OIC, 1970, p. 56).

The first OIC Charter was adopted at the 1972 Third ICFM Session. The Charter established the organisation's objectives and principles, as well as its fundamental purposes of promoting solidarity and cooperation among its member countries. The membership has increased from 30 founding members to 57 over the last 40 years. The Charter was amended to reflect global developments. Thus, the primary objective of the OIC Charter is a broad discourse aimed at preserving Islamic-based social and economic values; promoting solidarity among member states; enhancing cooperation in the social, economic, cultural, scientific, and political spheres; defending international peace and security; and advancing education, particularly in the fields of science and technology.

1.2.3.2 Macroeconomic Performance

OIC member countries have gradually improved their productive capacities to generate more output through increased economic activity over the years. However, the OIC countries' share of developing countries' total GDP has been steadily declining (SESRIC OIC, 2020)

More precisely, between 2010 and 2019, the total output of OIC countries increased by 63%, reaching USD 21.5 trillion in 2019, up from USD 13.2 trillion in 2010. It is projected to grow by another 5% until the end of 2021, reaching USD 22.6 trillion in productive capacity. Despite decades of progress, many OIC countries' economic levels have remained below the aspirational level. In 2019, OIC member countries accounted for nearly 24.3% of the world's total population and produced up to 15.1% of the world's total GDP, expressed in current USD and based on PPP. However, OIC member countries accounted for only 8.2% of global production in 2019 when measured in current prices. Between 2015 and 2019, the group of OIC countries was unable to increase its share of global output, which fell to a record low of 15.1% in 2019. However, their share is expected to increase slightly to 15.3% in 2020, before declining to 15.2% in 2021, despite the pandemic-related negative growth rates projected for the OIC countries in 2020.

Given that the share of some individual countries, such as the United States and China (15.1% and 19.2%, respectively, in 2019 PPP), is greater than the combined share of OIC countries, the OIC countries as a group contribute relatively low to global output. On the other hand, the OIC countries' share of developing countries' total GDP has steadily declined, reaching 25.4% in 2019, a decrease of one percentage point since 2015. The decline in the OIC countries' share of developing countries' total GDP indicates that OIC economies have not expanded as rapidly as non-OIC developing economies. During the same period, non-OIC developing countries experienced a more rapid growth in output, with total GDP reaching USD 63.2 trillion in 2019, a significant increase from USD 49.1 trillion in 2015.

Additionally, it is noted that the OIC's total GDP is still produced by a few member countries. In 2019, the top ten OIC countries generated 74.2% of the OIC's total GDP. Indonesia accounts for the highest share of OIC GDP (17.4%), followed by Turkey (11%), Saudi Arabia (8.8%), and Iran (6.9%). The group of OIC member countries' overall economic performance remained highly dependent on the developments in these ten countries. Indeed, fuel is the primary source

of export revenue for four of the ten OIC member states, namely Saudi Arabia, Iran, the United Arab Emirates, and Nigeria.

1.2.3.3 Sustainable Development Performance

According to studies conducted by SESRIC OIC (2020), the OIC member countries' overall performance in the current sustainable development agenda (i.e., Sustainable Development Goals or SDGs), indicates to unlikely achieve the prioritised SDGs by 2030. In addition, OIC member countries performed poorly and below the global average on the last SDGs Index publication, which stands at 60.8 compared to the global average of 66.7 (Sustainable Development Report, 2021).

On the brighter side, some achievements on various SDGs targets deserve to be highlighted. In terms of poverty alleviation, the OIC countries group, for example, had approximately 30.5% of their population living on less than 1.90 USD per day in the 2000s. By 2018, this rate had nearly halved to 16.7%. Despite significant improvements, progress toward ending extreme poverty for all people in the OIC by 2030 is projected to be insufficient.

Despite decades of economic growth and industrialisation, hunger remains one of the leading causes of death globally and in the OIC member countries. The prevalence of malnutrition decreased from 16.8% in 2000 to 13.3% in 2017. Despite this overall positive trend, the increase from 12.5% in 2011 to 13.3% in 2017 is quite concerning.

Along with improvements in coverage of essential health services and immunisation for children, the OIC countries have made significant progress in reducing maternal, infant, and child mortality. For example, the OIC countries have made significant progress in reducing under-five mortality, which has decreased from 100 deaths per 1,000 live births in 2000 to 56 deaths per 1,000 live births in 2018.

In terms of education, the majority of OIC countries have seen an increase in pre-primary enrolment. On the basis of progress made between 2000 and 2019, it is estimated that 15 OIC countries will be able to provide pre-primary education to all children by 2030. At the level of the OIC countries, the rate of pre-primary education participation remains low, at 60% in 2019.

Regarding the indicator of affordable and clean energy, while the OIC countries have made some progress, critical issues remain with regard to renewable energy generation. The total OIC population with access to electricity increased by 10 percentage points between 2000 and 2017, reaching 73.4%, but still falling short of the global average of 88.8% in 2017. Additionally, renewable energy's share of total final energy consumption has increased slightly globally, from 17.2% in 2000 to 17.3% in 2017.

On the other hand, the Report notes that the OIC countries made slow or negative progress toward certain targets, most notably in the areas of decent work and economic growth. To illustrate, growth in labour productivity slowed in the OIC region following the 2008-2009 financial crisis. The average unemployment rate in the OIC has increased from 5.8% in 2000 to 6.7% in 2018. In 2018, more than a fifth of youth were not in employment, education, or training.

1.3 The Need for the Research

Analysing the relationship between religion and sustainability or sustainable development is extremely interesting. Leys and Shaw (1996) argued that many classic works consider the 'disenchantment'¹ with religion and development, solely because religion appeared irrelevant to the processes they were analysing except, perhaps, as an impediment to modernisation. On the other hand, some researchers argued that religion, as a growing force in world affairs and a guide for living a good life, has the potential to play a decisive role in the development process (J. L. Barrett, 2000; Ter Haar & Ellis, 2006b; Tyndale, 2003). Chapra (2008b), a prominent Islamic economist scholar, argued in the Islamic literature that Islam has a vision of social and economic development based on *Maqasid al-Shari'ah* (the objectives of Islamic law). According to Chapra (2008b), the primary indicator of development is not simply an increase

¹ This phrase is used by Max Weber in his book *The Protestant Ethic and the Spirit of Capitalism* (M. Weber & Kalberg, 2013). Weber viewed religion as a central force in society (Allan, 2005). He argued that Calvinist (and, more broadly, Protestant) religious ideas had a significant influence on the social innovation and development of the Western economic system but noted that they were not the only factors. Weber also mentioned the rationality of scientific pursuits, the fusion of observation and mathematics, the science of scholarship and law, and the rational systematisation and bureaucratisation of government administration and economic enterprise (Bendix, 1998).

in income and wealth, but also the satisfaction of justice and human brotherhood, which emphasise both the spiritual and non-material components of well-being.

It is worth noting that the financial sector is critical to any country's development because financial institutions facilitate the mobilisation and allocation of savings efficiently (Diener & Suh, 1997). As a result, there is a wealth of research among scholars demonstrating the critical nature of a stable Islamic-based economic and financial system for achieving the development as an implementation of *Maqasid al-Shari'ah* (Abu Seman & Dzolkarnaini, 2019; Akram Laldin & Furqani, 2013; S. S. Ali, 2019; Amir-ud-Din, 2019; Asutay & Harningtyas, 2015; Bedoui & Mansour, 2015; Chapra, 1992; Dusuki & Abdullah, 2007; Esen & Esen, 2019; Kasri & Ahmed, 2019; Larbani & Nizam, 2019; Mohammad & Shahwan, 2013a). Likewise, it is also believed that Islamic finance has a positive relationship with social change and community development (A. Ahmed, 2019; Moghul, 2017; Pepinsky, 2013; Sairally, 2006) while some researchers (i.e., Asutay, 2007; Hamoudi, 2007) highlighted the failure of Islamic finance in achieving its socially responsible as described in the framework of *Maqasid al-Shari'ah*. As stated in numerous studies, Islamic finance has the potential to contribute to development in two critical ways: first, by promoting risk-sharing contracts as a viable alternative to conventional debt-based financing, and second, by promoting specific instruments of wealth redistribution (i.e., through *zakat*, *waqaf*, and *sadaqah*).

While Islamic finance is regarded as an auspicious financial institution, it has been criticised for failing to live up to the original goals of *Maqasid al-Shari'ah*. According to some researchers, Islamic finance does have an effect on economic growth. However, the term 'development' as applied to socioeconomic justice in Islam's framework of *Maqasid al-Shari'ah* does not refer exclusively to economic growth (Asutay, 2007). Furthermore, Hamoudi (2007) explained that the goal of Islamic finance was to create a more equitable economic system based on partnership profit-sharing. However, Hamoudi (2007) argue that Islamic finance has failed to achieve its most fundamental and central objectives, but the causes of that failure are not well understood. These critics, however, are largely narrative in nature and continue to be biased as a result of a lack of further discussion regarding the measurements or quantitative approach necessary to determine the extent to which Islamic finance has failed to achieve development.

Having said that, discussion of Islamic finance and its relationship to sustainable development with a specific measurement (i.e., index, performance score) that can be linked to sustainability and sustainable development performance in Muslim-majority countries (i.e., OIC member), are extremely rare. Using a set of comprehensive measures of current sustainable development framework (i.e., MDGs and SDGs), this study aims to examine the role of Islamic finance and other determinants in sustainable development performance at a country level of OIC member countries. Additionally, this study will conduct a firm-level analysis to determine the relationship between corporate sustainability disclosure practices and corporate financial performance of OIC Islamic banks.

Therefore, this study examines the relationship between Islamic finance and the sustainable development of OIC member countries at both levels of analysis: macro (country level) and micro (firm level). To the best knowledge of the researcher, no previous study has quantitatively examined the relationship between Islamic finance and other determinants of OIC member countries' sustainable development performance as well as the relationship between corporate sustainability disclosure practices and corporate financial performance of OIC Islamic banks. As such, this study will contribute significantly to closing the gap in our understanding of the concept of sustainability and sustainable development within the context of Islamic perspective.

1.4 Research Outline

1.4.1 Overall Aim of the Research

Within the framework of sustainability and sustainable development theories as well as the Islamic perspective on sustainable development, this research will examine the role of Islamic finance in promoting sustainability or sustainable development in OIC member countries at both country- and firm-level analysis. For the country-level analysis, this study will examine the role of Islamic finance on the performance of OIC member countries' sustainable development. Further, this study also aims to investigate the other factors associated in driving sustainable development.

With regards to the firm-level analysis, this study examines the relationship between corporate sustainability disclosure practices and the financial performance of Islamic banks in OIC member countries. Additionally, this study will analyse the other factors that contribute to the corporate sustainability disclosure practices in OIC Islamic banks.

1.4.2 Research Questions

The following pertinent questions are posed to achieve the overall aims of this study:

1. Does Islamic finance have a significant impact on the performance of OIC member countries' sustainable development performance?
2. Do the empirical findings regarding Islamic finance and sustainable development support the theoretical presumption (i.e., Islamic finance is positively related to sustainable development)?
3. Do the sustainable development determinants that have been tested in prior studies remain significant in explaining factors associated with sustainable development in OIC member countries?
4. Does the financial performance of individual Islamic banks in OIC member countries have a significant impact on their corporate sustainability disclosure practices?
5. Are the empirical findings regarding the relationship between financial performance and corporate sustainability disclosure practices consistent with the theoretical premise (i.e., financial performance is positively related to corporate sustainability disclosure practices)?
6. Do the determinants of corporate sustainability disclosure practices that have been tested in prior studies remain significant in explaining factors associated with the corporate sustainability disclosure practices of Islamic banks in OIC member countries?

1.4.3 Research Objectives

The following objectives are developed in order to answer the research questions:

1. Exploring the conception of sustainability and sustainable development as well as the Islamic perspective on sustainable development.
2. Investigating the relationship between the performance of sustainable development and Islamic finance in OIC member countries.
3. Examining the relationship between other factors affecting the OIC member countries' performance on sustainable development.
4. Exploring the concept of corporate sustainability and corporate financial performance.
5. Examining the relationship between corporate sustainability disclosure practices and corporate financial performance in the Islamic banks of OIC member countries.
6. Examining the relationship between other factors affecting the corporate sustainability disclosure practices of Islamic banks in OIC member countries

1.4.4 Research Significance

This study investigates the factors that influence the performance of OIC member countries in terms of sustainable development on a country and firm level. More precisely, the study examines the extent to which Islamic finance contributes to the sustainable development performance of OIC member countries at the country level. For the firm level analysis, on the other hand, the study examines the extent to which corporate financial performance contributes to Islamic banks' sustainability disclosure practices in OIC member countries. The following highlights the significance of this study:

1. Whereas the literature is abundant with information on economic growth and development measurement, this study will fill a knowledge gap regarding the factors and determinants of sustainable development performance in relation to the presence of Islamic finance, particularly in OIC member countries. As a result, this research will make a significant

contribution toward explicitly quantifying the relationship between Islamic finance and the performance of sustainable development.

2. Whereas the literature on corporate sustainability measurement is varied, this study will also address a gap in the literature on financial performance and other determinants of corporate sustainability disclosure practices, with an emphasis on Islamic banks' current practices in OIC member countries.

1.4.5 Expected Contribution to Knowledge

This study is expected to make a number of contributions. To begin, this study will contribute significantly to the development of a conceptual framework for analysing sustainable development and its relationship to the presence of Islamic finance at the country level, particularly in OIC member countries. Second, there is a dearth of research examining the relationship between Islamic finance theory and the widespread belief that Islamic finance promotes sustainable development on the basis of Islamic philosophical principles such as *Maqasid al-Shari'ah*, *Siyasah Shar'iyah*, and *Maslahah* that all promote social justice, distributive justice, and social welfare and how these three principles are connected and integrated. Although, in practice, criticisms emerged as the pattern of Islamic finance is considered purely financial in nature, focused on ways to increase capital accumulation in order to maximise profit, while ignoring religious and spiritual dimensions and resulting in social and environmental harm (Badr El Din, 2006). Third, this study is expected to contribute to the development of studies for analysing sustainability disclosure practices at the firm level and investigating how financial performance and other determinants affect the corporate sustainability disclosure practices of Islamic banks in OIC member countries. As a result, this study will contribute to the investigation of the causes and consequences of this issue.

1.5 Thesis Structure

This thesis attempts to examine the role of Islamic finance in OIC member countries at two different levels of analysis: country- and firm-level. On a country-by-country basis, this thesis examines the role of Islamic finance in the performance of OIC member countries' sustainable development. Additionally, this thesis investigates additional factors that may contribute to

sustainable development. In terms of firm-level analysis, this thesis investigates the determinants of Islamic banks' sustainability disclosure practises, identifying the characteristics of Islamic banks that affect the extent of disclosure. Hence, the thesis is organised in ten chapters, as explained below.

The first chapter has provided an overview of the work and emphasised the researcher's motivation for selecting this topic. The research questions were then presented, followed by the research objectives, which provided additional context for the research. Additionally, this chapter emphasised the significance of this work and stated the research's contribution to the academic field.

Three chapters are devoted to elaborating on the study's literature review. Chapter two aims to provide the reader with a better understanding of the concepts of sustainability and sustainable development by first discussing the two dominant development paradigms, which view development as either purely economic growth or as encompassing multiple dimensions. Concerning the theoretical foundations of sustainability, the chapter discusses their philosophical underpinnings, which can be summarised as three major constraints on human behaviour: meeting basic human needs, ensuring social equity, and respecting environmental limits. Following that, an extensive literature review is conducted on the concept, guidelines, and theoretical framework of corporate sustainability.

Chapter 3 conducts a comprehensive review of the literature on Islamic perspectives on sustainable development studies, including a discussion of the Islamic perspective on sustainability's theoretical framework and method of implementation. The chapter discusses the concept of *Maqasid al-Shari'ah* (Islamic law's higher ethical objectives), *Siyasah Shar'iyah* (*Shari'ah*-oriented public policy), and *Maslahah* (welfare or public interest), all of which encompass ideals and ethics in all spheres of life, including social, economic, and environmental spheres. Following that, this chapter discusses the overview, brief history, and theoretical foundations of Islamic finance, as well as previous research on the nexus between Islamic finance and sustainable development.

Following that, Chapter 4 conducts a comprehensive review of the literature on the measurement and determinants of sustainability and sustainable development from two distinct perspectives: country level (macro analysis) and firm level (micro analysis). This chapter

discusses various measures of development at the country level, which primarily fall into three categories: (i) human development (i.e., Human Development Index, Physical Quality of Life Index, Gender-Related Development Index, and Gender Empowerment Measure); (ii) social development (i.e., Social Development Index, Multidimensional Poverty Index, and Human Poverty Index); and (iii) sustainable development (i.e., MDGs and SDGs). This chapter also discusses various measures of corporate sustainability disclosure practises at the firm level, which generally take the following perspectives: single- and multiple-based, single- and multiple-based, weak- and strong-sustainability, and triple bottom line. Following that, this chapter discusses several empirical studies on the determinants of corporate sustainability disclosure practises, including corporate characteristics (i.e., size, industry sector, age, and risk), general contextual factors (i.e., country of origin, economic context), and internal contextual factors (i.e., corporate governance, *Shari'ah* governance).

Chapter 5 defines the research design and methodology of this thesis by discussing the thesis's paradigm, research approach, as well as the variable definitions, data collection method, and data analysis.

Chapter 6 discusses the process of creating a sustainable development index (SDI) by combining the MDGs and SDGs indices results. This thesis chapter discusses the historical context and index computation model developed by previous studies for the MDGs index. Additionally, the chapter discusses the empirical distribution of OIC countries by SDI level and marginal differences.

Chapter 7 describes the methodology used to calculate the corporate sustainability disclosure practises for Islamic banks. To determine the corporate sustainability disclosure score of Islamic banks, this study combines qualitative and quantitative data derived from content analysis of annual reports to generate disclosure-related data for sustainability dimensions. Additionally, this chapter presents empirical data on the corporate sustainability disclosure practises of Islamic banks (i.e., by score range, country income level, and legal origin),

The following two chapters summarise the current study's findings. For the results of country-level analysis, Chapter 8 summarises the findings regarding the relationship between Islamic finance and the OIC countries' performance on sustainable development. Additionally, this chapter discusses the effects of other determinants of sustainable development. Further, for the

results of firm-level analysis, Chapter 9 examines the determinants of corporate sustainability disclosure practises among Islamic banks in OIC member countries.

Finally, Chapter 10 summarises the thesis's major findings and implications, as well as highlighting a number of significant contributions to knowledge. Additionally, this final chapter discusses several limitations and future research directions.

CHAPTER 2

LITERATURE REVIEW I: THE CONCEPT OF SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

2.1 Introduction

This chapter provides context for this study by conducting an in-depth review of the existing literature on the concept of sustainability and sustainable development. The following two sections provide an overview of two development paradigms (section 2.2) as well as the development theoretical framework (section 2.3). Sections 2.4 and 2.5, respectively, discuss the concept of sustainability and sustainable development. Additionally, Section 2.6 expands on the firm-level sustainability discourse by delving into the theoretical framework for corporate sustainability disclosure practices. Finally, Section 2.7 summarises the chapter.

2.2 Mainstreams of Development Paradigm

The concept of development is perplexing and difficult to define since it has historically undergone several alterations and variations in meaning in response to socio-political events at various points in time. One could argue that the term ‘development’ has a variety of definitions that change according to the perspective, criteria, and role of those who define it (Alkire, 2002; Alkire & Foster, 2011; Alkire & Santos, 2014). In the 1940s, scholars from historically less developed parts of Europe and the colonial world contributed to the creation of modern theories of development by emphasising the state’s role (Harriss, 2016). According to Todaro and Smith (2011) study, ideas of development were historically influenced by the circumstances in the mid-20th century, when decolonisation happened and the economic discrepancy between European and developing nations became apparent.

Todaro defines development as a process of enhancing the quality of all human lives with three primary goals: (i) improving people’s living standards, such as income and consumption,

access to food, medical care, and education, through relevant growth processes; (ii) fostering the development of people's self-esteem through the establishment of social, political, and economic systems and institutions that promote human dignity and respect; (iii) expanding people's freedom of choice by expanding the range of their choice variables, including the variety of goods and services available.

As a result, development rhetoric is typically connected with either pure economic expansion or with socioeconomic issues. Schirber and Myint (1949) defined these two relationships as two distinct methods to development analysis: (i) the fight against poverty as an economic issue that focuses on the problems of poverty, hunger, and suffering in developing nations, as well as on the question of what can be done in the short term to alleviate the situation; (ii) long-term economic and social development analysis that focuses on comparing changes across countries, regions, and historical periods in order to acquire a better understanding of the elements that influence the dynamics of socioeconomic development through time.

As previously stated, the long history of development discourse in defining society's well-being typically converges on two major conceptions: a standard measure of economic progress or a multidimensional view.

2.2.1 Development as Purely Economic Growth

The discussions about development are generally linked to fundamental questions such as why are poor countries poor and rich countries rich? Why do developing countries lag behind developed countries in terms of raising their living standards? How might impoverished countries achieve greater prosperity? How can developing countries catch up to developed countries? In this perspective, a critical dimension of the term of 'development' is typically economic growth, or more accurately, the expansion of national per capita income (Szirmai, 2005, 2008, 2015, 2018).

In the 1950s and 1960s, economists regarded development as a series of successive stages of economic growth that all countries must pass through. It was essentially an economic theory of development, arguing that the correct amount and mix of saving, investment, and foreign aid were sufficient to enable emerging countries to follow the path of economic growth previously pursued by more industrialised countries. As a result, development came to be

linked with quick and aggregate economic growth (Todaro & Smith, 2011) and much of the development concept discussed by prominent researchers (Hirschman, 1958; Isaac & Leibenstein, 1955; Myrdal, 1975; P. Rosenstein-Rodan, 1969; Saul, 1958; Scitovszky, 1941; Weyforth & Nurkse, 1955) was extremely condensed, covering only a small percentage of social and other dimensions of development (D. Ray, 2000, 2007, 2010).

Economic development, by definition, must conceptually identify instruments and strategies for achieving development goals. Economic development is growth that occurs in the context of qualitative changes in the structure of production and employment, commonly referred to as structural change (Kuznets & Murphy, 1966; Szirmai, 2005, 2008, 2015, 2018). Prior to the 1970s, rapid economic growth—as a goal of economic development in its purest form to create the wealth of a nation—was considered a good proxy for other characteristics of development (Todaro & Smith, 2011). Additionally, Dang and Pheng (2015) classify economic development theories—as a subset of development discourse—into two categories: (i) classical theories (which include four theory clusters: linear stages of growth models, structural change models, international dependence models, and neoclassical counter-revolution models); and (ii) contemporary theories (consisting of two theory clusters: new growth theory and theory of coordination failure).

2.2.2 Development as a Multidimensional Concept

In the 1960s, there were criticisms of the dominant view of development, which focused on economic growth. Numerous researchers (i.e., Alkire, 2002; Alkire & Foster, 2011; Alkire & Santos, 2014; Chenery, 1983; Myrdal, 1975; Seers, 1979; Streeten, 1983; Ul Haq, 1995) and public organisations (i.e., the United Nations Development Programme), point out that despite impressive post-World War II growth rates, developing countries saw little change in the poor's living conditions (Chenery, 1983; Myrdal, 1975; Seers, 1979; Streeten, 1983; Ul Haq, 1995). They decided that development cannot be defined only in terms of economic growth.

Other opponents went further and questioned the oversimplification of progress by focusing exclusively on economic elements. Similarly, critics of a country's rapid growth while failing to improve social indicators such as literacy, health, life expectancy, and nutrition. Similarly, Easterlin (1974) argues that economic growth does not only benefit individuals by increasing their happiness or satisfaction. According to social scholars, development should not be viewed

solely in economic terms, but also in terms of the emergence of so-called ‘social indicators’ such as life expectancy, literacy, educational attainment, infant mortality, the availability of telephones, hospital beds, licenced physicians, and so on. Within this context, the United Nations proposed global development framework that included both social and economic development (i.e., Human Development) as well as environmental sustainability (i.e., Millennium Development Goals and Sustainable Development Goals) as a way of benchmarking the global development agendas.

2.2.3 A Shifting Development Paradigm

Prior to discussing sustainable development, numerous studies (i.e., Horner, 2017, 2020a, 2020b; Rockström, Sachs, Öhman, & Schmidt-Traub, 2013; J. Sachs, 2015; Schmidt-Traub, Kroll, Teksoz, Durand-Delacore, & Sachs, 2017b; Wolfgang, 1999) frequently make reference to several key terms such as ‘international development,’ ‘global development,’ and the ‘North-South’ binary as a means of gaining a comprehensive picture of the importance of sustainable development itself.

The term ‘global development’ is frequently inextricably linked to other terms such as ‘international development’ or is frequently associated with a ‘North-South binary,’ even though each term has a distinct implied meaning (Horner, 2017, 2020a, 2020b). International development discourse has been defined as an interstate action facilitated by aid from the North (developed countries) to the South (developing countries), which has played a critical role in determining development outcomes in various countries based on income (UNDP 2013), wealth (OECD 2010), global middle class (Sumner, 2016), poverty (Kanbur & Sumner, 2012), inequality (Bourguignon, 2015; Bourguignon et al., 2010; Milanovic, 2016a, 2016b; Milanovic & Roemer, 2016) or development cooperation (Mawdsley, 2015). Thus, the term ‘international development,’ which is frequently associated with a ‘North-South binary,’ according to Horner (2017, 2020a, 2020b), appears to be losing relevance in terms of its capacity to encompass a diverse range of actors, processes, and significant challenges, confronting our world at the turn of the 21st century.

Indeed, the dividing line between ‘developed’ and ‘developing’ countries is eroding, while new development zones emerge in economic, human, and environmental terms, casting doubt on the long-held divide between a wealthy North and developed world and a poor developing

South (Horner, 2017, 2020a, 2020b; Horner & Hulme, 2019). This situation is therefore indicative, as is the World Bank's announcement in April 2016 that it will cease to differentiate between the two groups in its annual report, World Development Indicators. Given these arguments, it would seem intuitively more appropriate to use the term 'global development' rather than the somewhat dated term 'international development.' As a result, a new 'paradigm for global development' has been proposed (Gore, 2015). The indiscriminate association of development with the global South, both in terms of research and practise, has sparked criticism. Horner (2020b) emphasises the importance of eschewing the 'North-South binary' or 'international development,' which both tend to simplify global problems by dividing them into a 'South as a development problem' and a 'North as a problem solver':

The North-South binary's changing paradigm in global development; It should be noted that there is ongoing dissatisfaction with the North-South binary design due to its inadequacy. According to some researchers, such as Maxwell (1998) and Gaventa (1998), these perspectives are no longer relevant, and that poverty and social exclusion must be the subject of fair debate on and in the world. Indeed, given the magnitude of unemployment and the number of people living below the poverty line in northern OECD countries, inequalities and poverty were recognised as global in nature and affecting all countries two decades ago (De Haan & Maxwell, 2017; Therien, 1999). The challenges of sustainable development; The concept of sustainable development, as originally defined in the Brundtland Report in 1987, could be considered a significant challenge for all countries, given the presence of planetary boundaries that provide biophysical boundaries for a secure operational space for global society's development (Steffen et al., 2015). The development movement called the Sustainable Development Goals (SDGs), adopted in 2015, describe in great detail the development movement in a global context. The global reference framework for sustainable development goals is diametrically opposed to previous goals.

The predecessor of SDGs, the Millennium Development Goals (MDGs) were established at a time when key objectives were almost exclusively defined by developed countries. The SDGs' 17 global goals outline actions that all countries, developed or developing, can take to accomplish them. Of course, this distinguishes the SDGs from the MDGs, which were almost exclusively used to sustain developing countries. However, in recent years, there has been an increasing emphasis on the growing urgency of global sustainable development (J. Sachs, 2012). Thus, defining development as sustainable development may have been a critical step

in moving beyond international development’s traditional North-South binary orientation to consider global development.

Table 2. 1 International development paradigm shifts toward global development

<i>Issue</i>	<i>International Development</i>	<i>Global Development</i>
Geographical concentration	Geographical orientation: synonymous with ‘poor countries,’ ‘poor people,’ and the Global South	Universal: Concerns about sustainable development exist wherever they do; Issues that are interconnected and shared between North and South
Nomenclature spatial	First-Second-Third Worlds; Developed/Developing; Global North-South	Layering: Convergence at the global level, divergence at the national and subnational levels (enclaves, peripherality, connectivity/exclusion)
Prominent meaning of development	Southern countries catching up with the Global North in terms of modernisation and growth	Agenda for the SDGs: transformation, genuine ‘global development’; sustainability and social justice.
Morality and actors in development	Northern countries and non-governmental organisations (NGOs) provide charitable and development assistance.	Cooperation in development between established and new donors; a diverse array of domestic and international sources of public and private development finance

Source: Horner (2017).

A critical distinction can be made between ‘global development’ and ‘international development’ or ‘North-South binary’ on a ‘scale’ or ‘scope’. Global development, like sovereign (national) and foreign (international) issues, is a component of development studies (Currie-Alder, 2016). On the other hand, this latter definition of ‘global development’ as a reach can be thought of as a ‘paradigm of global development’ (i.e., Gore, 2015), which will be developed in greater detail as a suitable approach to go beyond international development (Horner, 2017, 2020a, 2020b; Horner & Hulme, 2019). Significant distinctions between the two conceptions of global development emerge in terms of geographic focus, a range of issues, their origins, and their relationship to international development. These distinctions are summarised in Table 2.2 below and will be discussed further in the following discussion. Finally, it is proposed that the paradigm of ‘global development as a process’ is more appropriate for the 21st century.

Table 2. 2 The peculiarity of scale and scope of global development

<i>Issue</i>	<i>International development</i>	<i>Global development</i>
Geographical concentration	Particular: The Global South, which is synonymous with ‘poor countries’ and ‘poor people.’	Universal: issues of sustainable development exist throughout the world. The binary term ‘North-South’ was omitted.
Crucial issues	Global South Development (post-war)	All countries with interconnected and shared issues (i.e., global public goods).
Origins	Globalisation of the 1990s as embodied in the Millennium Development Goals (MDGs)	Post-2015 Sustainable Development Goals (SDGs): Patterns of ‘converging divergence’ (falling inequalities between countries, growing within)
Connection to international development	Parallel operations	Successor

Source: Horner (2017).

2.3 Theoretical Framework of Development

The term ‘development’ is usually used to refer to a wide notion aimed at the common good. It embodies growth, progress, and a sense of movement in the correct direction. However, when the term ‘development’ was included as a part of the terminology, a plethora of conceptions and ideas emerged. Once beyond the bare necessities such as life, food and housing, the term ‘development’ becomes a theoretical means to many ends, affected by the political, religious, cultural, and intellectual ideas of those proposing a theory. As a result, while the majority of people agree that development fosters a fundamental sense of improvement for all, there is considerable debate over what improvement ultimately requires and generates, as well as how to attain it.

In the modern sense, the term ‘development’ and ‘developmentalism’ have come to symbolise one of the Enlightenment’s utopian ideals: that the modern logical and scientific mind may intervene to enhance the human being by liberating him from the vicissitudes of nature and moral and religious constraints. Thus, liberated from these shackles, the human being can utilise their mind to exploit the material universe to their advantage, thus generating infinite

expansion and growth. The use of scientific methods to the study of human behaviour, particularly in the economic dimension, would enable the formulation and application of growth theories in the form of policies. Moreover, developmentalists —those who believe that a scientific project of universal betterment in all spheres of life is achievable and deserving of attention— would say that development encompasses more than economic progress and encompasses all spheres of human well-being.

However, other critics pointed out that, in reality, there is no other issue worthy of consideration for development because development, by its very essence, excludes everything that cannot be quantified statistically. As a result, the term ‘development’ is an emotive and contentious issue that antagonists and protagonists frequently exploit to attempt to sway attitudes and opinions. This section will provide an overview of development theories, followed by a more extensive examination of the ideas of their most successful detractors.

2.3.1 Conventional Theories

2.3.1.1 Classical Economics

It should be highlighted that ‘development’ in its modern sense is very much concentrated on the material and scientifically quantifiable components of human existence. As a result, the economics has become the basic theoretical pillar of the theory. In the 18th century, following earlier philosophical movements of the Enlightenment period, economics became a self-proclaimed science. Economics is an attempt to apply scientific methods to deduce the ostensibly universal principles governing human economic behaviour, and thereby to do for the social sciences what physics and biology accomplished for the physical sciences.

However, the true catalysts for the development of economics were not purely scientific endeavours. The purpose of conventional economic theory was to give theoretical underpinnings for the developing capitalist movement, which was rebelling against previously dominating systems such as feudalism, aristocracy, and monarchical control of the state through mercantilism. The founders of this new movement, which would eventually become the ruling capitalist class, likewise sought to liberate themselves from old religious domination, even in its mutated form of Calvinism and Protestant principles. It was important to provide the

groundwork for a new governing class of industrialists and financiers who could utilise ‘new wealth’ in the colonised lands freely and without interference from the king or God. Thus, Hobbes (1588-1679), Locke (1632-1704), and Hume (1711-1776) pioneered the philosophical concept of personal interest and unfettered private ownership as novel and distinct requirements for a prosperous society.

On the basis of this ‘enlightened’ philosophy, the classical economy’s superstructure was built, which was to become the temple of the capitalist devout. Adam Smith, —a close confidant of Hume— was the grandfather of this subject. His book, *The Wealth of Nations* (1776), which was published during the American Revolution, and John Stuart Mill’s *Principles of Political Economy* (1848), respectively, marked the beginning and end of a period of economic thinking known as ‘classical economics.’

Smith, like his Enlightenment forefathers, demonstrated that economic action is solely motivated by self-interest and the markets are merely venues for the balance and exchange of these particular interests. He continued by stating that this personal interest should be regulated and managed by the reasonable individual and, if that is not sufficient, by governmental regulation. Smith postulated that prices were mostly influenced by labour input and, thus, by wages provided to workers. Additionally, he recognised the cost of rent component that contractors pay landlords and therefore altered their pricing formula to include wages, rents, and profits. According to Smith, market forces would naturally sustain the prices thus determine it, such that if market prices fell, producers would choose a product with lower rents and wages in order to maximise profits. As a result, the ‘invisible hand’ of market forces would determine a ‘fair’ price. Profits in the form of savings gave capital for additional labour and technological investments. As a result, the Smithian vision of development was to liberate self-interest, which may result in the accumulation of an increasing amount of capital. This philosophy was founded on the concept of free markets in order to challenge the mercantilist heritage of barriers and protectionism. For Smith, this ‘natural freedom’ was a moral high ground since it reconciled natural liberty suffocated by mercantilism.

David Ricardo (1772-1823) was a prosperous British merchant who placed a high attention on academic pursuits, particularly in the subject of political economy. His thought can be summarised in his numerous works, including *Principles of Political Economy and taxation* (1817) and *On the Principles of Political Economy* (1821). As with Smith, Ricardo opposed the

landowning class and was a member of a group of reformist thinkers known as ‘philosophical radicals’ who advocated for trade liberalisation and the elimination of restrictions such as tariffs, which they claimed resulted in high prices for goods, which in turn resulted in higher rents and favoured only landowners, whom they believed did not contribute to the value of procreation. Ricardo advanced a theory of comparative advantage between nations, arguing that each nation would specialise in areas where it could produce more efficiently than others due to its knowledge and geographic advantages. Ricardo applied Smith’s concept of division of labour to the international stage and hence opposed any impediment to the free flow of trade between nations (Ricardo, 1821, 1891). Between the lines, Ricardo desired to weaken the landlord class by artificially imposing property rights that would prevent rents from being increased in response to rising staple food prices. This was the case in the United Kingdom at the period, when the Corn Laws placed tariffs on imported goods based on their international prices. Ricardo’s arguments ultimately resulted in the removal of the Corn Laws in 1846 and essential contribution to the classical economy (Ricardo, 1891). Currently, the thesis of liberal free trade between nations resulting in an efficient international market in which specialisation and geographic advantages offer a comparative advantage is still advocated and proposed as genuine. The Nobel laureate and author of one of the most widely read books on economics and development, Paul Samuelson, called this idea of international comparative advantage as ‘an unshakeable underpinning for international trade’ (Dornbusch, Fischer, & Samuelson, 1977; Samuelson, 1954).

John Stuart Mill (1806-1873) was one of the last classical economists to advocate for a socially responsible and ethical dimension to economic life, at a time when the industrial revolution’s darkest aspects, such as the growing misery of a large segment of the working class, were already manifest in society. Although Mill agreed in principle with Bentham’s (1748-1832) concept of utility, he established the concept of ‘higher pleasures’, such as intellectual and sensual pleasures, and argued that they were the most desirable attributes of sentient people and society. Although the antagonism between workers and capitalists was recognised, it was viewed as something that would vanish after the initial phase of industrialisation ended and society transitioned from capitalism to state collaboration. Thus, Mill envisioned a society in which the government maintained a laissez-faire attitude while enacting measures to achieve social justice, such as equitable wealth distribution and minimal standards of treatment for workers and the poor. These concepts were presented in Mill’s 1848 work, *Principles of*

Political Economy, and his 1859 book, *On Liberty*. Most notably, Mill proposed a distinction between science and values. While scientific laws of economic behaviour could thoroughly analyse and forecast production, supply, and demand, the distribution of wealth and ethics were entirely different issues that were dependent on social norms and value systems and allowed governments to intervene for the greater and more reasonable social good. These viewpoints have proven to be extremely influential in the subject of development, paving the way for intellectuals such as Marx and Engels to present their social theories.

2.3.1.2 Neoclassical Theories

The economics transitioned from a political economy approach to a completely scientific economy approach in the late 19th century. Following in the footsteps of the physical sciences, economics has developed an obsession with the mathematical, analytical tools of calculus, algebra, and geometry. Several studies (i.e., Arnsperger & Varoufakis, 2006; Endres, 1997; Goodland & Ledec, 1987) discussed that the economic study's objective of neo-classical theory was to increase efficiency in order to facilitate mathematical analysis of production, labour, and trade realities, as it was necessary to make assumptions about a variety of exogenous factors that did not lend themselves to scientific analysis, such as values, ethics, and equity. Economic debates remained a static, sanitised, and mechanistic depiction of what the economy represented. All stages of the economy that require scientific investigation were examined through the lens of mechanics and physics. As a result, the economy was viewed as a complicated mechanism that could be readily compartmentalised. Furthermore, factors of production and resources were viewed as inputs, whereas labour and skills were viewed as discrete and controllable processes, and outputs were evaluated based on their marketability. When the economy was viewed as a physical thing, analysts were solely responsible for identifying inefficiencies at every stage and in every component of the machine. Thus, the emphasis has been on resource allocation efficiency, manufacturing efficiency, and market efficiency. This transformation is referred to as the marginalist revolution, and its forerunners include William S. Jevons (1835-1882), Carl Menger (1840-1921), and Leon Walras (1837-1910).

Although the breakdown of the marginal theory is beyond the scope of this study, it is observed that this movement reflects a shift away from the consideration of utility *per se*, —which is

difficult to quantify— to the favour of the belief that modest changes in restrictions result in decisions about the use of products or services. In other words, the extent to which, changes in certain circumstances have a direct effect on user or consumer preferences. This shift in perspective made it possible to analyse preferences and choices quantitatively and mathematically. Jevons argued that rational consumers would prioritise their consumption choices based on the marginal utility of each available option, ensuring that with marginal changes, the consumer's consumption of various commodities and services remained balanced. These pioneering philosophers emphasised consumption and laid the groundwork for the theory of marginal value.

The second group of marginalists, which included Alfred Marshall (1842-1924) in England, Friedrich von Wieser (1851-1914) and Eugen von Bohm-Bawerk (1851-1926) in Austria, and Vilfredo Pareto (184 -1923) in Switzerland comprised the bulk of neo-classical economics. The neo-classical approach can be summarised as a science that advocates for an abstract and ostensibly neutral science devoid of historical, political, or sociological baggage. It is based on the premise of universal applicability and employs mathematical approaches. It is a matter of viewing an economy through the lens of a static setup that is supposed to always strive for equilibrium. Thus, if dynamics and concepts of development or change are explored, they are confined to afterthoughts. In all except the most extreme cases, government involvement is judged superfluous.

In summary, neoclassical economics is predicated on grand assumptions such as perfect competition, neutral and free markets, and maximising efficiency at all stages, which, once established, effectively balance supply and demand and ensure that all economic actors receive rewards commensurate with the value of their inputs. Thus, the capitalist economy rationalises any distribution model that results, regardless of how asymmetrical or skewed it appears.

2.3.1.3 Post-Neoclassical Thought

Thorstein Veblen (1857-1929) criticised neo-classical economics by postulating that two separate forces are at work and impact change. The first was the technical and mechanical side, which expedited production and produced useful and essential outcomes that aided development. The second was the business sector, which favoured stylish and appealing products with a short shelf life to ensure that demand is frequently refreshed, resulting in

increased profits. Veblen believed that this need for wasteful consumption was frequently met through borrowing based on anticipated future incomes, resulting in economic cycles of expansion and recession, allowing giant enterprises to acquire smaller ones, thus concentrating wealth in a few hands. By offering three opposing views on the economy, namely the technical process, the commercial process, and the predatory process, Veblen overturned the neoclassical concept of the economy being in a state of smooth and static equilibrium. This perspective recognised the diversity of human impulses and so departed from the paradigm of viewing the economy as a physical machine that can be quantified. *The Theory of the Leisure Class* (1899) brought Veblen recognition in literary circles, and in characterising the lifestyle of the rich, he invented words still in use today, such as ostentatious consumerism and pecuniary emulation.

John Maynard Keynes (1883-1946) also attempted to criticise several of the neoclassical theorists' premises, particularly the notion that workers deliberately imposed unemployment in order to maintain equilibrium. Keynes was adamant that economic systems do not sustain equilibrium on their own but require intervention to do so. Keynes' views received little attention at first, until the Great Depression occurred. Keynes felt that demand was generated by consumers and investors in need of facilities, tools, and machines, and that this aggregate demand could be generated at any level of employment, low or full. Consumer demand factors were determined by income and, hence, employment and investor demand, which was determined by expected returns, impacted by the prevailing interest rate.

Keynes reasoned, firstly, that investments in the real economy, (i.e., the creation of factories, infrastructure, and machinery) produced jobs and fuelled the economy through the revenues spent; and second, that the interest rate could be controlled to do this. However, mere interest rate adjustments were not thought adequate to boost entrepreneurial investment, and Keynes advocated for direct government involvement in the economy through national programmes.

These government spending would result in a budget deficit initially but were necessary to lift the economy out of recession. Keynes believed that contrary to the neo-classical view, government involvement in the form of monetary adjustments and taxes was necessary to generate and maintain demand, and thus employment, during recessions (J. B. Davis, 2006; Spencer, 2006). Governments have spent much time resolving depression as they prepare for war, and as a result, Keynesian theory has benefited significantly. Keynesian economics, then, formed the bedrock of a new push for social democracy in the post-war period, and

governments, primarily in Europe and to a lesser extent in America, began to proclaim government expenditures to promote the well-being of people who fought and struggled for democracy. Economic growth was now regarded as the fundamental means of advancement. Not just in Europe and the United States, but also in East Asian countries such as Japan, Korea, Singapore, and Taiwan, state intervention to restore the economy was used during the time Keynes advocated his theories. These countries took a state-led approach, establishing and supporting fledgling industries such as steel, shipbuilding, and engineering through investment and tariff regimes that prohibited competing international imports while massively subsidising resource imports. The ‘miracle’ of industrial growth in post-war Asia was largely owing to governmental intervention aimed at regulating the industry and promoting its growth through tariffs and subsidies, while also investing in skills and research through state-provided education and training. This strategy has been implemented in a number of countries globally (H.-J. Chang, 2002; P.-L. Chang & Tsai, 2002). Similar measures have been taken in various parts of the world, including Latin America, Europe, and North America (Seers, 1979).

2.3.1.4 Developmentalist Theories of Economic Development

Following World War II, development economics evolved as a distinct field devoted to ‘underdeveloped’ or ‘emerging’ countries and the factors that contribute to their economic lag behind ‘developed’ countries in terms of growth and advancement. Several distinct methodologies and ideas were developed during this time period, *inter alia*, Rosenstein-Rodan’s (1943) ‘big push’ theory, Hirschman’s (1958) unbalanced growth theory, and theories of economic geography. These theories emphasised that growth is inherently unjust in diverse locations, and that this inequality is rooted in capital and labour movements toward growth centres and so to other places that become even more impoverished. In each of these cases, the emphasis has been on proving that standard economic theory, whether neo-classical or Keynesian, that emphasises equilibrium and a large number of oxygenating factors, is insufficient to address the development issues found in the majority of countries.

However, in the 1970s and 1980s, development economics faced widespread criticism for its apparent lack of scientific rigour in some of its assumptions. As discussed by Moggridge (2010), this was mostly a neoliberal reaction to Keynesianism, more socially conscious approaches, and structuralism. Toye (1987) addresses the ‘counter-revolution’ and credits

Chicago economist Harry Johnson (1923-1977) with instigating it. Johnson believed that these movements were motivated by social perceptions rather than scientific evidence. He contended that Keynesian theory had survived for a time due to its promise to eliminate unemployment, which was based on popular belief rather than scientific proof. Johnson argued that the Great Depression was not the result of capitalism's systematic flaws but rather of a series of coincidences. Johnson also stated that structuralist policies focused exclusively on industrialisation in locations deemed unsuitable for industrialization, particularly in African countries, which resulted in resource mismanagement and corruption (Johnson, 1971). Later, Bauer (1976, 1981, 2012) and, more significantly, Lal (1999, 2000) criticised development economics as erroneous and ethically wrong, arguing for less state intervention and advocating for market and trade liberalisation. This push for a laissez-faire approach echoed 19th century liberal sentiments and became known as 'neoliberalism.'

These neoliberal scholarly arguments were made against the backdrop of Europe's and the United States' rising inflation and diminishing per capita production. Keynesian programmes appeared to be failing, lending legitimacy to the neoliberal agenda. Thus, in the 1980s, neoliberal policies were implemented with zeal and devotion in the United States under Reagan and in the United Kingdom under Thatcher.

2.3.1.5 Neoliberalism

The Austrian economist Ludwig von Mises (1881-1973), his student Friedrich von Hayek (1899-1992), and Milton Friedman (1912-2006), a colleague at the University of Chicago, are unquestionably the founding fathers of modern neo-liberalism. Their work and contributions are extremely extensive in scope, but they might be summarised as the primacy of an efficient free market, the liberty of a self-interested, rational individual, and the abolition of any state intrusions in the economy. A central tenet of these neoliberal ideas is the importance of monetary management, which is viewed as the only necessary intervention to address inflation concerns. State intervention in the form of fiscal policy, labour legislation, market regulation, or redistribution is not only detrimental and useless, but also deemed immoral, as controlling or imposing the free market is nothing more than the power's attempt to limit the people's liberty.

Since the 1980s, neoliberal thought has influenced right-wing governments in the United States and the United Kingdom, exerting a significant influence on the international development agenda. Just as 19th century, classical liberal economics justified many colonialists, revived neo-liberalism provided a chance to further the United States' and Europe's hegemonic and imperialist programmes covered by free market policy and competitive trading arrangements. Williamson (1990, 1993, 1997, 2000, 2003, 2004a, 2004b, 2009) coined the term 'Washington Consensus' to refer to a set of policy reforms that Latin American countries, and by extension all other developing countries, were required to implement in order to meet the criteria of Washington-based financial institutions such as the World Bank and the International Monetary Fund (IMF).

The Washington Consensus is widely regarded as the pinnacle of neoliberalism and development strategy. It entails the abolition of government rules and intervention in favour of the forces of an effective free market and the reasonable and selfish choices of individuals. On the external front, it was important to devalue currencies in order to reduce the cost of exports, to establish convertible monetary systems that allowed for free conversion to dollars, and to allow for free movement of capital and goods within the countries. Internally, the workforce had to be dismantled and governmental subsidies, such as those on food, had to be eliminated, while taxes, particularly on firms, had to be decreased. All of these policies were intended to cut government spending and hence deficits, promote foreign direct investment (FDI) and thus stimulate the economy, enhance competition and thus efficiency and specialisation (Brohman, 1996). The Washington consensus approach was initially used in Latin America and subsequently expanded to Africa and Asia by two key institutions, the IMF and World Bank.

The IMF and World Bank's activities as international financial institutions subsequently resulted in many countries borrowing to finance their development. While these countries were also liberalising their economies, private banks such as Citicorp began making enormous loans in the 1960s and accumulated massive debts over the next decade. The 1973 and subsequent oil shocks, when the OPEC countries' production doubled and then quadrupled, profoundly altered the global geoeconomics landscape. Oil-rich countries have amassed surpluses that they have invested in the United States and Europe in order to get a higher rate of return. Simultaneously, countries that relied on oil and gas imports, which happened to be the poorest countries, found themselves suddenly unable to do so with their cash yet continued to consume this energy to support their industrialization and development. As a result, many governments are forced to

expand their borrowing in order to stay afloat. Inevitably, they became further in debt and eventually borrowed to repay the interest on previous loans. Ironically, it was the money invested by oil-rich emerging countries that became the Petro-dollars, which was recycled into loans to borrowing countries via American and European banks.

Inevitably, some countries were unable to repay their debts. Mexico was among the first countries to experience a serious economic crisis in 1982 as a result of its inability to service a USD20 billion debt. Argentina, Brazil, and a number of other countries quickly followed suit. The IMF and the World Bank intervened and restructured the debt on conditions that permitted for significant structural changes. Throughout the 1980s and 1990s, the international financial institutions pursued neoliberal policies and programmes in developing nations with consistency (although it is interesting to note that such measures have not been applied in the United States). Thus, in recent years, the international financial institutions have emerged as the principal source of universally agreed development strategies.

As discussed by many scholars (i.e., Mavroudeas & Papadatos, 2007; P. Rosenstein-Rodan, 1969; Serra & Stiglitz, 2008), the Washington Consensus and the international financial institutions' neoliberal policies, on the other hand, have fallen far short of attaining the anticipated development and growth. Indeed, disparities between rich and poor countries are widening. In 1960, the ratio of the income of the 20% of the world's population living in the wealthiest countries to that of the 20% living in the poorest countries was 30:1; while in 1973 this was 44:1 and in 1997 was 74:1. Additionally, it should be remembered that the fastest growing countries, such as China and India, have pursued policies that are nearly diametrically opposed to the Washington Consensus. All of this has prompted many neoliberal critics to consider it as a defence of the interests of the United States' present imperialist hegemony.

This reaction was elicited not only by academics, but also by grassroots activists protesting social injustices worldwide. The 'Battle of Seattle' at the 1999 WTO meeting epitomises this attitude. Thus, the original Washington Consensus's neoliberal approach had to be reconsidered, leading to a reformed or adjusted approach to governance and institutions, and then to the Millennium Development Goals (MDGs), which incorporated ideas of human development formed not only by the international financial institutions, but also by the United Nations, the wealthy group known as the G7/G8, other national governments, faith-based organisations, prominent scholars, and non-governmental organisations, to name a few. As a

result, development and developmentalist goals have become linked with modern neoliberal policies and agendas. This has led many people to reject developmentalism entirely, as it is based on the dictates of a small number of Western elites imposing and controlling a set of demands in a neo-imperialist manner.

2.3.2 Non-Conventional Approaches to Development

2.3.2.1 Marxism

It should be mentioned that Marxism or Marxist theory is possibly the most popular and frequently quoted critique of capitalism. Marxism, on the other hand, is very comparable to capitalism and classical economic philosophy, having emerged from the same contemporary Enlightenment mission and sharing the same goals of material development resulting from scientific knowledge that enables increased production efficiency.

The distinction between the two approaches –Marxism or Marxist philosophy– is in the mechanics of this production process and the comprehension of the social relations involved. Karl Marx (1818-1883) and Friedrich Engels (1820-1895) are the two German thinkers who founded this philosophy, which was in some ways a reaction against Hegel’s previous beliefs (1770-1831) and his philosophy of idealism and the transcendent ‘World Spirit.’ Marx and Engels developed a philosophy which they called historical materialism, arguing that, contrary to idealism, ideas and consciousness do not result in acts and systems, but in real-world situations and that actions result in ideas and consciousness. As discussed by several studies (i.e., Booth, 1994; Carver, 1980; Löwy, 2017; Nimni, 1989), thus, the investigation of physical actions and social situations in which humans find themselves can explain human life and all associated phenomena. Marxism, on the other hand, has preserved the Hegelian concept of the dialectic, which asserts that society is always composed of forces that are sometimes complementary and sometimes antagonistic. Social contradictions generate conflict in all spheres of existence, and the development of situations that generate conflict is critical for comprehending social interactions within processes (Marx & Engels, 1965).

Marxism uses this ideology to criticise capitalism on a number of critical topics. The beginning points for analysing economic and social reality is that, according to Marxism, the material

demands of existence and hence the process of production, or how humans use their ability to collect food and resources from their surroundings, are the theory's cornerstone. The organisation of this production process in society is a component of the economic order, and it has ramifications for all other spheres of existence, including political, social, philosophical, legal, and moral systems. Thus, the process of production is referred to as the 'base,' and the systems that result are referred to as the 'superstructure.'

In the criticism of capitalism, it is asserted that the mode of production has evolved historically to the point where those who own land and resources, the minority bourgeoisie, exploit those who produce via their labour, the majority 'proletariat.' This results in a social contradiction manifested as a class conflict, and all concerns of social development must thus be considered within the context of this class struggle. Capitalist and classical theories, it is suggested, produce the disappointment that a market is a place where growth is achieved by the combined efforts of entrepreneurs and employees and the value they add to their inputs. The preferred reality is that capitalists do not compensate workers for their efforts and that the surplus of the product's market value is gathered by a select few who become progressively rich as a result of this process. According to Marxist philosophy, this is the capitalist system's current method of production, not the idealised vision of a free market and universal development as portrayed in classical economics.

Furthermore, Marxism believes that this class struggle eventually results in a radical and violent rectification of the opposing situation in the shape of a working-class revolution against the capitalists. This would initially result in a totalitarian state led by the proletariat but, once generalised, would result in a 'communist' society based on cooperation and mutuality and in which ownership of land and resources would not be private but shared by all levels of society, thereby eliminating the contradictions inherent in the capitalist system and putting an end to the struggle (Marx, 1977; Marx, Engels, & Moore, 1972).

Among the other significant features of Marxism that distinguish it from traditional economics is its conclusion that the method of production is socially produced rather than inherently or universally occurring. That landowners and capitalists have been historically and continuously recruited to sustain the means of exploitation-based economic accumulation. Thus, crises must be continuously generated cyclically to ensure that competition never equalises.

Marxism has long been regarded a viable alternative to exploitative capitalism, providing a utopian vision of a harmonious welfare state. However, socialism's idea has been far from harmonious, and it has ended up being a tragic failure and even deception. Marxist critics point out Marxism's failure to recognise that those who would administer a state in which private ownership is prohibited and forced community life is mandated would exercise such power and control themselves, potentially resulting in much greater exploitation than the capitalist system has done thus far.

Additionally, by reducing human life experiences to purely production processes, a materialistic perspective has been embraced, rejecting true components of human behaviour that encapsulate everything that it means to be human. As a result, persons were treated as machines of production, and life was viewed as a way of producing and consuming material commodities. This unnatural structure was destined to fail, and the entire world watched the heinous consequences of that failure in socialist/communist regimes until the collapse of the communist governments of Eastern Europe in the 1990s.

2.3.2.2 Post-Structuralism

With Marxist theory dominating the discourse of development from the 1960s to the 1970s, there was a trend to view the world in systematic terms and in terms of structural formations. As a result, theories sought to contextualise all events and realities through the lens of class struggles, hegemonic ideas, or global systems. The structural theories, which originated in France and the United States, began to criticise any notion of universalism and even any sense that events were a part of something larger or historically determined. Not only have the Enlightenment effort and its associated modernist doctrines been criticised for their lack of veracity, but also for its malign motive.

Among his criticisms, Rorty (1990, 1995, 1998) addressed contemporary theories of 'representational truth,' which hold that symbols and models accurately reflect the true structures of occurrences. He contended that such representations could never be more than the thinker's subjective viewpoints. Post-structuralist philosophy, particularly that of Jacques Derrida (1930–2004), questioned the objective truth of the 'reality' portrayed in ideas, particularly those of modernity, and the spirit of those who propose them. Derrida coined the term 'deconstruction' to refer to the process of analysing language systems in order to expose

their flaws, which can be detected through the discovery of inconsistencies and contradictions within the texts themselves. In other words, it is possible to demonstrate that an argument fails if it does not adhere to its own logic and internal requirements (Derrida, 1970). Thus, post-structuralism aims to cast doubt on modernism's central conceptions of reality, reason, and objective truths.

According to Conrad (2012), French post-structural philosophy was preoccupied with the relationship between Enlightenment intellectuals' assumption of universal truth and the growth of European economic, political, and military dominance. Modernity's geocentric heart preaches that the European Enlightenment is the exclusive source of global truth. Thus, progress and development are described in terms of Europe leading, being at the top of the scale, and all others following and imitating in order to progress. In explaining this, Derrida (1970, p. 213) states, "*The white man takes his own logos, that is, the mythos of his idiom, for the universal form of that he must still wish to call reason*". Thus, Marxism is a genuine element of this European mythos insofar as it adopts as fundamental conceptions the Enlightenment's concepts of rationality and objective science.

2.3.2.3 Post-Colonialism

Post-structuralism has grown in popularity due to its European origins. European modernity's goals and strategic ambitions have been questioned by those deemed 'the other' in the majority of Western discourses. The intellectuals of the colonised areas began to recognise the blatant hypocrisy of Western modernity ideas in the 20th century, despite the reality of how the West's modernity was founded on the misery of the rest of the globe. As a result, the body of postcolonial contributions to the concept of development and progress began to grow in size and importance. As discussed by several studies (i.e., Fairchild, 1994; Gibson, 2007a, 2007b) Frantz Fanon (1925–1961), a psychoanalyst and philosopher born in Martinique, presented one of the most searing analyses of the relation between colonised and coloniser in *The Wretched of the Earth* (1961) as well as in his *Black Skin, White Masks* (1952). Fanon is arguably most renowned for his appropriate reaction to the brutality committed by colonialism and as the mediator who enables the colonised to begin reclaiming their self-conscious agency. Fanon's influential thesis was about the dreadful period of French colonial rule in Algeria and the Algerian battle for independence (1954–1962), which he personally endured.

Also, beginning in the 1960s, the work of French philosopher Michel Foucault had a profound impact. For instance, Said (1935-2003) used Foucault's nuanced conception of the constitutive relation between power and knowledge in his seminal book *Orientalism* (1978) to critically examine the ways in which representations of non-European culture and thought were shaped by a web of institutional and political forces connected to the justification and practice of Western imperialism (Said, 1978, 1985).

Thus, the concepts of 'the Occident' (West) and 'the Orient' (East), as well as all the power relations that resulted, have been exposed as malignant inventions that have affected and structured all European and American discourses since the Age of Enlightenment. Others, such as Spivak (1988) and Bhabha (1983a, 1983b), have delved deeper into the formation of the 'other' identity and questioned whether the numerous viewpoints could or should be viewed as a unified reality or block, or if they have been simplified. 'The Orient', 'the colonised', or 'the submissive' were all meaningless concepts based on Eurocentric beliefs.

In order to accommodate the interactions between the 'developed' West and the rest of the 'developing' world during the postcolonial era, postcolonialism has contributed to development theory by shifting the emphasis away from universalist, scientific, and economic analyses and toward culturally, historically, and politically sensitive methodologies. From the viewpoint of postcolonialism, colonisation consisted mostly on extracting physical resources from foreign countries, which aided Europe's growth. On the economic front, this process has been repeated through both conventional and neoliberal policies that permit access to foreign markets and their assets, as well as the production of goods using these assets and resources and the global resale of these products. On the financial side, loans are likewise designed to aid development, but recipient countries must eventually return such a hefty amount plus interest. Similarly, the West eventually mastered the field of knowledge and utilised it to promote its strategic goals of all-encompassing dominance. As a result, colonial nations inherited educational systems that required citizens to learn the colonizers' languages —such as English or French— or to be taught in Western institutions in order to be deemed educated. Thus, intellectual supremacy has replaced military dominance, assuring that indigenous peoples would not question the *status quo* (Alatas, 1993a, 1993b; Bollag, 2000).

2.3.2.4 Post-Developmentalism

On developmentalism, theories such as post-modernism, post-structuralism, and post-colonialism have been criticised. The outcomes anticipated from the development concept's implementation in progress and advancement for humanity are viewed solely as a method of power and control and are frequently regarded as destructive in a variety of scenarios.

Illich (2018), for example, questioned aspects of the 'developed' world, such as schools, hospitals, and factories, which are critical components of progress tools, methods, and sets, encouraging wealthy countries to impose systematic domination on others with the goal of preserving and promoting their wealth. He emphasised that, far from being beneficial, the prevailing development paradigm was incapable of addressing the majority of people's rising poverty, exploitation, and misery. Rather than that, he advocated for alternative research based on fundamentally different paradigms and the abolition of development dependency, which he claimed resulted in total failure. Additionally, such efforts must be made to alter perceptions by associating the terms 'sustainable' or 'friendly' with the development strategy. As a result of these endeavours, the concept of growth has become something that must be examined.

Escobar (2004, 2007) concurs with Foucault's social theory that 'development' is the language of power. He traces the emergence of 'global development' discourse to the end of World War II, a period in which the United States controlled all sectors of society, including politics, economics, culture, and education. Escobar viewed post-structural criticism of modernity as an extension of Marxist criticism of the economic world, which had been applied to discourses of truth, knowledge, identity, and culture. Thus, the imperialist goal sought to 'colonise' the field of knowledge and thus reality itself, limiting even those who attempted to fight it to utilising the framework and terminology developed. As a result, alternative paradigms such as social development, sustainable development, and ethical development have been developed.

Escobar's primary focus was on post-war development, particularly on economic development. He examined how power and knowledge are constructed and promoted through planning, education, health, the environment, women's rights, and sustainability. He discovered that 'development' is another word for industrialisation, and that this concept was disseminated around the world in the shape of an integrated institutional framework. As he observed, this structure dictates the development discourse, "*the system of relations establishes a discursive*

practice that sets the rules of the game: who can speak, from what points of view, with what authority, and according to what criteria of expertise.” (Escobar, 2004, p. 41).

Others suggested that Escobar’s post-structural development was a failure of Western development ideology. Wolfgang Sachs (1997, p. 12) asserts that *“the idea of development stands like a ruin in the intellectual landscape and development has become outdated grown obsolete”*. In addition, Latouche (1993) observes that the West’s ambition of ‘*la grande société*’ can only be realised by a few people at a cost to the rest of the world in terms of community destruction and misery. When the West was perceived to be disintegrating, he was more interested in the post-Western world, and in this case, he saw the informal sector of society as promising, a sector that Western thought had exploited and abandoned. He envisioned individuals who live in a private environment, adhere to a theological and metaphysical belief system, and live a life consistent with rationality that appears warped or illogical in the current system. This is then considered as the only way out of Western progress, even if it appears to be fiction at the moment Latouche (1993).

The Post-Development Reader (Rahnema & Bawtree, 1997) critiques post-structuralists and attempts to provide alternative answers by compiling a vast variety of viewpoints on post-structuralists’ views on development. Firstly, a consideration of scale and strength is necessary. Many post-structuralists, influenced by intellectuals such as Ivan Illich, Fritz Schumacher, and even Mahatma Gandhi, believe that the essence of modernity’s problem is the immensity of businesses, institutions, planning, and technology. These societal aspects expand to such dimensions that they transcend the human scale and become supra-human entities, beyond the control and management of which the people are powerless and loss of freedom. Accordingly, Esteva and Prakash (1998) argued that individuals should ‘think and act locally’ since local knowledge and control result in more informed decisions and stronger cohesion. Global thinking erodes one’s feeling of community, robs one of control, and so robs one of liberty. Secondly, the concept of simple living is needed as a reassessment of a person’s relationship with the material world due to the fact that ‘modernity’ has created an unsustainable condition in which the consequences of human actions have wreaked havoc on the earth. As a result, a minority of people began exploiting earth resources to meet their ambitions and needs for luxury. Post-structuralists generally advocate for a profound rethinking of the way of life, assuming that people make conscious choices to consume without jeopardising the common good of a balanced existence. These concepts are largely motivated by religious systems that

advocate for limited material contentment in order to maximise spiritual enjoyment, including Buddhism, Confucianism, Judaism, Christianity, and Islam (W. Sachs, 1997). The concept of the simple life is not a prohibition on enjoyment, as modernity's rejection of religion implies, but rather an acceptance of the fact that consumption cannot be the ultimate goal of human life, because while happiness and tranquillity are frequently found in transcendental and spiritual activities, materialism frequently results in anguish, conflict, and misery. Thus, as Gandhi noted, a simpler existence with less industrialization and consumption is not only more environmentally friendly, but also more spiritually enlightening. Lastly, 'modernity' being so obviously problematic. To address this challenge, post-structuralist theorists advocate for a re-examination and re-appraisal of pre-modern society. Although these societies did not experience modern technological and material advancements, it is believed that their lives were nonetheless organised, economically productive, and culturally developed. Contemporary Western philosophy's categorisation of various cultures and civilisations as undeveloped is based more on racist and imperialist assumptions than on reality. Conversely, 'modernity', with its technological military superiority, has infiltrated this realm of evil concepts and lauded it for its own geopolitical objectives (Rahnema & Bawtree, 1997).

To summarise, according to Rahnema and Bawtree (1997), 'development' in its current Eurocentric form is seen as a problem rather than a solution by post-structuralism, post-colonialism, and developmentalism; moreover, it is imposed on countries rather than something that is desired by their citizens. Therefore, it must be challenged and reversed, and a fulfilling lifestyle must be established that allows individuals to express their values, wishes, and aspirations in their own lives.

2.4 The Concept of Sustainability

2.4.1 Definition

Sustainability is a broad notion that varies according to discipline and society (Kates, 2011). According to Kidd (1992), the term 'sustainability' is firmly ingrained in fundamentally distinct conceptions, making it impossible to define the phrase uniformly. Additionally, Robinson (2004) suggested that because sustainability has become such a buzzword, it is more amenable to individual, political, and philosophical interpretations. Multiple, and at times

contradictory, definitions of sustainability have become more prevalent in recent years, as the term has gained increased usage both within and outside the academic literature (T. R. Miller et al., 2008).

B. J. Brown, Hanson, Liverman, and Merideth (1987) stated that the definition of sustainability was highly context-dependent, depending on whether it was applied from an ecological, social, or economic standpoint. In other words, they argued that, in addition to the various definitions of sustainability associated with the various contexts in which it is used (i.e., development, agriculture, and biodiversity), sustainability may also have a meaning that varies depending on the perspective taken within each context (i.e., economic, social, ecological). As a result, B. J. Brown et al. (1987) argued that the term 'sustainability' could signify different things to different people.

Literally, sustainability refers to the potential of an entity, outcome, or process to persist across time (Basiago, 1998). However, in the development literature, the majority of academics, researchers, and practitioners (i.e., Mensah & Enu-Kwesi, 2019; Milne & Gray, 2013; Thomas, 2015; Tjarve & Zemīte, 2017) use the term to refer to the process of enhancing and sustaining a healthy economic, ecological, and social system for human development.

Sustainability, according to (Stoddart, 2011), is defined as the efficient and equitable allocation of resources intra- and inter-generationally, as well as the operation of socioeconomic activities within the constraints of a finite ecosystem.

On the other hand, Ben-Eli (2015) views sustainability as a dynamic equilibrium in the process of interaction between the population and the carrying capacity of its environment, in which the population develops to its full potential without causing irreversible harm to the carrying capacity of the environment on which it depends. From this vantage point, Thomas (2015) argues that sustainability emphasises human activities and their capacity to meet human needs and desires without depleting or exhausting available productive resources. As a result, this stimulates discussion on how people should live their economic and social lives in relation to the ecological resources available for human development.

2.4.2 Philosophical Foundation

Sustainability is a normative value system comparable to human rights, democracy, and liberty, and it is inextricably tied to each of these. In addition, sustainability is fundamentally an unequivocal ethical or moral proclamation of what should be done and is thus referred to as a moral imperative.

With reference to the conceptual underpinnings of sustainability, M. Holden, Robinson, and Sheppard (2016) believe that the concept of sustainability is founded on three moral imperatives: meeting human needs, guaranteeing social equality, and respecting environmental constraints. Daly (2007) categorises these ethical imperatives as moral principles, referring to them as ‘fundamental objective values, not subjective human preferences.’ The moral imperatives of meeting human needs and maintaining social fairness are addressed in detail in *Our Common Future* (Report of the World Commission on Environment and Development, 1987) and *Transforming Our World* (United Nations Report, 2015).

The moral imperative of environmental stewardship –which is acknowledged in *Our Common Future* but not in *Transforming Our World*– is based on two assertions. To begin, as Weiss (1992) discusses, it is noted that current generation hold the Earth in trust for future generations. As a result, disregard for environmental constraints most likely deprives future generations of critical resources for achieving their demands. Second, Sen (2009) argued that because humans are vastly more powerful than other species, they bear a duty to them. According to Sen (2009), this obligation entails adhering to environmental boundaries.

Additionally, Rawls (1999) asserts that the rationale for these three moral imperatives imposes limits on human behaviour. Thus, as Rawls (1999) suggests, the ultimate goal of following moral imperatives is ‘justice,’ which establishes the limitations that individuals must adhere to prior to deliberating on their own preferences. As a result, Rawls (1999) proposed that sustainability imposes limits on individuals. Moreover, M. Holden et al. (2016) proposed that, rather than having dimensions that must be balanced as suggested by the popular three-pillar model (social, economic, and environmental), sustainability can be defined as three major constraints on human behaviour: meeting basic human needs, ensuring social equity, and respecting environmental limits.

2.4.2.1 Human Needs

Doyal and Gough argue in *A Theory of Human Need* (1984) that human beings have universal and objective needs for health and autonomy as well as a right to their optimal satisfaction. They develop a set of social indicators to demonstrate the practical implications of such optimization. While they recognise that the individual's fundamental requirements for physical health and autonomy are universal, they recognise that the commodities and services required to meet these needs may vary by culture. Doyal and Gough (1984) coin the term 'satisfiers' to refer to all objects, activities, and relationships that satisfy basic needs. While fundamental needs are universal, their satisfiers may not be.

Doyal and Gough (1984) suggest that universal satisfiers are critical for satisfying basic needs, which they refer to as 'intermediate needs' that include nutrition and safe drinking water, protective housing, a safe work environment, a safe physical environment, appropriate health care, childhood security, significant primary relationships, physical security, economic security, appropriate education, and safe birth control and childbearing. Satisfying intermediate needs, according to Doyal and Gough (1984), would therefore almost certainly contribute to the eradication of extreme poverty and hunger.

2.4.2.2 Social Justice

The concept of social justice or social equity is inextricably linked to the concept of equality. According to Sen (2009), any normative theory of social justice requires equality of some aspect of that theory that is deemed particularly significant. In addition, Sen (2009) suggested that the theories may be very dissimilar and may even be at odds with one another, but they all share the common trait of desiring equality of something.

The social equity perspective commonly makes reference to John Rawls's two principles of justice (Rawls, 1999). The first principle called the equal liberty principle, meaning that each person has an equal right to the most comprehensive whole system of equal fundamental liberties compatible with a comparable system of liberty for everyone. According to the second principle, social and economic inequalities must be structured in such a way that they are both: (a) to the greatest benefit of the least advantaged, in accordance with the concept of fair savings; and (b) are associated with offices and positions open to all under conditions of fair opportunity

equality. Point (a) of the second principle is frequently referred to as the ‘difference principle,’ while part (b) is referred to as the ‘fair equality of opportunity principle.’

Political liberties, conscience freedom, association freedom, personal freedom and integrity, and rights protected by the rule of law are all encompassed in the first principle (Maffettone, 2010). It is argued that political liberty is critical for social justice and sustainability, and that participation is a distinguishing aspect of this liberty. According to Maffettone (2010), the first premise entails a notion of equal participation. Accordingly, participation occurs within a traditional constitutional framework through democratic election of a representative body endowed with significant legislative authority (Maffettone, 2010).

According to Rawls (1999), the second principle applies to income and wealth distribution, as well as organisational design that takes use of authority and responsibility inequalities. According to Rawls (1999), money and wealth should be allocated evenly among individuals. However, Rawls (1999) argues that income and wealth inequality are permissible as long as those who are poor benefit from the current set of social norms more than those who benefit from any other set of social laws, which is the contentious difference principle. This indicates that ‘injustice’ is defined as inequalities that are not beneficial to all (Rawls, 1999). Thus, justice does not require perfect social and economic equality; rather, it suggests that social and economic imbalances (i.e., income disparities) must be resolved fairly.

2.4.2.3 Environmental Limits

Currently, the most promising strategy for emphasising the relevance of environmental boundaries and, more importantly, for attempting to quantify them is the ‘planetary boundary approach.’ This approach was developed in 2008 by a group of researchers at the Stockholm Resilience Centre, the Stockholm Environment Institute, and the Tällberg Foundation, who attempted to elaborate the conception of the planetary boundaries in 2009 (Rockström et al., 2009; Steffen et al., 2015).

According to Rockström et al. (2009), planetary boundaries defined as humanity’s safe working space in relation to the Earth’s systems. Accordingly, Climate change, ocean acidification, stratospheric ozone depletion, interference with the global phosphorus and nitrogen cycles, rate of biodiversity loss, global freshwater consumption, land-system change,

aerosol loading, and chemical pollution were all identified as planetary boundaries. According to Steffen et al. (2015), the Tällberg Foundation demonstrates improved planetary boundary operations because four of the nine planetary boundaries have already been crossed as a result of human activity: climate change, biosphere degradation, land-system change, and altered biogeochemical cycles. These conditions have resulted in the Earth system being much less habitable, impeding attempts to alleviate poverty, and deteriorating human well-being in many parts of the world, even wealthy countries (Steffen et al., 2015).

Numerous studies (i.e., Du Pisani, 2006; LaFreniere, 1990; Lumley & Armstrong, 2004; Mitlin, 1992; Pezzoli, 1997) have explored the antecedents of the concept of sustainability. LaFreniere (1990), for example, delves into the work of Jean-Jacques Rousseau from the 18th century, who pioneered concepts of ‘small-scale and steady-state economies’ operating within an environmental ethic of humanity’s harmony with nature. Furthermore, LaFreniere (1990) argued that the environmental catastrophe of the recent decades necessitated its remembrance through the formulation of principles and utopias defining the objectives of sustainable and steady-state communities. In elucidating the need of environmental conservation, White (1967) traces the origins of such environmentalism theory even further back in history, recognising Saint Francis of Assisi as the ‘Patron Saint for Ecologists’ in the late 12th to early 13th centuries.

It should be noted that the term ‘sustainability’ is frequently used interchangeably with ‘environmental preservation and conservation.’ The trend toward emphasising the environmental side of sustainability, according to Pezzoli (1997), is a result of the tremendous cultural shift wrought by the environmental conservation movement, which dates all the way back to 1970’s Earth Day.

Adopting Rousseau’s eco-centric and anarchist ideology, Allenby (2013) argued that environmental preservation is becoming an integral part of sustainability discourse, as seen by the linguistic shift from ‘nature’ to ‘environment,’ which indicates a significant discursive shift in focus. Whereas nature was ‘wild’ and ‘uncontrollable,’ the environment is ‘quantifiable and ‘scientifically manageable’ and is therefore considered relevant to the modern global socio-economic system.

2.4.2.4 The Capability Approach

The discussion of sustainability could be reintroduced using the capability approach theoretical framework to explain the connection between human needs, social justice, and environmental limits. The capability approach is a normative approach to human welfare that focuses on an individual's actual capacity to achieve their well-being rather than on their innate right or liberty to do so (Robeyns, 2005). It originated in the 1980s as a counter-narrative to welfare economics. Amartya Sen (1983, 1988a, 1988b) and Martha Nussbaum (1992, 2001; 1995) take this approach, bringing together a variety of ideas that were previously excluded from (or inadequately expressed in) traditional approaches to welfare economics. The capability approach is fundamentally concerned with what individuals are capable of doing.

The capability approach serves as the foundation for this broader view of human needs. Alkire (2010) asserts that the capability approach is the primary intellectual underpinning of the concept of human development. Amartya Sen's 1980s and 1990s writings are foundational to the capability approach literature. More recently, the philosopher Martha Nussbaum and a number of other researchers have refined the method (Robeyns, 2005). With regards to the definition, according to Robeyns (2005), the capability approach is a comprehensive normative framework for assessing human well-being and social structures, as well as for developing policies and proposing social change. It is widely applied in a variety of subjects, most notably development studies, welfare economics, social policy, and political philosophy. Moreover, M. Holden et al. (2016) suggested that the capability approach can be used to assess various elements of people's well-being, including inequality, poverty, an individual's well-being, and the average well-being of a group's members.

The capability approach is centred on what people are truly capable of doing and being, on their capabilities. Thus, Sen (2009) contrasts the capability approach with philosophical approaches such as the basic-needs approach (which emphasises necessities), utility-based approach (which emphasise individual satisfaction or enjoyment), and resource-based approach (which focus on income, wealth, or resources). Rather than that, Sen (2009) believes that policies should prioritise determining what people are capable of doing and being and removing impediments in their lives so that they have more flexibility to pursue the kind of life they have reason to value.

In terms of key analytical distinction, M. Holden et al. (2016) explain that the capability approach makes a critical analytical difference between ‘the means’ and ‘the ends’ of well-being and development. Only ‘the ends’ are intrinsically valuable, whereas ‘the means’ serve to further the objectives of enhanced well-being, justice, and growth. According to the capability approach, the aims of well-being, justice, and development should be understood in terms of people’s functional capabilities, that is, their effective opportunities to act and do as they choose and to be whomever they wish.

Alkire (2010) asserts that the capability approach has been interpreted in two ways in the literature: narrow and broad conception. The ‘narrow’ meaning is concerned with fundamental aspects of human growth, such as income, education, and health whereas the ‘wide’ interpretation takes into account concepts such as liberty, justice, and sustainability. Thus, M. Holden et al. (2016) assert that a broad interpretation of the capability approach is very similar to the concepts of sustainability and sustainable development, which incorporate social, economic, and environmental components.

2.5 The Concept of Sustainable Development

2.5.1 Definition

Sustainable development is defined as providing the current generation’s demands without jeopardising future generations’ ability to meet their own. Three distinct pillars of sustainable development are economic growth, social inclusion, and environmental conservation (Wichaisri & Sopadang, 2018). While there is no debate about the relevance of these three dimensions, the progress or achievements of these pillars are not easily quantifiable (Schoenaker, Hoekstra, & Smits, 2015).

Sustainable development has become a catchphrase in the development discourse, having been associated with a variety of definitions, interpretations, and associations. Taken literally, sustainable development is ‘development that may be perpetuated indefinitely or for a specified amount of time’ (Dernbach, 1998, 2003; Lélé, 1991; Stoddart, 2011). The concept can be viewed structurally as a phrase composed of the terms ‘sustainable’ and ‘development’. Just as the two words that comprise the concept of sustainable development, namely ‘sustainable’ and

‘development,’ have been defined differently from a variety of perspectives, the concept of sustainable development has also been examined from a variety of perspectives, resulting in a plethora of definitions.

Although there are numerous definitions of sustainable development, the one most frequently mentioned is the one presented in the Brundtland Commission Report (Schaefer & Crane, 2005). The Report defines sustainable development as development that satisfies the present generation's demands without jeopardising future generations' ability to satisfy their own.

The most frequently used definition comes from the 1987 Commission's report 'Our Common Future' (Brundtland, 1987 and Commission on Environment and Development), which defines sustainability and sustainable development as 'development that meets current needs without jeopardising future generations' ability to meet their own.' The Commission's report definition makes numerous references to the interconnected nature of the global economy and ecology, in addition to equity; nonetheless, equity is mentioned separately.

Recognising the World Commission on Environment and Development's definition's pervasiveness, Cerin (2006) and I. Abubakar (2017) believe that sustainable development is a central idea in global development policy and agenda. It establishes a system for civilization to engage with the environment without jeopardising the resource's future viability. Thus, it is a development paradigm and concept that advocates for raising living standards without jeopardising the earth's ecosystems or producing environmental problems such as deforestation and water and air pollution, which can result in issues such as climate change and species extinction (Benaim, Collins, & Raftis, 2008; Browning & Rigolon, 2019).

Considered as a strategy, sustainable development is a method of development that makes use of resources in such a way that they (the resources) continue to exist for future generations (Mohieldin, 2017). Hedelin, Evers, Alkan-Olsson, and Jonsson (2017) connects the notion further to the organisational principle of achieving human development goals while preserving natural systems' capacity to supply the natural resources and ecosystem services that the economy and society rely on. From this vantage point, sustainable development seeks to achieve social progress, environmental balance, and economic growth (Gossling-Goidsmitths, 2018; Zhai & Chang, 2018). Ukaga, Maser, and Reichenbach (2010) examined the needs of sustainable development and emphasised the importance of shifting away from detrimental

socioeconomic activities and toward those with good environmental, economic, and social benefits.

As the idea of sustainability has evolved, these interwoven paradigms have evolved into three pillars of sustainability: economy, society, and environment (World Summit on Social Development, 2005). These pillars have historically served as the cornerstone for sustainability studies, although their meaning and prioritisation remain uncertain (Alvarez, 2011; Manning, Boons, Von Hagen, & Reinecke, 2012; Reinecke, Manning, & Von Hagen, 2012). As a result of its continuing ambiguity, authors have sought to define sustainability more precisely.

2.5.2 History

The term ‘sustainable development’ first appeared in a 1980 report by the International Union for Conservation of Nature (IUCN), with the Arctic—a distant and relatively unknown region at the time—given as an example of sustainable development. According to the report, *“for development to be sustainable, it must consider social and ecological elements in addition to economic ones; the living and non-living resource base; and the long- and short-term benefits and costs of alternative activities.”* (International Union for Conservation of Nature and Natural Resources, 1980, p. 15).

At the 1992 United Nations Conference on Environment and Development, the term ‘sustainable development’ became the guiding principle of worldwide environmental cooperation. In its main documents, the Rio Declaration on Environment and Development (UN Conference on Environment and Development, 1992) and Agenda 21 (UN, 1992) adopted the definition of sustainable development proposed by the Brundtland Commission report ‘Our Common Future (1987)’, which defined sustainable development as ‘development that meets the needs of the present without jeopardising the ability of future generations to meet their own.’ Additionally, the United Nations’ Agenda 21 emphasises the importance of incorporating all segments of society in the effort to advance sustainable development, including municipalities, diverse groups, non-governmental organisations, and private sector enterprises.

2.5.3 Pillars of Sustainable Development

It is noted that nearly all human activities on earth influence the environment, economy, or society, as well as on the human race's continued existence and well-being. Similarly, as Wanamaker (2018) argues, the discussion of sustainability comprises a collection of interrelated concepts that should serve as the foundation for human decisions and actions in the pursuit of sustainable development. L. Yang (2019) argues that effective resource management decisions will result in sustainable growth for a sustainable society. These include land use decisions, surface water management, agricultural practises, building design and construction, energy management, education, equal opportunity, as well as law-making and enforcement (Montaldo, 2013; Porter & Van der Linde, 1995).

Thus, when the discussion contained in the three spheres of sustainability are effectively applied to real-world situations, everyone benefits because natural resources are conserved, the environment is protected, the economy thrives and is resilient, and social life is enhanced by peace and respect for human rights (DESA-UN, 2018; Kaivo-oja, Panula-Ontto, Vehmas, & Luukkanen, 2014).

M. A. Khan (1995) and Basiago (1998) assert that the three dimensions of social, economic, and environmental sustainability must be connected and integrated. They argue that if a man in a particular geographical area, for instance, is unemployed (economically), he is likely to be poor and disenfranchised (socially); accordingly, he has an incentive to engage in practises that harm the environment, such as cutting down trees for firewood to cook his meals and heat his home (environmental). In addition, deforestation will result in the loss of vital minerals from the soil (environmental). As a result, inhabitants will lack the dietary nutrients necessary to maintain the intellectual performance required to learn new technologies, such as how to operate a computer (education). Consequently, it leads into decreased or stagnant productivity (economic); hence, poor people will remain poor or will become poorer (social), and the cycle will continue. This hypothetical case demonstrates the connections between the three interconnected domains of sustainability and the importance of integrating them for sustainable development (Basiago, 1998).

As a progressive and visionary development model, sustainable development emphasises a path of positive change that is primarily based on social, economic, and environmental aspects.

S. Taylor (2016) identifies economic growth, environmental conservation, and social equality as the three primary pillars of sustainable development. On this basis, it is possible to argue that the concept of sustainable development is founded on three conceptual pillars. Economic sustainability, social sustainability, and environmental sustainability are the three pillars.

2.5.3.1 Economic

Economic sustainability refers to a production system that satisfies current consumption levels without jeopardising future requirements (Lobo, Pietriga, & Appert, 2015). Historically, economists presuming an infinite supply of natural resources, placed an abnormal emphasis on the market's ability to allocate resources efficiently (Du & Kang, 2016). Additionally, they believed that economic progress would be accompanied by technological advancements that would replenish natural resources depleted during manufacturing (Cooper & Vargas, 2004). However, it has been recognised that natural resources are not limitless; additionally, not all are replenishable or renewable. The expanding economic system has strained the natural resource base, necessitating a reassessment of old economic postulates (Basiago, 1996, 1998; Du & Kang, 2016). This has led a number of academics to cast doubt on the possibility of uncontrolled growth and consumption.

Economies are made up of markets where transactions take place. According to Dernbach (2003), there are guiding frameworks for evaluating transactions and making economic activity decisions. Production, distribution, and consumption are the three primary activities of an economy, but the accounting system used to direct and evaluate these activities severely distorts values, which does not bode well for society or the environment (Jingen & Center, 2017). As a result, various research examined the relationship between human needs and finite natural resources in order to demonstrate the critical nature of economic sustainability. Allen and Allen and Clouth (2012) reaffirm that human existence on earth is supported by utilising the earth's limited natural resources. Dernbach (2003) previously claimed that while human demands such as food, clothes, and housing rise as a result of population growth, the world's means and resources cannot be extended indefinitely to meet those needs. Additionally, Retchless and Brewer (2016) argue that, because the primary focus appears to be on economic growth, critical cost components such as the impact of depletion and pollution are ignored, while increasing demand for goods and services continues to drive markets and exacerbate

environmental degradation. Economic sustainability, then, necessitates making decisions in the most equitable and economically prudent manner possible, while also taking into account other aspects of sustainability (Zhai & Chang, 2018).

2.5.3.2 Social

Social sustainability is defined by concepts such as equity, empowerment, access, participation, cultural identity, and institutional stability (Daly, 1992). It is worth noting that the term ‘social sustainability’ generally refers to the process of organising social fairness between individuals. This is as a result that fundamentally, the concept emphasises that individuals matter, as progress is all about individuals (Benaim et al., 2008). Frequently defined as a systemic conception, social sustainability, in its simplest form, refers to a social organisation system that alleviates poverty (Littig & Griessler, 2005). However, social sustainability, in a more fundamental sense, refers to the relationship between socioeconomic conditions such as poverty and environmental degradation (Farazmand, 2018). In this context, the social sustainability theory asserts that poverty alleviation should not result in unnecessary environmental degradation or economic instability. It should seek to reduce poverty within the confines of the society’s existing natural and economic resource base (S. Kumar, Raizada, & Biswas, 2014; Scopelliti et al., 2018).

Kolk (2016) interpreted the concept of organising social justice between individuals to mean that social sustainability is not about meeting everyone’s needs. Rather than that, it seeks to provide the conditions necessary for everyone to have the capacity to meet their needs, not their desire. Anything that obstructs this potential is deemed a barrier and must be addressed if individuals, organisations, or communities are to develop toward social sustainability (Brodhag & Talière, 2006; Pierobon, 2019). From a systems perspective, it is critical to understand the nature of social interactions and how these structures emerge to social sustainability. Above all, social sustainability, according to Gray (2010) and Guo (2017), involves a variety of concerns such as human rights, gender equity and equality, public involvement, and the rule of law, all of which contribute to peace and social stability necessary for sustainable development.

According to Saith (2006), social sustainability comprises promoting the development of individuals, communities, and cultures in order to create meaningful lives through access to adequate healthcare, education, gender equality, and global peace and stability. Social

sustainability, according to Saith (2006), is difficult to attain since the social dimension appears intricate and overpowering. Unlike natural and economic systems, where flows and cycles are readily apparent, the dynamics of the social system are highly intangible and difficult to model (Saith, 2006). To measure the success of social sustainability, Everest-Phillips (2014) suggests that it is proven within the social system that is defined as people not being subjected to conditions that jeopardise their ability to achieve their basic requirements.

2.5.3.3 Environment

The concept of environmental sustainability is concerned with the natural environment and its ability to stay productive and resilient in order to support human life. In addition, environmental sustainability is concerned with the natural environment's ecological integrity and carrying capacity (Brodhag & Talière, 2006). Accordingly, it demands the sustainable use of natural capital as a source of economic inputs and as a sink for waste (Goodland & Daly, 1996). The consequence is that natural resources must be harvested at a rate that does not exceed their capacity for regeneration, while trash must be discharged at a rate that does not exceed the rate at which it can be digested by the environment (Diesendorf, 2000; Evers, 2018). This is because earth systems have boundaries or limits within which balance can be maintained.

Numerous research have demonstrated that concerns about sustainability have increased as a result of the ambiguity surrounding its supporting structure. Gilding (2017) suggested that the pursuit of unbridled growth is placing increasing demands on the earth system and straining these limits, as technological advancement may be unable to support exponential growth, and thus evidence to support concerns about the environment's sustainability is growing.

Another cause for worry about environmental issues, as suggested by existing literature, is the effects of climate change, which make a compelling case for environmental sustainability. These changes include an increase in the temperature of the atmosphere and seas, a decrease in ice cover, a rise in sea level, an increase in ocean acidity, and an increase in greenhouse gas concentrations (Du & Kang, 2016). As a result, climate change has already begun to have a negative impact on biodiversity. S. Kumar et al. (2014) found that increased temperatures have a tendency to influence the timing of reproduction in animal and plant species, animal and plant migration patterns, species distributions, and population levels. While catastrophic predictions

abound, Ukaga et al. (2010) suggest that the full extent of global warming's effects is unknown. What is unquestionably prudent, according to Campagnolo et al. (2018), is for all societies to adapt to new realities regarding ecosystem management and natural growth constraints.

All of these are critical challenges of environmental sustainability because, as previously stated, they affect the natural environment's ability to remain productively stable and robust in order to support human life, in which stated as the ultimate goal of sustainable development.

2.5.4 Sustainable Development Framework

Numerous studies indicate that when the term 'sustainable development' is used, there are only two benchmarks associated with the framework for integrating three pillars of sustainability (social development, economic development, and environmental protection), namely the MDGs and SDGs. Although, as discussed in sub-section 2.2., Horner (2017) and Horner and Hulme (2019) suggest that the MDGs continue to be conceptualised in terms of the 'international development' paradigm, which is exclusively focused on developing countries. On the other hand, the SDGs shifted into a paradigm of 'global development,' as that perspective views all countries, developing and developed, as sharing a 'common goal' of sustainability and thus as sharing responsibility.

2.5.4.1 Millennium Development Goals (MDGs)

2.5.4.1.1 Overview

The United Nations (UN) presented the Millennium Development Goals (MDGs) in September 2001, based on the Millennium Declaration, as a list of common goals for the international community to attain by 2015. It is noted that 189 countries' leaders pledged to attaining a set of eight measurable goals by 2015, ranging from decreasing extreme poverty and hunger to boosting gender equality and lowering child mortality. Additionally, the MDGs were revolutionary in creating a common language for achieving sustainable development through global mobilisation (MDG Report, 2015).

The Millennium Declaration meeting established a set of common goals for the global community to accomplish by 2015. The MDGs' progress is predicated on sustained economic

growth, which must prioritise the poor, with human rights at the forefront of concern. The Declaration's objective is to promote a comprehensive approach and a coordinated strategy that addresses numerous issues concurrently on a broad front. In more detail, the declaration set up a shared vision for the future: a world free of poverty, hunger, and disease, with improved survival prospects for mothers and their children, more educated children, equal opportunities for men and women, and a healthier environment; a world in which developed and developing countries work cooperatively for the common good. This vision manifested itself in the form of eight MDGs, which serve as a framework for setting time-bound goals and assessing progress (UN Millennium Development Goals Report, 2005).

The MDG declaration is founded on a set of fundamental rights —liberty, equality, solidarity, tolerance, respect for nature, and shared responsibility— and is organised around the following themes: peace, security, and disarmament; development and poverty eradication; environmental protection; human rights, democracy, and good governance; and protecting vulnerable people (Rippin, 2013).

2.5.4.1.2 Objectives

The MDGs that were derived from the 2000 United Nations Millennium Declaration meeting, supplemented with specific indicators and targets. The eight Millennium Development Goals are: (i) to eradicate extreme poverty and hunger; (ii) to achieve universal primary education; (iii) to empower women and advance gender equality; (iv) to reduce child mortality; (v) to promote maternal health; (vi) to combat malaria, HIV/AIDS, and other diseases; (vii) to promote environmental sustainability; and (viii) to establish a global development partnership.

As reported by The Millennium Development Goals Report (2015b), the UN asserted that numerous accomplishments were made between 1990 and 2015, citing the following major figures:

1. Over the two decades, extreme poverty has decreased dramatically. In 1990, nearly half of the developing world's population lived on less than \$1.25 per day; that proportion fell to 14% in 2015.
2. In emerging countries, the net enrolment rate in primary education increased to 91 percent in 2015, up from 83 percent in 2000.

3. In comparison to 2000, significantly more girls attended school in 2015. The developing world as a whole has succeeded in eradicating gender disparities in elementary, secondary, and postsecondary education.
4. Between 1990 and 2015, the global under-five mortality rate decreased by more than half, from 90 to 43 deaths per 1,000 live births.
5. After 1990, the maternal mortality ratio has decreased by 45% globally, with the majority of the decrease occurring since 2000.
6. Between 2000 and 2013, new HIV infections decreased by nearly 40%, from an estimated 3.5 million to 2.1 million.
7. Since 1990, nearly all ozone-depleting compounds have been eliminated, and the ozone layer is anticipated to recover by the middle of this century.
8. Between 2000 and 2014, official development assistance from rich countries climbed by 66% in real terms, reaching \$135.2 billion.

Due to their comparative nature, performance indicators such as the MDGs have the potential to impact state policy outputs by facilitating the monitoring of state behaviour and serving as a tool for international governance (Kelley & Simmons, 2019). Adoption of the MDGs is also likely to have enhanced the targeting and flow of official development assistance (ODA), ensuring that support prioritises human development allocated to countries that require the most help to achieve the MDGs (Addison, Niño-Zarazúa, & Tarp, 2015). Additionally, the adoption of the MDGs has influenced national development goals, resulting in the establishment of Poverty Reduction Strategy Papers (Seyedsayamdost, 2018).

2.5.4.1.3 Reviews on MDGs

The critical examination of the MDGs' formulation focuses on who established the objectives and targets, how and why specific goals were chosen, and what political agendas shaped the MDGs' framework. As S. Amin (2006) recounts, the general process of developing the MDGs framework was pushed by the trio of the United States, Europe, and Japan and co-sponsored by the World Bank, the International Monetary Fund, and the Organisation for Economic Cooperation and Development (OECD).

In addition, Fukuda-Parr (2010) expresses questions if the original intent of the eight goals –to serve as indicators of progress toward achieving the Millennium Declaration’s objectives– was fulfilled in the design of the MDGs. Numerous scholars emphasise that only one of the Declaration’s seven primary objectives (development and poverty eradication) became central to the MDGs framework, while other objectives such as peace, security, disarmament, human rights, and democracy were overlooked (Hill, Mansoor, & Claudio, 2010; Waage et al., 2010). Generally, the MDGs have been criticised from at least three perspectives:

1) Limitations in the MDG structure

Numerous scholars have characterised the goals as overambitious or unrealistic, contending that the MDGs overlook restricted local capacities, most notably governance capabilities (Mishra, 2004; Oya, 2011). Barnes and Brown (2011), by contrast, see the MDGs as unambitious in light of the enormous amount of unmet basic human needs. Langford (2010) argues that global goals for low- and middle-income countries fall short because they are either overly ambitious for some countries or too easy for others.

2) Limitations in the MDG content

Numerous commentators express worry over the MDGs’ omission of political and human rights. According to Ziai (2011), MDG targets are framed as technical rather than political concerns, with the answer appearing to be as simple as increasing financial resources. Concentrating exclusively on poverty alleviation risks obscuring ‘critical trade-offs and conflicts of interest’ (Maxwell, 2003). By and large, civil, political, and human rights are underrepresented in the MDGs framework, despite the fact that they represent a significant and durable worldwide agreement (Fukuda-Parr, 2010; Saith, 2006). Cecchini and Notti (2011) contend that an emphasis on human rights may have aided monitoring and synergy within the MDG framework.

3) Limitations in the MDG implementation and enforcement

The most frequently reported obstacles in implementing the MDGs and, consequently, in interpreting progress reports are data availability and reliability (Dar & Khan, 2011; Easterly, 2009; J. Sachs, 2012). According to Abouzahr and Boerma (2010), the global MDGs targets are based on a lack of evidence of feasibility in low-income countries, and Attaran (2005) notes

that health-related baselines from 1990 are frequently based on unreliable household surveys conducted in the absence of birth and death registries, health records, or health statistics.

Quantitative MDGs targets also rely on epidemiology and monitoring techniques that many nations lack, and even when statistics are available, they are not always comparable across countries due to differences in data collection methodologies or definitions (Poku & Whitman, 2011). As a result, progress reports are difficult to read because they are based on assumptions and low-quality data (S. Reddy & Heuty, 2008). Additionally, faulty data might result in inaccurate cost estimates, which can have a significant financial impact on both donor and recipient countries (Saith, 2006).

However, several criticisms have surfaced, most notably over the lack of data on each country's progress and performance report. Easterly (2009) argued that while the MDGs were precise, quantifiable, and visually appealing, a lack of trustworthy data left the undocumented invisible to decision makers.

2.5.4.2 Sustainable Development Goals (SDGs)

2.5.4.2.1 Overview

With the Millennium Development Goals (MDGs) set to expire at the end of 2015, the world is now confronted with the Sustainable Development Goals (SDGs). The SDGs are a collection of overarching principles that guide action. They consist of 17 overarching goals, 169 specific global targets that are quantified through approximately 230 indicators proposed by the Inter-Agency and Expert Group. This stands in stark contrast to the MDGs' 60 globally standardised indicators. The operationalization and implementation of the SDGs entails monitoring and assessing indicators of sustainable development. The SDGs were developed for national governments and constituted a voluntary agreement among the 193 United Nations member states on the intention underlying the objectives of resolving global problems.

While the objectives are broad and interdependent, each has a distinct set of goals to accomplish. The SDGs address a broad range of development issues, including poverty, hunger, health, education, global warming, gender equality, water, sanitation, urbanisation, and the environment. Indeed, poverty eradication remains the primary goal of the MDGs and SDGs

(J. Sachs, 2015). As discussed by the UNDP, eradicating poverty in all its manifestations and dimensions, including extreme poverty, is the greatest global challenge and a necessary condition for sustainable development (UNDP, 2015).

According to J. Sachs (2015), while the majority of the SDGs dimensions are modelled after the MDGs, their scope is more expansive, and their coverage is more universal. In addition, Sachs et al. (2016) suggested that the MDGs take a more holistic approach to development by incorporating social, economic, and environmental dimensions and include targets for both developing and developed countries. In contrast to the MDGs, the SDGs agenda reflects a holistic approach to development. Numerous connections exist between its objectives, highlighting the breadth of horizontal and vertical policy interventions in a variety of areas. For instance, the poverty reduction, employment, and nutrition dimensions of MDGs 1 are largely covered by the SDGs framework and addressed in a variety of objectives, including 1, 2, 3, 4, 5, 8, 9, and 10. The MDGs and their associated targets, such as gender equality, are viewed as both a cross-cutting theme and a stand-alone objective (Networking European Citizenship Education, 2015).

The SDGs' interconnections can also be demonstrated by examining the sustainable development framework's intended outcomes and targets. Six SDGs (1, 3, 4, 5, 10, and 16) seek to improve individual and collective wellbeing through improved health and education, as well as their equitable distribution within and between countries (OFID, 2016). These goals are complemented by seven infrastructure-related goals (2, 7, 6, 8, 9, 11, 12), which address the production, distribution, and delivery of goods and services in cities and other settlements, including food, energy, clean water, waste management, and sanitation. The remaining three goals concern the management of natural resources and public goods on land, sea, and air, as well as biodiversity and climate change.

2.5.4.2.2 Objectives

Unlike the MDGs, which consist of more straightforward goals, targets, and indicators, the SDGs include a broader range of elements, including 17 goals, as illustrated in Table 2.3:

Table 2. 3 List of SDGs

<i>SDG No.</i>	<i>Goals</i>
SDG 1	End poverty in all its forms everywhere.
SDG 2	End hunger, achieve food security, improved nutrition and promote sustainable agriculture.

<i>SDG No.</i>	<i>Goals</i>
SDG 3	Ensure healthy lives and promote well-being for all at all ages.
SDG 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
SDG 5	Achieve gender equality and empower all women and girls.
SDG 6	Ensure availability and sustainable management of water and sanitation for all.
SDG 7	Ensure access to affordable, reliable, sustainable and modern energy for all.
SDG 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
SDG 9	Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.
SDG 10	Reduce inequality within and among countries.
SDG 11	Make cities and human settlements inclusive, safe, resilient and sustainable.
SDG 12	Ensure sustainable consumption and production patterns.
SDG 13	Take urgent action to combat climate change and its impacts.
SDG 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
SDG 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
SDG 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
SDG 17	Strengthen the means of implementation and revitalise the global partnership for sustainable development.

Source: SDGs Report, UNDP (2015a).

2.5.4.2.3 Reviews on SDGs

Academic perspectives on the SDGs are diverse. Several researchers (i.e., J. Sachs, 2012) have criticised the SDGs, arguing for increased business incentives, pointing out various weaknesses, and advocating for design modifications (Hák, Janoušková, & Moldan, 2016; Spangenberg, 2002, 2017). On the other hand, others have emphasised the SDGs' comprehensiveness and ambition (Biermann, Kanie, & Kim, 2017), noting that the SDGs' targets are numerous and well-informed (A. Scott & Lucci, 2015) and claiming that international feedback has been generally favourable (Spangenberg, 2017).

Positive appraisals are made of both individual targets and the overall SDG content, while some authors have cautioned that the anticipated advantages will occur only when the SDGs are considered in their entirety (i.e., Orme, Cuthbert, Sindico, Gibson, & Bostic, 2015; Waage et al., 2010; Waage et al., 2015). As a result, the requirement for and identification of the appropriate agents is absolutely indispensable condition of the initiative for sustainable development (Bulkeley, 2016).

2.6 The Concept of Corporate Sustainability

2.6.1 Introduction

Concerns about global warming and widespread income inequality have cast doubt on the contributions of modern business organisations to achieving the world's sustainable economic growth, social development, and environmental protection (Bapuji, Husted, Lu, & Mir, 2018; Kolk, 2016; Kolk, Kourula, & Pisani, 2017; Lodhia & Hess, 2014; Van Zanten & Van Tulder, 2018). Business organisations are increasingly under pressure to meet the diverse needs and expectations of various stakeholders and to justify their licence to operate and earn profit (Bose, 2018; Pope & Lim, 2020; J. Siddiqui & Uddin, 2016). In response to stakeholder expectations, business organisations use sustainability reports to provide insight into their sustainability-related activities. These reports include information on economic, environmental, and social activities (Bose, 2018; Higgins & Coffey, 2016). The use of such sustainability reports enables organisations to communicate more effectively with stakeholders, strengthen their corporate reputation, and demonstrate their legitimacy in society (Klç, Filiz, Çakr, & Toraman, 2015; Pope & Lim, 2020). As a result, the importance of sustainability reporting is growing exponentially among executives and other stakeholders (Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018).

2.6.2 Sustainability Reporting

Sustainability reporting is frequently defined as a corporation's effort to provide stakeholders with a wealth of information about the economic, environmental, and social activities and strategies of the organisation (Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018; Sotorrió & Sánchez, 2010). In other words, sustainability reporting is one of the primary channels through which managers communicate and disseminate information about their sustainability activities to all stakeholders. Additionally, sustainability reporting enables businesses to fulfil their social, environmental, and ethical responsibilities to the environment and society in which they operate (Boolaky, Omoteso, Ibrahim, & Adelopo, 2018; Zaini, Samkin, Sharma, & Davey, 2018), as well as manage risks and improve corporate financial stability (Orazalin, Mahmood, & Narbaev, 2019). Typically, global investors assess business strategies and risks, customers care about the quality of products and services, and employees desire to work for companies

that hold themselves accountable for their sustainability efforts (Belal & Owen, 2007). All of these requirements and expectations have resulted in a rise in the prevalence of sustainability reporting (M. D. P. Lee, 2008; Orazalin & Mahmood, 2018).

The discussion of the negative environmental and social impacts of business activities have also increased demand for corporations worldwide to adopt sustainability practises and report on them (Adams & Frost, 2008a). The number of businesses disclosing their environmental and social performance has been rapidly increasing over the last few decades (Dong & Burritt, 2010; Roca & Searcy, 2012b). In this new information age, changing expectations and increased awareness among stakeholders have accelerated the adoption of sustainability reporting practises by businesses (Karaman, Kilic, & Uyar, 2018). Non-financial reporting in the form of a sustainability report is becoming increasingly recognised as the most critical aspect of corporate sustainability (AlNaimi, Hossain, & Momin, 2012; Muttakin & Khan, 2014). Sustainability reporting is critical for communicating economic, environmental, and social practises to a broad range of stakeholders (i.e., government, regulators, suppliers, environmental groups, customers, and employees). According to Azim, Ahmed, and D'Netto (2011), corporate sustainability reporting practises increase transparency and improve a company's reputation among all stakeholders.

The field of sustainability reporting has been a focus of discussion among researchers, practitioners, and policy makers. The concept of sustainability reporting is constantly evolving and has undergone numerous transformations (Fifka, 2013). Initially, non-financial reporting practises were confined to a separate section in financial reports devoted to the disclosure of companies' social development practises while the focus shifted to include environmental considerations such as carbon emissions, recycling, and waste management practises. However, it was not until the late 1990s that businesses began disclosing environmental and social practises concurrently in the form of corporate social responsibility or sustainability reports (Kolk, 2010). According to R. Hahn and Kühnen (2013), this paradigm shift in nonfinancial reporting by businesses occurred primarily as a result of the development of various sustainability codes of conduct, such as the global reporting initiative (GRI), the United Nations Global Compact (UNGC) principles, and others. Currently, the GRI standard is widely used by businesses worldwide and has established itself as the de facto global standard for sustainability disclosure (Roca & Searcy, 2012b).

Numerous studies (i.e., Herzig & Schaltegger, 2006; Ioannou & Serafeim, 2017; Sanchez-Planelles, Segarra-Oña, & Peiro-Signes, 2021) have asserted that the benefits of integrating sustainability into business strategies and practises, as well as improving sustainability reporting, include increased transparency, enhanced reputation and legitimacy, enhanced brand value, increased employee and customer engagement. Indeed, Brooks and Oikonomou (2018) and Xie, Nozawa, Yagi, Fujii, and Managi (2019) demonstrated a strong correlation between firms that publish sustainable reports and firm performance. Alsayegh, Abdulrahman, and Homayoun (2020) confirmed in a study focusing on Asian businesses that Asian corporations that disclose their sustainability practises improve their corporate sustainability disclosure practices in terms of economic, environmental, and social performance.

2.6.3 Guidelines and Benchmark of Sustainability Reporting

A wide range of standards frameworks and guidelines have been developed over the last two decades to assist business organisations in comprehending and incorporating critical sustainability issues into their corporate strategies. The GRI, UNGC principles, and SDGs guidelines are widely used by business organisations to help them better understand and implement sustainability reporting practises (O. Weber, 2014). The overarching goal of these guidelines and principles is to make businesses more accountable and to propel them toward sustainable development. Businesses that adhere to these principles and guidelines must publicly report on their economic, environmental, and social performance.

2.6.3.1 Global Reporting Initiatives (GRI)

The GRI was founded in 1997 in Boston, USA, as a non-profit independent organisation to assist businesses in assessing and disclosing their economic, environmental, and social performance. Moreover, GRI is the most widely used standard for business organisations to report on their sustainability efforts. It is used by nearly 93 percent of the world's largest 250 corporations in more than 100 countries (GRI 2019). It enables businesses to disclose non-financial performance while also encouraging them to manage the environmental impact of their operations and demonstrate their contribution to sustainable development (Sethi, Rovenpor, & Demir, 2017).

It has been argued that utilising the Global Reporting Initiative (GRI) framework will improve the standardisation of sustainability reports (Moneva, Archel, & Correa, 2006). The GRI defines report quality in terms of six principles: accuracy, balance, clarity, comparability, reliability, and timeliness (Boiral, 2013; Fernandez-Feijoo, Romero, & Ruiz, 2014; GRI, 2021). Globally, the GRI is the most widely used voluntary sustainability reporting framework (De Villiers, Rinaldi, & Unerman, 2014; Haller & van Staden, 2014; Higgins, Stubbs, & Love, 2014; Stubbs & Higgins, 2014), with nearly 75% of the world's largest companies publishing sustainability reports using the GRI (De Villiers et al., 2014).

As the GRI is widely regarded as the gold standard for sustainability reporting, its implementation has been evaluated to determine whether it will enable organisations to increase the added value and credibility of their sustainability reports (Moneva et al., 2006). Despite GRI's efforts to develop a framework that enables organisations to maximise their true sustainability impact, the literature demonstrates that sustainability reports are frequently used for social legitimization (D. Campbell, 2003; Deegan, 2002; R. Hahn & Lülfs, 2014; Manetti, 2011) or impression management (Cho, Michelon, & Patten, 2012; Talbot & Boiral, 2015). Additionally, prior research has noted that organisations use the GRI inconsistently (i.e., Guthrie & Farneti, 2008), resulting in information that is not comparable (Farneti & Guthrie, 2009) or is of a declarative nature. As a result, users have criticised the quality of data contained in sustainability reports (Diouf & Boiral, 2017).

2.6.3.2 United Nation Global Compact Principles

The United Nations Global Compact consists of ten principles that derived from the Rio Declaration on Environment and Development, the Universal Declaration of Human Rights, the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work, and the United Nations Convention Against Corruption. It encourages businesses to take a principle-based approach to sustainability by embracing fundamental human rights, labour standards, environmental preservation, and anti-corruption principles. Currently, over 16000 firms from over 150 countries have released their public reports in accordance with the UN Global Compact requirements (UN Global Compact, 2021).

2.6.3.3 Sustainable Development Goals

Since the adoption of the 2030 Agenda for Sustainable Development in 2015, the SDGs have urged global action by governments, businesses, and civil society organisations to achieve shared and sustainable prosperity by addressing three pillars of sustainability: economic, social and environment. However, it is noted that the corporate sector continues to make relatively slow progress toward a sustainable world (Van der Waal & Thijssens, 2020). For example, PricewaterhouseCoopers reports that while 72% of companies publicly mention the SDGs in their annual reports, only 20% of companies establish quantitative targets for achieving the goals, and only 8% of these companies (less than 1% of the overall sample) report quantitative measures to demonstrate progress toward targets (PwC, 2019).

Numerous initiatives have emerged to assist businesses in aligning with and reporting on the SDGs, including the SDG Compass and the UN Global Compact. The UN Global Compact provides a practical framework for businesses to engage in SDG-related issues, with the expectation that organisations will seek to provide solutions that positively contribute to the SDGs by integrating environmental and social concerns into core business activities (UN Global Compact, 2015). In a related vein, the SDG Compass was launched in 2015, proposing a five-step guide for organisations to elevate their contribution to the SDGs through the following steps: (1) understanding the SDGs, (2) defining relevant SDGs and mapping them to existing business indicators, (3) setting goals that positively contribute to the SDGs, (4) integrating sustainability into core business, and (5) reporting corporate sustainability practices (GRI, UNGC, & WBCSD, 2015)

Since world leaders adopted the 2030 Agenda for Sustainable Development in 2015, the literature has also elaborated its focus to corporate engagement in the SDGs. Some studies examine the potential role of corporate activities in advancing the SDGs (Boiral, Heras-Saizarbitoria, & Brotherton, 2019; Ike, Donovan, Toppo, & Masli, 2019; Pineda-Escobar, 2019; Vildåsen, 2018) while others look at the factors (firm- or country-specific) that influence companies' engagement in the SDGs (Fleming, Wise, Hansen, & Sams, 2017; Haas, Fleming, Haward, & McGee, 2019; Van Zanten & Van Tulder, 2018). Additionally, other studies examine the interactions between goals and targets (i.e., Allen, Metternicht, & Wiedmann, 2019; Le Blanc, 2015; Nilsson et al., 2018)

It should be noted that research on corporate engagement in achieving the SDGs framework is still limited and more intentional than actual. Additionally, they demonstrate that quantifying corporate engagement in the SDGs presents a number of methodological challenges, most notably in terms of indicator selection, data availability, and result interpretation or linkage (Fleming et al., 2017; Lior, Radovanović, & Filipović, 2018). As a result, other studies have attempted to develop broad frameworks for mapping generic Environmental, Social, and Corporate Governance (ESG) issues to the SDGs and assessing how firms can contribute to the SDGs in accordance with their ESG performance. In the context of Sustainability Accounting Standards Board (SASB) organisation, DeMates and Phadke (2017) pioneered a mapping approach by constructing the 30 SASB-ESG categories to the 17 SDGs, thus connecting corporate sustainability activities to the SDGs. Similarly, Betti, Consolandi, and Eccles (2018) examined the relationship between the 30 SASB ESG issues and the SDGs and their targets, concluding that some ESG issues are more relevant to the SDGs and their targets than others. Similarly, Consolandi, Phadke, Hawley, and Eccles (2020) connected the SDGs and their targets to the 30 SASB ESG issues and examined how health care companies contribute to SDG 3, demonstrating how firms can contribute to the SDGs.

2.6.4 Theoretical Framework of Corporate Sustainability Disclosure Practices Among Islamic Banks

In examining the theoretical underpinnings of sustainability reporting, this study takes a multi-theory approach, drawing on management and business ethics theories. As Cormier, Magnan, and Van Velthoven (2005) and Simmons Jr, Crittenden, and Schlegelmilch (2018) argue, sustainability reporting practises are a complex phenomenon that cannot be studied through the lens of a single theory. Thus, in line with previous research (i.e., Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018; Reverte, 2009; Ruhnke & Gabriel, 2013), the current study employs a multi-theory approach to examine the extent and determinants of corporate sustainability disclosure practices reported by Islamic banks in OIC member countries.

2.6.4.1 Agency Theory

According to the agency theory, managers should disclose all pertinent information to stakeholders because principals cannot supervise all routine corporate activities (Fama &

Jensen, 1983; Jensen & Meckling, 1976). This frequently results in adverse selection problems for principals, as they are not always aware of better agents or agency costs. To address such issues as moral hazard and adverse selection, businesses should increase transparency through corporate disclosure policies and develop incentive mechanisms that encourage agents to disclose their hidden information and knowledge (Spence, 1978). In this regard, sustainability reports are critical for mitigating information asymmetry between managers and stakeholders (Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018; Ruhnke & Gabriel, 2013).

The agency theory postulates that businesses should disclose sustainability information voluntarily in order to reduce costs between principal and agent (Ruhnke & Gabriel, 2013). It asserts that corporate disclosure policies incentivize managers (agents) to disclose hidden information, such as moral hazard, risk, and so forth, and thus mitigate agency problems (Brammer & Pavelin, 2008). In this regard, the firm's sustainability reporting reduces information asymmetry and agency costs (Karaman et al., 2018; Kuzey & Uyar, 2017). According to the agency theory, firms disclose sustainability information to close information gaps between them and investors, thereby creating value for shareholders (Alotaibi & Hussainey, 2016; Phillips, Freeman, & Wicks, 2003).

2.6.4.2 Stakeholder Theory

According to stakeholder theory, businesses should look beyond shareholder profit maximisation to the interests of all individuals or groups who demand environmentally and socially responsible business behaviour (Dissanayake, Tilt, & Qian, 2019). According to the stakeholder theory, businesses have strong incentives to convince their stakeholders that their business operations are managed in the best interests of all stakeholders (Freeman, 1994, 1999; Freeman & Phillips, 2002). Thus, companies have used sustainability disclosure to meet the information needs of a diverse set of stakeholders.

According to stakeholder theory, the company communicates its activities to the surrounding environment in order to obtain an 'operating licence'. The requirement and pressure for large companies to obtain operating permits are greater, as large companies have a broader environmental impact and are subject to greater public and media scrutiny (Udayasankar, 2008). By utilising non-financial disclosure, the company attempts to meet the needs of all stakeholders and responds to media and social pressure. Accordingly, Oh, Cha, and Chang

(2017) suggested that large companies disclose more incredible sustainability data than small businesses. As a result, Chauhan (2014) note that the cost of sustainability reporting increases with the size of the business.

Furthermore, the stakeholder theory encourages organisations to act fairly toward all stakeholder groups, including investors, customers, suppliers, employees, government, community, and environment (Clarkson, 2016), in which the stakeholders have a potential to influence an organisation's performance and reputation. Sustainability reporting enables businesses to develop strong relationships with their stakeholders, resulting in a variety of benefits, including reduced risk, enhanced reputation, and competitive advantage (Barnett, 2007). Stakeholder theory corresponds to the discretionary dimension of corporate sustainability reporting, which encourages businesses to be good corporate citizens that give back to society while deviating from social norms and laws (Carroll, 1991). As a result, businesses that voluntarily disclose quantitative sustainability data while catering to all stakeholders are adopting the stakeholder theory perspective.

2.6.4.3 Legitimacy Theory

The legitimacy theory is predicated on the premise that businesses are socially constructed institutions and that members of society have implicit and explicit expectations of corporations (J. W. Meyer & Rowan, 1977; Powell & DiMaggio, 2012). As a result, organisations should consider the expectations of all members of society, not just investors' rights. As Deegan (2014) noted, failing to meet societal expectations may result in sanctions such as restrictions on business operations, economic resources, and demand for products and services. The legitimacy theory has an effect on corporate disclosure policies, which are required for stakeholders to obtain useful information for decision-making (Bradley, 2004). Companies increase their voluntary disclosures to ensure compliance with applicable laws and regulations in instances where mandatory corporate disclosures are insufficient (Cheung, Jiang, & Tan, 2010). In this regard, sustainability reporting acts as a mechanism for legitimising business activities by demonstrating that a reporting organisation adheres to socially acceptable norms and values. According to the legitimacy theory, sustainability disclosure can be used to 'manipulate' stakeholders' perceptions of the company, demonstrate compliance with applicable laws and regulations, and enable the company to pursue additional economic

benefits (Arena, Liong, & Vourvachis, 2018). As Haniffa and Cooke (2005) state, sustainability reporting can be used to legitimise corporate activities in the eyes of stakeholders, providing companies with additional incentives to disclose higher levels of sustainability information.

Furthermore, the legitimacy theory is predicated on the idea that business operations should be governed by the social contract that exists between business and the rest of society (Cheung et al., 2010). Accordingly, Muttakin and Khan (2014) asserted that failure to adhere to critical norms governing socially constructed systems may jeopardise the business enterprise's legitimacy and survival. In some ways, companies' voluntary disclosure of sustainability information enhances their corporate reputation, increases social acceptance, and legitimises business activities (Orazalin & Mahmood, 2018; Orazalin et al., 2019).

According to the legitimacy theory, business practises should take into account the interests of all stakeholders who care about the environment and invest in environmental sustainability in order to maximise shareholder value. Hörisch, Johnson, and Schaltegger (2015), R. Hahn and Kühnen (2013), and Baldini, Dal Maso, Liberatore, Mazzi, and Terzani (2018) suggest that the company's sustainability is contingent on its concern for the business environment, as well as its success in meeting the expectations of the environment, local communities, social, and human resources, and other stakeholders.

Legitimacy theory postulates the existence of an apparent contract between the business and society, requiring businesses to adhere to societal norms in order to survive (Burhan & Rahmanti, 2012). By positively influencing public perception and assisting in avoiding unfavourable media coverage, sustainability reporting lends legitimacy and acceptability to corporate actions (D. Campbell, 2003; Deegan, 2002; Patten, 1992). Thus, legitimacy theory promotes the ethical dimension of sustainability by requiring firms to adhere to social norms in addition to legal requirements (Carroll, 1991). Thus, if a company discloses significantly more information about society and community than it does about other dimensions, it may be motivated by legitimacy theory.

2.6.4.4 Signalling Theory

According to the signalling theory, businesses voluntarily disclose additional economic, environmental, and social information in order to communicate their superior market position and foster a positive impression among stakeholders (Aras & Crowther, 2009; Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018). Managers differentiate themselves from other market participants by providing additional information and signalling to stakeholders' certain firm characteristics that are otherwise hidden (Spence, 1978). In other words, from a signalling theory perspective, businesses improve their sustainability disclosure in order to communicate their sustainability practices to various stakeholders, thereby enhancing their corporate reputation and image (Ruhnke & Gabriel, 2013). Prior research on the scope of sustainability reporting indicates that sustainability disclosures are valuable and serve as a signalling device for stakeholders (Aras & Crowther, 2009; Kuzey & Uyar, 2017; Orazalin & Mahmood, 2018)

2.6.4.5 Institutional Theory

The institutional theory connects an organisation's willingness to adopt sustainable practises to changing institutional pressures and expectations (Pisoni & Songini, 2013). The institutional theory of business is concerned with the interaction of organisations with institutional dynamics, the impact of social expectations on organisations, and the incorporation of social expectations into the organisation's culture and practises (Dillard, Rigsby, & Goodman, 2004). In addition, institutional theory is concerned with the organisation, its key constituents, and the exchange processes that take place between these groups (Fogarty & Rogers, 2005). Accordingly, based on institutional theory, organisations must interact with their environment in ways that are acceptable to all constituents to the extent that institutional rules are incorporated into them in order to gain legitimacy, resources, and stability, as well as to improve their survival prospects (J. W. Meyer & Rowan, 1977). In this context, the result of the institutionalised element's incorporation or institutionalisation is sustainability reporting.

Additionally, institutional theory has been applied in the areas of management accounting (i.e., Brignall & Modell, 2000; Covalleski & Dirsmith, 1988) as a powerful theoretical perspective that explains how the mechanisms used by organisations to align perceptions of their practises and characteristics with social and cultural values became institutionalised (Fogarty & Rogers, 2005). However, its application to corporate sustainability reporting (i.e., Rahaman, Lawrence,

& Roper, 2004; Unerman & Bennett, 2004) is novel (Rowe, 2005), but significant, as it complements both stakeholder and legitimacy theories in elucidating how organisations acknowledge and respond to changing social and institutional pressures and expectations in order to maintain legitimacy (Deegan, 2014).

2.6.4.6 Business Ethics Theory

The concept of corporate sustainability disclosure practices may also be traced to the business ethics theory. In a review of literature intersecting economics and ethics, some modern philosophers such as Alain Badiou, Emmanuel Levinas and Jacques Derrida make a strong case for the relevance of ethics to business and economic activities.

Within the context of business as primary economic activities, for Badiou (2002), the “ethics in business” or “business ethics” is in itself a false set. It might be tempting to use this categorisation to foreclose a more detailed discussion of finance and its practices. This capture, in Badiou’s epistemology, leads to a philosophy of *eu-oudenose*, or ‘smug-nihilism’ (O’Sullivan, Allington, & Esposito, 2015). According to the relationship between ethics and economics, Badiou’s theory of truth procedures¹ explained that ethics is external to economics, suspended, as it were, from a truth procedure that, as a truth procedure, breaks with economics. In other words, the economy is neither good nor bad; it is the place of no value. For Badiou, ethics to economics is vaguely confused, proscriptively weak, profoundly nihilistic and intrinsic to economics (Couch & Spencer, 2013). Thus, the proposed idea of making economic activities to have social impacts is not an economic matter but political, as Badiou says straightforwardly as a critique of capitalism, ‘there can be no economic battle against the economy’, that ‘any viable campaign against capitalism can only be political’ (Badiou, 2002).

Unlike Badiou, Emmanuel Levinas argues that ethics is internal to economic. In the context of the nature of ethics itself, Levinas (1979) states that human beings have a responsibility to be ethical by default as this unfolds in the relationship with the other without conditionality.

¹ In Badiou’s work, *Ethics: An Essay on the Understanding of Evil*, through his epistemological term of ‘ethic of truth’, there are four distinguishable categories of truths called as ‘truth procedures’ which are as follow: political truths, amorous truths, scientific truths and artistic truths.

Furthermore, Levinasian moral philosophy calls for business ethics that is conceived as an individual practice of responsibility, not as an organisation commitment. With this ground, it is believed that ethics in economic activities is necessary as a moral philosophy proposed by Levinas imposes a corresponding realignment of business ethics. This is because the business ethics lay grounds for a theory of social, economic and political justice (Burggraeve, 1999). Likewise, Derrida (1996) argues that ethics is internal to economics by exploring the philosophy of responsibility. In particular, in the works on law and ethics (for example in *Force de loi* and the *Politiques l'Amitié*), Derrida presents a notion of responsibility for the other and the concept of justice as an aporetic notion that always reappears as an open possibility in social and economic systems (Critchley, 2014). In such practical actions of business activities, however, Derrida's theoretical philosophy proposes a deconstructive approach with sharp criticism of the metaphysics of the presence in Western philosophy (Derrida, 1996; Derrida & Marx, 1994). The idea of business ethics on corporate social responsibility (CSR) that is, for example, branded as the concept of philanthropy, is in reality never purely ethical, but always profitable (D. Campbell & Slack, 2007, 2008) or even to increase corporate's profits (Friedman, 2007).

2.6.5 Theoretical Framework on the Relationship between Corporate Sustainability Disclosure Practices and Corporate Financial Performance

According to Jan, Marimuthu, Hassan, and Mehreen (2019), the relationship between corporate sustainability disclosure practices and financial performance is mixed (i.e., negative, positive, or neutral) and heterogeneous in terms of causal direction. Following Waddock and Graves (1997) as one of the most influential studies on this subject, two management theories may be adapted to explain the relationship between corporate sustainability disclosure practices and financial performance: slack resource theory and good management theory or resource-based perspective on competitive advantage. According to Miles and Covin (2000), these two theories adequately explain the debate over the causal direction of corporate sustainability and financial performance.

2.6.5.1 Slack Resource Theory

The direction of causality in the slack resource theory views sustainable business practises as a dependent variable, while financial performance is viewed as an independent variable. It argues that a business that performs well financially can invest more in sustainability practises. The slack resource theory was developed on the premise that a business can conduct its operations due to the resources it owns, which are typically dedicated to predefined activities. Accordingly, the resource's purpose is to enable the business to successfully adapt to internal or external pressures for change (Buchholtz, Amason, & Rutherford, 1999). The resource that the company requires to adapt successfully is slack in nature, which is defined as any available or free resource (financial and other organisational resource) that is used to accomplish a specific goal (Bourgeois, 1981; Bourgeois & Singh, 1983; Jensen, 1986).

According to (Waddock & Graves, 1997), as a company's financial performance improves, slack resources become available to support corporate social performance activities such as society and community relations, employee relations, and environmental performance. Certain activities undertaken by the company in the area of corporate social performance are intended to build and strengthen the company's competitive advantage through image, reputation, segmentation, and long-term cost savings (Miles & Covin, 2000, 2002).

2.6.5.2 Good Management Theory

On the other hand, the direction of causality in good management theory views sustainable business practises as an independent variable, while financial performance is viewed as a dependent variable. According to the theory, a firm's sustainability initiative enhances its reputation among various stakeholders, allowing them to reap additional financial benefits.

Waddock and Graves (1997) use good management theory to explain the relationship between social sustainability practices (CSR activities) and financial performance as a further articulation of stakeholder theory (Donaldson & Preston, 1995).

As suggested by Waddock and Graves (1997), the proposition advanced by good management theory is that a business should strive to satisfy its stakeholders regardless of its financial condition. As a result, the company's image and reputation will improve. According to a

resource-based perspective, attributes are a type of intangible asset that contribute to a company's competitive advantage (Barney, 1991a, 1991b). Essentially, the theory encourages business leaders to constantly seek ways to enhance their organisation's competitive advantage, which can ultimately result in increased financial performance. According to Miles and Covin (2000), environmental performance is a secondary means of satisfying stakeholders and can serve as a distinct layer of competitive advantage. Additionally, proponents of good management theory argue that good management practise has a strong correlation with corporate sustainability disclosure practices because it can improve a company's relationship with its stakeholders, which can improve the company's financial performance (Donaldson, 2000; Donaldson & Preston, 1995; Freeman, 1994; Waddock & Graves, 1997) and competitive advantage (Prahalad & Hamel, 1997; Waddock & Graves, 1997).

2.7 Chapter Summary

This chapter has presented a comprehensive literature review of sustainability and sustainable development studies, including the discussion of theoretical framework of development, sustainability, sustainable development, and corporate sustainability. It can be observed that the empirical research on sustainable development and corporate sustainability disclosure practices is somewhat limited and far from complete. Nevertheless, the richness of the sustainability literature highlights the importance of the issue and further research in the area is clearly warranted. Since the in-depth discussion of conventional sustainable development theory is not the purpose of this study, the following chapter presents the Islamic view of sustainable development up to the point at which Islamic finance began to emerge as an alternative approach to sustainable development which focussed on the moral, ethical and social justice of Islam.

CHAPTER 3

LITERATURE REVIEW II: ISLAMIC VIEW OF SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

3.1 Introduction

In order to complete the previous discussion on sustainable development theories, this chapter presents a review of existing literature on sustainable development from the Islamic perspective. The conception of sustainable development and its theoretical foundation from Islamic view would be elaborated in the next section (3.2). Furthermore, the discussion of Islamic finance, including its philosophical foundation, principles, and Islamic financial system as a primary tool in the sustainable development of OIC member countries are presented in section 3.3. Finally, section 3.4 summarises the chapter.

3.2 Theoretical Framework

Generally, every country has regulation related to law, politic and economic strategies. Some of the Muslim countries apply *Shari'ah* principles to regulate their states. In this context, a broad doctrine of Islamic law which authorises the ruler to determine the manner in which *Shari'ah* must be administered is called *Siyasah Shar'iyah* (Kamali, 1989b). The following section would explain the conceptual definition of the philosophical foundation of Islam related to the discourse of development which are *Siyasah Shar'iyah* (*Shari'ah*-oriented policy), *Maqasid al-Shari'ah* (the objectives of *Shari'ah*) and *Maslahah* (public interest).

3.2.1 Islamic View of Sustainability and Sustainable Development

3.2.1.1 Islamic View of Social and Economic Sustainability

Along with the conception of environmental sustainability discussed in the Qur'an, it is noted that the socioeconomic conditions of society cannot be altered without human effort. As a result, positive environmental and social activities coexist with livelihoods and vice versa. For example, sustainable investment aims to improve well-being and protect the environment. The content of the Qur'an demonstrates that Allah will not deteriorate people's living conditions unless they voluntarily do so:

إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

“Indeed, Allah will not change the condition of a people until they change what is in themselves.” (Qur'an, 13:11).

Furthermore, the Qur'an repeatedly mentions that generations prior to the Prophet Muhammad, including the people of Saba, committed transgressions on earth, and Allah changed their living conditions from better to worse. As such, their actions paved the way for subsequent generations to be deprived of a decent standard of living:

لَقَدْ كَانَ لِسَبَإٍ فِي مَسْكَنِهِمْ آيَةٌ جَنَّتَانِ عَنْ يَمِينٍ وَشِمَالٍ كُلُوا مِن رِّزْقِ رَبِّكُمْ وَاشْكُرُوا لَهُ بَلَدَةٌ طَيِّبَةٌ وَرَبٌّ غَفُورٌ (١٥) فَأَعْرَضُوا فَأَرْسَلْنَا عَلَيْهِمْ سَيْلَ الْعَرِمِ وَبَدَّلْنَاهُم بِجَنَّتَيْهِمْ جَنَّتَيْنِ ذَوَاتِي أُكُلٍ خَمْطٍ وَأَثَلٍ وَشَجَرٍ مِّن سِدْرٍ قَلِيلٍ (١٦) ذَلِكَ جَزَيْنَاهُم بِمَا كَفَرُوا وَهَلْ نُجَازِي إِلَّا الْكَفُورَ (١٧)

“There was for Saba', foretime, a Sign in their homeland— two Gardens to the right and to the left. Eat of the Sustenance (provided) by your Lord and be grateful to Him: a territory fair and happy, and a Lord Oft-Forgiving! (15) But they turned away (from Allah), and We sent against them the flood (released) from the Dams, and We converted their two gardens (rows) into "gardens" producing bitter fruit, and tamarisks, and some few (stunted) Lote— trees (16) That was the Requital We gave them because they ungratefully rejected Faith: and never do We give (such) requital except to such as are ungrateful rejecters (17)” (Qur'an, 34:15-17).

The preceding verses demonstrate unequivocally that disobedience to Allah affects not only the transgressors, but also the environment and habitat in which they live. Another example is the children of Israel, who were given ‘Manna and Quails’ at the time they submitted to Allah’s will (Qur’an, 7:159), saying, “And among the people of Moses is a community which guides by truth and by it establishes justice.” As a result of perfecting their deeds, Allah grants twelve springs for twelve descendant tribes:

وَقَطَعْنَا لَهُمْ عَشْرَةَ أَسْبَاطًا أُمَّمًا وَأَوْحَيْنَا إِلَىٰ مُوسَىٰ إِذِ اسْتَسْقَاهُ قَوْمُهُ أَنِ اضْرِبْ بِعَصَاكَ الْحَجَرَ فَانْبَجَسَتْ مِنْهُ اثْنَا عَشَرَ عَيْنًا قَدْ عَلِمَ كُلُّ أُنَاسٍ مَّشْرِبَهُمْ وَظَلَّلْنَا عَلَيْهِمُ الْغَمَمَ وَأَنْزَلْنَا عَلَيْهِمُ الْمَنَّاءَ وَالسَّلْوَىٰ كُلُوا مِنْ طَيِّبَاتِ مَا رَزَقْنَاكُمْ وَمَا ظَلَمُونَا وَلَكِنْ كَانُوا أَنْفُسَهُمْ يَظْلِمُونَ

“And We divided them into twelve descendant tribes [as distinct] nations. And We inspired to Moses when his people implored him for water, “Strike with your staff the stone,” and there gushed forth from it twelve springs. Every people [i.e., tribe] knew its watering place. And We shaded them with clouds and sent down upon them manna and quails, [saying], “Eat from the good things with which We have provided you.” And they wronged Us not, but they were [only] wronging themselves.” (Qur’an, 7:160).

Following that, they disobeyed, and Allah replaced the enjoyment with punishment (Qur’an, 2:59). In this case, Allah summarised all destructions caused by their wrongdoing across generations:

فَكُلًّا أَخَذْنَا بِذُنُوبِهِمْ فَمِنْهُمْ مَن أَرْسَلْنَا عَلَيْهِ حَاصِبًا وَمِنْهُمْ مَّنْ أَخَذَتْهُ الصَّيْحَةُ وَمِنْهُمْ مَّنْ خَسَفْنَا بِهِ الْأَرْضَ وَمِنْهُمْ مَّنْ أَغْرَقْنَا وَمَا كَانَ اللَّهُ لِيظْلِمَهُمْ وَلَكِنْ كَانُوا أَنْفُسَهُمْ يَظْلِمُونَ

“So each We seized for his sin; and among them were those upon whom We sent a storm of stones, and among them were those who were seized by the blast [from the sky], and among them were those whom We caused the earth to swallow, and among them were those whom We drowned. And Allah would not have wronged them, but it was they who were wronging themselves.” (Qur’an, 7:160; 29:40).

As a result, it is clear that generations are destroyed as a result of their disobedient attitude toward Allah’s commandments. This is one of the reasons why Muslim scholars have viewed the relationship between human life and religion holistically that influence Islamic scholars’

earliest works focused on the various dimensions of sustainable development (Ghazanfar & Islahi, 2004a, 2004b, 2004c). In aligning sustainability conception from the Islamic perspective, Abu Yusuf's (1329 AD) public finance work through his book *al-Kharraj* (Taxation in Islam), for instance, aimed at strengthening the state treasury from the Islamic perspective. In addition, the work of Al-Mawardi (972-1058 AD) in his book *al-Ahkam as-Sulthaniyyah* (The Ordinances of Government), concentrated on religion and justice, social well-being and the environment, agriculture, a crime-free society, military power, and education (Al-Mawardi, 2000). Similarly, as discussed by Ghazanfar and Islahi (1997), Al-Ghazali (1056-1111) conducted an in-depth analysis of the interdependence of life and sustainable growth as discussed in his notable works, including *Ihya Ulum ad-Din* (The Revival of the Religious Sciences) and *al-Tibr al-Masbuk fi Nasihati al-Muluk* (Counsel for Kings). Moreover, Ibn-Khaldun (1332-1404 AD) is also notable for his work, *Al-Muqaddimah* (Ibn Khaldun's Prolegomena), highlighting methodical analysis of the functioning of an economy, the significance of technology, specialisation and foreign trade in economic surplus, and the role of the government and its stabilisation measures in boosting production and employment. Moreover, Ibn Khaldun addressed the issues of optimum taxation, minimum government services, incentives, institutional framework, law and order, expectations, production, and the theory of value. All these contributions are consistent with Islamic teachings and practises. Their treatises consistently connected religion and livelihood in order to achieve individual well-being and social welfare, as an integrated interpretation of the term '*falah*' in this world and the hereafter. Furthermore, they linked components of sustainable development to livelihood, state security, and religious practises.

Additionally, the Qur'an mentions that those who transgress Allah's path are punished with hunger and the taste of life:

وَضَرَبَ اللَّهُ مَثَلًا قَرْيَةً كَانَتْ ءَامِنَةً مُطْمَئِنَّةً يَأْتِيهَا رِزْقُهَا رَغَدًا مِنْ كُلِّ مَكَانٍ فَكَفَرَتْ بِأَنْعَمِ اللَّهِ فَأَذَاقَهَا اللَّهُ لِبَاسَ الْجُوعِ وَالْخَوْفِ بِمَا كَانُوا يَصْنَعُونَ

“And Allah presents an example: a city [i.e., Makkah] which was safe and secure, its provision coming to it in abundance from every location, but it denied the favors of Allah. So, Allah made it taste the envelopment of hunger and fear for what they had been doing.” (Qur'an, 16:112).

Additionally, Allah made it clear that sustenance is perpetuated through obedience to Him:

لَا يَلْفِيفُ فُرَيْشٍ (١) إِيْلَهُمْ رَحْلَةَ الشِّتَاءِ وَالصَّيْفِ (٢) فَلْيَعْبُدُوا رَبَّ هَذَا الْبَيْتِ (٣) الَّذِي أَطْعَمَهُمْ مِنْ جُوعٍ
وَأَمَّنَّهُمْ مِنْ خَوْفٍ (٤)

“For the covenants (of security and safeguard enjoyed) by the Quraish (1) Their covenants (covering) journeys by winter and summer (2) Let them adore the Lord of this House (3) Who provides them with food against hunger, and with security against fear (of danger) (4)” (Qur’an, 106:1-4).

As a result, sustainability must be based on the foundation of *Tawhid* and *Mu’amalat* in Islamic thought. The first is toward comprehending and believing in Allah’s actions in the world: *Tawhid Rububiyyah* (i.e., uniqueness of Allah as the Omnipotent). Meaning, Allah is Lord of the worlds (Qur’an, 1:2), is the Creator (Qur’an, 6:102; 13:16; 14:10; 39:62; 40:62; 42:11; 59:24), Provider (Qur’an, 51:58; 62:11), Sustainer of all existence and Ever-living (Qur’an, 2:255; 3:2; 20:111), and He sustains His creatures (Qur’an, 3:27; 3:37; 5:114; 6:151).

The second aspect relates directly to human actions in economic and social interactions. As a result, all humans must adhere to the principles of doing what is right (*al-amru bi al-ma’ruf*) and forbidding what is wrong (*an-nahyu ‘an al-munkar*) in social and economic relationships as the Qur’an proclaimed this generation to be the greatest

كُنْتُمْ خَيْرَ أُمَّةٍ أُخْرِجَتْ لِلنَّاسِ تَأْمُرُونَ بِالْمَعْرُوفِ وَتَنْهَوْنَ عَنِ الْمُنْكَرِ وَتُؤْمِنُونَ بِاللَّهِ

“You are the best nation produced [as an example] for mankind. You enjoin what is right and forbid what is wrong and believe in Allah (Qur’an, 3:110).

Meanwhile, another means of sustaining society is to reduce inequality through income distribution. Through *zakat* (almsgiving) and *sadaqah* (voluntary charity), this has also ordained the believers in Allah. Additionally, it can only be a conduit for its proper provisions if one is prepared to be righteous. As a result, inequality will persist as long as people are unwilling to embrace Islam’s guidance, which may result in the seizure of Allah’s blessing. This category is exemplified by the following Quranic provisions:

وَلَوْ أَنَّ أَهْلَ الْفُرَىءِ آمَنُوا وَاتَّقَوْا لَفَتَحْنَا عَلَيْهِم بَرَكَاتٍ مِّنَ السَّمَاءِ وَالْأَرْضِ وَلَكِن كَذَّبُوا فَأَخَذْنَاهُمْ بِمَا كَانُوا
يَكْسِبُونَ

“And if only the people of the cities had believed and feared Allah, We would have opened [i.e., bestowed] upon them blessings from the heaven and the earth; but they denied [the messengers], so We seized them for what they were earning.” (Qur’an, 7:96).

As a result, achieving Allah’s sustenance and blessings must be linked to humankind’s commitment to pleasing Him. Sustainability in terms of livelihood enhancement and environmental protection, as Brundtland (1987) and Pearce, Barbier, and Markandya (1988) advocate, can be easily accomplished by being righteous. As a result, reducing poverty, hunger, and environmental degradation require addressing additional external factors that, according to Islam, Allah controls (Al-Mawardi, 2000). As a historical example, the Qur’an mentioned that the Prophet Nuh has made it abundantly clear to his people to ask forgiveness of Allah as He is the one Who give you increase in wealth.

فَقُلْتُ اسْتَغْفِرُوا رَبَّكُمْ إِنَّهُ كَانَ غَفَّارًا (١٠) يُرْسِلِ السَّمَاءَ عَلَيْكُمْ مِدْرَارًا (١١) وَيُمْدِدْكُمْ بِأَمْوَالٍ وَبَنِينَ وَيَجْعَلْ لَكُمْ جَنَّاتٍ وَيَجْعَلْ لَكُمْ أَنْهَارًا (١٢)

“Saying ‘Ask forgiveness from your Lord; for He is Oft-Forgiving (10) ’ ‘He will send rain to you in abundance; (11) ’ ‘Give you increase in wealth and sons; and bestow on you Gardens and bestow on you rivers (of flowing water) (12).” (Qur’an, 71:12).

It is obvious that seeking forgiveness is another way for Allah to express His pleasure, not just in terms of sustainable livelihood but also in terms of transactions. According to Islamic transactional guidance (*Fiqh Mu’amalat*), engaging in interest, gambling, and other prohibited modes of transaction do not accrue Allah’s blessings. As mentioned in the Qur’an (2:276), it is stated that, *“Allah destroys interest and gives increase for charities. And Allah does not like every sinning disbeliever.”* (Qur’an, 2:276). From this point of view, according to several studies (i.e., Chapra, 2011; Siddiqi, 2009a), it is evident that the last financial crisis of 2007-2009, for instance, impacted interest-based banks, which became insolvent due to accrued interest, increasing the risk of economic survival. Thus, they suggested that economic activities must be socially relevant and consistent with religious values in order to survive.

With regards to social and economic interaction, it is unavoidable as no one is self-sufficient except Allah (Qur’an, 112:2) and/or is able to live in isolation. Theoretically, social exchange

is reciprocal and is based on rewards and punishment as well as affirmative actions and valuing an actor's output via direct relationships (Homans, 1958, 1961, 1974).

The first category of interaction is a form of reward or punishment for the relational activities undertaken in response to religious dictates while the second involves human beings exchanging information about their performed actions that have immediate consequences. Regarding reward or punishment, Allah said, “*So, whoever does an atom's weight of good will see it (7) And whoever does an atom's weight of evil will see it (8).*” (Qur'an, 99:7-8). Allah also said, “*Is the reward for good [anything] but good?*” (Qur'an, 55:60). In comparison to punishment, reward has a multiplier effect on Allah's side toward humanity, saying,

مَنْ جَاءَ بِالْحَسَنَةِ فَلَهُ عَشْرُ أَمْثَالِهَا وَمَنْ جَاءَ بِالسَّيِّئَةِ فَلَا يُجْزَى إِلَّا مِثْلَهَا وَهُمْ لَا يُظْلَمُونَ

“Whoever comes [on the Day of Judgement] with a good deed will have ten times the like thereof [to his credit], and whoever comes with an evil deed will not be recompensed except the like thereof; and they will not be wronged.” (Qur'an, 6:160).

As a result, these rewards have an eternal effect and ensure the continuation of life in the afterlife,

مَنْ عَمِلَ صَالِحًا مِّنْ ذَكَرٍ أَوْ أُنْثَىٰ وَهُوَ مُؤْمِنٌ فَلَنُحْيِيَنَّهٗ حَيٰوةً طَيِّبَةً وَلَنَجْزِيَنَّهُمْ أَجْرَهُمْ بِأَحْسَنِ مَا كَانُوا يَعْمَلُونَ

“Whoever does righteousness, whether male or female, while he is a believer - We will surely cause him to live a good life, and We will surely give them their reward [in the Hereafter] according to the best of what they used to do.” (Qur'an, 16:97).

Furthermore, the second category deals with human relations in everyday social and economic exchanges, such as trade, finance, and banking. Financial transactions are governed by the contractual principles (Qur'an, 2:282) begins with dyadic relationships (between debtor and capital owner), which are later expanded to include scripture and witnesses. These include transaction-specific skills and knowledge, as well as integrity, sincerity, justice, and accountability. Prior to the social exchange pronouncement, Islam identifies immaterial objects

such as brotherhood (Qur'an, 49:10), a piece of advice (Qur'an, 3:159), and sharing information as reciprocation to the relationship. The Prophet Muhammad (PBUH) confirmed this by saying:

عن أبي هريرة قال: قال رسول الله ﷺ: لا تحاسدوا، ولا تناجشوا، ولا تباغضوا، ولا تدابروا، ولا يبيع بعضكم على بيع بعض، وكونوا عباد الله إخواناً، المسلم أخو المسلم: لا يظلمه، ولا يحقره، ولا يخذله، التقوى هاهنا ويُشير إلى صدره ثلاث مراتٍ بحسب امرئٍ من الشرِّ أن يحقر أخاه المسلم، كلُّ المسلم على المسلم حرام: دمه، وماله، وعرضه رواه مسلم.

Abu Huraira reported Allah's Messenger (PBUH) as saying: "Do not envy one another, and do not inflate prices for one another, and do not hate one another, and do not turn away from one another, and do not undercut one another in trade, but [rather] be slaves of Allah and brothers [amongst yourselves]. A Muslim is the brother of a Muslim: he does not oppress him, nor does he fail him, nor does he lie to him, nor does he hold him in contempt. Taqwa (piety) is right here [and he pointed to his chest three times]. It is evil enough for a man to despise his Muslim brother. The whole of a Muslim is inviolable for another Muslim: his blood, his property, and his honour." (Hadith, reported by Abu Hurairah, Bukhari:2140, 2150; Muslim:1413, 1515).

Cropanzano and Mitchell (2005) assert that exchange relationships must include an obligation to meet one another's needs. This echoes S. A. Siddiqui (2014) with a suggestion that a sustainable financial and economic system should conform to Islamic principles of socioeconomic justice distribution. In this way, Chapra's (1979) work, *The Islamic Welfare State and Its Role in The Economy*, argued that the economic system must serve the pursuit of well-being, brotherhood, justice, and equal income distribution. As a result, social justice will not reach its full potential without altruism, as exemplified by the concept of *Ihsan*. The Prophet (PBUH) said, 'None of you will have faith until each of you wishes for his (Muslim) brother what he wishes for himself' (Hadith, reported by Anas bin Malik, Muslim:45; At-Turmudzi:2515; An-Nasa'i:5016; Ibn Majah:66). According to this principle, dyadic relationships in Islamic financial institutions must extended to societal benefit through prudent capital allocation. In the most complex society, money exchange between surplus and deficit agents occurs via an intermediary channel (i.e., bank), transforming dyadic exchange into network exchange.

Based on the social exchange theory, Cook and Emerson (1987)'s seminar work within the founding root of Blau (1968) and Homans (1964) resulted in the social network relationship. This could be a relationship between an individual, a corporation/organisation, or a state. In Islam, on the other hand, relationships are always positive, in contrast to the conventional view of network relationships, which is that they are either negative or neutral. According to this, it is unambiguously stated by the Prophet (PBUH), saying,

“Strange are the ways of a believer for there is good in every affair of his and this is not the case with anyone else except in the case of a believer for if he has an occasion to feel delight, he thanks (God), thus there is a good for him in it, and if he gets into trouble and shows resignation (and endures it patiently), there is a good for him in it.” (Hadith, reported by Suhaib, Ad-Darimi, 2819; Ahmad, 18934, 23924).

Similarly, Allah has provided for the reward of believers who endure any calamity (such as systematic risk in business). Indeed, the rewards of the Hereafter are superior to the pleasures of this world. As stated in the Qur'an (93:4), *“And the Hereafter is better for you than the first [life].”* Allah stated in another chapter, *“While the Hereafter is better and more enduring.”* (Qur'an, 87:17).

In regard to the loss of wealth and other property, Allah also makes it abundantly clear that in a state of hunger, loss of lives, loss of wealth and other property are indeed a test from Allah:

وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِّنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِّنَ الْأَمْوَالِ وَالْأَنْفُسِ وَالثَّمَرَاتِ وَبَشِّرِ الصَّابِرِينَ

“Be sure We shall test you with something of fear and hunger, some loss in goods, lives and the fruits (of your toil), but give glad tidings to those who patiently persevere.” (Qur'an, 155-157).

As a result, the Islamic understanding of relationship is broader than the conventional one. In a similar vein, network actors within the Islamic framework are obligated to act ethically in accordance with religious teachings. This perspective guided the development of the sustainability theory in financial institutions (i.e., bank) through the positive ethical networks

(PENs)¹ to capture the process of sustainable financial innovations (Dossa, 2013; Dossa & Kaeufer, 2014). Initially, PENs was conceptualised with the goal of alleviating society's external crises and hardships via sustainable financing in banking institutions. In contrast to the Islamic sustainable finance approach, which is based on divine revelation and prophetic guidance on good and evil, the authors' arguments addressing the ethical framework seem to lack a solid foundation.

3.2.1.2 Islamic View of Environmental Sustainability

It should be noted that the terms 'nature' and 'environment' are frequently used synonymously. 'Nature' is the term used to refer to the natural, physical, or material world or universe and it can refer to both physical phenomena and life. On the other hand, the term 'environment' refers to the external elements and conditions that surround, influence, and affect an organism's or population's life and development (Sustainable Development Report, 2015). Accordingly, these two words generally used interchangeably.

The Islamic perspective on environmental sustainability can be derived from the notion that the purpose of the existence of nature is for humans to analyse and explore it in order to discover God (Allah) and to benefit humanity. Nature can be used to feed humanity, and its bounty should be distributed equally among all peoples. Accordingly, all activities that harm humanity and thereby destroy nature and environment are prohibited. Destruction of the natural balance is discouraged; for instance, unnecessary animal slaughter or vegetation removal may result in starvation due to a lack of food. This view is a development of the notion that a human being was placed on earth to act as God's representative (Faruqi, 2007). Contemporary Muslim scholars argue that scientists and scholars are best motivated to pursue scientific endeavours by these underlying values (Faruqi, 2007).

¹ According to Dossa and Kaeufer (2014), PENs is a collection of positive actors (individual or group) who share a common positive ideology and set of objectives to accomplish within a formal or informal organisational/institutional setting. External crises are connected to PENs and sustainable financial innovation, according to the theory. Dossa (2013) developed the PENs theoretical framework to serve as the foundation for sustainable finance innovation in sustainable banking. The PENs' coordination mechanism (positive ethical actors) was tested on Triodos Bank UK in order to establish a link between external crisis and sustainable financial innovation. In order to achieve sustainable innovation, according to Arnaud and Sekerka (2010), managers must combine positive moral ethics and sustainable ecology. These interconnections of business ethics necessitated a commitment on the part of all stakeholders to sustain them over time.

The Qur’anic portrayal of nature, as found in numerous verses is complex, and the emphasis on mentioning nature is generally associated with the notion that God (Allah) did not create nature randomly:

الَّذِينَ يَذْكُرُونَ اللَّهَ قِيْلًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمٰوٰتِ وَالْاَرْضِ رَبَّنَا مَا خَلَقْتَ هٰذَا بَطِلًا سُبْحٰنَكَ فَقِنَا عَذَابَ النَّارِ

“Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], “Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire.” (Qur’an, 3:191)

وَمَا خَلَقْنَا السَّمٰوٰتِ وَالْاَرْضَ وَمَا بَيْنَهُمَا بَطِلًا ذٰلِكَ ظَنُّ الَّذِيْنَ كَفَرُوْا فَوَيْلٌ لِّلَّذِيْنَ كَفَرُوْا مِنَ النَّارِ

“And We did not create the heaven and the earth and that between them aimlessly. That is the assumption of those who disbelieve, so woe to those who disbelieve from the Fire.” (Qur’an, 38:27)

مَا خَلَقْنَا السَّمٰوٰتِ وَالْاَرْضَ وَمَا بَيْنَهُمَا اِلَّا بِالْحَقِّ وَاَجَلٍ مُّسْمًى وَالَّذِيْنَ كَفَرُوْا عَمَّا اُنذِرُوْا مُّعْرِضُوْنَ

“We did not create the heavens and earth and what is between them except in truth and [for] a specified term. But those who disbelieve, from that of which they are warned, are turning away.” (Qur’an, 46:3)

Moreover, while God is defined by his ‘Unity (*tawhid*),’ nature, as one of God’s creations, is defined by duality in the sense of complementary opposites or pairs, as denoted by the Arabic term ‘*zawj*’:

وَهُوَ الَّذِي مَدَّ الْاَرْضَ وَجَعَلَ فِيْهَا رَوٰسِي وَاَنْهٰرًا وَمِنْ كُلِّ الثَّمَرٰتِ جَعَلَ فِيْهَا رَوٰجِيْنَ اَنْثٰنِيْنَ يُّعٰشِي الْاَيْلَ النَّهَارِ
 اِنَّ فِيْ ذٰلِكَ لَاٰيٰتٍ لِّقَوْمٍ يَّتَفَكَّرُوْنَ

“And it is He who spread the earth and placed therein firmly set mountains and rivers; and from all of the fruits He made therein two mates; He causes the night to cover the day. Indeed, in that are signs for a people who give thought.” (Qur’an, 13:3)

خَلَقَ السَّمَوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا وَالْأَرْضَ رَوَاسِيَ أَنْ تَمِيدَ بِكُمْ وَبَثَّ فِيهَا مِنْ كُلِّ دَابَّةٍ وَأَنْزَلْنَا مِنَ السَّمَاءِ مَاءً فَأَنْبَتْنَا فِيهَا مِنْ كُلِّ زَوْجٍ كَرِيمٍ

“He created the heavens without pillars that you see and has cast into the earth firmly set mountains, lest it should shift with you, and dispersed therein from every creature. And We sent down rain from the sky and made grow therein [plants] of every noble kind.” (Qur’an, 31:10)

سُبْحَانَ الَّذِي خَلَقَ الْأَزْوَاجَ كُلَّهَا مِمَّا تُنْبِتُ الْأَرْضُ وَمِنْ أَنْفُسِهِمْ وَمِمَّا لَا يَعْلَمُونَ

“Exalted is He who created all pairs [all species], from what the earth grows and from themselves and from that which they do not know.” (Qur’an, 36:36)

وَأَنَّهُ خَلَقَ الذَّكَرَ وَالْأُنثَىٰ

“And that He creates the two mates -the male and female-.” (Qur’an, 53:45)

Another characteristic of nature (i.e., the sun, moon, earth, mountains, sky, and plants) that the Qur’an describes as a balancing element in all of God’s creation that can be used for human basic needs (i.e., drink,) to the best of our ability with justice and intelligence, without destroying nature and, thus, achieving welfare The following verses elaborate on this concept:

وَسَخَّرَ لَكُمْ الشَّمْسَ وَالْقَمَرَ دَائِبَيْنِ وَسَخَّرَ لَكُمْ اللَّيْلَ وَالنَّهَارَ

“And He subjected for you the sun and the moon, continuous [in orbit], and subjected for you the night and the day.” (Quran, 14:33)

وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا وَادْعُوهُ خَوْفًا وَطَمَعًا إِنَّ رَحْمَتَ اللَّهِ قَرِيبٌ مِنَ الْمُحْسِنِينَ

“And cause not corruption/harm/damage upon the earth after its reformation. And invoke Him in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good.” (Quran, 7:56)

وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَّوْزُونٍ

“And the earth - We have spread it and cast therein firmly set mountains and caused to grow therein [something] of every well-balanced thing.” (Quran, 15:19)

هُوَ الَّذِي أَنْزَلَ مِنَ السَّمَاءِ مَاءً لَكُمْ مِنْهُ شَرَابٌ وَمِنْهُ شَجَرٌ فِيهِ تُسِيمُونَ (١٠) يُثْبِتُ لَكُمْ بِهِ الزَّرْعَ وَالزَّيْتُونَ
وَالنَّخِيلَ وَالْأَعْنَابَ وَمِنْ كُلِّ النَّمْرَاتِ إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ يَتَفَكَّرُونَ (١١) وَسَخَّرَ لَكُمْ الَّيْلَ وَالنَّهَارَ وَالشَّمْسَ
وَالْقَمَرَ وَالنُّجُومَ مُسَخَّرَاتٌ بِأَمْرِ اللَّهِ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِقَوْمٍ يَعْقِلُونَ (١٢) وَمَا ذَرَأَ لَكُمْ فِي الْأَرْضِ مُخْتَلِفًا أَلْوَانُهُ
إِنَّ فِي ذَلِكَ لَآيَةً لِقَوْمٍ يَذَّكَّرُونَ (١٣) وَهُوَ الَّذِي سَخَّرَ الْبَحْرَ لِتَأْكُلُوا مِنْهُ لَحْمًا طَرِيًّا وَتَسْتَخْرِجُوا مِنْهُ حَبْلَةً
تَلْبَسُونَهَا وَتَرَى الْفَلَكَ مَوَاجِرَ فِيهِ وَلِتَبْتَغُوا مِنْ فَضْلِهِ وَلِعَلَّكُمْ تَشْكُرُونَ (١٤) وَالْقَى فِي الْأَرْضِ رَوَاسِيَ أَنْ
تَمِيدَ بِكُمْ وَأَنْهَارًا وَسُبُلًا لَعَلَّكُمْ تَهْتَدُونَ (١٥)

“It is He Who sends down rain from the sky: from it ye drink, and out of it (grows) the vegetation on which ye feed your cattle (10) With it He produces for you corn, olives, date-palms, grapes, and every kind of fruit: verily in this is a Sign for those who give thought (11) He has made subject to you the Night and the Day; the Sun and the Moon; and the Stars are in subjection by His Command: verily in this are Signs for men who are wise (12) And the things on this earth which He has multiplied in varying colours (and qualities): verily in this is a Sign for men who celebrate the praises of Allah (in gratitude).(13) It is He Who has made the sea subject, that ye may eat thereof flesh that is fresh and tender, and that ye may extract therefrom ornaments to wear; and thou seest the ships therein that plough the waves, that ye may seek (thus) of the bounty of Allah and that ye may be grateful (14) And He has set up on the earth mountains standing firm, lest it should shake with you; and rivers and roads; that ye may guide yourselves (15)” (Al-Quran, An-Nahl [16]:10-15)

إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ

“Indeed, all things We created with predestination.” (Qur’an, 54:49)

خَلَقَ الْإِنْسَانَ (٣) عَلَّمَهُ الْبَيَانَ (٤) الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ (٥) وَالنَّجْمُ وَالشَّجَرُ يَسْجُدَانِ (٦) وَالسَّمَاءَ رَفَعَهَا
وَوَضَعَ الْمِيزَانَ (٧) أَلَّا تَطْغَوْا فِي الْمِيزَانِ (٨) وَأَقِيمُوا الْوَزْنَ بِالْقِسْطِ وَلَا تُخْسِرُوا الْمِيزَانَ (٩) وَالْأَرْضَ
وَضَعَهَا لِلْأَنَامِ (١٠) فِيهَا فَلَکِهُنَّ وَالنَّخْلُ ذَاتُ الْأَكْمَامِ (١١) وَالْحَبُّ ذُو الْعَصْفِ وَالرَّيْحَانُ (١٢) فَبِأَيِّ آءَاءِ
رَبِّكُمْ تُكذِّبَانِ (١٣)

“He has created man (3) He has taught him speech (and Intelligence) (4) The sun and the moon follow courses (exactly) computed; (5) And the herbs and the trees- both (alike) bow in adoration (6) And the Firmament has He raised high, and He has set up the balance (of Justice), (7) In order that ye may not transgress (due)

balance (8) So establish weight with justice and fall not short in the balance (9) It is He Who has spread out the earth for (His) creatures (10) Therein is fruit and date-palms, producing spathes (enclosing dates) (11) Also corn with (its) leaves and stalk for fodder and sweet-smelling plants (12) Then which of the favours of your Lord will ye deny? (13) ” (Quran, 55:3-13)

The concept of a divinely arranged order in nature found in the Qur’an could be interpreted that the nature is the purposeful creation of an omnipotent and omniscient God and thus perfectly ordered and structured (Baker, 1998). The evil human forces do not disturb nature’s order, and its structure is maintained. In this regard, the Qur’an states: “*Do not spread corruption on earth after it has been so well ordered.*” (Qur’an 7:56), which succinctly expresses this concept of nature.

Additionally, Allah mentions (Qur’an, 14:33; 23:80; 24:44; 25:62; 39:5) that the natural phenomenon that we frequently observe, the alternation of night and day, is beneficial and provides human beings with sufficient means of livelihood and sustenance (Qur’an, 3:27). Allah expanded the issues beyond day and night in another verse (Qur’an, 31:29) by including other sustainable creations (i.e., the moon and sun) that contribute to human sustenance, which is one of the environmental components of sustainability. Again, the following verse delve into additional facets:

إِنَّ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ وَالْفُلْكِ الَّتِي تَجْرِي فِي الْبَحْرِ بِمَا يَنْفَعُ النَّاسَ وَمَا أَنْزَلَ اللَّهُ مِنَ السَّمَاءِ مِنْ مَّاءٍ فَأَحْيَا بِهِ الْأَرْضَ بَعْدَ مَوْتِهَا وَبَثَّ فِيهَا مِنْ كُلِّ دَابَّةٍ وَتَصْرِيفِ الرِّيْحِ وَالسَّحَابِ الْمُسَخَّرِ بَيْنَ السَّمَاءِ وَالْأَرْضِ لَآيَاتٍ لِقَوْمٍ يَعْقِلُونَ

“Verily! In the creation of the heavens and the earth, and in the alternation of night and day, and the ships which sail through the sea with that which is of use to mankind, and the water (rain) which Allah sends down from the sky and makes the earth alive therewith after its death, and the moving (living) creatures of all kinds that He has scattered therein, and in the veering of winds and clouds which are held between the sky and the earth, are indeed Ayat (proofs, evidence, signs, etc.) for people of understanding.” (Qur’an, 2:164).

Furthermore, Allah arranges the days and nights in such a way that mankind can make the earth a comfortable place to live and seek His ‘*fadhl*’ or bounty (Qur’an, 2:164). Numerous Muslim

scholars interpret the term ‘bounty’ as a form of ‘Islam as a religion’, ‘goodness’, ‘glory’, ‘fortune’, ‘welfare’, and ‘pleasure’ (Hamid, 1991). Allah stated as follows:

وَمِن رَّحْمَتِهِ جَعَلَ لَكُمُ اللَّيْلَ وَالنَّهَارَ لِتَسْكُنُوا فِيهِ وَلِتَبْتَغُوا مِنْ فَضْلِهِ وَلِعَلَّكُمْ تَشْكُرُونَ

“And out of His mercy He made for you the night and the day that you may rest therein and [by day] seek from His bounty and [that] perhaps you will be grateful.”

(Qur’an, 28:73)

Thus, utilising these bounties (*fadhl*) properly and remaining obedient to Allah perpetuates a means of sustenance. From this standpoint, it is noted that Islam sees the nature or environment as a very significant pillar for the welfare of human being with a condition that all Islamic rules are enforced.

To demonstrate the proactive nature of Islamic sustainable development, it is critical to note that the Islamic perspective on sustainable development is derived from its vision of an ethical economy and society, which can be articulated into a structure of values and principles conducive to growth, social justice, and well-being (Chapra, 1979, 2008a, 2008b; Kamali, 1989b, 2008).

With a specific reference to the contemporary discourse on sustainable development, Table 3.1 discusses the spirit of Islam which promotes the following obligations compatible with the MDGs-SDGs framework:

Table 3. 1 Islamic tenets on the sustainable development

No	Sector	Explanation	Scripture reference
1	Welfare and socioeconomic development	The Muslim community is obligated to pay <i>zakat</i> (wealth tax) and <i>sadaqah</i> (voluntary charity). <i>Zakat</i> is one of Islam’s five pillars while <i>sadaqah</i> is a strongly recommended practise. Both are fundamentally geared toward addressing a broad range of issues related to sustainable development: poverty alleviation and socioeconomic advancement; food security and improved nutrition; societal well-being; ensuring an inclusive and equitable standard of living (i.e., education, health); reducing inequality within and between countries; and wealth distribution.	<ul style="list-style-type: none"> i. The Qur’an provides the foundation for the concerns of sustainable development that Islam emphasises (Qur’an, 9:103). ii. Islam recognises the right to property and profit, it places a premium on wealth distribution and the reduction of income inequality (Qur’an, 59:7).
2	Clean water	Islam emphasises the importance of clean water as a source of life, and thus considers providing clean water to be one of the most effective forms of charity (<i>sadaqah</i>).	One of the Prophet’s friends questioned him, “ <i>O Messenger of Allah! my mother died, what is the best charity (on her behalf)?</i> ” <i>The Prophet (PBUH) replied: “Giving water to drink.”</i> (Hadith, reported by Sa’d bin Ubadah, Abu Dawud:1679, 1681; An-Nasai:3650, 3665, 3666; Ibn Majah:3684; Malik:2261; Ahmad:22458, 22459, 23845).
3	Responsible consumption and production	Islam promote sustainable consumption and production that adheres to <i>halal</i> (lawful) norms, as well as the effective use of natural resources and waste reduction and condemns excessive consumption	The Qur’an expressly forbade excessive consumption while encouraging moderate usage (Qur’an, 7:31; 17:29; 25:67)
4	Protection of the environment	<p>Islam encourages a broad variety of environmental preservation concepts, including, but not limited to:</p> <ul style="list-style-type: none"> i. Promotes the concept of environmental conservation and animal protection. ii. Addressing the significance of life on land. iii. Encouraging agriculture and plantation, as well as the necessity of Muslims working and avoiding laziness and unemployment. iv. Promoting resource efficiency and waste minimisation 	<ul style="list-style-type: none"> i. Planting a tree is considered as <i>shadaqah</i> (Hadith, Bukhari, 6012; Muslim, 1553; At-Turmudzi, 1382; Ahmad, 12495, 12999, 13389, 13553, 13554 ii. Corruption (<i>fasad</i>) upon the earth is clearly condemned (Qur’an, 7:56; 26:151-152).

<i>No</i>	<i>Sector</i>	<i>Explanation</i>	<i>Scripture reference</i>
6	Peace and justice	Many verses in the Qur'an explained that the Prophet Muhammad (PBUH) was sent to the world as a mercy to mankind, as Islam spreads the message of peace, justice, and equality. A reading of the Qur'an reveals that the majority of its verses (and also the <i>Hadith</i>) are based on peace and kindness, either explicitly or implicitly. According to the Qur'an, the ideal society is ' <i>Dar as-Salaam</i> ' in Arabic, which translated into 'the house of peace' in English. Furthermore, in Arabic term, the word 'Islam' itself means 'peace', indicating that Islam strongly promotes peace and justice by its conception. implying that Islam firmly favours peace and justice.	The Prophet (PBUH) was sent to the world as a mercy to mankind (Qur'an, 21:107) as Allah invites all human being to the home of piece (Qur'an, 10:25) The Qur'an states unequivocally that the establishment of justice promotes harmony and peace in a society where all members are aware of their rights and take care of the rights of others (Qur'an, 4:58; 16:90)
7	Public participation	Protecting, conserving, and developing the environment and natural resources, in addition to promoting socioeconomic justice, are Islamic obligations that every Muslim must fulfil. This commitment stems from the individual's obligation to protect himself and his community.	Allah urges all Muslims not to overlook their responsibility and role in achieving a better world. (Qur'an, 28:77)

3.2.2 Islamic Legal Theories: An Approach to Sustainable Development

Islamic law (*Shari'ah*) encompasses ideals and ethics that apply to all elements of life: social, economic, intellectual, political, and personal. According to Dusuki and Abdullah (2007), *Shari'ah* is Islam's holistic perspective, which is viewed as an integrated and comprehensive code or guide to life. Additionally, Al-Qaradawi (2005) explains that *Shari'ah* is not limited to matters of legal qualities, but also serves as a framework for morality. Accordingly, the discussion of Islamic perspective on the sustainable development could be elaborated through the thought of prominent Muslim scholars on the conception of Islamic legal doctrine theories such as *Maqasid al-Shari'ah* (higher ethical objectives of Islamic law), *Siyasah Shar'iyah* (*Shari'ah*-oriented public policy), and *Maslahah* (welfare or public interest). These three legal doctrine theories are important as it is noteworthy that the implementation of sustainable development goals is considered as the most exponential part of Islamic view of development because the ultimate objective of the Islamic development itself is to remedy sustainable development hardships and eventually to achieve social justice, welfare, and well-being (Askari, Iqbal, Krichene, & Mirakhor, 2014).

Furthermore, the act of achieving 'social justice' is even described as the primary objective of an Islamic vision of development that takes its roots in the belief that human beings are the vicegerents of the One God (*khalifatullah*). As suggested by Chapra (2008b), the human well-being orientation and realising socioeconomic justice are therefore being the most prominent differentiation between Islamic version of development and secular paradigm of development.

3.2.2.1 *Maqasid al-Shari'ah* (the Objectives of Islamic Law)

3.2.2.1.1 Definition

The term *Maqasid al-Shari'ah* (objective of *Shari'ah*) is derived from two terms (the term *Maqsad* or *Maqsid* and the term *Shari'ah*). *Maqsad* or *Maqsid* is an Arabic term for 'objective', 'wisdom', 'intent', or 'purpose.' The term *Maqsad* or *Maqsid* is used in conjunction with the term *Shari'ah* to mean 'path,' 'way,' or 'a path to a watering place'; it also refers to 'Islamic law.' However, in its collective sense, the term '*Shari'ah*' refers to strict adherence to Allah's instructions, guidance, and principles regarding mankind's behaviour in this world and

salvation in the next. These two terms combine to form a compound term known as *Maqasid al-Shari'ah* (Al-Qaradawi, 2005; Kamali, 2008). Thus, the term *Maqasid al-Shari'ah* refers to the wisdom that God emphasises in His rulings (Al-Yubi, 1998). This is based on the notion that Islamic rulings are purposeful, in the sense that they serve specific purposes that are either explicitly stated or can be deduced from the sources of *Shari'ah* (Al-Yubi, 1998). According to Al-Ghazali's argument, the *Shari'ah*'s primary purpose is to promote the well-being of all mankind, which includes safeguarding their religion (*ad-din*), human-self (*nafs*), intellect (*aql*), family (*nasl*), and wealth (*mal*).

3.2.2.1.2 Conception

The Qur'an and the Sunnah of the Holy Prophet are the primary sources of *Maqasid al-Shari'ah* (SAW). The magnificent Qur'an covers every aspect of human endeavour. There are sufficient Qur'anic verses to support the view that the Qur'an encompasses the entirety of human life. These verses include but are not limited to the following:

وَمَا مِنْ دَابَّةٍ فِي الْأَرْضِ وَلَا طَائِرٍ يَطِيرُ بِجَنَاحَيْهِ إِلَّا أُمَمٌ أَمْثَالُكُمْ مَا فَرَّطْنَا فِي الْكِتَابِ مِنْ شَيْءٍ ثُمَّ إِلَىٰ رَبِّهِمْ يُحْشَرُونَ

“We have not neglected in the Register [Al-Qur'an] a thing.” (Qur'an, 6:38)

وَيَوْمَ نَبْعَثُ فِي كُلِّ أُمَّةٍ شَهِيدًا عَلَيْهِمْ مِنْ أَنْفُسِهِمْ وَجِئْنَا بِكَ شَهِيدًا عَلَىٰ هَؤُلَاءِ وَنَزَّلْنَا عَلَيْكَ الْكِتَابَ تِبْيَانًا لِكُلِّ شَيْءٍ وَهُدًى وَرَحْمَةً وَبُشْرَىٰ لِلْمُسْلِمِينَ

“And We have sent down to you the Book [Al-Qur'an] as clarification for all things and as guidance and mercy and good tidings for the Muslims.” (Qur'an, 16:89)

إِنَّا نَحْنُ نُحْيِي الْمَوْتَىٰ وَنَكْتُبُ مَا قَدَّمُوا وَءَاتَاهُمْ وَكُلَّ شَيْءٍ أَحْصَيْنَاهُ فِي إِمَامٍ مُّبِينٍ

“Indeed, it is We who bring the dead to life and record what they have put forth and what they left behind, and all things We have enumerated in a clear register [Al-Qur'an].” (Qur'an, 36:12)

وَكُلَّ شَيْءٍ أَحْصَيْنَاهُ كِتَابًا

“And We have everything recorded precisely.” (Qur'an, 78:29)

The Sunnah serves as a secondary source of *Shari'ah*, complementing the Qur'an and providing additional explanations where necessary. Essentially, the significance of *Shari'ah* and its objectives is what drives the classical scholars' determination to connect the *Maqasid al-Shari'ah* to their professional fields.

According to the scholars' discussion, the *Maqasid al-Shari'ah* encompasses the total well-being of human beings and their immediate environment in accordance with the *Shari'ah*'s dictates (Chapra, 1979, 2008a, 2008b). Thus, it is critical to guard against Islam's practises being diverted in the name of human well-being and to avoid a literal textual approach to Islam (Al-Qaradawi, 2005). While the *Maqasid al-Shari'ah* promotes the purposes, values, and spirit of Islam by emphasising their practical application rather than their technical or legal aspects, it also contributes to the harmonisation of revelation and reality. In other words, the *Maqasid al-Shari'ah* instructs scholars to consider changing circumstances, human needs and customs, social and cultural contexts, and economic and political contexts before recommending the application of any rule (Zahraa, 2003).

Al-Shatibi emphasises that the *Shari'ah*'s objective is to advance the welfare of the people and to avert corruption and hardship, as the Qur'an expresses plainly: "*And We have not sent you, [O Muhammad], except as a mercy to the worlds.*" (Qur'an, 21:107) and "*He [Allah] has chosen you and has not placed upon you in the religion any difficulty.*" (Qur'an, 22:78). Additionally, Allah SWT. assures humanity that "*Allah does not intend to make difficulty for you, but He intends to purify you and complete His favor upon you that you may be grateful.*" (Qur'an, 5:6).

In elaborating the concept of *Maqasid al-Shari'ah*, Ibn 'Āshūr (2004) depicted that the general objectives of Islamic Law are the meanings and wise purposes of the Lawgiver that can be discerned in the majority or all of the situations to which the Law applies, such that they are not limited to a particular type of ruling. Included are the circumstances surrounding the Law's establishment, its overarching purpose, and the meanings discernible throughout the Law. A *mujtahid* must be able to comprehend the *Shari'ah*'s aims in order to execute *ijtihad*. Imam Malik (d.179/795), for instance, views *istihsan* as a purpose-driven process of interpretation, stating that it represents nine-tenths of human knowledge.

Scholars (i.e., As-Shatibi) have classified the *Maqasid al-Shari'ah* into three categories: *dharuriyyat* (the basics), *hajiyyat* (the complementariness), and *tahsiniyyat* (the desirable or the embellishments). The social order is classified into three categories; however, when referring to the entire community, it is classified as *kulli* (whole) and *juz'i* (partial). However, in terms of people's circumstances, it is composed of *qath'i* (definite), *zhanni* (speculative), and *wahmi* (superstitious). Accordingly, as a comprehensive understanding of Islamic law, *Maqasid al-Shari'ah* is a vehicle for societal and human development with the goal of achieving human perfection in this world and the next (Al-Jayyousi, 2016).

Six categories of *daruriyyat* generally related to the safeguarding of 'religion, life, intellect, lineage, and property, and honour.' They are deemed necessary because their omission would result in total social instability and anarchy. Ibn al-Hajib (d.646/1249), al-Qarafi, al-Ghazali, and Ibrahim al-Shatibi (d.790/1388) all regarded these virtues, the latter (honour) of which was introduced by al-Qarafi, as safeguarding the honour of each Muslim, as al-Thufi did. Al-Ghazali considers it is forbidden to destroy even one of them. In general, the *Shari'ah* tries to safeguard and promote these fundamentals in order to safeguard Islam. For example, to safeguard life, Allah SWT. ordained *qishash* (retaliation); to protect the intellect, alcohol is prohibited; adultery is prohibited to preserve one's lineage; and theft is prohibited to protect one's property. Indeed, any challenge to the social order is a criminal violation. As a result, *qishash* safeguards their lives, and without honour, life would be incomplete and almost certainly worse.

As-Shatibi describes *hajiyyat* as 'whatever is required for *tawassu'* (enlargement) and *raf'ul haraj'* (avoiding hardship). If they are neglected, individuals will suffer harm and hardship, but not nearly as much as if the necessities are neglected. Concessions (*rukhash*) made to the sick and travellers in terms of suspending the fast and reducing the prayers (*shalat*) are made to alleviate hardship. This is precisely the purpose of all such concessions. In the field of criminal law, the prophetic hadith 'suspend the prescribed penalties (*hudud*) in all circumstances of doubt might be viewed as a complementing *mashlahah*, as the standard of proof for offences carrying prescribed penalties (*hudud*) is extremely high (Kamali, 2008). In the realm of *mu'amalat*, the *Shari'ah*'s approval of some contracts (i.e., the sale of a *salam* contract [delayed delivery] and *ijarah* [lease and hire]) is not absolutely necessary for the continuation of normal life. As a result, they are referred to as *hajiyyat* (complementary).

The third category, *tahsiniyyat* or *kamaliyyat* (embellishments), complements the first two by portraying the *mukallaf* (subject's) interests and awareness in all domains and at all levels. Shatibi indicated that they are a component of the moral constitution of *'ibadat* (i.e., avoiding impure things and considering all types of cleanness), customary matters (i.e., eating properly and avoiding wasteful consumption), transactions (i.e., preventing others from selling impure things, avoiding *riba*, *gharar*, and *maysir*), and *jinayat* (i.e., criminal offences). As a result, *sadd al-dhara'i* is regarded as a subset of *tahsiniyyat*. The *Shari'ah* promotes gentleness (*rifq*), good manners and behaviour (*husn al-khulq*), and fair dealing (*ihsan*), as well as being a devoted person (*'abid*) in terms of performing supererogatory prayers, voluntary fasting, and generosity to the poor and those in need in all manner of customary matters, interpersonal relations, family matters, and religious duties, among others.

Kamali (2008) elaborates on this concept by stating that the *tahsiniyyat* are a critical category since they are widespread and connect all the other *mashalih*. For instance, one can fulfil the compulsory *shalat* in a variety of ways. It might range from completing it with complete and correct concentration, paying close attention to each of its components, to performing it hastily and thoughtlessly. Additionally, the Prophet (PBUH) stated that "*Allah is lovely, and He loves beauty and that the best of you is those with the best manners and character.*" (Bukhari, Volume 4, Book 56, No. 759). The *tahsiniyyat* determine whether our deeds are accepted or rejected, as the Lawgiver does not require our deeds.

Emphasising the importance of *Maqasid al-Shari'ah*, according to Ibn 'Āshūr (2004), it is noted that understanding *Maqasid al-Shari'ah* liberates people from narrow mindedness and literalism. Through everlasting principles and the essence and genuine meaning of Islam, the *Maqasid al-Shari'ah* leads to uncharted frontiers. To discern the true spirit of *Maqasid al-Shari'ah*, one must separate the worldly from the divine, the transitory from the permanent, the changeable from the immutable, and the individual from the general.

Maqasid al-Shari'ah is a conspicuously significant and previously underappreciated branch of Islamic law (Kamali, 2008). *Maqasid al-Shari'ah* also serves as an objective for the edict, namely, to meet the needs and welfare of mankind. *Maqasid al-Shari'ah* is the elevation of human beings' well-being (Al-Raysuni, 2013).

3.2.2.2 *Maslahah* (Welfare or Public Interest)

3.2.2.2.1 Definition

Maslahah is a word that literally translates as ‘advantage’, ‘interest’, ‘benefit’, or ‘welfare’ (Ibn-Mandzhour, 1883). When reduced to *Maslahah Mursalah*, the term denotes an unregulated public interest in the sense that it was not governed by the Lawgiver, since no scriptural authority on its legality or otherwise can be located. Al Ghazali defined *Maslahah* as the factor that guarantees a benefit or prevents harm while being consistent with the *Shari’ah*’s purpose and objective. These objectives include the safeguarding of five fundamental values: faith, life, intellect, lineage, and property. According to him, every measure that safeguards these values is *Maslahah*, while anything that violates or prevents them is *Masfadah* (evil) (W. Az-Zuhaili, 2006).

3.2.2.2.2 Conception

The concept of public interest (*Maslahah*) is a valid basis of law and judgment in *Shari’ah*, as well as something governments should secure, as and when the opportunity arises. According to an Islamic legal maxim¹:

تصرف الإمام على الرعية منوط بالمصلحة

“*The affairs of the imam (head of state) concerning his people are judged by reference to Maslahah.*”

This interprets a self-evident on the primacy of public interest in all government activities and programmes. This Islamic legal maxim also defines the boundaries of public administrations and legal policy in terms of the rulers’ authority and their behaviour toward the public, stating that the rulers’ actions toward the people must be motivated by the people’s interest and benefit,

¹ Islamic legal maxims (*al-qawa’id al-fiqhiyah*) are general rules of fiqh, which can be applied in various cases that come under the common rulings. A maxim can be defined as “a general rule, which applies to all of its related particulars” (Mahmassani, 1961). These legal maxims play an important role in the formulation of Islamic law, for they are used as principles to deduce many rules of fiqh (Laldin, 2014).

as the rulers are considered the Caliph and thus do not work for themselves. Rather than that, they (government) serve as agents of the nation, taking the best measures to establish justice, rebuke injustice, safeguard rights and morals, maintain security, spread knowledge, purify society of corruption, and achieve all that is best for the nation through the best means consistent with the public interest. *Maslahah* is eminently developmental and looks into the prospects of improving the temporal and spiritual aspects of people's lives. The genuine public interest is that which brings the highest good to the most significant number without any compromise on fundamental principles (M. M. Az-Zuhaili, 2006).

Furthermore, the discourse on public interest (*Maslahah*) in Islam is a further discussion of utilisation and function of the objectives of Islamic law (*Maqasid al-Shari'ah*) and *Shari'ah*-oriented policy (*Siyasah Shar'iyah*) that can be described as follows:

- (i) In the dialogue of development policies, *Siyasah Shar'iyah* is a policy-making tool and the basis of the assessment of opinions for the policymaker. Accordingly, *Siyasah Shar'iyah* represents the measures used by the Muslim rulers to preserve the objectives of *Shari'ah*. In other words, *Siyasah Shar'iyah* is an instrument of flexibility used by rulers and judges in policy and decision-making to encourage public interest (*Maslahah*) with the use of *Maqasid al-Shari'ah* parameter. Thus, *Maslahah* is the driving force and consideration of policymaking under *Siyasah Shar'iyah* (Ibn Qayyim, 1961).
- (ii) *Maslahah* is a measurement of public welfare. This refers to Imam Al-Ghazali (1413 AH), the word '*Maslahah*' literally means welfare, benefit or interest (Kamali, 1989b, 2008). Consequently, *Maslahah* appertains to the measures that promote public welfare and prevent things that cause hardships to the community in this world and the world hereafter (*ad-dunya wa al-akhirah*), provided that these measures are in agreement with the objectives of *Shari'ah*. Accordingly, these considerations (i.e., realisation of public welfare and prevention of harm) are the two important objectives of *Siyasah Shar'iyah* (Kamali, 1989b, 1999, 2008).
- (iii) With the *Siyasah Shar'iyah* approach, it is the rulers' responsibilities to uphold the religion of Islam in order to carry out the development agenda for their people, both in the world and in the hereafter. *Shari'ah* scholars (*fuqaha*) agree that obeying religious rules and maintaining its provisions would achieve justice, security, good life, and

prosperity among Muslims (F. Ahmad, 2001). Moreover, Chief Justice of the Highest Court (*Qhadi al-Qudhah*) in the era of Mamluk Sultanate of Egypt, Syeikhul Islam Izzuddin Abdussalam, in his book *Legal Principles of Public Interest (Qawa'id al-Ahkam fi Mashalih al-Anam)* remarks that the supreme leader of state (*al-imam*) bears obligations to ensure justice and equality towards their people in all aspects of life, including economic, social, politic, public services and infrastructure based on *Shari'ah*-oriented policy. Most importantly, according to Syeikhul Islam, the rulers have to ascertain and pay attention to the condition of those living in poverty (*fuqara* and *masakin*) by satisfying their basic needs (Qur'an, 11:61).

In this context, the term *Maslahah* refers to the core spectrum of the *Maqasid al-Shari'ah* that must be attained when Islamic rules are implemented. *Maslahah* reflects the fundamental aspects of human life, such as the pursuit of one's livelihood and the development of the emotional and intellectual capacities necessary for effective living (al-Abaidi, 1992).

Numerous verses emphasise the importance of achieving *Maslahah* as the goal of Islamic law. These include bringing mercy (Qur'an, 21:107) and avoiding difficulties (Qur'an, 6:5). Simultaneously, several rules contain additional *Maslahah*, such as the rule of *qishas* or law of equality (Qur'an, 2:179), which protects life, and the rule of *fai'* (spoil of war), which distributes wealth.

وَمَا أَرْسَلْنَاكَ إِلَّا رَحْمَةً لِّلْعَالَمِينَ

“*And We have not sent you, [O Muḥammad], except as a mercy to the worlds.*” (Qur'an, 21:107).

فَقَدْ كَذَّبُوا بِالْحَقِّ لَمَّا جَاءَهُمْ فَسَوْفَ يَأْتِيهِمُ أَنبَاءُ مَا كَانُوا بِهِ يَسْتَهْزِءُونَ

“*They have indeed rejected the truth when it came to them, so they will soon face the consequences of their ridicule.*” (Qur'an, 6:5).

وَلَكُمْ فِي الْقِصَاصِ حَيَوةٌ يَا أُولِيَ الْأَلْبَابِ لَعَلَّكُمْ تَتَّقُونَ

“*There is security of life for you in the law of retaliation, O people of reason, so that you may become mindful of Allah.*” (Qur'an, 2:179).

3.2.2.3 *Siyasah Shar'iyah* (Shari'ah-oriented Public Policy)

3.2.2.3.1 Definition

The term '*Siyasah* (سياسة)' is derived from a word '*sasa-yasusu* (ساس يسوس),' in Arabic which translates as 'doing something correctly,' 'training and riding animals,' or 'excellence in administration.' (Ibn-Mandzhour, 1883, p. 325). According to Gibb (1967), the literal meaning of *Siyasah* is to tend and manage; it is related to the Hebrew word '*sus*', which translates as 'take care of the horse.'

Additionally, the word '*shar'iyah*' is the adjectival form of the word '*Shari'ah*,' which means 'the way' or 'a place traversed by water, such as a river'. It refers to 'everything that God has commanded for his servants in religion, such as prayer (*shalat*), fasting (*shaum*), obligatory giving (*zakat*), and all good deeds' in Islamic terminology. However, *Shari'ah* is concerned with the fundamentals of religion, not with its branches, as *Shari'ah* is Islam's legal system (Al-Qaradawi, 1996).

Although the term '*Siyasah*' does not appear in the Qur'an, it is mentioned in a *Hadith* in which the Prophet (PBUH) stated:

كانت بنو إسرائيل تسوسهم الأنبياء كلما هلك نبي خلفه نبي وإنه لا نبي بعدي وستكون خلفاء تكثروا قالوا فما تأمرنا قال فوا ببيعة الأول فالأول وأعطوهم حقهم فإن الله سائلهم عما استرعاهم.

"The people of Israel's politics (siyasah) were ruled by their Prophets. When one of them died, another succeeded him; however, there will be no Prophet after me; rather, there will be Khulafa (successors), and they will be numerous (at times)."
(Hadith, reported by Abu Hurairah, Muslim, 1394; Ibn Majah, 2871; Ahmad, 7960)

Ibn Hajar Al-Asqhalany (1372-1449 AD), in his book, *Fath al-Bary fi Sarh Sahih al-Bukhari*, explained the context of the above *hadith*,

تسوسهم الأنبياء: أي أم كانوا إذا ظهر فيهم فساد بعث الله نبياً يقيم لهم أمرهم، ويزيل ما غيروا من أحكام التوراة، وفيه إشارة إلى أنه لا بد للرعية من قائم بأمرها يحملها على الطريقة الحسنة وينصف المظلوم من الظالم.

“The word ‘*tasusuhum al-anbiya*’ means: if damage (denial of God) on earth appeared among Banu Israel, then God will send a prophet to take care of them and remove what they changed from the provisions of the Torah. This story told us about the necessities for people to have a person who carries out their affairs in a good and fair way as well as to release the oppressed from the oppressor.” (Al-Asqhalani, 1959, p. 497)

Moreover, Muhammad Hasyim Kamali defines *Siyasah Shar’iyyah* succinctly as a comprehensive Islamic legal philosophy that empowers the ruler to select how *Shari’ah* should be administered (Kamali, 1989a). In other words, the concept is founded on Islamic law, which empowers the ruler to enforce Allah’s (SWT) laws across society. This does not exclude the ruler from making his or her own governing decisions, but it does mean that any discretionary measures, policies, and norms he or she establishes for the benefit of good government cannot violate the *Shari’ah*’s fundamental values. In a nutshell, it is a comprehensive governing structure that implements the *Shari’ah*’s goals and objectives. He emphasises that it is intended to further the cause of justice and good government, particularly where *Shari’ah*’s principles fall short of dealing with a particular situation or development (Kamali, 1989a)

In technical terms, *Siyasah Shar’iyyah* is a political system that governs according to Islamic norms and ethics in order to protect the public interest via *ijtihad*. As it is up to the ruler or jurists to evaluate whether the *ahkam* (provisions) can be adjusted, they must ensure that no specific revelation regarding the intended action exists before engaging in this practise (F. Ahmad, 2001)

3.2.2.3.2 Conception

There has been considerable scholarship in the field of *Siyasah Shar’iyyah*, but two Hanbali jurists, Ibn Taymiyyah (1263-1328 AD) and his student, Ibn Qayyim (1292-1350 AD), have made significant contributions. Their accomplishments in the field have been widely recognised. As used by Ibn Taymiyyah, the term *Siyasah Shar’iyyah* refers to *Siyasah* derived from the *Shari’ah*. Ibn Taymiyyah derived the concept of *Siyasah Shar’iyyah* primarily from two verses of the Qur’an as Allah said,

إِنَّ اللَّهَ يَأْمُرُكُمْ أَنْ تُؤَدُّوا الْأَمَانَاتِ إِلَىٰ أَهْلِهَا وَإِذَا حَكَمْتُمْ بَيْنَ النَّاسِ أَنْ تَحْكُمُوا بِالْعَدْلِ إِنَّ اللَّهَ نِعِمَّا يَعِظُكُمْ بِهِ إِنَّ اللَّهَ كَانَ سَمِيعًا بَصِيرًا (٥٨) يَا أَيُّهَا الَّذِينَ ءَامَنُوا أَطِيعُوا اللَّهَ وَأَطِيعُوا الرَّسُولَ وَأُولَى الْأَمْرِ مِنْكُمْ

“Indeed, Allah commands you to render trusts to whom they are due and when you judge between people to judge with justice (58) O you who have believed, obey Allah and obey the Messenger and those in authority among you (59).” (Qur’an, 4:58-59).

According to Ibn Taymiyyah, the former verse addresses rulers, requiring them to institute justice by acting justly toward their subjects, whereas the latter verse refers to the subject’s obligations (the ruled). He maintains that subjects must obey their ruler as long as the ruler follows Allah’s commandments and does not violate *Shari’ah* rulings (Ibn Taimiyyah, 1998). Additionally,

Al-Mawardi defines the *Siyasah Shar’iyyah* in his book *The Ordinances of Government (Al-Ahkam As-Sulthaniyyah)* as the laws of Islamic jurisprudence governing politics, power, and government policies (Al-Mawardi, 2000). According to Imam Al-Ghazali (1058-1111), *Siyasah* is an effort to improve people’s lives by guiding them down the correct path in this world and the next. Al-Ghazali classified *Siyasah* actors into three categories: Prophets (*al-anbiya*), kings and rulers (*al-muluk wa as-salathin*), scholars (*ulama*), and Islamic preachers (*al-wu’adz*) (F. Ahmad, 2001).

According to Umar Anwar Az-Zabdani (2011), Imam Al-Juwayni —also known as Imam Al-Haramain—, *Siyasah* is a collection of Islamic laws governing leadership in private and public affairs. It is classified into two sections: all policies pertaining to the nation’s leaders and all policies pertaining to the people.

As discussed by Az-Zabdani (2011), among Islamic jurists (*fuqaha*), there are three different opinions about the definition and substance of *Siyasah Shar’iyyah*:

1. As discussed by Ibn Qayyim al-Zawjiyyah in his book *At-Thuruq al-Hukmiyyah fi as-Siyasah as-Shar’iyyah*, according to Shafi’is and Hanbalis, Islamic law (*Shari’ah*) is synonymous with *Shari’ah*-oriented policy (*Siyasah Shar’iyyah*), and both the Qur’an and Sunnah are sufficient for determining legal and policy issues in Islam. As a result, *Shafi’is*

asserts that there is no *Siyasah* except as prescribed by *Shari'ah*, because *Shafi'is* denies the concept of juristic discretion (*istihsan*) (Al-Jawziyah, 2007).

2. For some *Hanafis*, the term '*Siyasah*' is simply another way of saying 'discretionary' or 'punishment' (*ta'zir*) as discussed by *Hanafis* scholars such as Zain al-Abidin Ibn Nujaim (1999), Akmaluddin Al-Babarti (2001) and Alauddin At-Tarabulsi (1883).
3. Some *Hanbalis* and *Hanafis* define *Siyasah Shar'iyah* as the policy of achieving public interest (*Maslahah*) in the absence of a specific root (*dalil juz'i*) in the Qur'an and Sunnah. According to a *Hanbali* scholar, Imam Ibn 'Uqail (1991), *Siyasah Shar'iyah* is anything done for the benefit of people and to keep them away from evil, even if the Prophet never did it and there is no revelation (*al-wahy*) about it. Similarly, Ibn Nujaim (1997) explained the meaning of *Siyasah Shar'iyah* as A policy carried out by the authorities for the good of the people, even though there is no particular evidence from the source of the Qur'an and Sunnah.

Ibn Qayyim al-Jawziyah classified *Siyasah Shar'iyah* into two categories: (i) *Siyasah zhalimah* (unjust *Siyasah*), which he defined as an undesirable conduct that the *Shari'ah* forbids, and (ii) *Siyasah 'adilah* (just *Siyasah*) which is what the *Shari'ah* aims to achieve as depicted in the Qur'an:

إِنَّ اللَّهَ يَأْمُرُكُمْ أَنْ تُؤَدُّوا الْأَمَانَاتِ إِلَىٰ أَهْلِهَا وَإِذَا حَكَمْتُمْ بَيْنَ النَّاسِ أَنْ تَحْكُمُوا بِالْعَدْلِ إِنَّ اللَّهَ نِعِمَّا يَعِظُكُمْ بِهِ إِنَّ اللَّهَ كَانَ سَمِيعًا بَصِيرًا

“Indeed, Allah commands you to render trusts to whom they are due and when you judge between people to judge with justice.” (Qur'an, 4:58-59).

As discussed by Kamali (1989a), it is noted that based on the above verse, Ibn Taymiyyah bases his concept of a just *Siyasah* as *amanah* (trust fulfilment), stated that in Islam, governance as a whole is a trust, and government leaders and officials are obligated to transfer that trust to those who are entitled to it. Two distinct elements dominate Ibn Taymiyyah's explication of *amanah* are the selection and appointment of government officials and the equal distribution of wealth within the community (Kamali, 1989a). According to Qur'anic injunctions (Qur'an, 4:58), a ruler's *amanah* is revealed in three characteristics: fearlessness, fear of only Allah

(SWT), and a refusal to sell Allah's (SWT) judgements for a cheap price (i.e., breaking God's rules with material rewards)

One of the Islamic political system's primary responsibilities is to achieve social justice. According to Ibn Qayyim, Allah sent prophets and holy books to establish fairness among humanity. As long as a sign reveals the route to justice, achieving it is consistent with Allah's law. Ibn Qayyim emphasised that any way that leads to justice and equity is an intrinsic element of religion and is never in opposition to it (Al-Jawziyah, 2007). Thus, justice is realised only when nothing violates Allah's eternal law, "*We refer to it as Siyasaḥ for linguistic convenience; yet it is nothing other than the justice ordained by Allah (SWT) and His Messenger (PBUH).*" (Al-Jawziyah, 2007, p. 5), accordingly, Al-Jawziyah (2007) added that any ordinance that conflicts with this Law shall be repealed.

The term *Siyasaḥ Shar'iyyah* has been used by Muslim scholars for a variety of purposes. As previously stated, *Siyasaḥ Shar'iyyah* is *Shari'ah*-based policy or *Shari'ah* governance that adheres to Islamic law. As a result, *Siyasaḥ Shar'iyyah* applies to all government policies, regardless of whether explicit guidance is provided by *Shari'ah*-based sources such as the Qur'an and Sunnah. Accordingly, Khallaf (1956) defines *Siyasaḥ Shar'iyyah* as a science in which the affairs of Islamic states are governed in accordance with Islamic principles through the application of laws and regulations consistent with Islamic principles.

Furthermore, Ibn Qayyim asserts that *Siyasaḥ Shar'iyyah* does not always imply compliance with the *Shari'ah*'s explicit rules. According to Ibn Qayyim, any measure that brings the people closer to beneficence (*shalah*) and further away from corruption (*fasad*) is just *Siyasaḥ*, even if it is not approved by the Prophet (PBUH) or regulated by divine revelation explicitly. Whoever asserts that there is no *Siyasaḥ Shar'iyyah* in which the *Shari'ah* is silent is incorrect and has misunderstood the companions (*sahabah*).

Additionally, Khallaf (1956) explains the requirement for *Siyasaḥ Shar'iyyah* to be acknowledged (*mu'tabarah*) as follows:

- (i) *Siyasaḥ Shar'iyyah* must be consistent with the spirit of *Shari'ah*, which is based on its general rules and fundamental principles, which are rules that do not accept variation and change between nations and times.

- (ii) *Siyasah Shar'iyah* must not be in conflict (an actual contradiction) with the particular *Shari'ah* theorem that establishes a general law for the people at all times and conditions of what is stated in the Qur'an or the Sunnah, or both, or the consensus of the Muslim scholars.

The scope of *Siyasah Shar'iyah* is broad and encompasses all facets of government, including politics, administration, the judiciary, and economic development (Kamali, 1999). Additionally, Imam Al-Mawardi (2000), discussed how Islamic state rulers could employ the *Siyasah Shar'iyah* tool in at least eighteen scopes that can be summarised into five classifications:

- (i) Constitutional law and policy: matters concerning the relationship between the government and its citizens, including the electoral system, constitution, legal system, public regulation, and individual rights and responsibilities.
- (ii) Public international law and policy: this relates to the Islamic states' relations with other countries (international relations) in times of peace and war.
- (iii) Financial law and policy: taxation, government budgeting and spending, and the management of *baitul maal*.
- (iv) Economic system and policy: money circulation, investment system.
- (v) Judicial policy: pertaining to the administrative procedure act, the law of evidence, and certain provisions of the Constitution.

Along with the Qur'an's textual authority in favour of *Siyasah Shar'iyah*, there are numerous examples of *Siyasah Shar'iyah* in the Prophet's (PBUH) traditions, and the four Caliphs also practised it during their caliphate following the Prophet's (PBUH) demise (Kamali, 1999). The precedents of *Siyasah Shar'iyah* during the reign of four caliphs indicate that policy measures that deviate from the text on occasion are justified because they are still in harmony with the *Shari'ah*'s spirit. (Kamali, 2008)

Abu Bakr, the first Caliph, implemented policies by applying *Siyasah Shar'iyah* as public policy based on the *Maslahah* of the people during his reign. His decision included the commencement of hostilities against those who refused to pay *zakah* (Kamali, 1989a).

Similarly, during his reign, when Muslims conquered the vast territory of Iraq, the second Caliph Umar Ibn Khattab made a policy decision based on *Maslahah*. Umar made the decision not to distribute Iraqi land to the soldiers. He was well aware that if he distributed the Iraqi land to the Arab soldiers, they would become involved in settling their lands, and it was more likely that they would abandon fighting in the path of Allah (SWT), which would be detrimental to the cause of religion. Additionally, this policy decision demonstrates that, in comparison to individual rules, rulings directed at a group can change over time and from case to case. Thus, Umar's policy decision was based on human nature, even though he deviated from the Prophet's (PBUH) established practise of seizing the land of those tribes that opposed the Muslims. These two examples of the Prophet's (PBUH) pious companions demonstrate the Prophet's (PBUH) use of *Siyasah Shar'iyah* in light of public welfare (*Maslahah*), which was guided by changing circumstances and time. Thus, it is clear from these instances that the companions endorsed the doctrine of *Siyasah Shar'iyah* in accordance with the requirements of the situation and time for the general welfare.

3.2.2.4 The Relationship between Islamic Legal Theories and Sustainable Development

With regards to the application and function of *Maqasid al-Shari'ah* (Islamic law's higher ethical objectives), *Siyasah Shar'iyah* (*Shari'ah*-oriented public policy), and *Maslahah* (welfare or public interest) in the area of sustainable development, it can be illustrated based on the conception of Ibn Qayyim Al-Jawziyah (2007), that *Siyasah Shar'iyah* is a policy-making tool that serves as the basis for assessing policymakers' opinions, and it represents the measures used by Muslim rulers. In other words, *Siyasah Shar'iyah* is a policy and decision-making tool used by rulers and judges to promote public interest (*Maslahah*) through the application of the *Maqasid al-Shari'ah* parameter. Thus, *Maslahah* serves as the impetus for and consideration in the formulation of policy under *Siyasah Shar'iyah*.

Furthermore, the term 'sustainable development' can be adopted from the conception of *Maslahah* itself, as according to Imam Al-Ghazali (1413 AH), the term '*Maslahah*' literally translates as 'welfare', 'benefit', or 'interest' of the people (Kamali, 1991). *Maslahah* refers to actions that advance public welfare and avert hardships for the community in this world and the next (*ad-dunya wa al-akhirah*), provided that they are consistent with *Maqasid al-Shari'ah*.

As a result, these two considerations (i.e., achieving public welfare and avoiding harm) constitute the two primary goals of *Siyasah Shar'iyah* (Kamali, 1989a).

In addition, based on the *Siyasah Shar'iyah* approach, it is the rulers' responsibility to uphold Islam's religion in order to carry out their people's development agenda, both in this world and the next. *Shari'ah* scholars (*fuqaha*) agree that adhering to religious rules and upholding their provisions would result in Muslims achieving justice, security, a good life, and prosperity (Ahmad, 2001). Accordingly, Syekhul Islam Izzuddin Abdussalam, Chief Justice of Egypt's Highest Court during the Mamluk Sultanate, writes in his book *Qawa'id al-Ahkam fi Mashalih al-Anam* (Legal Principles of Public Interest) that the supreme leader of state (*al-imam*) is obligated to ensure justice and equality for his people in all spheres of life, including economic, social, political, and public (Abdussalam, 1991). Most importantly, according to Syekhul Islam, rulers must ascertain and address the plight of those living in poverty (*fuqara* and *masakin*) by meeting their basic needs, as this is the literal fulfilment of what Allah said, “and give them to the poor, it is better for you.” (Qur'an, 2:271) and “Zakah expenditures are only for the poor and for the needy.” (Qur'an, 9:60).

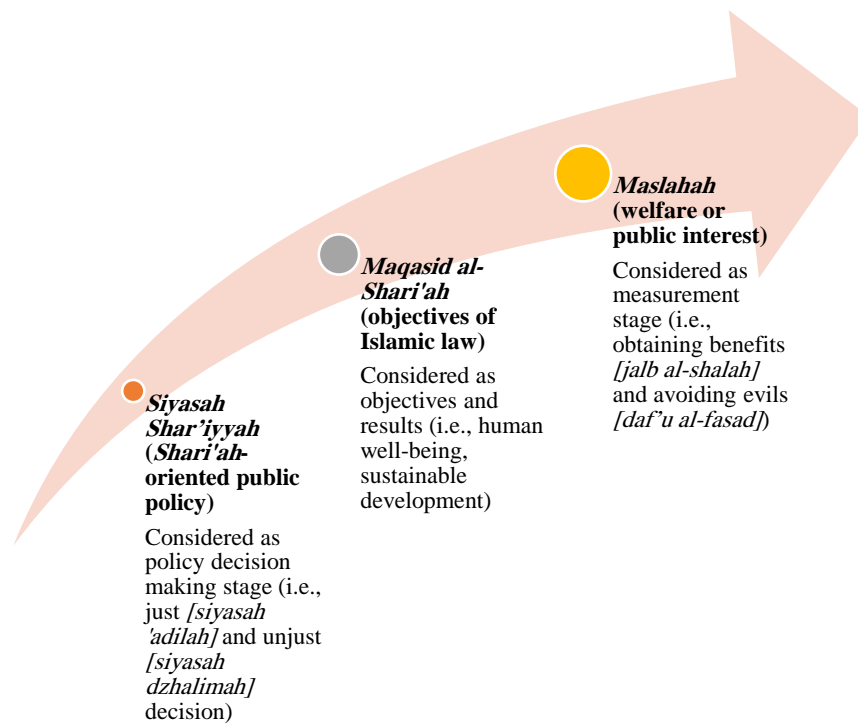
According to previous discussions of Islamic legal doctrine theories such as *Maqasid al-Shari'ah*, *Siyasah Shar'iyah*, and *Maslahah*, several studies (i.e., Chapra, 1979, 2007; Chapra, 2008a, 2008b; Siddiqi, 2009a) suggested that these Islamic tenets should be established as the foundation of development for the benefit of *ummah*. In the context of sustainable development agenda and its implementation, governments of OIC member countries may employ *Siyasah Shar'iyah* to develop a set of policies and regulations that adhere to the *Maqasid al-Shari'ah* standard, taking *Maslahah* into account (Figure 3.1). Additionally, the government may establish a blueprint, guideline, rules, disposition, and arrangement to expedite the sustainable development agenda in ways that are consistent with the five dimensions of *Maqasid al-Shari'ah*.

Kamali (2016) also discussed the Islamic framework for development in terms of the Qur'anic concept of building the earth (*i'mar al-ardh*) based on the Qur'an:

وَالَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ لَنُدْخِلَنَّهُمْ فِي الصَّالِحِينَ
فَأَسْتَغْفِرُوا لَهُمْ نَسُوهُنَّ إِنَّهُنَّ لَفِي ضَلَالٍ مُّبِينَةٍ
وَالَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ لَنُدْخِلَنَّهُمْ فِي الصَّالِحِينَ
فَأَسْتَغْفِرُوا لَهُمْ نَسُوهُنَّ إِنَّهُنَّ لَفِي ضَلَالٍ مُّبِينَةٍ

“And to Thamūd [We sent] their brother Ṣāliḥ. He said, “O my people, worship Allah; you have no deity other than Him. He has produced you from the earth and settled you in it, so ask forgiveness of Him and then repent to Him.” (Qur’an, 11:61).

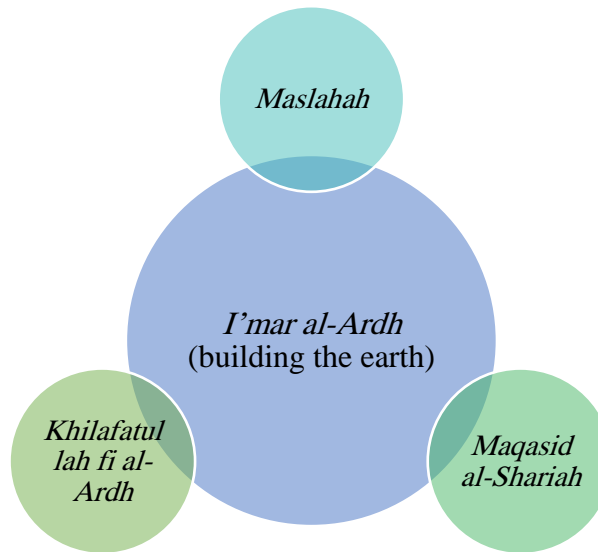
Figure 3. 1 The flow and relation between Islamic legal theories



Source: *Author.*

Developing the earth’s resources is required by Islam in order to make it a more pleasant place to live to green it, and to bring out its beauty and bounty for the benefit of all. As a result, productive labour is the primary instrument for developing the earth’s resources. According to Kamali (2016), the concept of *i’mar al-ardh* is an integral part of the vicegerency (*khilafah*) of man on earth, which is also found in the Qur'an, and which encompasses two additional themes: the objective of *Shari'ah* (*Maqasid al-Shari'ah*) and considerations of public interest (*Maslahah*) (see Figure 3.2). The five dimensions of *Maqasid al-Shari'ah* are naturally oriented around the primacy of a set of fundamental necessities that are critical to human development and provide the necessary context for it. Individual Muslims and their governments have a responsibility to safeguard these values and to always seize all opportunities for their promotion and protection.

Figure 3. 2 The Qur’anic concept of development under the concept of building the earth (*i’mar al-ardh*)



Source: Author. Adopted from Kamali (2000).

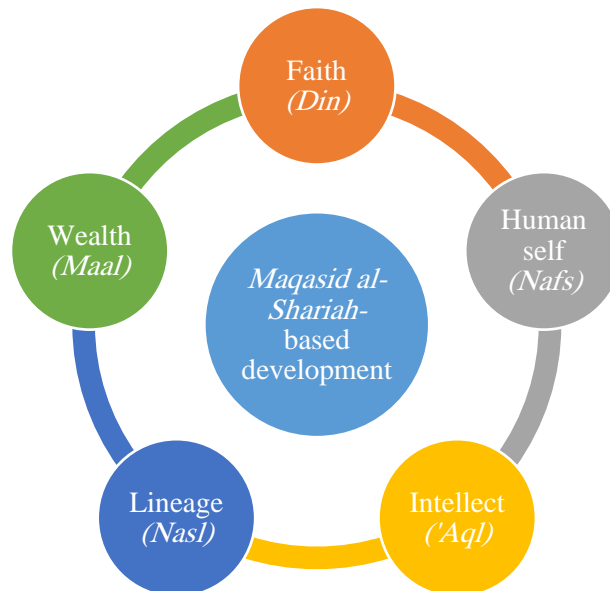
In the area of development studies based on Islamic perspective, findings from the literature indicate that Chapra (1979, 2008b) emphasises on explaining Al-Ghazali’s *Maqasid al-Shari’ah* principles and focusing their argument on development. Ali and Hasan (2011) examine the theoretical foundations, develop maxims, and methodology for determining the relationship between socioeconomic development and *Maqasid al-Shari’ah* according to Islamic law’s rules. Through the development of integrated learning process models, the *Maqasid al-Shari’ah* context can be used to integrate moral values into the educational curriculum.

The fundamental relationship between *Maqasid al-Shari’ah* and sustainable development is illuminated in a variety of sources, emphasising the critical requirement of *Maqasid* compliance in development and Islamic commercial law (*Muamalat*) activities. In addition, Islamic development’s social objectives are primarily motivated by the nature of such a fundamental worldview as articulated by prominent Muslim scholars such as Al-Ghazali, Ibn Taymiyah, and Imam Shatibi.

By adopting Imam Ghazali’s work on the five dimensions of *Maqasid al-Shari’ah* — safeguarding faith (*din*), the human self (*nafs*), intellect (*‘aql*), lineage (*nasl*), and wealth

(*mal*)— that he regarded as primary dimensions (*ashliyyah*), Chapra (2008b) has also developed its corollaries (*tabi'ah*) in order to dissect the Islamic concept of development in detail (Figure 3.3).

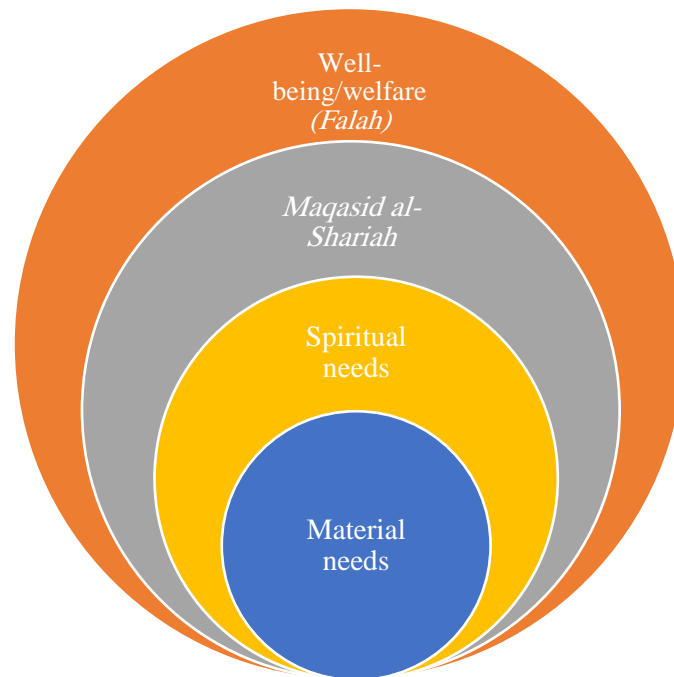
Figure 3. 3 Five elements of *Maqasid al-Shari'ah* must be enriched as fundamentals of human development and well-being.



Source: Author

According to Chapra (2008b) the most critical factor in ensuring human well-being and development is justice and human brotherhood, along with income and wealth satisfaction. Additionally, Chapra (2008b) asserts that within the framework of the *Maqasid al-Shari'ah* approach, the Islamic vision of development is rooted in the concept of *falah*, which translates as ‘victory’, ‘glory’, ‘well-being’, and ‘welfare’. According to Chapra (2008b), the concept of *falah* –which appears forty times in the Qur’an (including its derivatives)– refers to the true well-being of all people on earth, regardless of their race, colour, age, sex, or nationality, because the Qur'an states that Prophet Muhammad (PBUH) was sent to all people, not just one group. Within this context, according to Chapra (2008b), the achievement of well-being depicted from two ways: material needs (i.e., income, wealth) and spiritual needs (i.e., mental peace, happiness, spiritual and moral uplift, security of life, property and honour, individual freedom, education, marriage and proper upbringing of children, family and social solidarity, and minimization of crime, tension, and anomie, and so on). The Chapra’s (2008b) explanation could be illustrated in Figure 3.4.

Figure 3. 4 The Islamic vision of development rooted in the concept of *Falah*



Source: Author.

3.3 Islamic Finance and Sustainable Development

3.3.1 Overview of Islamic Finance

Islamic finance is a manifestation of the aspiration of Islamic economy that performs financial activity according to the Islamic paradigm. In order to understand this conception, it is crucial, to begin with defining the term Islamic finance.

Islamic finance is a financial system based on a paradigm that prioritises socioeconomic justice. It is rooted in the belief that human beings are God’s vicegerents (*khalifatullah*) and is designed to ensure the realisation of Islamic law’s objectives or *Maqasid al-Shari’ah* (Chapra, 2001). Islamic finance is defined as a financial system that operates in accordance with Islamic law principles, referred to as *Shari’ah*¹, and is thus *Shari’ah*-compliant (Askari, Iqbal, & Mirakhor,

¹ *Shariah* literally means ‘the way’ and is the Arabic term for Islamic Law as ‘a way of life’.

2010). Additionally, it is portrayed as a means of putting Islamic economic principles into practice (Visser, 2019). Although the term ‘Islamic financial system’ is relatively new, having first appeared in the mid-1980s (Elasrag, 2010), all previous references to commercial activities that adhered to Islamic principles were made under the umbrella of ‘interest-free’ or ‘Islamic banking.’ From an ethical finance perspective, Balala (2010) defines Islamic finance as an ethical and equitable mode of financing that is based on Islamic law.

There are numerous definitions of Islamic finance in the literature, ranging from relatively simple definitions for specific aspects (i.e., Islamic finance is simply a synonym of Islamic banking) to more complex definitions that encompass all financial operations. Ibrahim Warde defines Islamic finance as “*Islamic financial institutions are those that are based, in their objectives and operations, on Qur’an’s principles (principles of the Muslims’ holy book).*” (Warde, 2000, p. 5). This definition implies that Islamic financial institutions are not limited to banks, but also include other types of financial intermediaries that adhere to Islamic law (*Shari’ah*) principles. The other point of departure is that *Shari’ah* ostensibly requires Muslims to adjust every aspect of their lives and to develop a comprehensive moral system. According to Z. Iqbal and Mirakhor (2011), while the dominant Western financial system emphasises the capitalistic characteristics of economic and financial processes, Islamic finance aims to achieve actual moral and equitable resource distribution and social justice in all Muslim or non-Muslim societies.

Islamic finance is also defined as a financial service that is primarily focused on adhering to *Shari’ah*’s central tenets (or Islamic law). *Shari’ah* is primarily based on the Holy Qur’an, *Hadith*, *Sunnah*, *Ijma*, *Qiyas*, and *Ijtihad*. The Holy Qur’an is the book of revelation revealed to the Prophet Muhammad; *Hadith* is the narrative of Muhammad’s deeds and utterances; *Sunnah* is Muhammad’s customary practise and behaviour during his lifetime; *Ijma* is the consensus among religious scholars on specific issues not addressed in either the Holy Qur’an or the *Sunna*; and *Qiyas* is the application of analogy to provide an opinion on a case not mentioned in the Qur’an or *Sunnah* in comparison to another case mentioned in the Qur’an or *Sunnah*; and *Ijtihad* is a jurist’s independent reasoning regarding the applicability of certain *Shari’ah* rules to cases not mentioned in the Qur’an or *Sunnah*.

Islamic finance (i.e., Islamic banking, Islamic equity market), from an Islamic economic perspective, is an institution within the capacity of an Islamic economic system that

institutionalises the ideal theory in modern times. Islamic finance is assigned the role of financing economic growth and development in the aspirational view of Islamic economy, but importantly, it is viewed as financing the real economy, rather than developing into a financialized system, as in a capitalist system.

Islamic finance is, in some ways, similar to other financial systems in terms of operating system. It does, however, have some distinguishing characteristics, including an interest-free system in which all financial transactions must adhere to *Shari'ah* and avoid unethical or socially irresponsible investments that are deemed detrimental to society. Additionally, to prohibiting *riba'* or interest, financial and economic transactions should be free of *maysir* (gambling), *gharar* (uncertainty), and speculation. Islamic financial institutions should also abstain from dealing with prohibited items such as the alcohol industry, pork products, the weapons industry, tobacco, adult entertainment, or any other transaction that *Shari'ah* prohibits on the grounds that it is not in the best interests of human welfare (Derigs & Marzban, 2008, 2009; M. Iqbal, 2005).

Islamic finance explicitly incorporates a risk-sharing philosophy and promotes economic and social development as a fundamental principle. As a result, it is primarily based on profit-and-loss sharing rather than fixed returns as a conventional system provides. These are the two primary characteristics that distinguish Islamic finance from conventional finance.

The primary distinction between conventional and Islamic finance is that Islamic finance has a goal other than profit maximisation, although material capital growth is critical. Profit maximisation is guided by Islamic norms that require it to contribute to the stock of faith and beliefs while maintaining a traditional regulatory framework in terms of moral filtering. Islamic finance required to adhere to God's commandments, which govern all aspects of human life, as well as to directly promote spiritual values and social justice (Al-Jarhi, 2017; Dusuki, 2008; M. Iqbal & Molyneux, 2016; M. Iqbal, Molyneux, & Conermann, 2006; Tripp, 2006; Zaher & Kabir Hassan, 2001). Islamic finance has been successfully recognised as a component of the global financial system, in which it does not challenge global capitalism but rather carves out its own market niche (Tripp, 2006).

Additionally, it should be noted that Islamic finance discourages a debt-based system and strives for a real economy based on financing. This is expected to contribute to the economy's

stability and sustainability. The following are the operational characteristics of Islamic finance in an aspirational sense as discussed by Al-Jarhi (2017) and Iqbal and Molyneux (2006):

- (i) Islamic finance is more efficient than conventional finance. In the Islamic finance industry, productivity is regarded as more important than the borrower's creditworthiness, as it is in conventional banks. As a result, Islamic financial institutions will be able to finance customers who are financially excluded. By implementing a profit-sharing arrangement, Islamic financial institutions (i.e., Islamic banks) can collaborate on a project and conduct thorough due diligence to ensure the project's efficiency. Additionally, their financial and investment expertise will increase the profitability of the projects. In this regard, Islamic finance's strength is that it is inextricably linked to the real economy, which conducts real economic transactions.
- (ii) Islamic finance contributes to the economic system's stability. The unique feature of Islamic financial institutions' balance sheets is that their assets and liabilities are not fixed and are inextricably linked, providing a mechanism for restoring equilibrium. The liability side is contingent upon the projects' actual performance. For instance, if there is a financial shock, both the assets and liabilities will be impacted. The Islamic financial institutions will not be required to pay depositors a fixed or guaranteed rate of return. Neither the principal nor the interest is guaranteed.
- (iii) Islamic finance restrains the creation of excessive credit and speculation. The principle of trading in Islamic financial institutions must be at present (*taqabudh*). According to *Shari'ah* principles, no transaction can involve the provision of present money in exchange for future returns, as the face value of the money has fluctuated. Additionally, Islamic financial institutions monetary flows must be linked to commodity flows, thereby establishing a stronger link between the monetary and real sectors.
- (iv) Islamic finance adheres to ethical standards; thus, their operations must avoid moral conflicts. Financing of any project that may have a negative impact on society or the environment is strictly prohibited. In other words, Islamic financial institutions are comparable to the ethical finance practised in the West.
- (v) Islamic finance stimulates economic growth and development. Islamic financial institutions foster innovation and do not impose a fixed cost of capital, as an interest-

based system does. The cost of capital varies according to the project's productivity, unlike a fixed cost of capital. In summary, Islamic finance fosters the development of the real economy.

- (vi) Islamic finance should be more inclusive, and risk-sharing should be expanded. Islamic financial institutions encourage risk sharing between investors and entrepreneurs. To avoid an unjust system, both parties participate in the management and development of the project, whether through capital financing or labour. Thus, if the project generates profit, it is shared according to a predetermined ratio; if the project generates losses, the capital provider bears the entire cost, and the entrepreneur loses his labour. The conventional banks operate differently; the capital provider receives a fixed rate of return regardless of whether the project succeeds or fails.
- (vii) Islamic finance should be more receptive to poverty alleviation; Islamic teachings recognise the value of empathy and sympathy for the poor. Indeed, wealthy Muslims are commanded to pay *zakah* as a levy to assist the poor and needy, as well as other special beneficiaries, in achieving a just and standard of living. *Zakah* distributions benefit economic development by enabling the poor to be more productive. Apart from *zakah*, Islamic financial institutions provide wealth maintenance services, which entail transferring productive resources to the poor in order to generate income for survival. This typically entails the establishment of a micro- or small-medium-sized enterprise.
- (viii) Islamic finance contributes to the financial industry's sustainability; Islamic finance (i.e., Islamic banks) is deemed to be more sustainable than its conventional counterpart due to the Islamic view of debt. Debt is fixed and disclosed at the start of the contract, including the total amount owed and the monthly instalment amount. Islamic financial institutions abstain from compounding interest. Indeed, Islamic banks waive penalty fees for temporary insolvency and instead offer a grace period for payment.

Given the characteristics outlined above, Islamic finance, in an aspirational sense, breathes new life into the financial industry by instilling numerous values in addition to profit maximisation. It places a premium on promoting concurrent economic and human development.

3.3.2 Philosophical Foundation of Islamic Finance

3.3.2.1 The *Maqasid al-Shari'ah* Framework

The foundation of Islam consists of three pillars: (i) *Aqidah* (faith), the fundamental concept of Islam, is the state of being of a Muslim who believes in his heart and accepts God's revealed teachings; (ii) *Shari'ah* (Islamic law) was then heavily emphasised in Islam, as it governs individuals' daily lives, including economic and financial matters; and (iii) *Akhlaq* (moral behaviour) is critical within the framework of Islam for the development of a good individual who will contribute to the formation of a harmonious society.

Shari'ah is composed of two primary components: *'ibadah* (worship) and *mu'amalah* (transaction). The former is concerned with man's relationship with God (*hablunminallah*), whereas the latter is concerned with the relationship between individuals (*hablunminannas*). While *'ibadah* emphasises submission to God as His servant, *mu'amalah* focuses on social, political, and economic activities that have a direct impact on the financial and banking system (Z. Iqbal & Mirakhor, 2011).

In terms of economic from Islamic perspective, *Shari'ah* regulates not only how wealth is spent, but also how it is earned (Zaman, 2009, 2010). It is an extension of the preceding axioms, describing inner spirituality in greater detail, and thus *Shari'ah* contains a specific divine order that should be integrated to provide a fundamental belief in the Islamic economic system. Accordingly, *Shari'ah* is the interpretation of divine knowledge through the generation of legal maxims via *fiqh* (Islamic injunctions), which by definition cover a wide range of subjects, including politics, economics, family law, criminal law, and social issues. Al-Ghazali (d.1111) elaborates on this concept, stating that the primary objective of Islamic law (*Maqasid al-Shariah*) is to promote the well-being of all humanity, which includes safeguarding their faith (*din*), human selves (*nafs*), intellect (*aql*), lineage (*nasl*), and wealth (*maal*). Anything that protects these rights is desirable and serves the public interest, while anything that harms them is detrimental to the public interest and should be eliminated (Z. Hasan, 2006). The theoretical foundation of *Maqasid al-Shariah* from the standpoint of Islamic legal philosophy has been discussed more broadly in previous discussion (see Section 3.2.3).

It is worth noting that the Islamic financial system upholds *Shari'ah* law as the fundamental rule that governs all economic and financial activities. As such, it must be fully implemented in order to accomplish its goals. The ultimate goal of this set of rules is to strike a balance between material, spiritual, and moral behaviour. *Shari'ah*'s central tenet, namely the axioms of 'justice and equity' as manifested in the Islamic economic and financial system, thus places a strong emphasis on socioeconomic justice, which is one of *Shari'ah* law's primary objectives. As Chapra points out (Chapra, 1979, 2001, 2008a, 2008b), *Shari'ah*'s primary objective is not only socioeconomic well-being but also the well-being of God's creatures. As a result, ignoring one or the other will result in misconduct and social problems. Thus, *Shari'ah* implies Islam's ethical economy by establishing an ethical foundation for human well-being and massively promoting Muslim communities' welfare (Sairally, 2007a, 2007b)

With regards to the *Maqasid al-Shari'ah* framework, Islamic finance objectives should be to stimulate Islamic economy's objectives, thereby guiding *Maqasid al-Shari'ah* toward its holistic position (Mohammad & Shahwan, 2013b). On wealth management, Ibrahim, Elatrash, and Farooq (2014) provided an Islamic perspective on hoarding and circulation of wealth and examined how these aspects affect the influential position of economic and financial dimensions in our classical period. In addition, Barom (2013) focuses his pen on social responsibility and investment in accordance with *Maqasid al-Shari'ah* when it comes to socioeconomic issues. Similarly, Buba (2014) recognised the influence of *Maqasid al-Shari'ah* on the interpretation of Islamic law's social welfare sources, particularly related with *Zakat* and that also being discussed by several studies (i.e., Al-Mubarak, 2016; Hapsari & Abidin, 2016; Kasri, 2016).

(Hurayra, 2015) examined *Zakat* based on *Maqasid al-Shari'ah* perspective in rural Bangladesh using an analytical and descriptive approach, highlighting the challenges associated with *Zakat* management and advocating for specific recommendations for overcoming these obstacles. Kasri (2016) invites further discussion in his study about the possibility of using *Maqasid al-Shari'ah* to assess the social and financial performance of Islamic financial institutions, particularly *Zakat* institutions. Al-Mubarak (2016) examined the roles of *Zakat* and *Waqaf* in financial inclusion by establishing the two institutions' inherent *Shari'ah*-based objectives and their objectives in applying developments built on *Zakat* and *Waqaf* to contribute additional robust economic development programmes to the

comprehensive financial plan. Several other studies have been conducted, including Islamic entrepreneurship (Shehu, Ahmad, & Al-Aidaros, 2015) and *Waqaf* (Abdullah, 2018; Eldersevi, Mohammed, & El Amri, 2021).

Numerous approaches have been proposed for implementing *Maqasid al-Shari'ah* in Islamic banking. The connection between the *Maqasid al-Shari'ah* and Islamic economy, banking, and finance is one of the *Maqasid al-Shari'ah*'s instrumental elements (Shinkafi & Ali, 2017). As a result, numerous analyses and recommendations based on the *Maqasid al-Shari'ah* have been made in this area. In terms of social responsibility, (Dusuki & Abdullah, 2007) argued that the *Maqasid al-Shari'ah* could provide significant ethical guidance, particularly through the concept of corporate social responsibility in banking institutions, according to which Islamic banks should not be solely focused on profit maximisation. Rather than that, they must promote social welfare and safeguard the needs of the entire society.

Akram Laldin and Furqani (2013) established a *Maqasid al-Shari'ah* framework for Islamic finance, which is based on wealth circulation, fair and transparent financial practises, and micro- and macro-level justice. These three goals can be accomplished by simplifying financial transactions, establishing values and standards, and instilling a sense of social responsibility. Simultaneously, H. Ahmed (2011) proposed the concept of *Maqasid al-Shari'ah* as a framework for evaluating Islamic banking products. Not only must these products adhere to the letter and spirit of Islamic law, but they must also meet the survival and security needs of all segments of the population, including the poor and small or micro-entrepreneurs.

Additionally, those engaged in Islamic banking should adhere to the *Maqasid al-Shari'ah*, which emphasises not only the legal aspects of their practise but also the spirit or substance of the *Shari'ah*. Z. B. Hasan (2016) proposed a value-oriented reform in this regard, emphasising equity-based financing and customer protection. He also suggested that the *Shari'ah* governance system could serve as a mechanism for such reform. Shaharuddin (2010) recommended that scholars use a well-defined *Maslahah* doctrine to help them develop more appropriate approaches to Islamic banking. This is critical because Islamic banking scholars can either be excessively rigid by focusing exclusively on the technical aspects of a classical contract or excessively liberal by employing an unregulated *Maslahah* principle.

Simultaneously, Zakaria, Alam, and Supriadi (2020) argued that morality in Islamic banking should be governed by the *Maslahah* principle, which states that any product or practise proven to be harmful to the public should be prohibited, regardless of its current legal status. Taking available constraints into account, this task can be accomplished by instilling Islamic moral teachings in shareholders, bankers, financial analysts, economists, policymakers, and even *Shari'ah* scholars. Nonetheless, Ishak (2019) discovered that the *Maslahah* of both Islamic banks and their customers must be considered, particularly by the regulator. Thus, he argued, the current *Maslahah* should prioritise preserving the viability of Islamic banks while also ensuring fairness and transparency between Islamic banks and their customers.

Preservation of wealth and property is ranked as the second most important element of *Maqasid al-Shari'ah* after the exclusion of religious protection. Empirically, Dusuki and Bouheraoua (2011) acknowledge the influence of *Maqasid al-Shari'ah* in their work, describing it as a genuine and inclusive response to traditional economic and financial issues and challenges, as well as a useful tool for developing, restructuring, and publicising Islamic financing products.

Additionally, Akram Laldin and Furqani (2013) argued that the *Maqasid al-Shari'ah* philosophy is the most comprehensive lens through which to view the objectives of Islamic law in relation to the specific occurrences in the Islamic financing industry. According to (Lahsasna, 2013), emphasis should be placed on *Maqasid al-Shari'ah* in order to achieve financial transparency through effective financial management, *Zakat* management, account auditing, and declaration of ownership. Isa, Mohamed Naim, and Hamid (2015) revealed the rank of *Maqasid al-Shari'ah* on Islamic finance in terms of justice, equality, and transparency. The result demonstrates that certain Islamic banks have been negligent in their efforts to preserve these values in their operations and products. Similarly, (Soualhi, 2015) lauds the importance of Islamic financial engineering in order to reduce the likelihood of colliding with the conventional financing industry. Other studies on *Maqasid al-Shari'ah* in Islamic finance include the work of A. Ismail, Ismail, Shahimi, and Shaikh (2015) on financial inclusion and *Maqasid al-Shari'ah* and Aris, Azli, and Othman (2013)'s assessment of Muslim ideological views on *Maqasid al-Shari'ah* in Islamic finance and economics.

3.3.2.2 Islamic Moral Economy

The concept of Islamic moral economy (IME) is generally depicted as a utopian economic system that seeks to achieve a perfect economic order based on *Shari'ah*, which promotes socioeconomic justice and encourages individuals to seek *falah* (salvation) by maximizing *ihsan* (beneficence). Accordingly, the capitalist economic system in which prioritising profit over ethics, is a system that IME strongly opposes.

The root of IME is basically the articulation and unrelenting endeavour to ground the teachings of *Akhlaq* that is defined as 'Islamic morality and ethics.' It is acknowledged that Islam is a religion with three pillars as an indivisible unity in its teachings. This Islamic trilogy consists of *Aqidah* (Islamic creed), *Shari'ah* (Islamic law), and *Akhlaq* (Islamic norms, values, and ethics), which are often known as the three pillars of Islam. Consequently, the fulfilment of the sustainable development goals through the core tenets of IME goes beyond *Aqidah* and *Shari'ah*; rather, it is a ceaseless effort to anchor the teachings of *Akhlaq* or really actualize 'Islamic morals and ethics'

When applied to economics and finance, IME interpretes Islamic norms and ethics that provides a moral filter through which decisions can be made in accordance with Islamic teaching, offering a paradigm in which morality is endogenised into the economic and financial thinking in an integrated manner. Therefore, by definition, IME includes the concept of sustainable development because of the ontological reasoning of Islamic teachings, which prioritizes social justice and social good. What this means is that the IME paradigm, with its axioms and principles, has immediate ramifications and provides rationale for sustainable development by setting forth the ideals of IME at the national and organisational levels.

Since Islamic Financial Institutions (IFIs) are viewed as financing and operational tools of the IME paradigm, business sector, including IFIs operating under the IME paradigm, are held to a higher standard of social responsibility and are expected to prioritize the essential social outcomes of their operations, including those related to social welfare and environmental preservation. This is summed up by IME since Islamic banks are required to adhere to the objective function described by *Maqasid al-Shari'ah*, which seeks to enhance societal welfare by upholding justice. This means that IFIs are required to actively seek to align their decisions

and activities in a manner that is consistent with their commitment to social responsibility (Sairally, 2007b)

Historically, as a reaction to the failure of capitalist and socialist development policies in the Muslim world, IME arose in the beginning of the 1970s. For this reason, IME was developed as a contemporary description of divinely ordered laws and principles pertaining to economic and financial operations, instruments, contracts, and choices (Asutay, 2007). According to Kuran (1995), however, Al-Mawdudi already conceived IME in the 1940s, when Muslims in newly constituted nation states sought legitimate solutions to everyday living, including economic and financial concerns, by drawing on their historic religious history. Yet, as Presley and Sessions (1994) point out, IME has its roots in the seventh-century A.D. when the Holy Qur'an was first revealed. Therefore, the Holy Qur'an provides sufficient principles that can be brought together to socially construct IME and its operational finance tool, as Islam presents itself as a comprehensive way of life that covers every aspect of a human being, including the private and public; the material and spiritual; the political, economic, and cultural.

Along with *Shari'ah* compliance, IME is founded on the positive economic and financial principles of Islam as well as the normative foundations of Islam's moral code. Since it essentialises the real economy—that is, it embeds finance into the real economy—it is seen as ethically superior to capitalism and is regarded to be more effective in making material advancements towards economic development (Siddiqi, 1981; Tripp, 2006). In addition, it promotes socioeconomic justice by alleviating poverty and redistributing wealth equitably, and it helps to create jobs where people are free from prejudice and corruption (Ahmad, 1994).

IME seeks to cultivate a socio-tropic individual through norms and moral understanding, as opposed to the egocentric, rationalistic, and utility-maximizing types assumed by the prevailing systems. Such an individual would act in a way that benefits society as a whole rather than just themselves and would run their businesses in accordance with Islamic principles while keeping their social and *akhirah* contexts in mind. In addition, according to the axioms of Islamic economics, *ihsan* (beneficence), therefore, the issue of maximizing the prosperity of any individual is parallel to maximizing the welfare of the society with consideration of the hereafter (Asutay, 2007).

The incorporation of moral values into IME distinguishes this paradigm from conventional economics, the stated framework of which is founded on fairness, equity, human dignity, freedom, and moderation in all aspects of daily life, including financial transactions. In establishing a holistic approach to economic and financial concerns, IME also focuses on the development and management of economic resources in order to satisfy the spiritual, social, and material requirements of society.

Furthermore, IME emphasizes the moral obligation of individuals to improve the lives of the poor through the equitable allocation of resources. As a matter of fact, the Islamic economic paradigm aims at establishing disciplined or morally filtered economics and financing which should not lead the individuals, but rather should be led by individuals as regulated by the moral economy principles of Islam (Asutay, 2007). As a result, IME's proposal of a robust moral dimension in economic and monetary life necessitates a number of stipulations, such as the prohibition of taking and receiving interest and the guaranteeing of social fairness, social development, and environmental protection.

By establishing a theoretical framework, IME in modern times seeks to foster an understanding of the system, the most critical aspects of which are philosophical principles derived from Islamic principles. IME is viewed as a well-balanced system predicated on the integration of spiritual, moral, and material dimensions. It is fundamentally the dimension of *taqwa*, or God consciousness or spiritual responsibility. *Taqwa* is the most fundamental concept in Islam, where a believer must do everything possible to achieve *falah* in this world and the next, which is the ultimate goal of all Islamic teachings. A significant aspect of this process is that it must be accompanied by *ihsan*, or beneficence. It is a goal that must be attained not only for the individual, but also for the development of society as a whole. *Taqwa*'s true meaning can be realised by a believer by being aware of God's presence in his daily life and interactions with others, including economic and financial relationships (Askari et al., 2014). Thus, the IME remains fundamentally a human-centred approach, emphasising the spiritual responsibility of human beings.

Attempts have been made over the years to develop the axioms of IME on the basis of Islamic ontology and epistemology, most notably through the work of K. Ahmad (1981), Naqvi (2013), Chapra (1979), and Siddiqi (1981). These axioms are incorporated into the *taqwa* or *ihsan* process, which is discussed in greater detail below:

3.3.2.2.1 *Tawhid* (Oneness of God)

It is critical to begin with the concept of *tawhid* in order to gain a fundamental understanding of *taqwa*. This fundamental axiom should be adopted by all believers because, without it, a believer will not experience the same inner spiritual sensations even if he follows the other axioms. As a concept, this implies God's Oneness, for which one must submit as His magnificent creation. In this sense, God is the Creator and thus the Ultimate Owner of the universe, which means that an individual has no claim on the property he owns. Thus, God charges an individual with the responsibility of managing the goods he possesses effectively, reliably, and responsibly in this transitory world (Abbasi, Hollman, & Murrey, 1989; K. Ahmad, 1981; Nomani & Rahnema, 1994; Utvik, 2006). *Tawhid*, as a central axiom, implies a vertical ethic in the sense that individuals are equal in their separation from God, and thus establishes the essential character of justice (Asutay, 2007). Additionally, the definition of *tawhid* implies a spiritual accountability in which individuals will be held accountable for their actions in the hereafter, including economic and financial transactions. As a result, as a vicegerent (*khalifah*) on earth, they are expected to live according to Islamic rules (Asutay, 2007).

3.3.2.2.2 *'Adl* (Justice)

Individuals are commanded to establish justice in order to achieve a balanced and harmonious system as a vicegerent (*khalifah*) on earth. Islam is a religion that is founded on the axiom of justice and places a premium on the relationships between individuals, society, and the physical and biological environment (Abbasi et al., 1989). The Qur'an (57:10) makes it abundantly clear that justice is a highly valued value in the Islamic system, as acts of fear toward God and religious characteristics include being 'just' (Chapra, 1979). This extends beyond the rules of legitimacy, which require the authorisation of good or evil, and encompasses concepts such as equality, ethics, rationality, and fairness. According to Naqvi (2013), the concept of '*al-adl wal ihsan*' (justice and beneficence), which translates as social balance, is an axiom that fosters meaningful goodness in society. Thus, the horizontal ethical concept of justice seeks to achieve social equilibrium within society, which implies equality in individuals' relationships with one another (Asutay, 2007). In terms of implementing a just economic system, Nomani and Rahnema (1994) defined social justice in terms of two distinct concepts: 'equity' and

‘equality,’ both of which have a strong presence in an Islamic society. While the authors associate the term ‘equity’ with fairness, in which a reward system is applied based on effort and should not be distributed equally, the ‘equality’ is delivered on the basis that an individual is a vicegerent on earth, and thus God commands all believers to distribute His wealth equitably on the earth. According to this syllogism, poor people have the same right to wealth as rich people. Therefore, the aforementioned conception stated that Islam commanded its adherents to establish socioeconomic justice, to eliminate all forms of discrimination, and to provide equal opportunity as part of an equitable distribution of income and wealth. From the standpoint of establishing a balanced and harmonious environment, it could be a critical axis for addressing social issues, including poverty alleviation.

3.3.2.2.3 *Rububiyah* (God’s dispositions)

This Islamic tenet is a necessary component of a *tawhid* conception that confers the Oneness of Allah’s Lordship. K. Ahmad (1981) defined the *rububiyah* as God’s divine arrangement for the universe and His direction toward perfection, which simply enabled individuals, society, and the natural environment to attain perfection in life. This means that all efforts and actions must be directed toward perfection in order to please God. *Rububiyah* is the source of the values of sustainability and development in the Islamic economic and finance, resulting in a robust economic system. *Tawhid* encompasses not only the relationship between man and God (vertical relationship), but also the relationship between man and society (horizontal relationship), which is frequently translated as the role of *ukhuwwah* or fraternity and unity (Abu-Sulayman, 1968; Naqvi, 2013). Thus, the *rububiyah* axiom encapsulates the Islamic finance’s vertical and horizontal ethics by grounding its objectives for individuals, society, and the physical and biological environment.

3.3.2.2.4 *Tazkiyyah* (Purification and Growth)

The term ‘*tazkiyyah*’ refers to an individual’s attempt to improve the quality of life through self-evaluation and self-purification in relation to the enjoyment of wealth, fame, and power, as prescribed in the Qur’an (Nomani & Rahnema, 1994). Thus, ‘*tazkiyyah*’ is a critical component of Islam’s development concept, as it pertains to growth and sustainable development toward perfection, with the ultimate goal of attaining *falah* in the afterlife.

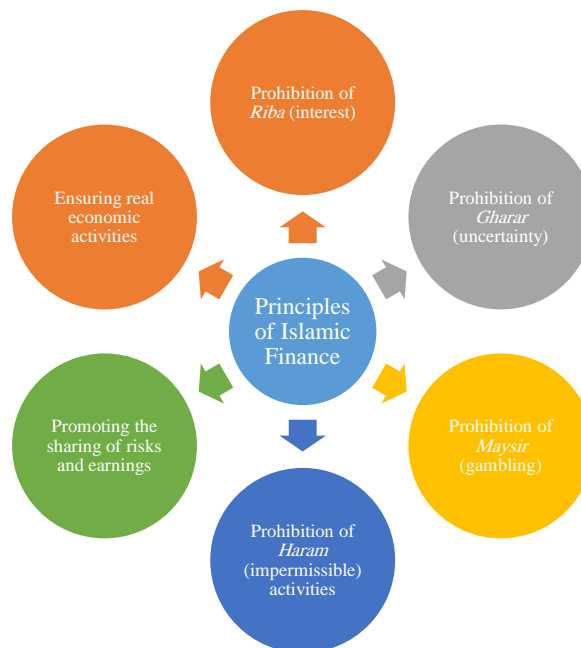
Additionally, it is noted that this is a holistic value system in which moral, spiritual, and material dimensions are integrated to promote ideal economic development. Additionally, it satisfies *Shari'ah*-compliant basic human needs by developing a robust Islamic economic system. *Tazkiyah* also refers to 'purification through growth,' and thus served as a moral filter for various individual economic and financial actions. Similarly, to the concept of *zakah*, which is viewed as a process of purifying wealth, the term '*tazkiyyah*' refers to the process of purifying all human activities through specific spiritual and material mechanisms.

3.3.2.2.5 *Ukhuwwah* (brotherhood and unity)

Islam views each individual as a family member, which encompasses all Islamic communities worldwide (Buckley & Buckley, 2000). According to Z. Iqbal and Mirakhor (2013), collectivism fosters the concept of humanity's unity and results in the establishment of equality principles. Individuals should be treated equally and not discriminated against on the basis of their wealth, race, gender, caste, or skin colour, among other factors that may cause disagreement and conflict. These values, which Islam strongly promotes, are far beyond the reach of reality, as people continue to distinguish themselves from one another. In Islam, the brotherhood is a broader concept that implies mutual cooperation and ensures the well-being of all members of society. Implementing *ukhuwwah* would result in a more just society that prioritises social well-being motivated by commitment and love, not just among believers, but also among those of other faiths. As a result, this concept is deduced from the *khalifah* role, which defines the purpose and responsibilities of a vicegerent on earth. The concept of *ukhuwwah* can be seen in the history of Islamic society, where the ethical system developed as a result of the involvement of two groups known as *Muhajirin* (migrants) and *Ansar* (assistants) in the construction of Madinah. The former group gave up their wealth for the sake of God and the love of their Prophet (PBUH) by fleeing from Makkah, a place of oppression, to Madinah, while the latter group welcomed them and assisted them by pooling their resources (Nomani & Rahnema, 1994). This phenomenon exemplified Islam's original wisdom in terms of sharing all resources and wealth bestowed by Allah (SWT) for the benefit of society (*ihsan*).

3.3.3 Principles of Islamic Finance

Figure 3. 5 Principles of Islamic Finance



Islamic finance strictly adheres with Islamic law that based on the Qur'an and *Sunnah*. The prohibition of *Riba* (interest), *Gharar* (uncertainty), *Maysir* (gambling), and *Haram* (impermissible), as well as the promotion of profit and loss sharing and ensuring real economic activities in financial transactions, are the fundamentals of Islamic finance that distinguish it from conventional finance, as described in Figure 3.5. Therefore, it is impossible to discuss Islamic economic and financial activities apart from these principles. Accordingly, these distinctive characteristics of Islamic finance are thoroughly discussed in the Appendix 3 of this thesis.

3.3.4 Islamic Financial System

Islamic finance plays a critical role in enabling the Islamic economic paradigm. It is the most developed and advanced aspect of the Islamic economic paradigm. It codifies the prohibition of *riba* and other Islamic values through a coherent set of financial products and markets. Capital markets and the Islamic banking system are the two most critical components. The following two sections will discuss the fundamental function of the Islamic financial system, namely risk spread and risk allocation among market participants.

3.3.4.1 Islamic Banking

Islamic banking is the most visible manifestation of Islamic economics and its rule-based system to date. Islamic finance first appeared in modern economies through Islamic banking and has made significant market and institutional inroads.

Numerous authors discuss the Islamic banking system's structure and distinguishing characteristics (i.e., T. Beck, Demirgüç-Kunt, & Merrouche, 2013; El-Hawary & Grais, 2004; Z. Iqbal & Mirakhor, 2011; Siddiqi, 2006). In essence, Islamic banking appears to be establishing a sizable foothold in global finance by not only filling some unmet needs but also by offering distinct and innovative financial products. Islamic banking, as defined by Islamic law, is a form of ethical finance that aims to increase the positive externalities of projects rather than merely assessing the creditworthiness of borrowers. When ethical finance is considered, it is frequently acknowledged that it benefits society's well-being. By definition, Islamic banking implies that Islamic banks must consider the impact of their financing on society and make investment decisions accordingly. Apart from their conventional intermediary functions, Islamic banks are expected to contribute to sustainable economic development, the reduction of social inequalities, the sustainable use of natural resources, and pollution reduction (H. Ahmed, Mohieldin, Verbeek, & Aboulmagd, 2015; Ghoniyah & Hartono, 2020; Gundogdu, 2018; Z. Hasan, 2006).

While Islamic banking's very foundations emphasise risk sharing and social welfare, the evidence regarding Islamic banking's success in achieving these objectives is mixed. Islamic banks have been found to be resilient to the recent global financial crisis and have actually diverged significantly from conventional banks in this regard (T. Beck et al., 2013; Čihák & Hesse, 2010; Farooq & Zaheer, 2015; M. Hasan & Dridi, 2010). Islamic banks' resilience has been a source of hope for global finance, as has the possibility that the PLS mechanism could provide some relief from excessive risk taking and sudden deposit withdrawals (Farooq & Zaheer, 2015; M. Hussain, Shahmoradi, & Turk, 2016). While some encouraging characteristics remain, Islamic banking operations are still far from the ideal mode of Islamic banking, resembling conventional banking in many ways. Cynics argue that there are significant divergences between Islamic banks' ideals and current practises, rendering them functionally indistinguishable from conventional banks (Feisal Khan, 2010).

It is frequently acknowledged that the composition of banking assets is critical for sustainable development. Banks that are heavily invested in securities trading and/or have a smaller exposure to small businesses are expected to be less development friendly. The evidence regarding the composition of Islamic banking assets appears to indicate that Islamic banks' assets are comparable to those of conventional commercial banks. Kuran (1995) argues that Islamic bank clients are more likely to be established producers and merchants than newcomers with innovative projects but a high-risk tolerance. Islamic banks have demonstrated no preference for labour-intensive businesses, preferring safe short-term investments over long-term investments (Moore, 1990). While there is some evidence that they finance small businesses, the findings indicate that this is the end result of using *Murabaha* contracts, which alleviate small businesses' collateral burden (Aysan, Disli, & Ozturk, 2018; Shaban, Duygun, & Fry, 2016).

A significant body of Islamic banking literature examines the role of Islamic banking in the overall economy. Abedifar, Hasan, and Tarazi (2016) and Leon and Weill (2018) both demonstrated that Islamic banking has a beneficial effect on financial intermediation and economic welfare in low-income countries. Gheeraert (2014), Gheeraert and Weill (2015), Imam and Kpodar (2016), and Kumru and Sarntisart (2016) conducted empirical research on the impact of Islamic banking on private credit and macroeconomic indicators. Aysan and Disli (2019), Shaban et al. (2016), and Aysan et al. (2018) have all argued that Islamic banking has a beneficial effect on private credit to the SME sector. While Fianto, Gan, Hu, and Roudaki (2018) discovered evidence of equity-based microfinance as a critical channel for improving the income and economic status of low-income households. Aysan and Disli (2019) and (Caporale, Çatık, Helmi, Ali, & Tajik, 2020) argue that the assistive role of Islamic banks in transmitting monetary policy has been a significant factor in their popularity.

The number of empirical studies on the development of Islamic banking is increasing, with existing literature analysing various characteristics of Islamic banking, including investment financing (i.e., Aggarwal & Yousef, 2000), securitization (i.e., Jobst, 2007), mortgages (i.e., Ebrahim, 2009), stability (i.e., Čihák & Hesse, 2010), banking relationships (i.e., Ongena & Şendeniz-Yüncü, 2011), effectiveness (i.e., Ongena & Şendeniz-Yüncü, 2011), commercial models (i.e., T. Beck et al., 2013), risk (i.e., Johnes, Izzeldin, & Pappas, 2014), invest in mutual

funds (i.e., Abdelsalam, Fethi, Matallín, & Tortosa-Ausina, 2014), and assessment (i.e., Elnahass, Izzeldin, & Abdelsalam, 2014).

Additionally, some studies examined the role of Islamic banks in promoting economic growth and development. Akram Laldin and Furqani (2013), for example, used quarterly data from 1997 to 2005 to demonstrate that, over the long run, Islamic financing is positively and significantly associated with economic development and capital accumulation. Thus, Islamic banks effectively served as intermediaries, facilitating the transfer of savings from agents with a ‘positive saving capacity’ to agents in need of financing. Additionally, they demonstrated that economic growth stimulates the evolution and development of Islamic banking institutions, demonstrating that the relationship between Islamic financing and economic growth is bidirectional.

In a similar vein, Majid and Kassim (2010) examined the relationship between Islamic finance and economic development empirically and demonstrated, using Patrick’s (1966) study as a guide, a supply-leading approach in which the direction of causality runs from Islamic financial development to economic growth. Meanwhile, Abduh and Omar (2012) used cointegration analysis to examine the relationship between Islamic banking development and economic development in Indonesia over the 2003–2010 period. They established a bidirectional causal relationship between Islamic banking development and economic growth in Indonesia, demonstrating that economic growth encourages Islamic banks to expand, which in turn stimulates economic growth.

3.3.4.2 Islamic Capital Markets

The Islamic capital market is a critical component of the Islamic financial system, serving as a marketplace for the exchange of *Shari’ah*-compliant financial assets. It is a market in which individuals, businesses, and governments with excess funds transfer them to individuals, businesses, and governments with a funding shortage. By channelling money from the surplus to the deficit unit, it acts as a financial intermediary. For capital seekers and providers, the Islamic capital market operates as a parallel market to the conventional capital market. The Islamic capital market receives funding from both domestic and international sources.

The Islamic capital market was established to attract savings and channel them toward productive endeavours in accordance with *Shari'ah* principles. Primary and secondary markets are included in Islamic capital market. While the primary market has a direct effect on the supply of funds for investment via equity, the secondary market has a similar effect on the supply of funds for investment via debt. The secondary market serves a variety of purposes. It provides liquidity for assets by allowing for early exit; it continuously prices assets and their associated risks, incorporating relevant new information as it becomes available. Today, a variety of Islamic capital market products, including *Shari'ah*-compliant securities, sukuk, Islamic unit trusts, and Islamic real estate investment trusts, are available.

Islamic capital markets, as a component of the Islamic economic system, serve to improve resource and capital management efficiency and to facilitate investment activities (Ali, 2005). Capital market products and activities should reflect Islamic principles, namely trust and the presence of real assets or activities as an underlying object. Additionally, capital market transactions should be managed in a way that ensures a just and equitable distribution of benefits. The prohibition of *riba*, *gharar*, *maysir*, *tadlis*, and *ikraha* in all *muamalah*-related activities is the fundamental principle, which is supported by several other principles, including risk sharing, prohibition of speculative behaviour, protection of property rights, transparency, and fairness in contract negotiations (Z. Iqbal & Tsubota, 2006)

Some fundamental distinctions between conventional and Islamic capital markets include the following: (i) In Islamic capital markets, investment is restricted to sectors that are not prohibited/included in negative lists of *Shari'ah* investment and is not based on debt (debt-bearing investment), whereas in conventional capital markets, investors are free to choose between debt-bearing and profit-bearing investments across sectors; (ii) Islamic capital markets are based on *Shari'ah* principles, which encourage the use of profit-sharing partnership schemes, whereas conventional capital markets are based on the principle of interest; (iii) Islamic capital markets prohibit various forms of interest, speculation, and gambling, whereas conventional capital markets allow speculation and gambling, which results in uncontrolled mafia activity; (iv) The existence of *Shari'ah* guidelines in the Islamic capital market regulates various aspects such as asset allocation, investment practises, trade, and income distribution, whereas in the conventional market, investment guidelines in general govern legal capital market products; and (v) In the Islamic capital market, there is a screening mechanism for

companies that must adhere to *Shari'ah* principles, whereas in the conventional market, investment guidelines in general govern legal capital market products (Z. Iqbal & Tsubota, 2006).

The theoretical framework for capital market effects on economic growth dates all the way back to Schumpeter's (1911) work, which demonstrated how a well-developed financial system can foster technological innovation and economic growth by providing financial services and resources to investors. Schumpeter's (1911) argument was later developed into the McKinnon's (1973) hypothesis, a policy analysis tool for developing countries that places a strong emphasis on the efficiency of financial systems in facilitating capital accumulation and financial intermediation (Yadirichukwu & Chigbu, 2014).

The above hypothesis was formalised and popularised by Fry (1989), Greenwood and Jovanovic (1990), and Pagano (1993) in their endogenous growth models, which explicitly model the relationship between the financial intermediation role of capital markets and growth indicators. These models have identified the capital market as an institution that contributes to the economic growth of emerging economies; they are also used to explain the economic growth of developed economies (Yadirichukwu & Chigbu, 2014).

The critical role of capital markets in economic development appears to be a non-issue. Financial markets' contribution to economic development has been extensively researched. Numerous studies demonstrate a positive correlation between financial sector and economic growth (T. Beck, Demirgüç-Kunt, & Levine, 2000; King & Levine, 1993; Levine & Zervos, 1998).

3.3.5 Islamic Finance-Sustainable Development Nexus

Most narrative studies examine the role of Islamic finance in development or sustainable development by delving into the fundamentals of the Islamic development framework. Chapra (2001, 2008b) argued that in order to obtain a comprehensive picture of the relationship between Islamic finance and development, additional variables such as socioeconomic factors (i.e., social interest, morally oriented behaviour, Zakat), the state's role (i.e., moral obligations, Islamic values, business ethics), physical capital (i.e., infrastructure), social capital (i.e., the

degree to which an individual is literate and educated), social security (i.e., assisting the unemployed, the needy, the orphans, the widows, the aged, the disabled, and so on).

Similarly, Askari et al. (2014) proposed a narrative study of development from an Islamic perspective, arguing that Islamic economic and development in Islam are founded on a set of rules that serve as the framework for Islamic economics and finance, and thus for broader human and economic development. Askari et al. (2014) discussed the potential of Islamic finance by elaborating its diverse sectors, which include Islamic social finance, asset-linked sukuk, capital markets (i.e., stock markets), Islamic banking system, and risk sharing (i.e., methods and instruments of risk sharing, such as equity participation, venture capital, and direct foreign investment).

Empirical studies on the impact of Islamic finance —as an integrated and comprehensive measurement— on the sustainable development in OIC member countries is not well explored. Rather than that, the majority of the literature focuses on the role of Islamic finance in achieving sustainable development through qualitative and narrative studies. Furthermore, the majority of existing literature examines the relationship between sustainable development —or simply ‘development’ in general — and Islamic finance by focusing exclusively on specific sectors of Islamic finance, such as Islamic banking (i.e., Ghoniyah & Hartono, 2020; Pratiwi, 2016), Islamic bonds or sukuk (AlMadani, Alotaibi, & Alhammedi, 2020), Islamic microfinance (i.e., Wilson, 2007), Islamic social finance and fund through *zakat*, *waqf*, and *sadaqah* (i.e., Abdullah, 2018; Foyasal Khan & Hassan, 2019). As a result, a comprehensive picture of integrated Islamic finance development as a whole is extremely limited, particularly in terms of its relationship with sustainable development.

Ghoniyah and Hartono (2020) conducted a comparative analysis of the role of Islamic and conventional banks in Indonesia’s pursuit of sustainable development. They used profitability and financing as explanatory variables, using data from 2011 to 2018 and a variety of indicators of sustainable development published by Indonesia’s Central Bureau of Statistics. Ghoniyah and Hartono (2020) discovered that excessive profit demands by banks can slow economic growth, thereby impairing the country’s sustainable development, although Islamic banks have a less destructive impact than conventional banks. Additionally, the bank may contribute to sustainable development through credit or financing, as long as the financing is of sufficient quality and aligns with the bank’s objectives. Islamic banking provides financing through the

principle of trading and profit sharing, with the funds being distributed to the real sector. While conventional banks charge interest on credit and invest their funds in the financial sector, money market, and foreign exchange, Islamic banks do not.

AlMadani et al. (2020) provide a qualitative study of a theoretical model explaining how Sukuk can help achieve sustainable development within the context of *Maqasid al-Shari'ah* through an examination of the role of Sukuk in the circulation, development, and preservation of wealth in order to achieve social justice. They analyse the Sukuk's Principal Terms and Conditions, Information Memorandum, and IDB's annual reports from 2007 to 2017 in order to explain the Sukuk's structures and features and determine their compliance with the developed model. The findings indicate that the Medium-Term Note (MTN) Sukuk programme benefits the elements of *hifdz al-mal* (wealth protection), demonstrating a direct correlation between wealth transfer between parties and compliance with *Maqasid al-Shari'ah*. This means that Sukuk investments benefit individuals, institutions, societies, and the country as a whole, thereby promoting human well-being and sustainable development.

In a narrative study, H. Ahmed et al. (2015) suggested that, theoretically, Islamic finance could contribute to sustainable development by incorporating broader goals of Islamic law into its operations. Given Islamic finance's principles, which promote social inclusion and development, the Islamic financial sector through its financial institutions, capital markets, and social sector, has the potential to promote resilience, increase social sustainability (financial inclusion and vulnerability reduction), achieve environmental and social goals, and facilitate sustainable infrastructure development.

In terms of Islamic finance's resilience, M. Hasan and Dridi (2010) demonstrate that in the years immediately following the crisis, Islamic banks outperformed conventional banks in terms of credit and asset growth. As a result, rating agencies viewed Islamic banks more favourably in the post-crisis era. T. Beck et al. (2013) discover that between 1995 and 2007, Islamic banks had higher capitalization and liquidity reserves than conventional banks, implying greater stability.

Regarding the financial inclusion, it is noted that Islamic finance may contribute via its microfinance institutions, as H. Ahmed (2004) demonstrates that Islamic banks are predisposed to providing microfinance. Using the Rural Development Scheme of Islami Bank Bangladesh's microfinance

programme as an example, he argues that Islamic banks can provide microfinance more efficiently than many existing microfinance institutions due to the fact that banks already have the trained personnel and basic necessary to expand their microfinance operations. Additionally, because banks can provide microfinance through their existing infrastructure and branch network, they can serve a large number of clients at a lower cost than other microfinance institutions. To accelerate financial inclusion through Islamic finance, H. Ahmed (2004) also proposed that zakat and waqf could be integrated into the financial sector. Given the charitable nature of zakat and waqf, they suggest that these instruments can help alleviate some of the tensions associated with the trade-off between outreach and sustainability.

Additionally, *zakat* and *waqf* can serve as sources of subsidy for financial services provided to the core poor (H. Ahmed, 2002; Kahf, 2004). Charitable funds, in particular, can provide support and subsidies to non-profit organisations and commercial enterprises seeking to expand their outreach to the poor. Numerous proposals have been made to establish *waqf*-based microfinance institutions. Cizakca (2004) proposes a model in which cash waqf is used to provide poor people with microfinance. El-Gari (2004), likewise, proposes the establishment of a non-profit financial intermediary that would provide poor people with interest-free loans (*qard hassan*) in which the bank's capital would be raised through donations of monetary (cash) *waqf* from wealthy Muslims. H. Ahmed (2011) and Kahf (2004) propose a model for an Islamic microfinance institution based on *waqf* that serves the poor and is capitalised through cash *waqf*.

Within the context of sustainable development, it is suggested that Islamic finance could also play a role in mitigating vulnerability and risk via the financial or social sectors. Islamic finance could be used in the financial sector to provide risk-mitigating services such as insurance to various segments of the population, including the poor. Due to *Shari'ah*'s prohibition on selling unbundled risk, risk mitigation from an Islamic perspective emphasises risk sharing rather than risk transfer mechanisms (Siddiqi, 2009b). Due to the fact that conventional insurance is deemed to be non-compliant with *Shari'ah*, various models of mutual guarantee (*takaful*) are developed as *Shari'ah*-compliant insurance schemes. *Takaful* is built on the principles of charitable giving (*tabarru'*) and cooperation or mutual assistance (*ta'awun*). The *takaful*'s central organisational feature is mutual insurance, in which the policyholder assumes ownership and risk bearing, while a *takaful* operator performs the managerial function.

In terms of social finance, H. Ahmed et al. (2015) suggested that *zakat* and *waqf* can be used to strengthen the poor's vulnerability and resilience. While *zakat* and *waqf* have historically served as safety nets, their application can be expanded to protect those who are not poor but are at risk of becoming poor due to adverse shocks. One strategy is to provide interest-free loans to the vulnerable (*qard hassan*). According to Kahf (2004), the Sudanese *Diwan al Zakat* began lending to farmers at the start of the agricultural season to enable them to purchase necessary inputs; the loans are repaid following the harvest. This policy, as reported by Kahf (2004) increased farm productivity and *zakat* collection from farmers, which now accounts for more than 70 percent of loans. *Zakat* can be used to relieve poor people of debt in the event of negative shocks. Another effective strategy for mitigating vulnerability is to use *zakat* and *waqf* funds to pay monthly *takaful* contributions to hedge against certain defined risks. This scheme has the potential to increase *takaful* service penetration among the poor.

Given the infrastructure sector's emphasis on the real economy and its preference for risk-sharing financing and social investments, it presents an ideal business opportunity for Islamic finance. Additionally, financing infrastructure projects would be consistent with Islamic finance ideology, as these projects benefit the entire community (N. D. Miller & Morris, 2008).

3.4 Chapter Summary

This chapter conducted a comprehensive review of the literature on Islamic perspectives on sustainable development studies, including a discussion of the Islamic view of sustainability's theoretical framework and Islamic approach to sustainability. Additionally, this chapter discussed the philosophical foundations of Islamic finance and its relationship to sustainable development.

CHAPTER 4

LITERATURE REVIEW III: MEASUREMENT AND DETERMINANTS OF SUSTAINABLE DEVELOPMENT AND CORPORATE SUSTAINABILITY

4.1 Introduction

This chapter expands on the survey of the literature on sustainable development by exploring measurements as well as factors associated with sustainability and sustainable development from two distinct perspectives: country level (macro analysis) and firm level (micro analysis). Section 4.2 discusses the standards and measurements for sustainable development. Based on the sustainable development framework, a measurement of Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs), are presented in section 4.3. Section 4.3 would also elaborate on the determinants and factors affecting the measurement of sustainable development at the country level. Additionally, Section 4.4 expands on the discussion of the determinants of sustainability disclosure practices from a firm-level perspective, with an emphasis on Islamic banks in this study. Finally, section 4.5 provides a summary of the chapter.

4.2 Measurement of Development

It should be noted that gross national product (GNP) has been used extensively in development studies as a critical indicator for measuring a country's development. Prior to the 1970s, economic development was measured in terms of gross national product and per capita income, which served as the ultimate barometers of national progress and prosperity. According to this perspective, development is defined as a country's ability to generate and sustain annual increases in GNP of perhaps 5% to 7% or more Todaro (1997). Economic growth became the primary objective during this period, and the growth rate of per capita GNP became the development goal.

However, researchers have discovered that the GNP is not a single indicator that can be used to track development over time. Numerous attempts have been made to develop alternative composite indicators that could be used in conjunction with or in place of the traditional measure. Streeten (1983) noted that, while economic growth is unquestionably an important aspect of development, there is a growing recognition that economic growth is not the only way to interpret development.

Several researchers advocated for the inclusion of economic, social, and political indicators as alternative development indicators. Adelman and Morris (1967), for example, developed an early major study that utilised a variety of indicators to determine development, including social, economic, and political factors. Mahbub ul Haq (1995) and Amartya Sen (1983, 1988a) made a significant contribution to the discussion of development by redefining development from an economic-centric perspective to include several outcomes of economic growth such as increased social cohesion and social skills, increased literacy and education levels, improved health and nutrition, and more equitable distribution of wealth (Sen, 1983, 1988a). Additionally, the United Nations Development Programme (UNDP) developed the Human Development Index (HDI), which goes beyond conventional monetary income-based measures of development.

Additionally, a variety of analyses concerning the causes and determinants of development performance are included in the majority of the available literature, such as education (i.e., Burchi, 2006; Kohoutek, 2013; Ozturk, 2001)

Religiosity (i.e., Yeganeh, 2015), ICT (i.e., Avgerou, 2010; Hilty & Hercheui, 2010; Hilty & Ruddy, 2010; Kuyoro Shade, Awodele, & Okolie Samuel, 2012; Palvia, Baqir, & Nemati, 2018), entrepreneurship (i.e., Amit, Glosten, & Muller, 1993; Edoho, 2015a; Edoho, 2015b; Nafukho & Muya, 2010), and microfinance (i.e., Jaffery & Mamoon, 2015; Littlefield, Morduch, & Hashemi, 2003; Mutengezanwa, Gombarume, Njanike, & Charikinya, 2011; Nawaz, 2010; Rankin, 2002; Roy, 2010).

4.2.1 Human Development Framework

In general, there are numerous philosophical foundations for defining human development, as it represents a multidimensional and holistic approach to development by encompassing all

facets of well-being. Human development, according to the United Nations Development Programme (UNDP, 1990), is the process of expanding people's options and improving their capabilities, the range of things they can do or be in life, freedoms, guaranteed human rights, and self-esteem, so they can live a long and healthy life, have access to education and a decent standard of living, participate in their community and make decisions.

Ranis, Stewart, and Samman (2006) emphasised the existence of two distinct approaches and justifications for human development, one of which focuses on the constitutive requirements of a good life and the other of which focuses exclusively on the requirements of such a life. The first one placed a lower emphasis on material concerns, whereas those examining the requirements for such a life place a higher emphasis on material concerns. Then, it is reasonable to expect that existing indices and indicators for measuring human development will differ in their definitions of human development and its dimensions. While some scholars focused exclusively on the physical characteristics of human beings when measuring human development, others included spiritual concerns as well.

Since the 1960s, numerous scholars and development agencies have developed a broader measure of human well-being by combining appropriate indicators (Stanton, 2007). Attempts to create a comprehensive index for measuring human development continue to this day. The United Nations Research Institute for Social Development (UNRISD) made one of the first attempts in 1966 by publishing a study of 20 countries that included classifications for physical needs (nutrition, shelter, and health), cultural needs (education, recreation, and security), and higher needs (measured as income above a threshold).

The United Nations Economic and Social Council (UNSC) ranked 140 countries in 1975 using a composite of seven indicators: two social indicators: literacy and life expectancy; and five economic indicators: energy, manufacturing share of GDP, manufacturing share of exports, employment outside agriculture, and number of telephones (Hicks & Streeten, 1979). In 1976, the International Labour Organisation (ILO) published a report on the approach to development based on 'basic needs.' Basic needs included an adequate level of consumption as well as access to essential services such as health care and primary education. The debates over this subject have resulted in the development of several significant indices for measuring human development.

Several measurements by using indices have also been conducted as discussed below:

4.2.1.1 Human Development Index (HDI)

The United Nations Development Programme (UNDP) launched the Human Development Report (HDR) in 1990 to provide information on human development in a large number of countries. According to Sagar and Najam (1998), HDR correctly recognised that development is about much more than income and wealth expansion. Economic growth should be viewed as a means to an end, not an end in itself, and thus should prioritise health, education, a minimum standard of living, human rights, political freedom, and self-respect as more pressing concerns for human development (D. Ray, 2007).

The HDR 1990 developed a composite index, the Human Development Index (HDI), based on three fundamental dimensions of human development: the capacity to live a long and healthy life, the capacity to acquire knowledge, and the capacity to access resources necessary for a decent standard of living. Since then, this index has been equated with human development, as it has emerged as a viable alternative to the traditional one-dimensional measure of development, GDP. The Human Development Index (HDI) is a composite indicator of average achievement in three critical dimensions of human development: longevity and health, knowledge, and a decent standard of living.

The HDI is calculated as the geometric mean of three normalised subindices: life expectancy, education, and gross national product (GNI). The HDI classifies all countries into four categories based on their level of human development: very high (>0.8), high (0.7-0.799), medium (0.55-0.699), and low (0.55).

While the HDI has been cited as one of the most important indices for comparing countries' development performance, there have been some criticisms, primarily regarding a small number of HDI indicators. D. Ray (2007) argues that a few indicators in the HDI prevent it from accurately capturing numerous aspects of development, preventing it from responding more effectively to social problems such as corruption. Additionally, HDI is argued to be a failing measure because it omits numerous critical aspects of life as defined by the UNDP (Ranis et al., 2006). The HDI has also been criticised for failing to account for gender inequality in society when calculating a country's development (Schüler, 2006). Additionally, the index

overlooked two critical dimensions of human development: the environment and equity (Sagar & Najam, 1998). Additionally, HDI has been criticised for being an imprecise indicator of human development and for painting an erroneous picture of the world. The HDI is deemed incapable of forecasting future levels of development because it relies on an off count of past efforts rather than forecasting future levels of development (Ivanova, Arcelus, & Srinivasan, 1999).

4.2.1.2 Physical Quality of Life Index (PQLI)

The Physical Quality of Life Index (PQLI) is an attempt to quantify a country's well-being. The index was developed by David Morris as part of research for the Overseas Development Council in the mid-1970s as one of a number of measures developed in response to dissatisfaction with the use of GNP as the primary indicator of development. While PQLI may be considered an improvement, it shares the general difficulties associated with quantitatively measuring quality of life. The value is the average of three leading indicators: basic literacy rate, infant mortality rate, and life expectancy at age 1, all equally weighted on a 0 to 100 scale to allow for cross-country comparisons. Initially, PQLI was created to examine the impact of the United States' aid or assistance to developing countries.

The PQLI is well-known as a straightforward and easy-to-calculate composite index. PQLI can be used to calculate country-level changes over time and to quantify ethnic, regional, gender, and rural-urban disparities (Doessel & Gounder, 1994). Additionally, D. Ray (2007) discovered that the PQLI gained popularity as a result of the indicators chosen being consistent with a logical understanding of human development. PQLI, on the other hand, is not used for regional comparisons but rather for cross-country comparisons.

Some critics addressed the PQLI for its limited number of indicators, which were deemed insufficient to capture true quality of life. Doessel and Gounder (1994) argued that PQLI ignores issues such as nutrition, health, sanitation, and housing. As a result, the PQLI is insufficient to accurately and comprehensively depict a society's true level of development. Another shortcoming of this index is that it measures comprehensive development solely through the lens of physical well-being. By excluding freedom, justice, and security, as well as other intangible elements critical to the overall concept of human development, this index

focuses exclusively on how well societies meet certain specific life-sustaining social characteristics (Doessel & Gounder, 1994).

4.2.1.3 Gender-Related Development Index (GDI) and Gender Empowerment Measure (GEM)

Along with the HDI, the Human Development Report includes additional composite measures, including a gender-specific index, the Gender Development Index (GDI), and the Gender Empowerment Measure (GEM). Schüler (2006) asserts that GDI and GEM were created to incorporate issues of gender inequality into human development. In 1995, Anand and Sen introduced the GDI to penalise the HDI if gender inequality existed in any of the HDI's three dimensions. The GDI takes gender inequality into account when assessing a country's overall human development. The GDI measures in the same dimension as the HDI, removing gender inequality from the equation. This means that the GDI should be interpreted in conjunction with the HDI as a reduced HDI of gender disparities in its three components, and not in isolation from the HDI. Meanwhile, GEM is to be interpreted as a proxy for gender equity in political and economic participation and decision-making, as well as in economic resource control. GEM is composed of three indicators that each focus on a different aspect of empowerment. The indicators chosen are the male and female representation in parliament, the male and female representation in administrative, professional, technical, and management positions, as well as economic power.

Since the GDI and GEM were introduced in 1995, several additional indicators directly measuring inequality between men and women have been developed, including the Relative Status of Women Index, the Standardized Index of Gender Equality (EMIS) and the Gender Equality Index (GEI). These indices were developed in response to the deficiencies and misinterpretation of the GDI and GEM in a large number of academic reports and writings. Researchers are looking for indicators that can be used to directly measure gender inequalities. The GDI and GEM indices are considered underutilised indices that receive little attention and are rarely mentioned in the international press. This is due to their data scarcity and lack of empirical value added (Schüler, 2006). Additionally, the majority of studies consistently misinterpreted the GDI as a direct measure of gender inequality, resulting in the index's misinterpretation and misuse. This demonstrates that the GDI's calculation is perplexing and

vague, making it difficult for people to grasp the concept of the index. Additionally, both the GDI and GEM have been chastised for failing to adequately reflect the dimensions of gender inequality in developing and developed countries (Schüler, 2006).

These two indices, however, have an advantage over other indicators of gender equality in terms of separating basic capacity dimensions (GDI) from empowerment (GEM). Schüler (2006) emphasises the importance of separating these two dimensions because different countries may have gender equality in terms of necessary capabilities but may appear quite differently in terms of empowerment, and vice versa.

4.2.2 Social Development Framework

Social development can be classified into two broad categories. To begin, it refers to the enhancement of an individual's well-being and quality of life; or, alternatively, to changes in society that make development more equitable and inclusive for all members (G. Davis, 2004). Both definitions are social in nature, referring to society's well-being and the relationships between individuals and groups.

Since 1954, when the United Nations published a report on the international definition and measurement of standards and levels of living, significant efforts have been made in the areas of social protection and representative indicators to depict development. This report was critical of the use of national per capita income to determine living standards and standards of living. This is because such measures disregard factors outside the realm of monetary D. Ray (2007).

The campaign to promote social development in Western industrial countries began in the 1970s, when social workers with experience in development work sought to popularise social development concepts in the United States and elsewhere (Midgley, 2003). Since then, social development has become a more prominent topic of discussion in these countries. However, it is largely as a result of the World Summit on Social Development's recommendation that social development has gained widespread recognition in the Global North. The United Nations organised the Copenhagen Summit in 1995, which drew 117 heads of state and culminated in a commitment called the Copenhagen Declaration on Social Development to address some of

the world's most pressing issues, ranging from poverty and unemployment to ethnic conflict and gender oppression (United Nations, 1996).

They agreed, among other things, to establish a development framework devoted to poverty eradication and to increase spending on education and health. Additionally, they committed to promoting development that is people-centred and participatory; non-discriminatory and gender sensitive; accountable and transparent in government; and builds the capacity of all development actors, including the state, the private sector, and civil society. Additionally, they stated that economic and social objectives are inextricably linked and that economic and social factors both contribute to sustainable development (G. Davis, 2004).

4.2.2.1 Social Development Index (SDI)

The Social Development Index (SDI) was established in 1989 to track countries' social development (A. K. Ray, 2008). This index was constructed using a variety of indicators. Ray initially used 13 physical variables to characterise the social development of 40 countries. These indicators represent urbanisation and industrialisation, as well as health conditions, nutritional status, educational attainment, and dimensions of social communication. In 2008, Ray reintroduced SDI in 102 countries, including 21 OECD countries and socialist countries such as China—for the purpose of contrasting capitalist and socialist countries—, using only ten physical variables to represent various social concerns.

This study's analysis highlights several of the benefits of SDI. This index incorporates a large number of social indicators in order to encompass a broader range of social concerns and is accompanied by an objective method for calculating weights that allow for the combination of multiple physical indicators. While the SDI includes a large number of social indicators to represent a country's level of development, the economic situation of 102 countries is ignored due to the absence of financial variables. This is one of the SDI's shortcomings in terms of providing a more holistic view of development.

4.2.2.2 Multidimensional Poverty Index (MPI)

The MPI replaces the Human Poverty Index and was developed by the Oxford Initiative for Poverty and Human Development (OPHI) and the United Nations Development Program (UNDP). The MPI is a collection of poverty indicators that together provide a comprehensive picture of people living in poverty. The index complements traditional income-based measures of poverty by accounting for multiple deprivations at the household level. The index measures deprivation along the same three dimensions as the HDI, using ten indicators: two health indicators (malnutrition and infant mortality), two educational attainment indicators (years of schooling and schooling), and six indicators measure standard of living (access to electricity, drinking water, sanitation, floors, cooking fuel and essential goods such as a radio or bicycle).

The three broad categories of health, education, and standard of living are equally weighted to produce a composite index that indicates the number of people living in multidimensional poverty (deprivations in 33% of the weighted indicators), the number of disadvantaged people, and the general deprivations faced by poor households (Alkire & Santos, 2014). For the majority of developing countries, the MPI is based on three central publicly available and comparable databases: the Demographic and Health Survey (DHS), the Multiple Indicator Cluster Survey (MICS) and the World Health Survey (WHS). The 2013 Human Development Report (HDR) contains estimates for 104 countries totalling 5.4 billion people (76 percent of the world population). Between 2002 and 2011, approximately 1.6 billion people in the countries covered lived in multidimensional poverty, accounting for 30% of their total population (OPHI, 2013).¹

4.2.2.3 Human Poverty Index (HPI)

The Human Development Report uses the HPI as a composite measure, namely the Human Poverty Index (HPI), which is a measure of human deprivation and not based on income. These

¹ The World Bank's PovcalNet database provides estimates of income poverty for 104 countries with a combined population of 5.4 billion people based on surveys conducted between 2000 and 2012. 1.2 billion people, or 22% of the population in these 104 countries, live on less than \$1.25 per day. International poverty thresholds are also expressed in terms of 2005 purchasing power parity (Human Development Report, 2014)

index values and country rankings illustrate how poverty intensity varies by country. The report acknowledges that poverty is multifaceted and that income-based measures of poverty do not account for all forms of deprivation. Human poverty is more than financial poverty; it precludes people from choosing and leading a bearable life (Fukuda-Parr, 1999).

The HPI for developing countries takes three types of deprivation as essential dimensions of poverty into account: survival, education and knowledge, and economic provision (Krishnaji, 1997). The percentage of people in a given country who should not survive to the age of 40 is used to quantify survival deprivation, whereas the adult literacy rate is used to quantify education and knowledge deprivation. Economic deprivation is calculated as the average of three variables: the percentage of the population lacking access to safe water, the percentage of the population lacking access to health services, and malnutrition among children under the age of five. The HPI is then calculated as the cube root of the average of the three above-mentioned deprivation components.

HPI can be used in at least three ways: as a tool for advocacy, as a planning tool for identifying areas of concentrated poverty within a country, and as a research tool. This composite index has several advantages for determining each country's level of social development in terms of poverty. According to Fukuda-Parr (1999), the HPI virtually accurately depicts a country's level of poverty as it progresses from monetary to relative deprivation measures and successfully reflects more critical opportunities and choices in terms of survival, education, and health.

Additionally, while there is no universal agreement that HPI can pinpoint the root causes of poverty, it can shed light on the various dimensions of poverty that policymakers can consider. Additionally, like all other indices, the HPI summarises data, most notably the extent of poverty across multiple dimensions. However, it appears to have no utility as a summary measure, particularly for simpler, easier-to-understand indices such as the simple average (Krishnaji, 1997). Another limitation of the HPI is the variable selection used to describe and quantify the data's deprivation and reliability.

There are numerous related variables that are excluded from the index, including deprivation of food, clothing, and housing for the entire population, deprivation of paid employment, and deprivation of basic human rights, such as equality before the law and access to justice.

According to Hulme and Fukuda-Parr (2009), the concept of human poverty is much broader than the HPI. Indeed, certain critical dimensions are difficult to quantify or lack data. These dimensions include political freedom, personal security, and exclusion.

4.3 Measurement of Sustainable Development

4.3.1 Single- and Multiple-based Indicator Measurement

Significant research has been conducted to define and operationalize development indicators. In practise, development policies frequently place a premium on economic and social dimensions while ignoring environmental concerns. However, since the Earth Summit in Rio de Janeiro in 1992, much attention has been paid to the role of social and environmental indicators (H. Henderson, 1994). All 178 signatory countries committed to expanding their national accounts to include environmental costs, benefits, and values. This global interdisciplinary effort aims to incorporate critical dimensions of life into development measurement, including economic, social, and environmental dimensions.

Sustainable development has been defined in a variety of ways, but the Brundtland Report is the most frequently cited definition. According to the United Nations World Commission on Environment and Development (WCED), development is sustainable if it meets current needs without impairing future generations' ability to meet their own. Based on this definition, a multidimensional measurement with three critical areas of development —economic development, social development, and environmental development— must be considered and integrated (Boggia & Cortina, 2010). Additionally, sustainable development considers the socioeconomic system's long-term prospects to ensure that current progress does not jeopardise future development. Moffatt (2008) explains that sustainable development minimises the use of consumable resources such as energy, water, land, and air, or at the very least makes appropriate use of renewable resources.

Sustainability, according to (Gilbert, 1996), consists of three primary components: environmental, social, and economic sustainability. They define environmental sustainability as the preservation of natural capital, which implies that functions should not be degraded. Simultaneously, social sustainability requires society's cohesion and its ability to work toward

common goals while meeting all basic human needs. Economic sustainability refers to a country's financial viability as it transitions to social and environmental sustainability. As a result, in 2005, the German Council for Sustainable Development (RNE) determined that the term 'sustainability' should encompass not only environmental concerns, but also economic sustainability. The well-being of these three areas is inextricably linked, making their separation difficult. In other words, current generations must leave an intact ecological, social, and economic system to future generations.

Initially, the literature employed three of the most frequently used sustainability indicators—economic development, social development, and environmental development—. The majority of existing indicators are aggregated single indices that contain only one variable. These are essentially the same indicators in that they involve the quantification of economic, social, and environmental benefits in monetary terms, but they are referred to differently. Previous studies on sustainable development used roughly comparable variables but used extremely limited indicators, making them inaccessible to academics and practitioners. Daly, Cobb Jr, and Cobb (1994), for instance, developed the Index of Sustainable Economic Welfare (ISEW), which quantifies the costs of travel as well as the costs of accidents, water pollution, air and noise pollution, and the loss of agricultural land and wetlands. Daly et al. (1994) then developed the Genuine Progress Indicator (GPI) in less than ten years, in 1995.

Following this, Lawn and Sanders developed the Sustainable Net Benefit Index (SNBI) in 1999. However, (Stapleton & Garrod, 2007) argue that these three measurements are far from ideal and may be misleading due to the fact that they use identical indices but have different names. Another single aggregated index, such as Index of Sustainable Economic Welfare (ISEW), is not widely used, despite the fact that it has garnered considerable academic attention and has been applied in the United States, the United Kingdom, and Scotland for several years (Mitchell, 1996).

The most widely accepted approach to measuring sustainable development is the development of 'green accounting' techniques, which include the assessment of ecological stocks and resources in the System of National Accounts. For instance, in Dave Owen's book *Green Reporting*, all indicators were based on actual results, such as parts per million airborne particles, literacy rates, infant mortality, soldier-to-teacher ratios, data on the poverty gap, and energy efficiency (J. Henderson, 1994). Mitchell (1996), on the other hand, argues that 'green'

GNP, like all economic-based measures, will never be an adequate proxy for sustainable development due to the difficulties inherent in valuing non-market goods and in addressing issues of social justice and equity.

In general, none of these existing aggregated indicators of sustainable development are likely to be adequate if used alone, as they are difficult to apply at regional and local levels due to uneven data availability. Additionally, these indicators are not user-friendly because they are difficult for the uninitiated to comprehend. While these single global indices may effectively communicate changes in sustainable development, they are unlikely to be useful in identifying the changes necessary to promote sustainable development at the local level. Thus, a more straightforward set of indicators is required to improve sustainability promotion. This collection of sustainable development indices should be used in conjunction with the aggregated index and is critical for promoting sustainable development on all levels.

Moffatt (2008) proposed a preliminary analysis of composite indicators of sustainable development in order to develop a standard set of sustainable development indices and to implement them on a larger scale. He analysed 13 composite indicators of sustainable development using Spearman's rank correlation data for the G7 countries in 2000. The indicators used in this study are slightly modified from those used in Moldan, Hák, Kovanda, Havránek, and Kušková (2005), which Moffatt (2008) expands by including two additional indicators.

Another measurement, the GGKP Report on Measuring Inclusive Green Growth (IGG) at the Country Level, does not confine itself to the SDGs, but rather focuses on Inclusive Green Growth and its dynamic interaction (Fay, 2012). In addition, the report by the Overseas Development Institutes (Nicolai, Hoy, Berliner, & Aedy, 2015) establishes a grading system for each of the SDGs by categorising them as reform, revolution, and reversal. SDGs at the reform level are more than halfway to being achieved by 2030, whereas objectives requiring multiples of present rates of advancement are classified as revolution.

Moffatt (2008) discovered that row data is restricted for a variety of reasons. To begin, data were collected over a period of time, but all in the year 2000. Second, the data set is limited to the world's richest seven countries: Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. Third, the various measures are not entirely self-contained, as

some components of a set, such as GDP, are also included in the previous HDI calculation. This will introduce redundancy into the development indicator, rendering it incapable of accurately describing the reality of nations' progress. In other words, identifying a set of sustainable development indices common to all localities and producing an accurate composite index of sustainable development that responds to global concerns about sustainable development is complicated.

Spaiser et al. (2017) develop a measurement of sustainable development based on two distinct SDGs indicators. These indicators presuppose the existence of a real latent variable for sustainable development composed of three components: child mortality, education, and CO2 emissions (representing the economic, social and environment pillar). It is noted that these two distinct models of sustainable development outperform the commonly used indexes, notably the HDI and GDP per capita. Additionally, Spaiser et al. (2017) quantify the SDGs' incompatibility and inconsistency. While these studies provide indices and thus the means to track sustainable development and the SDGs, they are constrained by significant data constraints. Additionally, they do not tell policymakers about which underlying economic, social, or environmental pillars have the greatest impact on sustainable development. This is crucial in light of the contradictions and trade-offs inherent in the SDGs' different components (Spaiser et al., 2017).

Since the early 1990s, numerous sustainability indicators have been created and adopted by policymakers. These span from traditional economic performance indicators such as gross domestic product (GDP) to indicators aimed at capturing sustainable development. While output indicators like as GDP, net domestic product, and real consumption per capita are extensively employed, they solely reflect the economic element of progress (Parris & Kates, 2003) and may be misleading due to their omission of natural resource overexploitation (Goodland & Ledec, 1987). This has resulted in the development of a slew of indicators that account for the depletion of environmental or natural capital, including the Green Net National Product (Hartwick, 1990; Weitzman, 1997), the Genuine Savings Index (Hamilton, 2000; Neumayer, 2001), the ecological footprint (D. Lin et al., 2016; Rees, 1992), and the Environmental Sustainability Index (Parris & Kates, 2003). An alternative set of indicators for sustainable development makes an attempt to quantify well-being. These include the Well-

being Index (Parris & Kates, 2003), the Gross National Happiness Index (Ura, Alkire, & Zangmo, 2012), and others.

Moreover, numerous individual and composite sustainability indicators are used to assess environmental, social, and economic dimensions of sustainability, including Well-Being, Ecological Well-Being index, Ecological Footprint, Direct Material Consumption index, CO2 Ecological Footprint (EFCO2), Environmental Sustainability Index, Geobiosphere Load (GBL), GDP, Human Development Index (HDI), Dashboard of Sustainability, Dashboard of Sustainability Environmental Sector (DSEnv), Happiness Indicator and Quality of Life (QoL).

These indexes, however, contain mistakes and biases that are significant for environmental data in general (Bali Swain & Yang-Wallentin, 2020). Additionally, assessments of social sustainability are prone to subjectivity in the selection of input factors (Custance & Hillier, 1998). According to (Parris & Kates, 2003), as a result of the ambiguity, inaccuracies, and biases inherent in the data collection and analysis of sustainable development indicators, there are no indicators that are widely acknowledged by policymakers. A further issue is the absence of a readily comparable and interpretable metric across countries and sectors (Böhringer & Jochem, 2007). Thus, the UNDP's Human Development Index (HDI), with its three core components of longevity, knowledge, and income, remains one of the most widely regarded indexes of social development (United Nations Development Programme 2010).

Sen's theory of development with its emphasis on freedom and capability approach expands the definition of development to encompass social and human capital (Sen, 1985, 1988a, 2009). Recent scholarship defines sustainable development as inclusive wealth or intergenerational well-being (Arrow, Dasgupta, Goulder, Mumford, & Oleson, 2013). Inclusive wealth is the stock of a society's capital assets (reproducible/productive capital, human capital, and natural capital), as well as its evolution over time, taking population growth and technological advancement into consideration. Unlike the Gross Domestic Product (GDP) per capita and the Human Development Index (HDI), empirical data indicates that the Inclusive Wealth Index can more accurately reflect sustainable development through increases in intergenerational well-being (P. Dasgupta, 2013, 2014). This measure, however, is severely constrained by the scarcity of cross-country time series data (Arrow et al., 2013; P. Dasgupta, 2013, 2014).

4.3.2 Measurement of Millennium Development Goals (MDGs)

It should be noted that only a few researchers were involved in the development of the MDGs measurement. Among others, Leo (2010), Leo and Barmerier (2010), and Leo and Thuotte (2011) propose a method for measuring MDGs progress by developing the MDGs Progress Index, which evaluates each country's ability to meet extremely ambitious MDGs targets. The MDGs Progress Index aims to provide a digestible but analytically robust indicator of how countries are progressing toward their lofty goals. The methodology was developed to address several critical issues, including (i) addressing annual compliance gaps for the majority of indicators; (ii) capturing both absolute and relative progress on MDG indicators; and (iii) reporting on the alleged unrealistic nature of certain MDGs. Essentially, the methodology compares a country's performance to the required achievement paths for each of the MDGs indicators examined. This trajectory is based on annualised linear growth rates for each MDGs indicator.

Leo (2010) and Leo and Barmerier (2010) calculate the MDGs progress index by comparing the situation in 1990 to the situation in 2008, the most recent data available, for only those countries eligible for International Development Association (IDA) assistance, which totals 76 countries. The Index is calculated by averaging country performance on eight key Millennium Development Goals (poverty, hunger, education, gender equality, child mortality, maternal mortality, HIV/AIDS prevalence, and access to safe drinking water). The study notes that East Asia and Latin America have the highest percentages of countries ranking first, at nearly 36 and 33 percent, respectively, while African countries indicate a weaker regional performance overall. Nonetheless, the presence of African countries indicates significant progress.

In addition, (Hailu & Tsukada, 2011) propose a methodology for assessing the MDGs' process-based achievements, focusing on countries' rate of progress. However, the remarkable innovation in this research is that the rate of progress is measured in terms of decision-makers' commitment rather than changes in the level of indicators. According to Hailu and Tsukada (2011), decision-makers' commitment may have been obscured or misinterpreted as a result of flaws in earlier measures. Additionally, it has frequently been argued that the MDGs were constructed in an unfair manner toward several least developed countries. According to Hailu and Tsukada (2011), global trends-based targets disproportionately disadvantage countries with historically weak indicators. To illustrate, ensuring that children complete a full cycle of

primary education is not always feasible. This objective may not be met in countries where initial enrolment rates were low, as opposed to those with high initial enrolment rates. As a result, it is necessary to evaluate countries' progress not just in terms of indicators' levels, but also in terms of their efforts to accelerate progress. The rate of progress method can then be used to evaluate countries using a unit of measurement that is not level dependent. Furthermore, by utilising the unbiased rate of progress method (URPM), this study's methodology eliminates two measurement biases: non-linearity and effort appreciation. Additionally, the research acknowledges that the rate of progress toward the MDGs indicators is not linear over time, as Osorio (2008) summarised. In the case of effort appraisal, the study applies Kakwani's (Kakwani, 1993a, 1993b) correction to account for the fact that MDG targets become more difficult to achieve when a country's benchmark value approaches the target value. After adjusting for the biases mentioned previously, Hailu and Tsukada (2011) discover that the best performers in terms of MDGs acceleration are found in Sub-Saharan Africa (SSA).

Additionally, Fukuda-Parr, Greenstein, and Stewart (2013) argue that MDGs should be used as benchmarks for progress toward important goals rather than as planning goals. As a result, when the MDGs are used to assess national performance, the criterion for success should be the rate of progress rather than goal attainment. The MDGs concept was then considered as a political tool, international monitoring of human development and poverty reduction, but also more broadly as an instrument of international politics. According to their methodology, countries' performance is evaluated by determining whether the pace of progress has accelerated since the 2000 commitments and whether it is sufficient in comparison to the benchmarks. An empirical examination of country-level trends conducted since 1990, with a comparison to the rate of progress prior to and following the millennium declaration. The analysis covers a total of 25 MDGs indicators and all countries for which sufficient data are available. Due to the fact that new policies take time to implement and take effect, the research used 2003 as a cut-off year to define two distinct periods. The critical difference between the methodology of Fukuda-Parr et al. (2013) and other researchers is that other researchers calculate only one rate, from the earliest possible year in 1990 to the most recent year, whereas Fukuda-Parr and Greenstein included an average year and calculated the rate change over two periods for comparison purposes. In a nutshell, the study notes that the majority of countries have seen an improvement in performance for only five of the 24 indicators examined: population living on less than \$1 per day of income, employment to population ratio, debt

service, slum population as a percentage of urban population, and seats held by women in national legislatures. More importantly, the research found no convincing evidence of post-MDG acceleration of poverty reduction in all countries.

Additionally, other researchers, such as Vandemoortele, Natali, and Geddes (2014), preferred to measure the MDGs solely on a scale basis, as policymakers place a premium on the size of development rather than the nature of change. Measuring and ranking countries on the basis of widespread positive change will encourage policymakers to prioritise large-scale and equitable progress. This study proposes a method for incorporating both scale and equity of progress into a single indicator. It builds on the work of Vandemoortele et al. (2014) in the adjustment of MDGs equity indicators. The setting encapsulates the magnitude and shape of a country's progress in a single indicator. As a result, this study extends the methodology by conducting a dynamic rather than static analysis of four health indicators' equitable progress. Due to the indicator's weighting of scale and equity, rather than ranking two countries on the basis of their average progress rates, it will also consider the nature of progress, ranking the country with the least inequitable progress higher than the country with the most equitable progress. Disaggregation is necessary for calculating equity-adjusted indicators, which are calculated using data from Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS). Given the limitations of the data, equitable progress is covered at a lower rate than standard average progress. The study demonstrates that by incorporating both the magnitude and shape of progress, new policy objectives emerge. The five critical areas discussed in this research are measuring equitable progress; comparing the progress made by standard MDGs indicators to the progress made by equity-adjusted indicators; assessing the equity component of progress in four MDG indicators; highlighting the advantages and disadvantages of implementing this approach; and suggesting several potential impacts on policy objectives.

4.3.3 Measurement of Sustainable Development Goals (SDGs)

The most widely used SDGs metric is the one offered in the SDG Dashboards report or SDGs Index, both of which are based on a study of J. Sachs, Schmidt-Traub, Kroll, Teksoz, and Durand-Delacre (2016) and Schmidt-Traub, Kroll, Teksoz, Durand-Delacre, and Sachs (2017a). This condition is likely triggered by the fact that the SDGs, unlike their predecessor,

have a more concentrated measurement and acknowledgment by researchers and institutions —albeit an unofficial one— toward the form of an index conducted by the Sustainable Development Solutions Network (SDSN) and the Bertelsmann Stiftung. The index hence frequently referred as the SDGs Index and Dashboard (J. Sachs et al., 2016; Schmidt-Traub et al., 2017a).

The SDGs Index identifies several indicators for each SDGs objective based on the most recent public data and it computes scores for the data across all indicators that relate to each of the SDGs using geometric and arithmetic averages. The developed methodology is capable of calculating a country score for each of the 17 goals. These scores are averaged to provide the country's overall SDG Index. According to this analysis, three Scandinavian nations (Sweden, Denmark, and Norway) have the highest SDG index since 2016, indicating that they are on track to meet the 2030 SDG targets (Sustainable Development Report, (2021).

The SDGs index and dashboards are analytical tools for assessing countries' baseline levels for the SDGs, which researchers can use to conduct multidisciplinary analyses requested by policymakers. The Index and Dashboards synthesise available country-level data for the 17 goals and estimate the extent to which each country is falling short of meeting the SDGs. The study demonstrates the index's analytical utility by comparing it to other widely used development indices and demonstrating how it explains cross-national differences in subjective well-being.

According to J. Sachs et al. (2016) and Schmidt-Traub et al. (2017a), the annual SDGs Index is a standardised, quantitative, transparent, and scalable composite measure of 149 countries' SDG baselines, with sufficient data to calculate all goals. It combines 63 global indicators with 14 additional indicators for OECD countries to create an overall assessment of the SDGs' baselines and ranks countries based on their starting points for the 17 SDGs. The SDGs' official indicators include only those countries for which data are available for at least 80% of the population and, prior 2020, the countries included only those have a population of more than one million. As a result, the indicators' gaps were filled using publicly available data from other sources.

In terms of the methodology for the SDGs index, the study of J. Sachs et al. (2016) and Schmidt-Traub et al. (2017a) identify technically sound quantitative indicators for each SDG

based on five statistical criteria for data selection, including global relevance and applicability to a diverse range of countries, statistical sufficiency, timeliness, data quality, and coverage (data needed to be available for at least 80 percent of the 149 member states with a higher population to 1 million). J. Sachs et al. (2016) and Schmidt-Traub et al. (2017a) suggested that the SDGs index is based on the most recent published data for a set of indicators for each of the 17 SDGs. Over 230 official SDGs indicators, proposed by the Inter-Agency and Expert Group on SDGs Indicators (IAEG-SDGs), were then normalised on a linear scale of 0 to 100 prior to ranking all countries.

Other studies elaborated on the relationship between the SDGs and other facets of development, such as health (Asma et al., 2020; Kuruvilla et al., 2018; Lozano et al., 2018). According to Lozano et al. (2018), efforts to establish a 2015 baseline and to monitor the SDGs' rapid implementation highlight both the enormous potential for and threats to health improvement by 2030. As a result, in order to achieve the SDG goal of 'leaving no one behind,' Lozano et al. (2018) suggested that it is becoming increasingly critical to consider health-related sustainable development goals beyond national estimates. In this study, progress on 41 of 52 health-related SDG indicators was assessed, and the estimation of a health-related SDG index for 195 countries and territories from 1990 to 2017, as well as forecasted indicators for 2030 and global analysis achievement. Lozano et al. (2018) notes that the average global health-related SDGs index was 59.4 in 2017, ranging from 11.6 to 84.9. Additionally, the values of the SDGs indices varied significantly across subnational countries, most notably in China and India, although scores in Japan and the United Kingdom were more consistent. In most countries, the health-related SDGs index is expected to be higher in 2030 than in 2017, but the probability of achievement by 2030 varies significantly across indicators.

4.3.4 Review of the Current Measurement

Numerous criteria are proposed for categorising existing development indices. As a result, the development indices were analysed in accordance with their objectives, orientations, and dimensions, as described in Table 4.1.

Table 4. 1 Review of development measurements

<i>Framework</i>	<i>Objective</i>	<i>Orientation</i>	<i>Dimension</i>
Human Development	Attaining self-actualization and meeting all basic needs (physiological, safety, love, and esteem), as well as developing and optimising human well-being (Maslow, 1943)	Individual	Based on four dimensions of the human being: physical (economic, health, and safety/security), emotional (esteem, love, and belonging), and spiritual-intellectual (education)
Social Development	Enhancing individual welfare and quality of life; transforming societies into more equitable and inclusive societies	Interactions between society's members	All facets of society, including health, education, liberty, and security, among others.
Sustainable Development	Addressing current economic, human, and social needs and promote overall development to ensure that future generations can meet their own.	Individual, social, and natural/ecological interactions. Priority should be given to sustainability in order to reap future benefits.	Multifaceted, encompassing economic, social, and environmental dimensions

Source: Author.

In comparison to social development, the human and sustainable development framework is based on a well-defined concept and definition (Horner, 2017, 2020a, 2020b; Horner & Hulme, 2019). Numerous researchers in this field have proposed numerous definitions of social development, but none has gained widespread acceptance. As a result, there is considerable disagreement about what social development actually entails in practical terms. Numerous activities undertaken by community workers, aid workers, policymakers, and other practitioners are categorised as social development, but there have been few attempts to articulate the framework's key concepts, ideas, theories, and practises that promote social development. As a result, social development continues to be a diverse and practical collection of activities motivated by good intentions rather than well-defined theoretical principles.

Horner (Horner, 2020b) also criticised the concept of human development framework as it is not an exception to be improved. The conceptual framework upon which human development is built must be precisely defined and exhaustively cover all facets of human well-being. This is to ensure that all associated indicators are included in a specific index, which will provide a

more detailed and accurate picture of a company's overall level of human development. As discussed by Horner (2020b), human well-being is composed of three distinct components: the physical being (body, material), the soul (spirituality, emotions), and the mind (intellectual). Thus, it is inaccurate to assess human development solely on the basis of its physical and mental dimensions, while ignoring its spiritual dimension. Additionally, it is incorrect to characterise a society's level of human development solely by its material aspect. Thus, human development categories should encompass physical well-being, material well-being, mental development, spiritual well-being, and social well-being.

Simultaneously, it is argued that Brundtland's definition of sustainable development is imprecise and ambiguous. Sustainable development is linked to a high standard of living, placing economic, environmental, and human relations at the forefront of concern. Numerous operationalization and measurement techniques for sustainability have been developed. Thus, Horner (2020b) Horner and Hulme (2019) suggested that rather than broadening the definition of sustainable development as suggested in the Brundtland Report, it is preferable to emphasise specifically sustainable development based on three major pillars, namely the economy, social development, and the environment.

4.3.5 Factors Associated with Sustainable Development

4.3.5.1 Overview

Economists have long sought to understand why some countries are poor, while others are wealthy; why some countries grow and develop while others stagnate. As research shifts away from Solow's theory of growth and toward endogenous growth, the enormous disparity in GDP per capita between numerous developing and developed countries remains unaccounted for. The theory of growth's explanations, such as the acceleration of technological progress, the increased rate of investment and saving, the improvement of education, skill levels, and infrastructure, leave the origins of these differences unanswered (Henderson, Storeygard, & Weil, 2012).

Macroeconomic theories have influenced the World Bank and IMF's policies for decades, as these institutions work to accelerate developing countries' economic growth and sustainable

development. Easterly (2001) recounts the storey of numerous failed ‘attempts at solutions.’ He explains this by not paying enough attention to the motivations of individuals. The literature and its eminent authors are currently attempting to explain the growth disparity between poor and rich countries by examining factors such as social infrastructure (i.e., R. E. Hall & Jones, 1999), religion (i.e., Barro & McCleary, 2003; Dollar & Gatti, 1999; McCleary & Barro, 2006), trust (i.e., Beugelsdijk, De Groot, & Van Schaik, 2004; Knack & Keefer, 1997), values (i.e., Guiso, Sapienza, & Zingales, 2006; Guiso, Sapienza, & Zingales, 2008), culture (i.e., Weil & Woodall, 2005) and many other aspects of social, economic, political and geographical factors.

Stiglitz, Sen, and Fitoussi (2009) elaborated on the fact that a diverse range of factors are associated with sustainable development because, according to them, it is necessary to consider a multidimensional definition of well-being when defining what well-being means. As a result, several factors across multiple dimensions must be considered, including material standard of living (income, consumption, and wealth), health, education, personal activities such as work, political voice and governance, connections and social relations, and environmental condition (current and future conditions), as well as the issue of economic and physical insecurity.

The following sub-section will discuss the relevant literature in order to elaborate on the factors and determinants of sustainable development.

4.3.5.2 Determinants of Sustainable Development

The literature on barriers to development suggests that some areas of constraints do exist within various dimensions. The determinants are now reviewed as follows.

Using good governance factors, Rajkumar and Swaroop (2008) examined the relationship between governance parameters and sustainable development, concluding that nations with effective governance had a beneficial effect on sustainable development. For example, corruption is regarded as a decisive element adversely affecting sustainable development. Moreover, Stojanović, Ateljević, and Stević (2016) examined the effect of good governance on specific indices of sustainable development at various levels of government, most notably socioeconomic development. Their findings demonstrate that good governance has a positive influence on sustainable development; their direction and magnitude are statistically significant, whereas inadequate governance has a negative effect. They did, however, report

extremely disparate outcomes among nations in terms of certain components of sustainable development (social, economic, and environmental).

Another study, Boyacioglu (2012), examined the relationship between health indicators and sustainable development in Turkey between 1980 and 2008, comparing it to other countries using variables such as GDP per capita and human development indicators (i.e., birth rate, life expectancy, infant/child mortality rate, and health measures). The conclusion reveals that by increasing Turkey's health expenditure, the death rate reduced, and life expectancy increased dramatically, which is also beneficial for sustainable development.

Boos and Holm-Müller (2013) conducted a cross-country investigation in order to ascertain the association between genuine savings¹ (a proxy for sustainable development) and resource curse². Boos and Müller-Holm conducted the analysis using similar regressions to those employed by J. Sachs and Warner (1997) This investigation was founded on prior research demonstrating a link between true savings and resource curse. They discovered that the factors that contribute to the resource curse are exogenous to genuine savings and serve as a drag on economic growth by affecting capital stock. Furthermore, Boos and Holm-Müller (2013) stated that a decline in genuine savings is indicative of the eroding stock of sustainable development and so serves as an economic warning for a country.

Bakirtas, Bayrak, and Cetin (2014) used dynamic panel data analysis to examine the relationship between environmental sustainability (as measured by carbon dioxide emissions) and economic growth (as measured by GDP per capita) for 34 OECD and 5 BRICS countries. They discovered that 36% of countries examined were consistent with the Environmental Kuznets Curve (EKC) hypothesis. They proposed that environmental implications on income increases be considered in the perspective of governments maximising economic growth. They discovered that the relationship between environmental sustainability and economic growth is

¹ Genuine saving adjusts System of National Accounts (SNA) savings by deducting the value of depletion of the underlying resource asset and pollution damages and includes current educational spending as an increase in saving, as this spending may be viewed as an investment in human capital rather than consumption, as in traditional national accounts (OECD, 2021).

² The resource curse, alternatively referred to as the paradox of plenty or the poverty paradox, is a phenomenon in which countries with an abundance of natural resources (such as fossil fuels and certain minerals) experience slower economic growth, less democracy, and poorer development outcomes than countries with fewer natural resources (B. Smith & Waldner, 2021).

negatively significant, with an increase in GDP resulting in an increase in per capita CO₂ emissions in the short run. However, in the long run, increasing GDP reduces per capita CO₂ emissions. Additionally, while an increase in GDP has a statistically insignificant influence on per capita CO₂ emissions in the short term for BRICS countries, the association is positive and statistically significant in the long run.

Phimphanthavong (2014) conducted a study to measure the determinants of sustainable development in Laos by employing regression analysis to examine various variables such as economic growth (GDP), poverty reduction, income inequality, and environmental performance (i.e., air pollution and deforestation) in order to calculate a sustainable development degree in that country. Phimphanthavong (2014) concluded that sustainable development is a synergy of economic growth, social development, and environmental protection, and that progress is achieved when economic growth is distributed to all citizens through poverty reduction strategies that aim to reduce social inequality while also maintaining a suitable environment.

Mokhtar and Deng (2015) examined the political, economic, social, and technological determinants of sustainable development in Taiwan through an analysis of 11 reports published by the Taiwan National Council of Sustainable Development between 2003 and 2013. They discovered that key factors in the political, economic, social, and technological environments all have an effect on sustainable development in Taiwan. Additionally, they advised that major stakeholder groups from the central government, local governments, corporate sector, non-governmental organisations, and civil society be involved in order for Taiwan to achieve sustainable development.

Pardi, Salleh, and Nawi (2015) used the Adjusted Net Saving (ANS) rate as a proxy for sustainable development in Malaysia to conduct an econometric analysis of the determinants of sustainable development. They used a vector error correction model (VECM) to examine numerous factors, including inflation rate, financial development, GDP per capita, and minerals export share. They discovered that in the short run, all variables except minerals export share have a significant effect on sustainable development, whereas in the long run, all variables except minerals export share have a significant effect on sustainable development. The study also advocates for strong macroeconomic policies to accelerate progress toward

sustainable development and demonstrates how sustainable development may be empirically assessed.

There is a dearth of empirical research on the determinants of sustainable development. Kaimuri and Kosimbei (2017) use annual data from 1991 to 2014 to examine the factors of sustainable development in Kenya. They discover that while household consumption per capita, unemployment, and energy efficiency all have a detrimental influence on sustainable development, whereas resource productivity, GDP per capita, and terms of trade have no discernible effect.

Kurniawan and Managi (2018) conducted a study in which they used an inclusive wealth framework as a proxy for sustainable development. This study was earlier completed for global sustainability measurement by UNU-IHDP and UNEP (2014). According to Kurniawan and Managi (2018), human capital (health, education, and economic factors) was revealed to be the most significant contributor to inclusive wealth between 1990 and 2014. They discovered that inclusive wealth increases globally as socioeconomic conditions improve, particularly economic growth (per-capita GDP) and education (educational attainment). On the other hand, low to moderate economic growth, insufficient educational investment, and moderate to rapid population increase all predict declining trends in inclusive wealth per capita. Several developed countries, including the United States, Canada, Norway, and Australia, have a mean schooling age of 12–14 years (Barro & Lee, 2013). In 2010, most African and South Asian countries, on the other hand, had only reached elementary school level of education. As a result, the potential for increasing human capital through more education expenditure is considerable.

Chikalipah and Makina (2019) examined the dynamic relationship between economic growth and human development in Nigeria between 1961 and 2015, demonstrating that economic growth and human development are inextricably linked. As social welfare theory suggests, increasing a society's human capital level makes it more sustainable in terms of development.

Ullah, Pinglu, Ullah, and Hashmi (2021) examine the relationship between regional integration, socioeconomic determinants, and sustainable development by examining the effect of health, human capital, and age structure on sustainable development over the period 2003–2018, using regional integration of 64 Belt and Road (BRI) countries as a moderating variable. According to their analysis, socioeconomic variables have a significant role in sustainable

development, as seen by the positive association between human development indicators (i.e., health, education, and economic), age structure, governance index, and population size. On the other hand, various indicators of governance (i.e., e-government and government size) and globalisation of the country showed negative effects on sustainable development. Apart from that, the moderating effect of regional integration, as measured by human development indicators and health expenditure, had a significant and beneficial effect on sustainable development.

4.3.5.3 Islamic Finance as a Determinant of Sustainable Development

Most narrative studies examine the role of Islamic finance in development or sustainable development by delving into the fundamentals of the Islamic development framework. Chapra (Chapra, 1979, 1992) argued that in order to obtain a comprehensive picture of the relationship between Islamic finance and development, additional variables such as socioeconomic factors (i.e., social interest, morally oriented behaviour, Zakat), the state's role (i.e., moral obligations, Islamic values, business ethics), physical capital (i.e., infrastructure), social capital (i.e., the degree to which an individual is literate and educated), social security (i.e., assisting the unemployed, the needy, the orphans, the widows, the aged, the disabled, and so on).

Similarly, Askari et al. (2014) proposed a narrative study of development from an Islamic perspective, arguing that Islamic economic and development in Islam are founded on a set of rules that serve as the framework for Islamic economics and finance, and thus for broader human and economic development. Askari et al. (2014) discussed the potential of Islamic finance by elaborating its diverse sectors, which include Islamic social finance, asset-linked sukuk, capital markets (i.e., stock markets), Islamic banking system, and risk sharing (i.e., methods and instruments of risk sharing, such as equity participation, venture capital, and direct foreign investment).

Empirical studies on the impact of Islamic finance —as an integrated and comprehensive measurement— on the sustainable development in OIC member countries is not well explored. Rather than that, the majority of the literature focuses on the role of Islamic finance in achieving sustainable development through qualitative and narrative studies. Furthermore, the majority of existing literature examines the relationship between sustainable development —or simply

'development' in general— and Islamic finance by focusing exclusively on specific sectors of Islamic finance, such as Islamic banking (i.e., Ghoniyah & Hartono, 2020; Pratiwi, 2016), Islamic bonds or sukuk (i.e., AlMadani et al., 2020; Alotaibi & Hussainey, 2016), Islamic microfinance (i.e., Ayu, Rifa'i, & Listiono, 2019), Islamic social finance and fund through *zakat*, *waqf*, and *sadaqah* (i.e., Abdullah, 2018; Kamaruddin & Hanefah, 2021; Foyasal Khan & Hassan, 2019; Yalawae, Tahir, UDM, & Campus, 2003). As a result, a comprehensive picture of integrated Islamic finance development as a whole is extremely limited, particularly in terms of its relationship with sustainable development.

Ghoniyah and Hartono (2020) conducted a comparative analysis of the role of Islamic and conventional banks in Indonesia's pursuit of sustainable development. They used profitability and financing as explanatory variables, using data from 2011 to 2018 and a variety of indicators of sustainable development published by Indonesia's Central Bureau of Statistics. Ghoniyah and Hartono (2020) discovered that excessive profit demands by banks can slow economic growth, thereby impairing the country's sustainable development, although Islamic banks have a less destructive impact than conventional banks. Additionally, the bank may contribute to sustainable development through credit or financing, as long as the financing is of sufficient quality and aligns with the bank's objectives. Islamic banking provides financing through the principle of trading and profit sharing, with the funds being distributed to the real sector. While conventional banks charge interest on credit and invest their funds in the financial sector, money market, and foreign exchange, Islamic banks do not.

AlMadani et al. (2020) provide a qualitative study of a theoretical model explaining how Sukuk can help achieve sustainable development within the context of *Maqasid al-Shari'ah* through an examination of the role of Sukuk in the circulation, development, and preservation of wealth in order to achieve social justice. They analyse the Sukuk's Principal Terms and Conditions, Information Memorandum, and IDB's annual reports from 2007 to 2017 in order to explain the Sukuk's structures and features and determine their compliance with the developed model. The findings indicate that the Medium-Term Note (MTN) Sukuk programme benefits the elements of *hifdz al-mal* (wealth protection), demonstrating a direct correlation between wealth transfer between parties and compliance with *Maqasid al-Shari'ah*. This means that Sukuk investments benefit individuals, institutions, societies, and the country as a whole, thereby promoting human well-being and sustainable development.

In a narrative study, (H. Ahmed et al., 2015) suggested that, theoretically, Islamic finance could contribute to sustainable development by incorporating broader goals of Islamic law into its operations. Given Islamic finance's principles, which promote social inclusion and development, the Islamic financial sector through its financial institutions, capital markets, and social sector, has the potential to promote resilience, increase social sustainability (financial inclusion and vulnerability reduction), achieve environmental and social goals, and facilitate sustainable infrastructure development.

In terms of Islamic finance's resilience, M. Hasan and Dridi (2010) demonstrate that in the years immediately following the crisis, Islamic banks outperformed conventional banks in terms of credit and asset growth. As a result, rating agencies viewed Islamic banks more favourably in the post-crisis era. T. Beck et al. (2013) discover that between 1995 and 2007, Islamic banks had higher capitalization and liquidity reserves than conventional banks, implying greater stability.

Regarding the financial inclusion, it is noted that Islamic finance may contribute via its microfinance institutions, as H. Ahmed (2004) demonstrates that Islamic banks are predisposed to providing microfinance. Using the Rural Development Scheme of Islami Bank Bangladesh's microfinance programme as an example, he argues that Islamic banks can provide microfinance more efficiently than many existing microfinance institutions due to the fact that banks already have the trained personnel and basic necessary to expand their microfinance operations. Additionally, because banks can provide microfinance through their existing infrastructure and branch network, they can serve a large number of clients at a lower cost than other microfinance institutions. To accelerate financial inclusion through Islamic finance, H. Ahmed (2004) also proposed that zakat and waqf could be integrated into the financial sector. Given the charitable nature of zakat and waqf, they suggest that these instruments can help alleviate some of the tensions associated with the trade-off between outreach and sustainability.

Additionally, *zakat* and *waqf* can serve as sources of subsidy for financial services provided to the core poor (H. Ahmed, 2002, 2011; Kahf, 2004). Charitable funds, in particular, can provide support and subsidies to non-profit organisations and commercial enterprises seeking to expand their outreach to the poor. Numerous proposals have been made to establish *waqf*-based microfinance institutions. Cizakca (2004) proposes a model in which cash waqf is used to provide poor people with microfinance. El-Gari (2004), likewise, proposes the establishment of a nonprofit

financial intermediary that would provide poor people with interest-free loans (*qard hassan*) in which the bank's capital would be raised through donations of monetary (cash) *waqf* from wealthy Muslims. H. Ahmed (2011) and Kahf (2004) propose a model for an Islamic microfinance institution based on *waqf* that serves the poor and is capitalised through cash *waqf*.

Within the context of sustainable development, it is suggested that Islamic finance could also play a role in mitigating vulnerability and risk via the financial or social sectors. Islamic finance could be used in the financial sector to provide risk-mitigating services such as insurance to various segments of the population, including the poor. Due to *Shari'ah*'s prohibition on selling unbundled risk, risk mitigation from an Islamic perspective emphasises risk sharing rather than risk transfer mechanisms (Siddiqi, 2009b). Due to the fact that conventional insurance is deemed to be non-compliant with *Shari'ah*, various models of mutual guarantee (*takaful*) are developed as *Shari'ah*-compliant insurance schemes. *Takaful* is built on the principles of charitable giving (*tabarru'*) and cooperation or mutual assistance (*ta'awun*). The *takaful*'s central organisational feature is mutual insurance, in which the policyholder assumes ownership and risk bearing, while a *takaful* operator performs the managerial function.

In terms of social finance, H. Ahmed et al. (2015) suggested that *zakat* and *waqf* can be used to strengthen the poor's vulnerability and resilience. While *zakat* and *waqf* have historically served as safety nets, their application can be expanded to protect those who are not poor but are at risk of becoming poor due to adverse shocks. One strategy is to provide interest-free loans to the vulnerable (*qard hassan*). According to Kahf (2004), the Sudanese *Diwan al Zakat* began lending to farmers at the start of the agricultural season to enable them to purchase necessary inputs; the loans are repaid following the harvest. This policy, as reported by Kahf (2004), increased farm productivity and *zakat* collection from farmers, which now accounts for more than 70 percent of loans. *Zakat* can be used to relieve poor people of debt in the event of negative shocks. Another effective strategy for mitigating vulnerability is to use *zakat* and *waqf* funds to pay monthly *takaful* contributions to hedge against certain defined risks. This scheme has the potential to increase *takaful* service penetration among the poor.

With its emphasis on the real economy and preference for risk-sharing financing and social investments, the infrastructure sector also represents an ideal business opportunity for Islamic finance. Additionally, financing infrastructure projects would conform to Islamic finance ideology, as they benefit the entire community (N. D. Miller & Morris, 2008).

4.4 Measurement of Corporate Sustainability Disclosure Practices

Numerous methodological frameworks have been developed to make corporate sustainability more understandable, functional, and quantifiable (Antolín-López, Delgado-Ceballos, & Montiel, 2016). The diversity of frameworks for measuring corporate sustainability practices is largely due to the multiplicity of corporate sustainability definitions (e.g., environmental sustainability, corporate citizenship, eco-efficiency, and triple-bottom-line) as they evolved from the broader concept of sustainability as defined by the Brundtland reports, the United Nation's Conference on the Environment and Development, and the United States' Environmental Protection Agency. As a result, some frameworks focus exclusively on one aspect of corporate sustainability. For instance, environmental-based corporate sustainability frameworks that place a premium on environmental considerations by recommending indicators to quantify air emissions, global warming impact, land use, and biodiversity loss (Delmas & Blass, 2010; Veleva, Hart, Greiner, & Crumbley, 2003). Social frameworks place a premium on social and ethical aspects of corporate sustainability, such as equity, health, education, and human rights (Hutchins & Sutherland, 2008; Wood, 2010), whereas economic frameworks place a premium on business, with firms pursuing profit maximisation through environmental and social strategies (Schaltegger, Lüdeke-Freund, & Hansen, 2012). Similarly, some frameworks assess multiple dimensions of sustainability (e.g., eco-efficiency performance and triple bottom line frameworks) through the use of instrumental models, indicators, and statistical correlations (Gómez-Bezares, Przychodzen, & Przychodzen, 2017; Moneva & Ortas, 2010; Moneva, Rivera-Lirio, & Muñoz-Torres, 2007).

4.4.1 Perspectives on the Measurement of Corporate Sustainability Disclosure Practices

4.4.1.1 Single- and Multiple-based Indicators Perspective

Regardless of the number of sustainability aspects assessed, two distinct methodological frameworks are possible: single- and multiple-based indicators.

4.4.1.1.1 Single-Based Indicator

The single-based indicator category includes frameworks that emphasise individual indicator (i.e., social, economic, environmental aspects) and have been criticised for their lack of standardisation techniques (Olsthoorn, Tyteca, Wehrmeyer, & Wagner, 2001), the measurement that unable to accommodate diverse definitions of corporate sustainability and each aspect of sustainability (Delai & Takahashi, 2011), the measurement that resulted mixed output and process indicators (Delai & Takahashi, 2011), the measurement limited to a particular firm or sector (Rahdari & Rostamy, 2015), the dearth of well-defined indicators (Rahdari & Rostamy, 2015), and the absence of measurement leading and deficient indicators of sustainability (Figge, Hahn, Schaltegger, & Wagner, 2002).

4.4.1.1.2 Multiple-based indicators

By contrast, multiple-based indicators refer to composite corporate sustainability indices that incorporate a variety of environmental, economic, and social indices. Despite their benefits, composite indices are considered subjective because they employ unsystematic and ambiguous methods for including or excluding single indicators (Singh, Murty, Gupta, & Dikshit, 2007). In addition, it is also attributed to the subjectivity of the fuzzy techniques used to convert measurement results to common and normalisation units (Shwartz, Burgess, & Berlowitz, 2009). Additional disadvantages of composite indexes include measurement complexity and the aggregation problem (Sridhar & Jones, 2013), which results in a higher overall score for a corporate sustainability index while performance in one of the three fundamental aspects of sustainability deteriorates (Salvati & Zitti, 2009). Other issues arise when weight factors are assigned to individual indicators in order to integrate them into the final composite index.

A further disadvantage of composite indexes is their interchangeability with other sustainability perspectives, which allows firms to substitute amounts of one type of capital (economic capital) for the other two (environmental or human capital). The substitutability of three types of capital is critical in classifying firms into two broad categories: (a) those with a low contribution to sustainability and (b) those with a high contribution to sustainability. More precisely, the claim of insufficient sustainability is based on the premise that firms do not impose any constraints on the substitutability of the three types of capital.

4.4.1.2 Corporate Weak and Strong Sustainability Perspective

A significant portion of the literature discusses the concept of insufficient corporate sustainability, including various definitions, theories, and methodologies. For example, the stakeholder theory argues that firms should align their sustainability management priorities with the needs of stakeholders, rather than adjusting their sustainability goals to the necessary requirements and allocations of three types of capital to remain sustainable (Hörisch, Freeman, & Schaltegger, 2014; Steurer, Langer, Konrad, & Martinuzzi, 2005).

Additionally, an examination of institutional theory indicates that firms pursue sustainability strategies in order to emulate (*isomorphism*) pioneering firms in their sector and legitimise their operations without achieving the true objectives of strong sustainability (Bansal, 2005; Gauthier, 2013). This behaviour is also evident in natural resource- and knowledge-based theories, as corporate sustainability strategies generate valuable and scarce resources and capabilities that are difficult to replicate (Hart, 1995; Nikolaou, 2019). On the other hand, it is clear that theories advocate for loose trade-offs between three forms of capital (economic, environmental, and social) in order to ensure that sustainability strategies benefit firms (Amer, De Porres, & Bonardi, 2017; T. Hahn, Figge, Pinkse, & Preuss, 2010).

In the context of weak sustainability (Åhlström, Macquet, & Richter, 2009; S. B. Banerjee, 2003), there are numerous studies that quantify corporate triple-bottom-line performance (Azapagic, 2004; Isaksson & Steimle, 2009; Milne & Gray, 2013) and eco-efficiency performance in the context of weak sustainability (Burritt & Saka, 2006; Munisamy & Arabi, 2015).

Apart from the methodological frameworks for corporate weak sustainability, a brief discussion of corporate strong sustainability was held, and some conceptual models were developed to aid in the integration of the concepts of capital substitutability, rebound effect, and strong sustainability (Landrum, 2018; Roome, 2012). Epstein and Roy (2001) argue that sustainability provides an excellent opportunity for businesses to align their daily operations with regulations, as adhering to their limits and requirements establishes necessary conditions for achieving strong sustainability goals. According to Stubbs and Cocklin (2008), a sustainable organisation must acknowledge the natural environment as a critical stakeholder whose needs must be fully met.

Several critical strategies include the use of renewable resources and pollution-reducing technologies. Additionally, sustainable organisations should prioritise reducing raw material consumption. According to Stead and Stead (2000), businesses should be inspired by a new environmental paradigm and adjust their attitude toward the larger ecological system, shifting away from conventional management practises and toward green ones.

In accounting perspective, corporate strong sustainability is defined as a business's ability to maintain the natural environment in a state similar to that of previous years (Gray & Bebbington, 1994). Additionally, McElroy and Thomas (2015) developed a framework for assessing a firm's strong sustainability on an annual basis using a triple-bottom-line approach.

According to capital theory, corporate sustainability requires constant combinations of economic, natural, and human capital (Dyllick and Hoeckerts, 2002). Governments and society should support businesses' efforts to contribute to sustainable development, as they are critical components of the overall sustainability solution and the redesign of the consumption partner (Málovics et al., 2008).

Landrum (2018) discusses the likelihood of firms adopting appropriate practises to adapt their daily operations to physical constraints and natural ecological boundaries in order to achieve strong sustainable principles. Additionally, Landrum (2018) recommends that businesses shift their focus from short-term profitability goals (quarterly and annual) to long-term financial goals (i.e., 5- or 10-years forecasts). Similarly, Upward and Jones (2016) construct a framework for highly sustainable business models based on propositions identified through literature reviews. They propose a single tri-profit profits metric for measuring strong sustainable business economic dimensions, which could include the net sum of the costs (harms) and revenues (benefits) from business activities in environmental, social, and economic contexts. One significant shortcoming of these approaches is their normative nature, which is limited to broad statements about what should be made at the theoretical level.

4.4.1.3 Triple Bottom Line Perspective

According to K. Miller (2020), the triple bottom line is a business concept that advocates for businesses to commit to measuring their social and environmental impact in addition to their financial performance, rather than focusing exclusively on profit generation. It can also be

summarised as the ‘three Ps’: profit, people, and planet. There are a limited number of comprehensive frameworks for evaluating a firm’s triple-bottom-line performance based on a strong sustainable idea. The majority of current frameworks are based on imprecise sustainability metrics, as there are no suggested specific benchmarks against which to compare firms’ sustainability practices. Although these efforts have been analysed and discussed, empirical evidence and research are required. Several recent empirical studies concentrate on the consumer side (Nikolaou & Tsalis, 2018).

Similarly, environmental and engineering scientists place a premium on calculating carrying capacity and allocation among firms in order to ascertain firms’ environmental stewardship (Doka, 2015; Ryberg et al., 2018). They propose planetary boundaries, as proposed by Rockström et al. (2009), in order to determine global, national, regional, and business carrying capacities. The further step is to allocate carrying capacity to each firm using various principles and techniques, including the grandfathering principle (Knight, 2014), Gross Value Added (Randers, 2012), and societal cost minimization (Krabbe et al., 2015).

Corporate sustainability management, environmental management, and engineering management are all extremely beneficial and could play a critical role in developing a methodological framework for evaluating strong corporate sustainability using a compensation-based logic. Corporate sustainability management has largely been limited to theoretical conceptual models, while the environmental and engineering fields have been limited to the environmental dimension under a compliance-based logic that cannot offer real-world incentives to firms or a clear signal to consumers on how to select the best performing firms.

4.4.2 Studies on the Measurement of Corporate Sustainability Disclosure Practices

Numerous studies employed various methods to analyse the substance of business sustainability practices either using corporate disclosures as a basis of index construction (i.e., Nikolaou, Tsalis, & Evangelinos, 2019; Platonova, Asutay, Dixon, & Mohammad, 2018) and scoring system (Jan, Marimuthu, Hassan, et al., 2019; Jan, Marimuthu, & Mohd, 2019) or ESG

(environmental, social and governance) score-based measurement (i.e., Friede, Busch, & Bassen, 2015; Taliento, Favino, & Netti, 2019).

Among others, Nikolaou et al. (2019) develop a framework for assessing corporate sustainability disclosure practices by developing a composite sustainability index based on two core concepts: (a) the triple-bottom-line approach and (b) the principles of strong sustainability. More precisely, the proposed index integrates the economic, environmental, and social dimensions of sustainability into a logic composite index of corporate sustainability measurement, thereby addressing several fundamental principles of strong sustainability. This implies that thresholds may be linked to concepts such as carrying capacity, safe minimum standards, and critical capital. The proposed methodology is based on a multi-step measurement framework, which is a common approach in the field of corporate sustainability, to clearly define tasks that enable scholars to advance their understanding of the problem's multiple facets by following Nikolaou and Kazantzidis (2016) and O. Weber, Koellner, Habegger, Steffensen, and Ohnemus (2008). Initially, a multi-step methodology defines the research structure's fundamental tasks and then analyses each of these tasks in detail. This methodology gathers data from pertinent literature in order to develop the primary research objectives.

A computational example has been developed to demonstrate the proposed index's practical implications.

$$SCS_{I_{i,t}} = \sum_{i=1}^n wiECO_{I_{i,t}normal} + \sum_{i=1}^n wiENV_{I_{i,t}normal} + \sum_{i=1}^n wiSOC_{I_{i,t}normal} \quad (\text{Eq. 4. 1})$$

The Strong Corporate Sustainability Index (SCS_I) is based on three indicators: economic (i.e., net profit, return on equity, and sales), environmental (i.e., energy, water, and emissions), and social (i.e., employment, health, education). When firms achieve a positive score, it indicates that they contribute to strong sustainability, whereas when they achieve a negative score, it indicates that they contribute to weak sustainability. The composite index, in particular, has a value range between -1 and 1. When the score is between -1 and 0, it indicates that firms contribute to a lack of sustainability, whereas when the score is greater than or equal to 0, firms contribute to a high level of sustainability. The rationale for such benchmarking (including the suggest index) is to aid in comparing the performance of various firms and sectors and to inform stakeholders about firms' sustainability practices.

In measuring sustainability practices of Islamic banks, Jan, Marimuthu, Hassan, et al. (2019) used a weighted content analysis method to collect sustainability data from the annual reports of 16 Islamic banks in Malaysia over the decade (2008–2017). They measured sustainability on four dimensions: General Standards Sustainability, Economic Sustainability, Environmental Sustainability, and Social Sustainability.

For the General Standards Sustainability, the methodology is based on the Global Reporting Initiative (GRI) variables designed specifically for the banking sector, which include a total of seven items (i.e., strategy and analysis, organisation profile, governance). The economic dimension of sustainability is concerned with the organisation’s impact on the economic circumstances of its stakeholders, and economic systems at the local, national, and global levels are used to measure this dimension, with a total of ten items (i.e., economic performance, zakat payment, *Shari’ah* screening). The environmental dimension of sustainability examines an organisation’s impact on living and non-living natural systems, such as land, air, water, and ecosystems. This dimension is quantified using a total of 12 items (i.e., biodiversity, energy reduction, emissions). Social sustainability is concerned with the organisation’s impact on the social systems in which it operates. This dimension is quantified using a total of 36 items (i.e., employment, diversity and equal opportunity, local communities).

For scoring purposes, a weighted content analysis method was used in conjunction with dummy codes 0–2 for the decade 2008–2017, where ‘0’ denotes no reporting, ‘1’ denotes partial reporting, and ‘2’ denotes complete reporting about an item. To calculate the overall score, multiply each variable by the sum of the total disclosures per section divided by the total disclosures possible per section. Later, for sampled banks, the ten-year mean average of all seven items from this dimension was calculated to create a general standard for sustainability disclosures.

Total Sustainability Score (Formative Variable) is calculated by adding the ten-year mean values of the above variables (General Standards Sustainability, Economic Sustainability, Environmental Sustainability, and Social Sustainability), and the total sustainability score is then used for empirical testing. Following Amran et al. (2017), Jan et al. (2019) use the following formula to calculate sustainability scores:

$$Total\ sustainability\ score = \sum \frac{dj}{N} \quad (Eq. 4. 2)$$

where N denotes the total number of disclosures and d_j denotes the number of speeches delivered by banks.

In measuring sustainability practices of Islamic banks, Mergaliyev, Asutay, Avdukic, and Karbhari (2021) use the term ‘ethical, social, environmental and financial performance’ and use the *Maqasid al-Shari’ah* theoretical framework. For the period 2008–2016, a sample of 33 fully fledged Islamic banks from 12 countries is included. To determine whether an Islamic bank complies with the *Maqasid al-Shari’ah*, Mergaliyev et al. (2021) conduct a content analysis of annual reports of Islamic banks in order to generate disclosure-related data and identify the ethical performance of the sampled Islamic banks through the use of *Maqasid* corollaries. Additionally, the *Maqasid al-Shari’ah* index was developed and used as a benchmark with a quantification method for the majority of indicators are scored using a ‘dichotomous approach’: a score of ‘1’ is assigned if the indicator appears in the annual report, and a score of ‘0’ is assigned if it does not, Belal, Abdelsalam, and Nizamee (2015)’s methodology. To assess Islamic banks’ overall *Maqasid* performance and their individual performance in each primary objective, a *Maqasid al-Shari’ah* index with sub-indices in each corollary is constructed based on an un-weighted approach. Mergaliyev et al. (2021) also examine several determinants (i.e., human development, political and socioeconomic environment, ownership structure, and *Shari’ah* governance) during the empirical analysis stage to determine the relationship between these key variables and the *Maqasid al-Shari’ah* index of Islamic banks. Mergaliyev et al. (2021) discovered that the Muslim population, CEO duality, *Shari’ah* governance, and leverage variables all have a positive effect on *Maqasid* performance disclosure. The effect of GDP, financial development, human development index, political and civil rights, institutional ownership, and a higher share of independent directors, on the other hand, are generally negative.

Furthermore, it is noted that many studies referring to CSR (corporate social responsibility) activities when discussing the term ‘sustainability practices’. That is because CSR, according to Waddock and Graves (1997), a multidimensional concept, encompassing behaviours spanning a broad range of inputs (i.e., investments in pollution control equipment or other environmental strategies), internal behaviours or processes (i.e., treatment of women and minorities, nature of products produced, customer relationships), and outputs (i.e., community relations with the community and philanthropic programmes). As a result, assessing CSR

disclosure must by definition take this multidimensionality into account. In the case of Islamic banking, additional dimensions of CSR performance must be considered due to the peculiarities imposed by Islamic ethics and the legal framework.

The first studies that examined the relationship between corporate social performance and financial performance focused exclusively on a single dimension of corporate social performance, creating measurement difficulties (Griffin & Mahon, 1997). As a result, numerous researchers have emphasised the importance of developing a multidimensional concept for measuring corporate social performance (Griffin & Mahon, 1997; Roman, Hayibor, & Agle, 1999). However, as Simpson and Kohers (2002) noted in their study, the measurement of corporate social performance remains an open question.

Orlitzky, Schmidt, and Rynes (2003) classified their corporate social performance measurement strategy into four broad categories for disclosures: (i) reputation indicators; (ii) social audit; (iii) corporate social performance processes and observable outcomes; and (iii) managerial corporate social performance principles and values.

Further, Pelozo (2009) classified corporate social performance measures into three broad categories: (i) environmental; (ii) social; and (iii) broad or a combination of both, social and environmental aspects. More recently, Perrini, Russo, Tencati, and Vurro (2011) explored the most prominent research on the relationship between corporate social performance and financial performance conducted by many scholars by a classification into four categories: (i) the utilisation of pollution indicators, which primarily employ a single dimension measure (Bowman & Haire, 1975; Bragdon & Marlin, 1972); (ii) implementing environmental policies (Christmann, 2000); (iii) making use of corporate reputation, which primarily employ a multidimensional measure (Alexander & Buchholz, 1978; Cochran & Wood, 1984); (iv) utilising third-party social and environmental assessments, such as the KLD Research and Analytics database developed by the firm Kinder, Lydenberg, and Domini (KLD), which aims to assess corporate social performance across a range of dimensions related to stakeholders' interests (McWilliams & Siegel, 2000; Waddock & Graves, 1997).

Platonova et al. (2018) developed the CSR disclosure index as a proxy for the GCC Islamic banking industry's corporate social performance. The index was developed through content analysis of the annual reports of the sampled Islamic banks. The index is a multidimensional

construct that has been reduced to a single metric that reflects the banks' CSR activities using an Islamic financial principles-based benchmark. Platonova et al. (2018) constructed the index by analysing the Islamic banks' CSR disclosure across six dimensions: mission and vision statement; products and services; commitment to employees; commitment to debtors; commitment to society; *zakah*, charity, and benevolent funding. However, the environmental dimension is omitted, as Platonova et al. (2018) suggested that environmental information was not disclosed in any of the GCC Islamic banks' annual reports in the sample.

Additionally, the annual reports of Islamic banks operating in the GCC countries were analysed for statements characterising each of the CSR dimensions and sub-dimensions. This research used a dichotomous approach in the analysis, similar to Cooke (1989), Mohammad Hossain, Perera, and Rahman (1995), and Haniffa and Hudaib (2007), in order to construct a scoring scheme to assess the extent of CSR disclosure in annual reports. For scoring system, Platonova et al. (2018) determined that if an Islamic bank in the sample reported an item included in the CSR disclosure index, it received a score of '1'; otherwise, it received a score of '0'. When these scores are added together, they equal the entire amount of CSR disclosure made by Islamic banks. Platonova et al. (2018) proposed that the CSR disclosure index be constructed using a dichotomous approach that is unweighted and assumes that each item of disclosure is equally meaningful, in line with Cooke's analysis (1989). Additionally, for the sake of calculating the index, CSR disclosure is computed as the ratio of points awarded to the total number of selected dimensions. To construct the index, Platonova et al. (2018) follows the study of Haniffa and Hudaib (2007), where CSR disclosure is expressed as a ratio of points granted to the total number of selected dimensions:

$$CSR\ disclosure\ index = \frac{\sum_{i=1}^n x_{ijt}}{N} \quad (Eq. 4. 3)$$

where CSR disclosure index ijt denotes the CSR disclosure index for dimension j and period t ; x_{ijt} is variable X (1, ... n) for dimension j and time t ; N is the number of variables/statements.

Numerous studies have criticised the use of CSR disclosure as a proxy for corporate social performance, arguing that it has several limitations and that any measurement based on CSR disclosure, like any other of social reality, can be questioned for its objectivity (Font, Walmsley, Cogotti, McCombes, & Häusler, 2012). Thus, the individual measures developed

and employed are a reflection of the individual values through which CSR is perceived and CSR practise is imposed on corporations. Additionally, a problem is that financial organisations may choose to misinform users of annual reports in order to improve their public image. Thus, yearly reports may contain information that differs from actual corporate actions (Turker, 2009). If this is the case, public annual reports may not accurately portray financial organisations; hence, any index built using such information will be subject to controversy (Font et al., 2012).

4.4.3 Factors Associated with Corporate Sustainability Disclosure Practices

4.4.3.1 Overview

Although extensive research has been conducted to elucidate the motivations for corporate sustainability disclosure practices, related studies have typically concentrated on the determinants of corporate sustainability disclosure practices in Western countries or specific Asian countries. W. Ali, Frynas, and Mahmood (2017) discovered that single-country studies dominate the determinants of corporate sustainability reporting in developing countries, including Malaysia (i.e., Baba, 2017; Haniffa & Cooke, 2005), China (i.e., Mohammed Hossain & Reaz, 2007), India (i.e., Joshi, 2018), China (i.e., Wang, Song, & Yao, 2013), and the United Arab Emirates (i.e., Menassa & Dagher, 2019). Additionally, previous research has focused on either social disclosure through an examination of corporate social responsibility (CSR) practices or on environmental performance of financial institutions. However, there is a dearth of research on sustainability practices that focuses on the three pillars of sustainability (social, economic, and environmental) at the firm level, particularly in relation to financial institutions in OIC member countries.

4.4.3.2 Determinants of Corporate Sustainability Disclosure Practices

Most of the prior research on corporate sustainability disclosure practices has relied on post-content analysis of annual reports or other publicly available data to examine the relationship

between disclosure and potential determinants, which can be broadly classified into three categories (Adams & Kuasirikun, 2000):

- a) Corporate characteristics: such as size (Hackston & Milne, 1996a), industry sector (Deegan & Gordon, 1996), and age and risk of the corporation (R. W. Roberts, 1992).
- b) General contextual factors: such as country of origin (Adams & Kuasirikun, 2000), social and political context (Adams & Harte, 1998; Burchell, Clubb, & Hopwood, 1985; Hogner, 1982; Vormedal & Ruud, 2009), economic context (Guthrie & Parker, 1989), cultural context (Haniffa & Cooke, 2005), ethical relativism (L. Lewis & Unerman, 1999), time and specific events (Burchell et al., 1985; Darrell & Schwartz, 1997), media coverage (N. Brown & Deegan, 1998), and stakeholder power (R. W. Roberts, 1992).
- c) Internal contextual factors: such as corporate governance and corporate values (D. Campbell, 2000; Cowen, Ferreri, & Parker, 1987; Haniffa & Cooke, 2005).

Numerous studies (i.e., Coombs & Gilley, 2005; Griffin & Mahon, 1997; Hillman & Keim, 2001; McWilliams & Siegel, 2000; Pava & Krausz, 1996; P. W. Roberts & Dowling, 2002; Rowley & Berman, 2000; Simpson & Kohers, 2002; Waddock & Graves, 1997) have tended to emphasise the relationship between social sustainability and financial performance. As a result, little theoretical attention has been paid to gaining a better understanding of sustainability reporting as a holistic framework encompassing social, economic, and environmental dimensions.

Chih, Chih, and Chen (2010), for example, examined the determinants of Corporate Social Responsibility (CSR) practises in the sample countries for the names of the largest 2,500 companies on the Dow Jones World Index and the DJSI World by conduct empirical research on 520 financial firms in 34 countries between 2003 and 2005. Chih et al. (2010) used several dependent variables in their study, including total assets, return on assets, legal origin, and economic environment index. They discovered that the coefficients of ROA are overwhelmingly positive and significant, implying that financial firms achieving superior financial performance will act more socially responsibly, as that consistent with D. Campbell and Slack (2007)'s study. In addition, the total assets also have a positive correlation with CSR, implying that larger firms, which are naturally subject to greater scrutiny by regulators, will act more socially responsibly. Additionally, Chih et al. (2010) discovered that financial firms

with French or German legal roots are more concerned with CSR, whereas those with stronger legal enforcement levels engage in more CSR activities.

Mahmood, Uddin, Ostrovskiy, and Orazalin (2020) use the Global Reporting Initiative (GRI) framework to examine the extent and determinants of sustainability disclosures practices published by publicly traded companies in Kazakhstan. Among the numerous potential determinants, they examined the effects of stand-alone sustainability reporting, reporting language, leverage, cash flow capacity, profitability, size, age, and auditor type on the quality and scope of sustainability information. For the years 2013–2015, the study analyses data from publicly traded companies on the Kazakhstani Stock Exchange. The study's findings indicate that determinants such as standalone reporting, reporting language, firm profitability, and firm size all have an effect on the extent, nature, and quality of Kazakhstani companies' sustainability reporting practises. They discovered that the coefficients for stand-alone sustainability reporting are positive and significant, implying that Kazakh companies that publish separate stand-alone sustainability reports disclose more economic, environmental, and social information. Additionally, the estimated leverage coefficients are negative, indicating that leverage has a detrimental effect on sustainability reporting. At the 5% level of significance, the return on equity (ROE) variable, which represents profitability, is positively associated with the quality of sustainability reporting, indicating that more profitable companies provide more transparent and detailed information to stakeholders about sustainability and thus demonstrate a higher level of sustainability reporting practises in general. At the 10% level of significance, the firm size (total assets) variable is found to be positively related to sustainability reporting, implying that larger companies in Kazakhstan disclose more transparent and comprehensive information on the environmental and social dimensions of sustainability reporting.

Kuzey and Uyar (2017) conducted a study between 2011 and 2013 on the determinants of sustainability reporting practises at 100 Turkish corporations listed on the Borsa Istanbul (BIST). The finding of their study confirmed that manufacturing firms were found to be more likely to engage in sustainability reporting compared to other industry. Additionally, firm size (total assets) is a significant predictor of sustainability reporting, which may imply that larger companies use sustainability reporting to reduce agency costs. Leverage has a marginally negative correlation with sustainability reporting. While this is not a significant factor, Kuzey

and Uyar (2017) suggested that the greater the leverage, the less likely the firm is to engage in sustainability reporting. Profitability (ROA) is found to be negatively insignificant, which may imply from Kuzey and Uyar (2017)'s study —though not conclusively— that more profitable companies attempt to reduce agency costs through the publication of sustainability reports. In addition, the current ratio (current assets minus current liabilities) is negatively correlated with sustainability reporting practises, indicating that firms with greater liquidity are less interested in developing sustainability reports.

Nguyen and Nguyen (2020) examine the effect of factors on enterprises' disclosure of sustainable development information through a sample of 120 manufacturing firms listed on the Vietnam stock exchange in 2019. Ordinary least squares (OLS) is used in this research to address econometric issues and to improve the accuracy of regression coefficients. The empirical findings indicate that five variables have a statistically significant positive effect on manufacturing companies' disclosure of sustainable development information, including firm size, board independence, foreign ownership, return on equity (ROE), and financial leverage. On the contrary, the findings indicate that state ownership has a statistically significant negative effect on the disclosure of information about sustainable practices by manufacturing companies listed on the Vietnam stock exchange. Additionally, the research findings indicate a significant discrepancy in the disclosure of sustainable development information by listed companies in Vietnam, other emerging economies in the region, and developed markets.

In the context of corporations with assurance services, Simnett, Vanstraelen, and Chua (2009) investigated the relationship between sustainability reporting and financial performance and other determinants using data from 2,113 companies (from 31 countries) that published sustainability reports between 2002 and 2004. The companies studied are listed on the Dow Jones Sustainability Index and make their annual reports available on the Corporate Register website. Simnett et al. (2009) examined the determinants of sustainability reporting using explanatory variables such as the company's size (as measured by total sales), profitability (as measured by ROA), and leverage (measured by long-term debt on total assets). They discovered that large companies (those with a higher total sales) are significantly more likely than small businesses to have their sustainability reports assured, while financial risk (leverage) had no effect on this decision. Profitability (ROA) was significant in the year 2004 of observation, resulting in a marginally significant variable for the pooled analysis of all

sustainability reports, but was not significant for any of the periods when environmental reports were excluded.

Furthermore, Simnett et al. (2009) discovered that the prevalence of assurance of sustainability reports is greater for businesses with a greater need to improve their credibility as they demonstrate that demand for assurance is greater among companies engaged in more visible industrial activity and those with a larger 'social footprint,' with mining, utilities, and finance companies all having a higher likelihood of having their sustainability reports assured. Additionally, they discovered that businesses located in stakeholder countries are more likely to have their sustainability reports certified. According to Simnett et al. (2009), the results also indicate that sustainability reports in countries with a stronger legal system are more likely to be assured, although the decline in the significance of this variable over the study's duration indicates that this factor is less significant in 2004 than it was in 2002, possibly due to the evolution and increased acceptance of the assurance service in.

Platonova et al. (2018) examine the relationship between CSR disclosure and financial performance using a sample of 24 fully fledged Islamic banks from five Gulf Cooperation Council (GCC) countries, namely Bahrain, Saudi Arabia, Qatar, Kuwait, and the United Arab Emirates (UAE), from 2000 to 2014. To obtain sufficient data, they generate CSR-related data through disclosure analysis of the sample's annual reports. Platonova et al. (2018) measure financial performance using accounting-based variables, with return on average assets (ROAA) serving as a proxy for corporate financial performance and return on average equity (ROAE) serving as a robustness check throughout the analysis.

The study conducted by Platonova et al. (2018) discovered a significant positive correlation between CSR disclosure and financial performance of Islamic banks in the GCC countries (ROAA and ROAE). Additionally, the results indicate a positive correlation between CSR disclosure and future financial performance of GCC Islamic banks, implying that the GCC Islamic banks' current CSR activities may have a long-term effect on their financial performance. Additionally, despite demonstrating a statistically significant positive relationship between the CSR disclosure index's composite measure and financial performance, the findings indicate no statistically significant relationship between the CSR disclosure index's individual dimensions and the current financial performance measure, except for the 'mission and vision statement' and 'products and services statement'. Similarly,

the empirical findings indicate a positive significant association between the dimension ‘mission and vision statement’ and the examined banks’ future financial performance.

Nobanee and Ellili (2016) conducted a comparative study of conventional and Islamic banks’ sustainability practices in the United Arab Emirates (UAE). They examined the extent of sustainable disclosure and its impact on banking performance using annual data for listed banks on the UAE financial markets from 2003 to 2013 by conducting a content analysis of all banks listed on the UAE financial markets’ annual reports. Nobanee and Ellili (2016) discovered that all banks have a low degree of sustainability disclosure, with the index average of 2.6 percent, and that conventional banks have a higher degree of sustainability disclosure than Islamic banks. According to Nobanee and Ellili (2016), these findings are due to the fact that Islamic banks face less disclosure pressure as a result of their adherence to Islamic principles and ethics. Additionally, according to Nobanee and Ellili (2016) study, conventional banks have more leverage and financial constraints than Islamic banks, making them more responsive to stakeholder and government demands for environmental disclosures. In terms of performance, Nobanee and Ellili (2016) explained that the overall sustainability disclosure index had a significant and positive effect on conventional banks’ deposit growth, a positive and insignificant effect on all banks, and a negative and insignificant effect on Islamic banks. Nobanee and Ellili (2016) confirms through these findings that increasing the degree of sustainability disclosure boosts deposit growth for UAE banks.

Jan, Marimuthu, Hassan, et al. (2019) discovered a positive correlation between sustainable business practises and financial performance in Islamic banks measured from the shareholders’ and management’s perspectives, but an insignificant correlation measured from the market perspective. This implies that Islamic banks’ market stakeholders are averse to their banks investing in sustainable business practises. Interestingly, the previously insignificant relationship between sustainable business practises and market performance became significant when *Shari’ah* governance and managerial ownership played a moderating role. The study of Jan et al. (2019) indicates that the moderating role of *Shari’ah* governance and managerial ownership instils confidence in market stakeholders of Islamic banks in their ability to earn a higher financial return through initiatives promoting sustainable business practises.

Jan, Marimuthu, Hassan, et al. (2019) investigates the relationship between sustainable business practises and financial performance in Islamic banks, taking into account the

moderating effect of Islamic corporate governance. They collect post-crisis sustainability data for the decade 2008–2017 and conduct empirical testing using the weighted content method and the Generalized Method of Moments (GMM) statistical test. Consistent with the good management theory of causality and the stakeholders' theory of the beneficial impact of the subjected relationship, Jan, Marimuthu, Hassan, et al. (2019) use banks' financial performance as a dependent variable while focusing on sustainable business practises as the independent variable. The study measures banks' financial performance from three distinct perspectives: the management's perspective, the market's perspective, and the shareholders' perspective. In addition, the study used Tobin's Q ratios to proxy Islamic bank financial performance from a market perspective, Return on Average Equity (ROAE) ratios to proxy Islamic bank financial performance from a shareholder perspective, and Return on Average Equity (ROAE) ratios to proxy Islamic bank financial performance from a management perspective.

4.5 Chapter Summary

This chapter has provided a further related survey of the literature related to sustainable development at country level analysis and sustainability practices at firm level analysis. The chapter discusses factors associated with sustainable development at the country level in light of sustainable development theories. The factors listed above cover the three pillars of sustainability: social (i.e., gender equality, health, education), economic (i.e., economic and trade growth), and environmental (i.e., environmental performance).

Additionally, for the purpose of determining sustainability practises at the firm level, it is noted that financial performance variables (i.e., firm size, profitability, liquidity) and non-financial performance variables (i.e., legal origin, organisational structure, corporate governance) are considered to be related in determining sustainability practises among Islamic banks.

CHAPTER 5

RESEARCH METHOD I: RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

The purpose of this chapter is to discuss the fundamental research design and methodology used in the current study. It begins by summarising the critical research paradigm, research design, research method, and research approach in sections 5.2, 5.3, 5.4, and 5.5, respectively, in which the models and techniques of empirical research method are discussed. Following that, in Section 5.6, the definitions of the dependent and explanatory variables for country level analysis are elaborated in order to calibrate the model of sustainable development measurement. Additionally, Section 5.7 will elaborate on the definitions of dependent and explanatory variables for firm level analysis to analyse the sustainability practices measurement model. Furthermore, the data collection method and analysis are discussed in section 5.8. Regarding the ethical approval of this study, Section 5.9 provides more information. Finally, Section 5.10 concludes this chapter.

5.2 Research Paradigm

5.2.1 Overview

To accomplish the research's objective, it is critical to employ the appropriate research paradigm. The term 'paradigm' refers to advances in scientific practise that are motivated by popular philosophies and postulates about the nature of the world and knowledge (Collis & Hussey, 2013). Additionally, Saunders, Lewis, and Thornhill (2009) define the research paradigm as a method for examining social phenomena in order to arrive at a particular understanding and attempt to reach its explanation. According to Creswell and Creswell (2017), research paradigms employ a variety of terminologies, including philosophical

assumptions, epistemologies, and ontologies (Crotty, 2020); alternative knowledge claims (Creswell, 2003); and a variety of research methodologies (Lawrence Neuman, 2006)

Numerous authors, including Easterby-Smith, Thorpe, and Jackson (2012), Saunders et al. (2009), Collis and Hussey (2013), and Remenyi (2013), attempted to categorise research paradigms according to two distinct philosophical perspectives: phenomenology and positivism. Collis and Hussey (2013) stated that the positivistic paradigm has several alternative terms, including quantitative, objectivist, scientific, experimentalist, and traditionalist, whereas the phenomenological paradigm has alternative terms such as qualitative, subjectivist, humanistic, and interpretative. They define the two paradigms as follows:

Table 5. 1 Summary of positivism and phenomenology characteristics

<i>Research Paradigms</i>	
<i>Positivism</i>	<i>Phenomenology</i>
<ul style="list-style-type: none"> – Pursuing the facts or causes of social phenomena with little regard for the individual’s subjective state. – The investigation of reality has no effect on it. – Logical reasoning is applied to research so that precision, objectivity, and rigour are used to investigate research problems rather than intuitions, experience, and hunches. – Predicated on the belief that the study of human behaviour should be conducted in the same manner as natural science research. – It is predicated on the premise that social reality exists independently of us and exists regardless of our awareness of it. 	<ul style="list-style-type: none"> – Concerned with comprehending human behaviour through the lens of the participant. – The act of investigating reality has an effect on that reality. – Individuals’ subjective states are given considerable consideration. – This perspective emphasises the subjective aspects of human activity by emphasising the meaning of social phenomena rather than their quantification.

Source: Adapted from Collis and Hussey (2013).

Additionally, Creswell and Creswell (2017) derives the two major research paradigms, positivistic and phenomenology, from distinct assumptions:

Table 5. 2 Two main research paradigms from different assumptions

<i>Assumption</i>	<i>Question</i>	<i>Positivistic</i>	<i>Phenomenology</i>
Ontological	What is reality’s nature?	The objective and singular nature of reality.	As observed by study participants, reality is subjective and multifaceted.
Epistemological	What is the researcher’s relationship to the subject of the research?	The objective and singular nature of reality.	The researcher interacts with the subject of the study.

<i>Assumption</i>	<i>Question</i>	<i>Positivistic</i>	<i>Phenomenology</i>
Axiological	What is the value rule?	Value-neutral and unbiased.	Value-laden and biased.
Rhetorical	What is the research language?	Formally defined, impersonal tone, reliance on accepted quantitative terms.	Informal, decision-making that evolves, personal voice; use of widely accepted qualitative terms.
Methodological	How is the research conducted?	Quantitative, deductive process, cause and effect, static design (pre-defined categories), explanation and comprehension, context-free, generalisations leading to prediction, accurate and reliable in terms of its validity and reliability.	Qualitative, inductive process; concurrent shaping factors, emergent design (categories identified during the research process, context-related, patterns, hypotheses developed for comprehension, accurate and reliable through verification.

Source: Creswell and Creswell (2017).

5.2.2 Research Paradigm of PhD Thesis

This study proposes a sustainability measurement framework and is divided into two major perspectives: country level (macro analysis) and firm level (micro analysis). The macro analysis examines and analyses the framework for sustainable development (MDGs and SDGs) and its relationship to the Islamic financial system and other determinants, while the micro analysis examines the relationship between corporate sustainability disclosure practices and financial performance of Islamic banks, with both sections focusing on OIC member countries. As a result of these considerations, positivism was chosen as the paradigm for this research based on the following reasons:

1. Objective, external, and independent: This could be used to establish objective truths and facts about Islamic finance and other determinants, as well as their relationship to the framework for sustainable development. Additionally, this is applied through the pursuit of objective truths and facts about the factors that influence sustainability disclosure practices from the perspective of Islamic financial institutions. In this context, the researcher is value-neutral, independent to the subject of the research, and neither affects nor is affected by it (Collis & Hussey, 2013; Creswell, 2003; Creswell & Creswell, 2017; Remenyi, 2013; Sekaran & Bougie, 2019).

2. **Observable and measurable:** The purpose of this research is to describe phenomena that can be observed directly and objectively quantified, regardless of the individual's subjective state.
3. **The existence of a true reality (universalism):** Working with observable social reality and producing a law-like generalisation similar to what natural and physical scientists produce.
4. **To quantify the performance of Islamic finance and other determinants, as well as their relationship to the sustainable development framework, this study prefers to use numbers or numerical data rather than descriptive words.** This rationale also applies to the analysis and measurement of the determinants of sustainability disclosure practices from the perspective of Islamic financial institutions. As a result, emphasis would be placed on quantifiable observations amenable to statistical analysis (Saunders et al., 2009).

5.3 Research Design

5.3.1 Overview of Research Design

As Saunders et al. (2009) point out, the research strategy defines how to answer research questions in a way that meets the research objectives, and it is contingent on prior knowledge, time and resource availability, as well as philosophical position. Social science research employs a variety of research strategies, including experimentation, surveying, case studies, action research, grounded theory, ethnography, and archival research. Moreover, research strategies are subtypes of qualitative, quantitative, and mixed method design that serve as a guide for conducting research. Thus, research design is defined as a logical plan that connects empirical data to the research's initial questions and, finally, to its conclusions (Yin, 2009). The research design is also referred to as the approach to an inquiry or the methodology of research Creswell and Creswell (2017).

5.3.2 Research Design of PhD Thesis

The research design of this study employs two approaches: (i) A literature review approach, which includes an ideological construction of sustainability and the concept of sustainable

development, an Islamic perspective on development, and previous studies on the measurement of sustainable development and corporate sustainability disclosure practices (literature review chapters); and (ii) The empirical analysis approach, which is divided into two major axes: country level (macro analysis) and firm level (micro analysis).

For the macro analysis, the study focuses on the relationship between sustainable development and Islamic finance, as well as other determinants, at the country level, with the measurement consisting of at least three points:

1. Examining the relationship between sustainable development performance and Islamic finance in the OIC member countries.

The purpose of this analysis is to determine the strength of a relationship between a dependent variable (sustainable development performance: MDGs and SDGs), and an independent variable (Islamic finance). This calculation is used to determine the strength of a cause-and-effect relationship between variables in order to calculate the coefficient of determination or regression coefficient. The process of determining the coefficient of determination and the regression equation for a dependent and an independent variable is commonly referred to as regression analysis or simple linear regression (Saunders et al., 2009). To this extent, a value less than 0.05 (<0.05) indicates that it is highly improbable to have occurred by chance alone. A value greater than 0.05 (>0.05), on the other hand, indicates that the multiple coefficients of determination could have occurred by chance alone.

2. Identifying other determinants of OIC member countries' performance on sustainable development.

After establishing a clear link between Islamic finance and sustainable development performance, it is critical to determine the other determinants of sustainable development performance in OIC member countries. As with the first stage of research design, regression analysis is used to determine the strength of a cause-and-effect relationship between a dependent variable and various explanatory variables.

3. Constructing the Sustainable Development Index (SDI)

The Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) are significant in the current study as the dependent variable. Following Leo and Bartheimer's (2010) methodology for developing the MDGs index, such a metric can be used to compare the level of progress toward achieving the MDGs across OIC countries at a given time point. Additionally, it can be used to track the progress of a country's global development policy initiatives over time. More importantly, such a comprehensive measurement in the form of a country-by-country index is significant because it would be capable of integrating data on multiple aspects and dimensions of sustainable development into a single number. The methodology compares the country's performance to the achievement trajectories required for each of the MDG indicators examined at this stage of the research. This trajectory is based on annualised linear growth rates for each MDG indicator. Unlike the MDGs, the SDGs index is calculated using publicly available data. Schmidt-Traub et al. (2017) developed the index to provide a standardised, quantitative, transparent, and scalable composite measure of 149 countries' SDGs baselines. Within each goal, indicators are aggregated arithmetically (arithmetic mean), and the resulting data is rescaled to ensure comparability across indicators. To ensure comparability across indicators, each variable was rescaled from 0 to 100, with 0 indicating the worst performance and 100 indicating the best performance. The MDGs are then combined with the SDGs on a unified scale of 1-100 and their progress is tracked.

Additionally, the study emphasises the relationship between Islamic banks' sustainability disclosure practices and their financial performance, as well as other determinants, at the firm level, with the measurement consisting of at least three points:

1. Examining the relationship between corporate sustainability disclosure practices and financial performance in the context of Islamic banks in the OIC member countries

The study examines the factors that influence corporate sustainability disclosures by Islamic banks in OIC member countries. Additionally, it elucidates the relationship between a dependent variable, corporate sustainability disclosure practices, and independent variables, corporate financial performance measurement. As with the country-level analysis of sustainable development performance, this firm-level analysis is

used to determine the strength of a cause-and-effect relationship between variables in order to calculate the coefficient of determination or regression coefficient. The process of determining the coefficient of determination and the regression equation for a dependent and an independent variable using a dependent and an independent variable is commonly referred to as regression analysis or simple linear regression (Saunders et al., 2009). To this extent, a value less than 0.05 (0.05) indicates that it is highly improbable to have occurred randomly. A value greater than 0.05 (>0.05), on the other hand, indicates that the multiple coefficients of determination could have occurred solely by chance.

2. Identifying other determinants of corporate sustainability disclosure practices in the context of Islamic banks in the OIC member countries.

After establishing the relationship between corporate sustainability disclosure practices and financial performance, it is critical to determine other determinants of corporate sustainability disclosure practices of Islamic banks in OIC member countries. As with the previous stage of research design, regression analysis would be used to determine the strength of a cause-and-effect relationship between a dependent variable and a variety of explanatory variables.

3. Developing the Islamic bank's corporate sustainability disclosure practices (CSDP) score

To analyse the relationship between corporate sustainability disclosure practises at the firm level, the current study requires a measurement of CSDP as the dependent variable. A metric of this type can be used to compare the sustainability disclosure practises of Islamic banks in OIC member countries over time.

At this stage of the research, a combination of qualitative and quantitative data derived from content analysis of annual reports is used to generate disclosure-related data for sustainability dimensions (social, economic, and environmental) in order to assess the sustainability disclosure practices of the sampled Islamic banks. Sentence counting or determining the frequency distribution of words was chosen as the most appropriate and balanced method of content analysis for quantifying the sustainability disclosures made in Islamic banks' annual reports. In conducting content analysis on the text, a frequency distribution of words was constructed and used as a benchmark using three distinct

keywords and their derivatives of sustainability dimensions (social, economic, and environmental). The total score for the CSDP is calculated by adding the values of all sub scores for the dimensions of sustainability. The total score for the dimensions of sustainability is calculated by adding the values of three-word frequencies: social, economic, and environment. The scoring method is additive, with unweighted scores added to the final CSDP score.

In order to obtain a clearer picture of the analysis above and empirical method, the following is the summaries of research design of PhD thesis:

Table 5. 3 Summary of empirical models

<i>Model No.</i>	<i>Empirical Model</i>	<i>Empirical Research Method</i>
<i>a) Country level perspective (macro analysis)</i>		
1	Examining the relationship between sustainable development performance and Islamic finance in the OIC member countries.	Linear regression.
2	Identifying other determinants of OIC member countries' performance on sustainable development.	Linear regression.
3	Constructing SDI (a combined results of MDGs and SDGs index calculation).	For MDGs, country's performance comparison based on trajectories required, while SDGs seek aggregated indicators arithmetically (arithmetic mean) within each goal, transformed to a 0-100 scale. The MDGs are then combined with the SDGs on a unified scale of 1-100 and their progress is tracked.
<i>a) Firm level perspective (micro analysis)</i>		
1	Examining the relationship between CSDP and CFP in the context of Islamic banks in the OIC member countries.	Linear regression.
2	Identifying other determinants of corporate sustainability disclosure practices in the context of Islamic banks in the OIC member countries.	Linear regression.
3	Developing the Islamic bank's CSDP score	A combination of qualitative and quantitative data derived from content analysis of annual reports is used to generate disclosure-related data for sustainability dimensions (social, economic, and environmental) in order to assess the sustainability disclosure practices of the sampled Islamic banks.

Source: Author.

5.4 Research Method

In social science research, the research method is defined as a systematic process for analysing a particular social object using specialised research techniques. Furthermore, research methodology encompasses both quantitative and qualitative techniques such as observation, interviewing, and audio recording (Silverman, 2013).

The primary goal of the most reliable research method is to gather useful information in the most efficient and realistic manner possible. To accomplish this goal, several factors must be considered (Studenmund, 2014), such as: (a) the information required to make a decision; (b) the information that can be collected and analysed at a reasonable cost and in a practical manner; (c) the degree of accuracy of the information; (d) the method selected that is expected to obtain all required information; and (e) the credibility of the information.

5.4.1 Quantitative Method

As Williams (2007) notes, quantitative research methods employ a numerical or statistical approach to research design. The research itself is independent of the researcher. As a result, data is used to objectively measure reality. Quantitative research adds meaning to the world through the objectivity of the data collected. As a result, it is worth noting that quantitative research methodology upholds the hypothesis of an empiricist paradigm (Creswell & Creswell, 2017). This method is typically used when the purpose of the research is to elucidate, evaluate, or assess social phenomena through the establishment of specific correlations and associations using a quantitative approach such as mathematical or statistical modelling (Creswell & Creswell, 2017)

5.4.2 Qualitative Method

In comparison to quantitative research, qualitative research is a holistic approach that entails discovery, as it is also described as a developing model that occurs in a natural setting and enables the researcher to develop a level of detail through a high level of involvement in real life experiences (Creswell, 2003). Additionally, qualitative research examines people's perceptions, responses, feelings, and information regarding a particular social phenomenon.

Denzin and Lincoln (2011) expanded on this by describing qualitative research methodology as a multi-method approach characterised by an interpretive and naturalistic approach to the subject.

Qualitative researchers seek to observe phenomena in their natural habitats and to analyse or interpret real-world conditions, facts, reactions, and behaviour of people involved in social phenomena. Qualitative research employs a variety of empirical materials, including case studies, group discussions, life stories, personal experiences, interviews, observations, field surveys with questionnaires, and visual texts describing instances of social, problematic, or everyday life in the society or sample population.

5.4.3 Research Method of PhD Thesis

With regards to this study, it should be noted that the empirical research is primarily focused on two major perspectives: First, at the country level (macro analysis), measuring the framework for sustainable development and its relationship to Islamic finance and other determinants, with an emphasis on OIC member countries. Second, the relationship between Islamic banks' sustainability disclosure practices and their financial performance, as well as other determinants, is quantified at the firm level (micro analysis).

As a result of these considerations, this research employs quantitative research methods to analyse and collect all pertinent data on sustainable development performance, Islamic finance development, corporate sustainability disclosure practices, corporate financial performance, and associated factors in order to construct the thesis' primary output. As a result, it analyses secondary data from various sources to generate qualitative and quantitative data that will be used to construct the thesis's final output. It analyses secondary data from a variety of sources, including the Islamic Development Bank (IDB), the World Bank, the Millennium Development Goals (MDGs) database, the Sustainable Development Goals (SDGs) Index and Report Dashboard, Islamic banks' annual reports, and BankFocus database. The required analysis will be carried out with the assistance of a variety of software packages, including Microsoft Excel for data tabulation, Nvivo for content analysis, and Stata for statistics and data science.

5.5 Research Approach

5.5.1 Overview of Research Approach

The research approach is used to bolster the interpretation of the data. As such, the study can take an inductive, deductive, or combined approach (Saunders et al., 2009). The inductive approach is based on a less structured interpretation, and the procedures used inductively do not require the researcher to have a prior analytical framework, categories, or codes to guide his or her analysis. On the other hand, the deductive approach is more structured and formalised, with data categories and analysis codes derived from theory and followed by a predetermined analytical framework.

5.5.2 Research Approach of PhD Thesis

This doctoral dissertation employs a deductive research strategy. It begins by reviewing the literature on sustainability, sustainable development, sustainable finance, sustainable development from an Islamic perspective, and the Islamic financial system. Then, using a quantitative method, it analyses and evaluates the facts, relationships, performance, and figures pertaining to Islamic finance and the sustainable development framework in OIC member countries.

For the country level perspective (macro analysis), we estimate the following regression model:

$$SDI_{it} = \alpha_0 + v_k X_{itk} + u_{it} \quad (\text{Eq. 5. 1})$$

where:

SDI = Sustainable Development Index (SDI)

vX = vector of all explanatory variables affecting sustainable development index,

α = constant term,

μ = disturbance term,

i = individual OIC country,

t = time period of variables' measurements, and

k = quantity of explanatory variables.

Furthermore, we estimate the following regression model for the firm level perspective (micro analysis):

$$CSDP_{it} = \alpha_0 + v_k X_{itk} + u_{it} \quad (\text{Eq. 5. 2})$$

where:

$CSDP$ = Corporate Sustainability Disclosure Practices score

vX = vector of all explanatory variables affecting $CSDP$,

α = constant term,

μ = disturbance term,

i = individual Islamic bank,

t = time period of variables' measurements, and

k = quantity of explanatory variables.

Finally, it summarises the study's overall findings, contribution to knowledge, and implications. Additionally, a variety of suggestions for additional related research topics would also be offered.

5.6 Variables for Country Level Perspective

In general, variables are chosen in accordance with the theoretical propositions of sustainable development theories and the findings of prior empirical studies. Specifically, this study examines the determinants of sustainable development within the context of global development framework (MDGs and SDGs). Thus, the explanatory variables chosen are those that appear plausible a priori and could account for the factors affecting sustainable development. In measuring the relationship between sustainable development and Islamic finance as well as other determinants, the country level perspective (macro analysis) is conducted with the following dependant and independent variables:

5.6.1 Dependent Variable: Sustainable Development Index (SDI)

The Sustainable Development Index (SDI) is constructed by combining the calculation results of the two sustainable development frameworks: the MDGs index and the SDGs index.

According to (Leo & Thuotte, 2011), the MDGs index is used as the primary indicator of MDGs achievement progress for sustainable development. Global MDGs shepherds such as the UN and World Bank, it is argued, generally report progress on a global or regional scale. Because the MDGs were intended to be targets for the entire developing world, global reporting (rather than regional reporting) is appropriate. However, the current regional reporting structure has several significant disadvantages. Most importantly, it results in blanket statements about how certain regions are ‘on track’ to meet the MDGs targets (e.g., East Asia) while others are ‘off track’ (i.e., sub-Saharan Africa). This frequently obscures significant intraregional variation in performance. For instance, China’s impressive achievements and size influence East Asia’s overall MDGs performance picture. Other countries with less impressive track records in terms of sustainable development outcomes (i.e., Papua New Guinea) are simply too small to have an effect on regional aggregates. Similarly, large African laggards (i.e., Nigeria and Congo) contribute to the demise of regional aggregates. Nonetheless, numerous African countries have made enormous strides toward sustainable development goals.

Reporting on a regional basis does a grave disservice to these high-performing countries. As a result, it is necessary to overcome regional simplification bias and to develop more user-friendly quantitative performance measures for individual OIC member countries in order to conduct in-depth analyses of their shortcomings and strengths, as well as how they are appropriately monitored.

According to Schmidt-Traub et al. (2017b), the SDGs index is used as an analytical tool for assessing countries’ SDGs baselines. The index, which is expected to be published annually, synthesises available country-level data for all 17 goals and estimates the size of the gap between each country and achieving the SDGs. Each of the 149 countries in the index for which sufficient data are available will face significant obstacles in achieving the goals, and many countries’ sustainable development strategies will be unbalanced in terms of economic, social, and environmental priorities. Additionally, the index is intended to be a comprehensive assessment of national SDGs baselines, assisting policymakers in establishing priorities for early action and tracking progress.

Two distinct steps and calculations will be required to utilise the SDI. The progress indicator for the MDGs is not straightforward (i.e., since there are several formulas as well as modifications made in computing the index). In response, this study computes the SDI. Unlike the MDGs, the SDGs index has been published annually since 2016, and thus is only required for calculating year-to-year progress. Chapter 6 contains a detailed discussion of the composite index's construction.

5.6.2 Explanatory Variables

In this study, various dimensions of sustainable development variables are included, namely Islamic finance (i.e., proxied by the Islamic finance development indicator), human factors (historical development, human capital, political factors, and economic performance), and geographical factors. Table 5.4 provides a summary of description, definition, and source of each variable. The following variables are included by virtue of their potential to have indicatory power in explaining the factors associated with development. The following subsection further discusses the variables. The variables are discussed as follows:

5.6.2.1 Islamic finance

In terms of financial system, the impact of Islamic financial sector empirically —as an integrated and comprehensive measurement— on the sustainable development in OIC member countries is not well explored. Rather than that, the majority of the literature focuses on the role of Islamic finance in achieving sustainable development through qualitative and narrative studies (H. Ahmed et al., 2015; Askari et al., 2014; Chapra, 1992, 2008b). Furthermore, the majority of existing literature examines the relationship between sustainable development — or simply ‘development’ in general — and Islamic finance by focusing exclusively on specific sectors of Islamic finance, such as Islamic banking (i.e., Ghoniyah & Hartono, 2020; Pratiwi, 2016), Islamic bonds or sukuk (i.e., AlMadani et al., 2020; Alotaibi & Hussainey, 2016), Islamic microfinance (i.e., Ayu et al., 2019), Islamic social finance and fund through *zakat*, *waqf*, and *sadaqah* (i.e., Abdullah, 2018; Kamaruddin & Hanefah, 2021; Foyasal Khan & Hassan, 2019; Yalawae et al., 2003). As a result, a comprehensive picture of integrated Islamic

finance development as a whole is extremely limited, particularly in terms of its relationship with sustainable development.

Within the context of SDGs, H. Ahmed et al. (2015) elaborated that, theoretically, Islamic finance could contribute to sustainable development by incorporating broader goals of Islamic law into its operations. Given Islamic finance's principles which promote social inclusion and development, H. Ahmed et al. (2015) suggested that the Islamic financial sector—through its financial institutions, capital markets, and social sector— has the potential to promote resilience, increase social sustainability (financial inclusion and vulnerability reduction), achieve environmental and social goals, and facilitate sustainable infrastructure development.

This study will employ the Islamic Finance Development Indicator (IFDI) developed by the Islamic Corporation for Development (a subsidiary of the Islamic Development Bank) and Refinitiv to track the overall development of Islamic finance. IFDI is a weighted composite index that gauges the overall health and development of the Islamic finance industry based on instrumental factors classified into five broad categories: quantity development, knowledge, governance, corporate social responsibility, and awareness.

5.6.2.2 Macroeconomic Factors

5.6.2.2.1 Economic Growth

Established in most of the development literature, GDP or GDP per capita variable are used to represent the macroeconomics aspect in examining the impact of the two variables on development. GDP measures all of a country's consumption, investment and public spending, plus exports minus imports, regardless of the citizenship of consumers or investors. Numerous studies (i.e., Kurniawan & Managi, 2018; Mukherjee & Chakraborty, 2013) have established a strong correlation between socioeconomic, human development, and socio-political factors and sustainable development. For example, strong economic performance—as measured by GDP— can increase wealth and social well-being, particularly through produced capital investments in infrastructure, health, and higher education (UNU-IHDP and UNEP, 2014). The relationship between economic development and the changing composition of wealth over time demonstrates that, as manufacturing and service development progressed, the share of natural

capital declined while the share of produced and intangible capital increased (World Bank, 2010). Despite this, Jorgenson and Dietz (2015) criticised the current natural capital-based economic pathways, which they believe will be detrimental to future generations due to the depletion of numerous natural resources and deterioration of various environmental services, as measured by the ecological intensity of well-being.

Since the end of World War II and the adoption of national accounting, the annual growth of GDP has been the guiding economic policy indicator. However, the breakdown of the Fordist¹ and the emergence of environmental concerns have gradually prompted a re-examination of GDP's central role and measurement of development. At least three challenges have been addressed (Cassiers & Thiry, 2014): (1) unrestricted growth is increasingly seen as incompatible with a series of environmental limits (Georgescu-Roegen, 1971; Rockström et al., 2013; Steffen et al., 2015), even if there is still debate about possible green growth; (2) growth is no longer associated with a reduction in inequality (Piket, 2016); (3) beyond a certain point, the link between growth and improved quality of life is questioned (Cassiers & Delain, 2006; Easterlin, 1974).

As discussed by Stiglitz et al. (2009), it is noted that over the years, an increasing number of international organisations, including the OECD, the UNDP, and public stakeholders, as documented in Stiglitz, Sen, and Fitoussi's (2009) report on economic performance measures and social progress have recognised that growth and development should be accompanied by the pursuit of social and environmental goals guided by new indicators.

Despite numerous criticisms, GDP has been widely accepted as the most commonly used definition of national income and a proxy for development (Ackerman, 1997; J. Sachs, 2015). Accordingly, GDP of the OIC member countries is considered a macroeconomic variable in this study because it serves as an indicator of a country's economic performance.

¹ Fordism —named for Henry Ford— is defined as the eponymous manufacturing system designed to churn out standardised, low-cost goods while paying its workers a living wage (Grazia, 2005). Additionally, it has been described as a model of economic expansion and technological progress based on mass production of standardised products in large quantities using specialised machinery and low-skilled labour (Tolliday and Zeitlin, 1987).

5.6.2.2.2 Foreign Direct Investment

While numerous studies have been conducted on the impact of foreign direct investment (FDI) on economic development and environmental sustainability, there is a dearth of research on the relationship between FDI and achieving sustainable development on its three pillars: economic, social, and environmental. Previous studies (i.e., Nair-Reichert & Weinhold, 2001; Pegkas, 2015; Vu, Gangnes, & Noy, 2008; Yao & Wei, 2007) have established that Foreign Direct Investment (FDI) is a major catalyst for development. As a result, FDI can be a significant factor in growth and development if the host country has a sound financial system (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Durham, 2004) and a high level of human capital (Borensztein, De Gregorio, & Lee, 1998; Xiaohui Liu, Buck, & Shu, 2005).

Numerous studies have been conducted on the effect of FDI on economic growth, with mixed results. According to neoclassical theory, FDI benefits host country's economic development by increasing capital inflow, labour force growth, and technological advancement (Malikane & Chitambara, 2017b; Reiter & Steensma, 2010).

The majority of empirical studies demonstrate that FDI has a positive effect on economic growth and a variety of factors can interact with FDI to determine its effect on economic development (Reiter and Steensma, 2010). Using a sample of 69 developing countries over a two-decade period, Borensztein et al. (1998) demonstrate a positive effect of FDI on economic growth when the host country possesses a certain level of human capital. A significant positive effect of FDI also happened on huge industrial countries' performance such as China (Zhang, 2014). Malikane and Chitambara (2017a) demonstrate a direct positive relationship between FDI and economic growth using a panel of eight Southern African countries. On the contrary, some studies indicate that FDI can have unfavourable effects on the economy, such as crowding out domestic investment or fostering an unfair competitive environment dominated by foreign entities (Kardos, 2014; Reiter & Steensma, 2010). Borensztein et al. (1998) argue that when foreign direct investment is motivated by profiting from opportunities created by distorted incentives, the investment does not result in increased efficiency.

The literature also contains contradictory findings regarding the impact of FDI on environmental pollution. In a case study of Pakistan, for instance, F. Rehman, Khan, Khan, Pervaiz, and Liaqat (2020) demonstrate that higher economic growth resulted dirty polluting

industries in the country. A similar result also happened in Africa, Bokpin (2017) concludes that while FDI inflows contribute to environmental degradation in Africa, the importance of governance and institutional policy prescriptions in mitigating this negative impact is critical. In MENA region, FDI can have a detrimental effect on environmental quality by accelerating economic growth (Abdouli & Hammami, 2020). By contrast, the environmental Kuznets curve (EKC) hypothesis (Grossman & Krueger, 1995) postulates that economic growth begins with a period of environmental deterioration followed by a period of improvement. Moreover, according to the widely held Pollution Haven Hypothesis, high-income economies investing in countries with relatively lax environmental policies may be detrimental to host countries by transferring polluting technologies, goods, and services to those countries (Sarkodie & Strezov, 2019) although they confirmed that the validity of both hypotheses is contingent on the country groups studied. In comparison to previous research, Ridzuan, Ismail, and Che Hamat (2017) conclude that FDI inflows result in increased economic growth and improved environmental quality in Singapore.

5.6.2.2.3 Trade Growth

Numerous studies emphasise the critical role of trade in achieving the sustainable development. In the context of the SDGs, Fatema, Li, and Islam (2017) examined the effect of trade openness on gender inequality, empowerment, and welfare in emerging economies. Trade openness was found to have increased gender inequality in emerging economies but decreased inequality in high-growth countries. Additionally, it was observed that increased trade growth widened the health disparity in emerging economies. Religion and culture, on the other hand, had varying and mixed effects on gender inequality across countries. Pradhan, Costa, Rybski, Lucht, and Kropp (2017) used Spearman's rank correlation analysis to identify potential trade-offs or synergies between SDGs indicators in different countries. Proper trade policies, it was argued, were critical tools for governments to use in achieving the SDGs. Examining the relationship between international trade and the SDGs in 100 countries from 1990 to 2014, Sudsawasd, Charoensedtasin, and Pholphirul (2020) indicated a significant correlation of trade policy and trade growth in achieving the SDGs. In the case of Thailand, for instance, the impact of trade openness policies implemented under the Greater Mekong Subregion Economic Cooperation Program indicated that trade openness aided in the achievement of three SDG trade targets.

Moreover, Fiorini and Hoekman (2018) argued that achieving the SDGs would require improving the performance of service sectors and expanding access to specific services in developing economies. It is demonstrated that trade, prevailing services, and investment policies all affect access to services, with less restrictive trade policies enhancing the performance of domestic service sectors. Additionally, many studies (i.e., Helble & Shepherd, 2017; P. Holden, 2019; Navarro-Pabsdorf, Martínez-Alcalá, & Moral-Pajares, 2020) emphasised the importance of international trade growth in achieving the SDGs.

While it is universally acknowledged that the trade-related factors (i.e., trade growth, trade policy, terms of trade) are critical for development, there is considerable disagreement about how the two are related (Page, 2006). Trade policy is also inextricably linked to the sustainability agenda, and the international trade system—as one of the more legally regulated spheres of global governance—is frequently referred to as a stabilising force. The Doha Development Agenda¹, which was launched in 2001, has lain dormant for several years, in which major established economies and emerging powers expressed widespread support for the WTO, but there was sharp disagreement over how it should develop (J. Scott, 2015). According to (R. Wilkinson, Hannah, & Scott, 2014), contemporary issues in global trade and sustainable development include the relationship between trade and environmental sustainability, the role and nature of ‘trade aid’, the application of the principle of special and differential treatment, and the perennial issue of developed states’ agricultural policies, as well as the critical role of trade policy.

Numerous scholars (i.e., P. Holden, 2019; Meunier & Nicolaïdis, 2006; Young & Peterson, 2013) have emphasised the critical role of neoliberalism in enhancing trade’s role in achieving sustainable development. Thus, neoliberal trade policy is required as a precondition for

¹ The Doha Round is the most recent round of WTO trade negotiations. Its objective is to significantly reform the international trading system by lowering trade barriers and revising trade rules. The work programme encompasses approximately twenty different spheres of commerce. The Round is also known semi-officially as the Doha Development Agenda, as one of its primary objectives is to improve developing countries’ trading prospects. The Round was formally launched in November 2001 at the WTO’s Fourth Ministerial Conference in Doha, Qatar. The Doha Ministerial Declaration established the framework for the negotiations and covered agriculture, services, and an intellectual property issue. Ministers also agreed in Doha on a strategy for resolving the difficulties developing countries face in implementing current WTO agreements (WTO, 2021).

improved trade performance in the direction of sustainable development (De Ville & Orbie, 2011; Siles-Brügge, 2014).

Within the context of sustainability from an environmental conservation standpoint, the role of trade may also have an effect on the state of the environment. In terms of regulation, for instance, public policy can influence the behaviour of individuals and businesses in relation to environmental protection through trade policies. International trade, empirical evidence indicates, plays a role in allocating resources and environmental externalities in a highly globalised world (Jiang, He, Zhong, Zhou, & He, 2019; Kolcava, Nguyen, & Bernauer, 2019). The volume of global trade is an indicator of the importance of trade in modern economies. In this sense, the inclusion of international trade as a factor affecting environmental pollution is reasonable, whether in terms of pollutant gas emissions or ecological footprint (Essandoh, Islam, & Kakinaka, 2020; Koengkan, 2018).

5.6.2.2.4 Unemployment

While numerous studies have been conducted on the impact of labour market inequalities on economic growth and development, little research has been linked to sustainable development as defined by the three pillars of economic, social, and environmental sustainability.

In relation to the labour market and sustainable development, three major macroeconomic arguments emerged: growth as progress, growth to avoid economic instability, and growth to compensate for increased labour productivity-induced unemployment (Antal & Van den Bergh, 2013; Frey, 2017). As F. A. Campbell et al. (2012) explain, unemployment affects both educated and less educated young people and has grown in importance, particularly in many developing economies. Thus, F. A. Campbell et al. (2012) suggested that while there are still barriers preventing young people from seeking work, there is an urgent need to direct them toward self-employment and entrepreneurship through vocational and entrepreneurial training programmes as a possible short-term intervention strategy.

By emphasising the relationship between unemployment and socioeconomic sustainability, several researchers have independently suggested the same perspective using a variety of methodological frameworks. Alcidi (2019), for example, observes that economic integration in the EU region does not always result in income convergence and may result in an uneven

distribution of activities and income. Furthermore, Totev (2017) argues that while large regional disparities in per capita GDP are not always associated with large regional disparities in the dispersion of the unemployment indicator, a serious risk of achieving undesirable regional economic and social disparities exists.

Jianu et al. (2021) highlight several synergies between SDG 8 (Decent Work and Economic Growth) specific indicators and the reduction of labour market inequalities in EU Member States, indicating a solid foundation for achieving the 2030 targets. Additionally, Jianu et al. (2021)'s analysis demonstrates that SDG 8 is largely associated with labour market benefits at the EU level, which are primarily related to the compatibility of specific targets with stimulating progress and avoiding any specific trade-offs in achieving sustainable development.

5.6.2.3 Agriculture

The empirical evidence on the relationship between sustainable development and agriculture is mixed, with some researchers concluding that agriculture benefits sustainable development by serving as the primary source of food and consumption, while others assert that agriculture has resulted in environmental degradation, thereby affecting sustainable development negatively.

According to Kanter et al. (2018), agriculture is a critical sector for achieving the sustainable development, particularly in eradicating hunger (SDG 2) and poverty (SDG 1), as well as the primary source of income for approximately three-quarters of rural poor people. As a result, an ecosystem approach must be taken in agriculture (DeClerck et al., 2016) in order to strengthen agriculture's multifunctional role in provisioning, regulating, and cultural services. Additionally, Vastola et al. (2017) and Viccaro and Caniani (2019) suggest that having a sustainable agricultural management system would assist countries in providing healthy food (SDG 2 and SDG 3), fuel (SDG 7), improving agricultural ecosystem services such as soil carbon sequestration (SDG 13), water storage (SDG 6), biodiversity conservation (SDG 15), improved security from natural hazard and disease (SDG 3), and climate change mitigation (SDG 13). Additionally, sustainable agricultural management is critical for the preservation of

cultural services such as rural landscapes and cultural heritage that must be preserved for future generations.

However, some authors (i.e., M. T. I. Khan, Ali, & Ashfaq, 2018; Kolcava et al., 2019; Xuyi Liu, Zhang, & Bae, 2017) have demonstrated that agriculture may have a detrimental effect on sustainable development as a result of environmental degradation. A case study in Pakistan, for instance, demonstrate that agriculture and trade have an effect on Pakistan's polluting gas emissions (Y. Khan, Bin, & Hassan, 2019; A. Rehman, Ozturk, & Zhang, 2019)

With a particular emphasis on developing countries, the primary sources of environmental degradation are deforestation of threatened ecosystems and agricultural advancement through harmful processes that weaken the ecosystem and reduce its protective functions, exposing the soils to environmental shocks (Alvarado & Toledo, 2017; Brausmann & Bretschger, 2018).

H. Smith and Sullivan (2014) found that in order to meet human demand for food, fibre, and fuel, agriculture has had a significant impact on the Earth, from tropical smallholder farms to large farms in North America and Europe, as a result of land-use change and greenhouse gas emissions.

Using agriculture, forestry, and fishing (value added) data series, an empirical study conducted by Alvarado, Ortiz, Jiménez, Ochoa-Jiménez, and Tillaguango (2021) demonstrated that agriculture, along with trade, contribute to environmental degradation in North America, Europe, and Central Asia, as measured by the ecological footprint.

5.6.2.4 Remittances

Numerous empirical studies have examined the relationship between remittances and economic growth, with a particular emphasis on the growth effects of remittances (Salahuddin & Gow, 2015), poverty reduction (Huay & Bani, 2018), and a variety of social phenomena such as human capital and health (Calero, Bedi, & Sparrow, 2009; Docquier & Rapoport, 2012). Among others, Giuliano and Ruiz-Arranz (2009) demonstrated that remittances had a significant positive effect on growth in 100 developing countries from 1975 to 2002. Their findings imply that remittances help alleviate credit constraints, improve capital allocation, and stimulate economic growth.

Ratha (2013) suggested in a similar study that remittances promote economic development by stimulating inflows of physical and human capital and improving the country's access to international capital markets. These studies demonstrate that remittances have a positive effect on economic growth in developing countries and are backed up by recent empirical research (Azam, 2015; R. R. Kumar, 2013). R. R. Kumar (2013) examined the short- and long-run effects of remittances on economic growth in Guyana, confirming the positive effect of remittances on economic growth for the period 1982–2010 using an augmented Solow framework and an ARDL bounds test for co-integration. Previous research has established that remittances boost economic growth in developing countries and that they are positively correlated with economic growth (D. Meyer & Shera, 2017; B. B. Rao & Hassan, 2011; Siddique, Selvanathan, & Selvanathan, 2012).

On the contrary, there is evidence that remittance inflows are associated with a negative relationship between economic growth and remittance inflows. Amuedo-Dorantes and Pozo (2006) argued that remittances may erode recipient countries' international competitiveness and impose economic costs on their export sectors. Chami, Fullenkamp, and Jahjah (2005) demonstrated that international remittances had a negative and statistically significant effect on economic growth in 113 countries between 1970 and 1998, concluding that remittances do not serve as capital for economic development but rather as a form of compensation for countries experiencing economic hardship. E. Taylor (1992) reported a similar degree of ambiguity regarding remittances' effect on inequality. One possible explanation for this debate is the difficulty in determining the direction of the relationship between remittances and economic growth (Adams Jr, 2011)

From a theoretical standpoint, there are two distinct perspectives on the impact of remittances on development, which we can refer to as the optimistic and pessimistic perspectives. The former views remittances as mechanisms for development enhancement, whereas the latter views them as impeding sustainable development. Earlier research tended to support a pessimistic view of remittances, implying that money sent by migrant workers is primarily used for consumption, rather than investment (Chami et al., 2005; E. Taylor, 1992). However, D. Yang (2008) and Adams Jr (2011) found that remittances account for a sizable portion of investment spending in developing countries. Remittances are viewed as investment capital that can be used for entrepreneurial activities, competitiveness enhancement (Bayangos &

Jansen, 2011), and education, as well as overcoming negative income shocks (Kurosaki, 2006; D. Yang, 2008).

Within the context of human development, studies have demonstrated how remittances contribute to human development (Adenutsi, 2010; Irdam, 2012) in which the migrants' income enables them to improve their access to health care, education, and social security (Azizi, 2018; Irdam, 2012).

Overall, the aforementioned studies demonstrate the impact of remittances on macroeconomic variables. However, evidence regarding the direct effect of remittances on sustainable development is sparse. The purpose of this study is to add to the empirical body of knowledge regarding the relationship between remittances and sustainable development in OIC member countries.

5.6.2.5 Governance Factors

In the context of accelerating the achievement of sustainable development, the important role of good governance as a critical tool for accomplishing this goal has become a hot topic in policy and academic circles in recent years (i.e., Bos & Gupta, 2019). Furthermore, in the current framework for sustainable development, the concept of good governance encompasses the capacity to plan and establish organisations necessary to achieve the SDGs (Güney, 2017).

The previous empirical literature demonstrates an interest in good governance as a means of achieving sustainability. For example, Costantini and Monni (2008) examine the impact of human development and governance quality, as measured by the rule of law, on sustainable development using a modified version of EKC. Their discovery reaffirms the existence of a positive relationship between them.

5.6.2.5.1 Democratic Institution and Corruption Practices

Numerous studies demonstrate that democratic institutions have a positive effect on economic and social development (Halperin, Siegle, & Weinstein, 2010), as well as environmental quality (S. Barrett & Graddy, 2000). Although, a growing debate exists about possible trade-

offs between democratic institutions and effective governance with reference to developments in South and East Asia (Charron & Lapuente, 2010)

In the context of development, democratic theory contributes significant knowledge about the relationship between democratic institutions and development. As Norris (2012) explains, legitimate governance should be based on the will of the people as expressed through liberal democratic institutions. According to Meltzer and Richard's (1981) median voter theory, democratic institutions such as universal suffrage and regular pluralist elections result in more equal economic and social outcomes as a result of electorate pressure. Furthermore, in accordance with Sen's development theory, leaders are assumed to act in the public interest if they are elected by informed citizens who hold them accountable for their actions, if they face opposition in a competitive political process, and if they are subject to a system of checks and balances (Norris, 2012; Sen, 2014; Siegle, Weinstein, & Halperin, 2004). This is especially true for sustainable development, as some have argued, because it entails choices about fundamental values, citizens want to live in freedom, and they want to build and leave for posterity (Meadowcroft, 1997).

The majority of empirical research has concentrated on the relationship between democracy and specific dimensions of sustainable development, rather than on sustainable development as an integrated and comprehensive development paradigm. As a result, numerous studies have focused on the role of democratic institutions in economic development (Kraay, 2006; Rodrik, Subramanian, & Trebbi, 2004), but institutions may also be critical for resolving collective action problems in the social and environmental dimensions of sustainable development. Although controversial, empirical evidence indicates that democracy and civil liberties promote economic and societal development (Halperin et al., 2010). Additional research has demonstrated that civil liberties increase equality and people's income (H. Li, Squire, & Zou, 1998) and that countries with more civil liberties and political freedoms have higher environmental quality (S. Barrett & Graddy, 2000; S. Dasgupta & De Cian, 2018). Additionally, democracy has been asserted to more effectively translate economic growth into higher-quality calorie consumption than autocracies and hybrid regimes (Blaydes & Kayser, 2011) and to result in greater environmental commitment (Neumayer, 2002).

Along with democratic institution, a special emphasis has been placed on the effect of corruption in relation to sustainable development, with empirical evidence demonstrating that the corruption has a detrimental effect on economic growth (Holmberg, Rothstein, & Nasiritousi, 2009; Norris, 2012), health outcomes (Holmberg et al., 2009; Norris, 2012), government spending on social services (Holmberg et al., 2009; Mauro, 1998), and the environment (Norris, 2012; Welsch, 2004).

Using multiple regression analyses, (Glass & Newig, 2019) suggest that within the context of the SDGs, strengthening democratic institutions and participation could result in greater progress toward SDGs implementation. Both participatory and democratic governance structures appear to facilitate the decision-making process, as well as the implementation and acceptance of policies promoting sustainable development. Additionally, the findings appear to support the hypothesis that democratic institutions foster SDGs achievement by ensuring policy accountability and transparency, as well as political responsiveness.

On the contrary, a growing debate exists about possible trade-offs between democratic institutions and effective governance with reference to developments in South and East Asia (Charron & Lapuente, 2010). A number of significant quantitative studies (i.e., Harris-White & White, 1996; Sung, 2004) examining what refer to as the contradictory relationship between democracy and corruption. By and large, democracy, in comparison to authoritarian regimes, has a detrimental effect on the quality of government during the early stages of democratisation. Following that, the effect becomes positive.

Two distinct dimensions of democracy have been used to explain this non-linear relationship. The first hypothesis is about the degree of democracy, while the second is related to the duration of exposure to democracy over time in which both dimensions have been independently validated. In terms of the level of democracy, it has been determined through the use of continuous measures of political regimes that the highest quality of government exists in strongly democratic states, medium-high quality exists in strongly authoritarian regimes, and the lowest quality exists in partially democratic states. Due to the variety of empirical specifications used, this non-linearity has been variously defined as U-shaped (Montinola & Jackman, 2002), J-shaped (Bäck & Hadenius, 2008), or S-shaped (Sung, 2004).

In comparison to their period of exposure to or historical experience with democracy, younger democracies produce lower-quality government than older democracies (Keefer, 2007). In summary, the literature suggests that partial or young democracies perform worse than authoritarian regimes and significantly worse than mature democracies. Thus, it is noted that the negative relationship development—as a product of the quality of government—and democracy appears to have a negative effect in some cases but a positive effect in others.

Using data for 110 countries for the 1996–2007 period, Aidt (2011) examines the relationship between various indicators of corruption and sustainable development as measured by genuine investment, concluding that corruption has a detrimental effect on sustainable development.

5.6.2.5.2 Human Right Protection

In the context of economic sustainability, critics have emerged of the sustainable development agenda, MDGs and SDGs, accusing both of failing to protect human rights. Among other studies, Frey and Macnaughton (2016) demonstrate that the sustainable development framework, MDGs and SDGs, have not addressed full employment and decent work in a manner consistent with the International Labour Organisation’s Decent Work Agenda and the UN member countries’ international human rights legal obligations. Frey and Macnaughton (2016), in their critique of the SDGs, argue that the 2030 development agenda is more concerned with market-based economic growth strategies than with the realisation of human rights to full employment and decent work for all.

In terms of sustainable development, a study by Frey and Macnaughton (2016) suggested that the UN General Assembly and UNDP adopted the ILO Conference Report framework, which suggests that human rights protection is critical for the development of international standards for decent work. The agenda proposes that the ILO’s (1999) work be concentrated on four strategic objectives or pillars: labour rights, employment promotion, social protection, and social dialogue (UN and UNDP, 2015).

It is noted that the discussion of the relationship between human rights protection and sustainable development has received scant attention. The existing literature discussed the relationship between development and human rights protection through narrative studies with the conception that human right protection is a critical aspect in achieving better sustainable

development by using a variety of approaches, including poverty (Langford, Sumner, & Yamin, 2013; Vizard, 2006), decent work and employment (MacNaughton & Frey, 2010). Furthermore, numerous studies criticise the absence of a sustainable development agenda that incorporates human rights protection (Alston, 2005; Darrow, 2012; Pogge & Sengupta, 2015; Uvin, 2004)

5.6.2.6 Social Development

5.6.2.6.1 Gender Equality

Although the discussion of gender equality in its relationship with the sustainable development is very limited, numerous studies have established a link between individual aspects of development, particularly related to social and economic sustainability, with various topics such as the wage differentials, health inequalities and educational disparities among genders

Numerous studies have established a link between overall sustainable development and women's welfare, implying that increased welfare results in increased status for women and vice versa.

Mikkola (2005) argued that the relationship between women's relative status and development does not follow a one-way causal chain in either direction. According to Andersson, Hank, Rønsen, and Vikat (2006), gender inequality developed as a result of a hierarchical view of genders in which men are viewed as superior to women, implying that women are viewed as inferior and less valued due to their gender. For example, a gender hierarchy with a lower value placed on girls persists in new-born son preference (Andersson et al., 2006) and is associated with divorce (Dahl and Moretti, 2004). Additionally, as Mikkola (2005) demonstrates, the gender hierarchy manifests itself in the family, inheritance laws and customs, the valuation of women's work in comparison to men's work, and decision-making power in society, the family, the church, and social networks.

Several empirical studies (i.e., Barro, 1996a; Barro, 1996b) established that the effect of women's status on growth and social development is evident in studies in which women's education is used as an explanatory variable in empirical growth regressions. Among others,

Barro (1996b) suggested that explanatory variables such as human capital (average number of years of secondary and higher school for males and females aged 25 and over; life expectancy) and health (total fertility) have a strong relationship with growth rates.

Although the discussion of gender equality in its relationship with the sustainable development is very limited, numerous studies have established a link between individual aspects of development, particularly related to social and economic sustainability, with various topics such as the wage differentials, health inequalities and educational disparities among genders

In terms of educational inequalities, a number of scholars have exposed this reality and proposed a variety of policy implications for closing the gender gap in education. For example, Klasen (2000) established that educational inequality has a direct effect on the country's economic growth, while also having an indirect effect on population and investment growth. Klasen and Lamanna (2009) examined the relationship between education inequality, unemployment, and economic growth in a panel of diverse countries and found that gender discrimination in education and employment significantly reduces a country's economic growth, necessitating extensive human rights reforms to close the gender gap in social equality.

Knowles, Lorgelly, and Owen (2002) emphasised the importance of female education in significantly increasing labour productivity, while empowering women through education and closing gender gaps is a critical task for policymakers seeking to accelerate global economic prosperity. Bandiera and Natraj (2013) investigate whether gender inequality obstructs countries' economic growth and development phases, but the mechanism by which gender inequality affects countries' economic growth and development phases remains unknown. Extensive and collaborative work is required to establish causal links between gender inequality and economic growth across the globe using cross-sectional and panel data.

Additionally, several studies demonstrated that health inequalities may have a significant impact on pro-equality growth arguments, which should be equitable in order to achieve broad-based growth. Risch et al. (1993) argued that female smokers are more likely to develop lung cancer than male smokers, necessitating a strong focus on female health in order to avoid cigarette smoking for longevity. Arber and Ginn (1995) emphasised the importance of health and education as strong predictors of employment or self-employment. Bloom, Canning, and

Sevilla (2001) concluded that while good health increases economic output, it also has a significant and sizeable effect on all economic dimensions globally.

Inequalities in the labour market are frequently cited as the most discriminatory factor impeding pro-equality growth reforms globally. As a result, the rigid labour market tends to further contract the job market for females, particularly when offered at a marginal wage rate relative to male workers. Seguino (2000) argued that gender wage inequality increases in lockstep with economic growth, but the channel through which it affects economic growth is associated with the investment share of GDP, which contradicts previous research on the slow pace of economic growth caused by rising inequality globally. M. Amin, Kuntchev, and Schmidt (2015) confirmed that greater gender inequality impedes poor countries' economic growth, whereas this relationship has vanished in relatively wealthy countries. Oostendorp (2009) concluded that the gender wage gap decreases as economic development increases, and then declines in richer countries as a result of trade liberalisation policies and financial investment. However, the results vanish in poorer countries, where little evidence exists in favour of FDI inflows and trade to reduce the gender wage gap appropriately.

Concerning the importance of gender equality in achieving the current sustainable development agenda, MDGs, and SDGs, critics of Razavi (2016) study emphasised the importance of women empowerment and gender equality in the SDGs, despite his argument that the SDGs are somehow less sensitive to the MDGs, which should require more policy interventions to address gender inequality globally.

To quantify gender equality in the context of sustainable development, this study builds on Haroon Khan et al. (2017)'s work by utilising the Gender Parity Index (GPI) of labour force participation rate, which compares the proportion of female to male population aged 15 and older who are economically active and provide labour for the production of goods and services over a specified period. The World Bank's database is used to compare female participation to male participation in the existing labour force in order to reach a meaningful conclusion. According to Haroon Khan et al. (2017), such a measurement is critical in the distribution-sensitive measure that accounts for the development impact of existing gender gaps in the components of sustainable development, although he criticised labour market initiatives aimed

at closing the gender divide as requiring massive reforms to provide female employment and maintain the female labour force ratio.

5.6.2.6.2 Refugees

Numerous studies have been conducted to ascertain the effect of a refugee inflow on residents' economic livelihoods. They differ significantly in their analysis focus (labour market, goods market, or aggregate effects); methodological approach; time horizon; and context, which includes the size of the refugee inflow, the host region's income level, and policy framework. Unsurprisingly, findings vary considerably, although the majority indicate that host communities could take benefit in general (Khoudour & Andersson, 2017; Verme & Schuettler, 2021).

Among them is a study conducted in collaboration with the World Food Program (WFP) and a team of researchers at the University of California (E. Taylor et al., 2016). By feeding micro survey data into localised general equilibrium models, they examine the impact of three Congolese refugee camps in Rwanda on host communities. Thus, they estimate not only aggregate effects but also the contributions of individual channels: labour market effects, price effects, and national economy spill overs. In two camps, refugees received cash assistance via mobile phone transfers, while in the third, refugees received in-kind assistance.

E. Taylor et al. (2016) identify significant positive effects for residents living within a 10-kilometer radius of cash camps. A new refugee increases total real annual income in the area by 63% and 96% of baseline per capita income in the area surrounding each camp, respectively, indicating positively significant multiplier effects (E. Taylor et al., 2016). Economic spill overs occur when refugee households and businesses in the camps purchase goods and services from resident-owned businesses located outside the camps.

On the contrary, Verme and Schuettler (2021) found that several economic variables such as the labour market, wages, and local prices were negatively associated with the local residents of the hosting country (2019). In the case of employment, for instance, they discovered that refugees have a detrimental effect on residents in the host country's labour market, although the effects vary significantly across refugee situations, in part because the socioeconomic

characteristics of refugees (i.e., language abilities, education, work experience) heavily influence how refugees compete with residents in the labour market.

In the context of education and social sustainability, there are several well-documented cases of Syrian refugees in the Middle East (Ferris & Kirisci, 2016), Dadaab refugee camps in Kenya (Enghoff et al., 2010), and Syrian refugees in Lebanon (Kabbanji & Kabbanji, 2018) where they discovered similar outcomes where sustainable advancements in the education sector occurred in response to a refugee influx.

From a health and social sustainability perspective, a study of Maystadt and Verwimp (2014) on Tanzania's health care and sanitation systems suggested that the presence of refugees benefited the hosting country, with health care systems improving in response to an inflow of refugees and residents benefiting in the medium and long run. Additionally, they discovered that while many services were unavailable to local residents when the refugee inflow began, UNHCR and local partners gradually expanded access to these services. According to reports, approximately 30% of users are residents, and the quality of health services is significantly higher than elsewhere in Tanzania (Maystadt & Verwimp, 2014).

The impact of a refugee influx on physical infrastructure development is unambiguously positive. The region surrounding a refugee camp typically benefits from improved road access and transportation, benefiting not only refugees, but also host communities, and hence contributing to socioeconomic development (Maystadt & Verwimp, 2014; S. Miller, 2018).

5.6.2.7 Human Capital

5.6.2.7.1 Health

Numerous studies have examined the relationship between health and sustainable development, though most have been qualitative or narrative in nature. Among others, Baye (2017) argued that the SDGs cannot be achieved without improving child and maternal health. With a particular emphasis on health digitalisation, Asi and Williams (2018) discussed the role of digital health in achieving the SDGs, highlighting how SDG 3 could be achieved if digital health in the form of telehealth and mHealth provided an appropriate resource platform for

these initiatives. As a result, increased investment in data collection efforts, aided by digital health technologies, standardised electronic medical records, and context-specific data warehousing efforts, will aid in the collection and management of accurate data.

Menne et al. (2020) proposed the E4A approach to assist WHO European Member States in achieving the health-related SDG targets through the use of five building blocks: engage, assess, align, accelerate, and account. These building blocks are composed of processes, policies, activities, and interventions that operate in synchronised and continuous action. As suggested by Menne et al. (2020), the E4A approach may have a beneficial effect on accelerating sustainable development.

Morton, Pencheon, and Bickler (2019) discussed how the public health sector could leverage the SDGs to address future health and climate change challenges. They argued that three dimensions of sustainable development should be prioritised: social, economic, and environmental. Three critical issues confronted public health: (a) a systemic approach to future-proofing health and social justice; (b) an evidence-based approach to facilitating communication, engagement, and framing; and (c) the critical role of interventions that deliver immediate and long-term benefits to health, equity, and prosperity. Additionally, Takian and Akbari-Sari (2016), Tamsma and Costongs (2018), Dietler et al. (2019), Y. Lee and Kim (2019), and Sipido and Nagyova (2020) have discussed the critical role of public health in achieving the Sustainable Development Goals.

Four health indicators are highlighted in the context of sustainable development to help achieve the SDGs: access to medicines, selection and rational use, sustainable financing, reliable distribution, and affordable price. The study discovered that the quality of medicines is dependent on the compliance with technical standards covering a variety of factors falling under three broad categories, namely quality, safety, and efficacy.

Additionally, Nazar, Meo, and Ali (2020) suggested that the discussion of health indicators should include discussions of trade indicators, as health and trade services are central to the SDGs. As a result, short-, medium-, and long-term measures to improve access can be adopted in the context of the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement, the TBT (Technical Barriers to Trade) agreement, the GATT (General Agreement on Tariffs and Trade), and the GPA (Government Procurement Agreement). In a nutshell, the study's

recommendations identify a number of critical aspects of health and trade rules that could be reformed to ensure that international health and trade policies contribute to ensuring healthy lives for all people and achieving the Sustainable Development Goals.

Following Heymann et al. (2017) and Haroon Khan et al. (2017), this study will use infant mortality rate as a proxy of health indicator. As discussed by Haroon Khan et al. (2017), health reforms are necessary for a nation to be healthy and prosperous in order to address child mortality as health inequalities may have a significant impact on arguments for pro-equality growth, which should be equitable for broad-based growth that led to sustainable development. In addition, Heymann et al. (2017) discussed sustainable development and its relationship to health indicators (including infant mortality, maternal and child health), as well as paid parental leave. Within the context of SDGs, their study analyses the literature on paid leave and related policies that are relevant to SDG 1 (poverty), SDG 3 (health), SDG 5 (gender equality), SDG 8 (decent work), and SDG 10 (inequality), and presents global data on the prevalence of policies in all 193 UN Member States. They discovered that maternal and infant/child health along with paid parental leave may help achieve a variety of SDG outcomes related to health indicators. Furthermore, Paid leave has been linked to lower infant mortality and increased vaccination rates across national income levels and increases exclusive breastfeeding and may improve women's economic outcomes in high-income countries, according to studies.

5.6.2.7.2 Education

Numerous studies (i.e., Quiroz-Niño & Murga-Menoyo, 2017) have discussed the significance of education as a variable of human capital in social economy initiatives that hold great promise for achieving sustainable development, despite the fact that the majority of the literature is narrative and theoretical in nature.

Among others, Rao-Nicholson, Vorley, and Khan (2017) elaborated on the critical nature of education in an era of disruptive technologies. They argued that changes in organisations and society have resulted in the creation of new opportunities and the development of novel business models, resulting in a significant increase in the importance of all social and economic activities (Rao-Nicholson et al., 2017). In this context, several studies (i.e., Rieckmann, 2012; Visvizi, Lytras, & Daniela, 2018) suggested that education is a critical component of the

success of sustainable development initiatives because they must integrate innovative practises and models, knowledge and new technologies, and higher levels of education serve as a link between these factors and society.

In terms of educational quality, Przychodzen, Gómez-Bezares, Przychodzen, and Larreina (2016) suggested that the ability to influence graduates and instil a sense of leadership will also support a strategy for promoting sustainability. Additionally, (Leal Filho et al., 2018) demonstrated that sustainable development education fosters cross-disciplinary approaches, individual engagement, and the development of synergistic group actions that contribute to the reduction of entrepreneurship complexity and uncertainty.

Education and the socio-collaborative interactions that occur during learning activities contribute to a sustainable future Aziz, Yusof, Udin, and Yatim (2013). As a result, Aleixo, Leal, and Azeiteiro (2018) emphasised that education can equip students with the knowledge and skills necessary to initiate sustainability initiatives. Sustainability enables more efficient, profitable, and economical management of educational projects. Thus, the holistic perspective on sustainability attracts and connects students, higher education institutions, and society. As suggested by Ofei-Manu and Didham (2018), these connections may facilitate the acquisition of knowledge from multiple disciplines in order to address sustainability challenges.

Holgaard, Hadgraft, Kolmos, and Guerra (2016) discussed the critical role of all stakeholders in advancing sustainable development, which can be accomplished by strengthening education at all levels by involving all actors in the learning process and by integrating sustainability competencies into each disciplinary context. Emphasizing the benefit of high-quality education, Chin and Jacobsson (2016) believed that high-quality education at all levels could foster critical thinking in order to balance the economic and social needs of a sustainable project. Additionally, Karlusch, Sachsenhofer, and Reinsberger (2018) investigate the role of high-quality education in entrepreneurship and identify sustainability as a competitive advantage for the new business generation.

An empirical study conducted by Šlaus and Jacobs (2011) discovered that education is a determinant factor of employment, growth, and development. They demonstrated through cross-country studies that an additional year of schooling is associated with a 30% increase in per capita income. They also found that higher levels of education are associated with increased

employment and income. Furthermore, Šlaus and Jacobs (2011) suggested that unemployment is significantly higher for those with the least education and lowest for those with at least a secondary education, while an additional year of schooling increases earnings by between 6% and 14%.

5.6.2.8 ICT

The empirical study of the role of information and communication technologies (ICT) in achieving sustainable development has not been fully explored. While there is a wealth of literature on ICTs and development in general, little research has been conducted on their strategic importance for sustainable development, particularly in light of their complex relationship with economic transformation and their role in knowledge mobilisation and governance. According to Wolters and Boer (2002), economic growth is contingent upon the economy's readiness for international competitiveness, which is a function of embracing the knowledge-based economy. Thus, if economic growth is to be sustainable, the increasing adoption of ICTs must be sustainable as well.

Numerous researchers and development organisations have recognised the importance of ICTs for sustainable development, with a particular emphasis on their role in shrinking time boundaries and geographical remoteness (Al-Jaghoub & Westrup, 2003; Badii & Sharif, 2003; Beckett & Jonker, 2002; Crowston, Sawyer, & Wigand, 2001). Furthermore, Wolters and Boer (2002) argue that ICT adoption is sustainable as long as it contributes to economic growth. More precisely, EITO (2002) reports that sustainable development information and communication technologies (ICTs) offer a solution to the traditional trade-off between economic growth, social cohesion, and the environment. The author recommends that sustainability values be integrated into the information society during its formative years in order to maximise environmental and social opportunities and mitigate associated risks.

The relationship between ICTs and economic growth is intrinsically complicated and occasionally contentious. However, it is widely believed that information within the context of the 'knowledge-based economy' is critical for socioeconomic and sociotechnical development, as it generates knowledge necessary for sustainable development. According to Schreyer (2000), various professionals within organisations are paying close attention to the relationship

between ICTs and economic development. However, Robertson and Hammersley (2000) stated that technology was viewed as a tool for low-level communication and coordination within organisations and was frequently abused rather than exploited for Knowledge Management (KM) purposes.

Within the context of sustainable development, Jayaprakash and Pillai (2021) conducted an empirical study using panel data analysis to examine the impact of ICTs on the sustainable development from 2000 to 2016. The findings indicate that ICT has a significant positive effect on several dimensions of a nation's sustainable development. However, further examination using mediation analysis reveals that ICT has a significant impact on the economic dimension, and that the spill over effects of the economic dimension result in the realisation of the environmental and societal dimensions of sustainable development.

Scholars and policymakers have recognised the potential for information and communication technologies (ICT) to empower marginalised communities and promote sustainable development (Huyer & Carr, 2002; Unwin & Unwin, 2009; Walsham & Sahay, 2006). According to Rotondi, Kashyap, Pesando, Spinelli, and Billari (2020), the digital revolution facilitated the leapfrog of communication technologies such as landlines and fixed internet connections (i.e., broadband) in several countries with otherwise inadequate infrastructure, such as those in Sub-Saharan Africa and South Asia. One of the most important tools of ICT, mobile phones have demonstrated in a variety of contexts that they can facilitate effective communication and connectivity, as well as access to vital information and services related to health, education, and the economy.

Mobile-phone-based healthcare interventions have been widely implemented to increase appointment attendance, treatment adherence, and connectivity, thereby enhancing the capacity of remote and less-trained health personnel (C. Hall, Fottrell, Wilkinson, & Byass, 2014; Holmes, 2010; Noordam, Kuepper, Stekelenburg, & Milen, 2011). These interventions have been shown to improve antenatal care attendance (Lund et al., 2014), perinatal mortality (Lund et al., 2014), clinical outcomes of HIV-positive pregnant women (Coleman et al., 2017), contraceptive use (Castaño, Bynum, Andrés, Lara, & Westhoff, 2012; C. Smith, Gold, Ngo, Sumpter, & Free, 2015) and acceptability (McCarthy et al., 2017). Increased affordability of mobile phones has the potential to facilitate autonomy and empowerment outcomes,

particularly for women, through channels such as increased financial independence and improved labour market prospects (Suri & Jack, 2016), increased decision-making power in domestic and public domains (Hoan, Chib, & Mahalingham, 2016), and effectively freeing up women's time for caring and domestic work (Hoan et al., 2016; Wekwete, 2014).

Additionally, studies indicate a correlation between mobile phones and improved food security and dietary quality (Sekabira & Qaim, 2017) as well as improved educational outcomes (Aker, Ksoll, & Lybbert, 2012). Thus, Rotondi et al. (2020) suggested that if the potential of mobile phones is fully realised, this technology has the potential to be a cost-effective tool for advancing the realisation of several key SDGs as mobile phones have the potential to play a critical role in ensuring healthy lives and promoting individual well-being at all ages (SDG 3) and achieving gender equality through the empowerment of girls and women (SDG 5), as well as in reducing poverty in all its forms (SDG 1) and meeting key population targets (Abel, Barakat, Samir, & Lutz, 2016; Lutz, 2017).

Avom, Nkengfack, Fotio, and Totouom (2020) examined the direct and indirect effects of internet and mobile phone penetration on carbon emissions using a sample of 21 African countries from 1996 to 2014. They discovered that internet users and mobile phone subscribers have a negative and significant effect on environmental quality by increasing carbon emissions. Their findings indicate that CO₂ emissions increase monotonically as ICT penetration increases, which is consistent with Park, Meng, and Baloch (2018) and J. W. Lee and Brahmasrene (2014) but not with Higón, Gholami, and Shirazi (2017), Ozcan and Apergis (2018), or Haseeb, Xia, Saud, Ahmad, and Khurshid (2019). Possible explanations for these disparate findings include, as suggested by Avom et al. (2020), that increased ICT penetration in African countries is associated with inefficient energy use and a high reliance on fossil fuels for electricity generation.

This study will use mobile phone cellular subscription as a proxy of ICT following the study of Rotondi et al. (2020) that used a mobile phone cellular subscription dataset to demonstrate positive associations between several key sustainable development indicators and mobile phones on a large scale. At the global level, they demonstrated how the spread of mobile phones over time is associated with decreased gender inequality, increased contraceptive use, and decreased maternal and child mortality rates, and more importantly, that these associations are

strongest in absolute terms for countries in the lowest development quintiles (following a J or reversed-J shape). Additionally, individual-level analyses in Sub-Saharan Africa have demonstrated that women who own a mobile phone are more informed about where to access sexual and reproductive health services and are more capable of making their own household decisions, including regarding contraception. Individual-level analyses have suggested a pathway for macro-level results to emerge via these channels of increased knowledge and decision-making power. In essence, Rotondi et al. (2020) argued that macro and micro analyses produce consistent and complementary findings that aid in comprehending the broader implications of the digital revolution on social development processes.

5.6.2.9 Environmental Performance

Numerous studies have examined the link between environmental performance and sustainable development, most notably the relationship between CO₂ emissions and economic viability.

Environmental well-being is critical for sustaining economic growth and development, as the natural environment provides direct inputs for production and various environmental services also contribute significantly to national output (Toman, 2003). As a result, environmental protection policies are gradually being emphasised in order to achieve sustainable economic growth and development (Dogaru, 2013). Numerous studies have been conducted in the existing literature to examine the impact of environmental degradation on economic growth globally. For example, climate change is recognised in the literature as a factor impeding economic growth and undermining social development (Kahia, Jebli, & Belloumi, 2019; Marques, Fuinhas, & Leal, 2018; Mikayilov, Galeotti, & Hasanov, 2018). As a result, the economic growth narrative has made significant reference to the effects of climatic variation on sustainable development.

Fankhauser and Tol (2005) examined the effects of climatic change on economic progress in developed economies. The authors concluded that adverse effects of climate change depress national output levels, which in turn reduce capital investment, implying that economic growth will likely slow as well. Similarly, Distefano and Kelly (2017) stated that climate change results in water scarcity, which reduces economic activity across the OECD countries both directly and indirectly. Sulaiman and Abdul-Rahim (2018), as well as L. Li, Hong, and Peng (2019),

have documented similar effects of sea-level rise caused by climate change. On the other hand, climate change is frequently believed to have a detrimental effect on economic prosperity by affecting global agriculture. According to Karimi, Karami, and Keshavarz (2018), extreme weather conditions caused by the global climate change phenomenon are likely to reduce agricultural crop yields in Iran. As a result, the authors advocated for the adoption of appropriate climate change adaptation strategies to boost Iran's agricultural production in the face of extreme weather conditions.

Several studies (i.e., M. Ahmad et al., 2021; Ehigiamusoe & Lean, 2019; K. Li et al., 2021) emphasised that the persistent increase in global CO₂ emissions continues to be a source of concern for policymakers, particularly in light of the negative effects of climate change on global economic growth and sustainable development. Because CO₂ emissions are believed to be the primary driver of climate change, they argued that limiting them is necessary not only for addressing climate change but also for sustaining global economic growth. As a result, numerous studies examined the CO₂ emission-economic development nexus on a country-by-country and cross-country basis. However, several of these studies focused on the economic consequences of CO₂ emissions.

On the contrary, several studies have discovered that in many cases, the increase in CO₂ emissions was a result of economic acceleration. Among others, Gao and Zhang (2021) demonstrated the unidirectional causality between economic progress and CO₂ emissions in the short run in a study involving 13 Asian countries. The authors asserted that an acceleration of economic progress at the macroeconomic level during the early stages influences the CO₂ emission figures of these Asian economies. In contrast, the authors discovered a long-run reverse causality between these variables, implying that the long-term growth of the selected Asian economies is conditional on their CO₂ emission levels. Teng, Khan, Khan, Chishti, and Khan (2021) concluded in another pertinent study that economic growth induced by globalisation strategies can increase CO₂ emissions into the atmosphere. Similarly, Muhammad, Khan, Khan, and Khan (2021) asserted that the BRICS economic growth is resulting in increased CO₂ emissions in the long run. Chishti, Ahmad, Rehman, and Khan (2021) concluded in another recent study on the BRICS economies that implementing expansionary monetary and fiscal policies in order to achieve higher economic growth exacerbates these countries' long-run CO₂ emission levels.

Numerous studies also argue that economic progress has resulted in environmental degradation as a result of increased CO₂ emissions. Among others, Hwang and Yoo (2014) use economic progress to causally influence Indonesia's CO₂ emission levels without relying on feedback. Boontome, Therdyothin, and Chontanawat (2017) predicted similar long-run outcomes for Thailand. In another pertinent study on Nigeria, Rafindadi (2016) used the ARDL model to argue that economic growth, despite its ability to reduce energy demand, increases Nigeria's CO₂ emissions. On the other hand, Lotfalipour, Falahi, and Ashena (2010) discovered statistical evidence of unidirectional causality in the long run between economic development and Iran's CO₂ emissions levels. Similarly, when comparing India and China, Govindaraju and Tang (2013) predicted unidirectional short- and long-run causal relationships between economic development and carbon emissions for China, but only a short-run unidirectional causal relationship between economic development and carbon dioxide emissions for India.

To assess a country's overall environmental performance, this study, following Strezov, Evans, and Evans (2017), employs the Environmental Performance Index (EPI), which provides a data-driven summary of the global state of sustainability. The EPI ranks 180 countries on environmental health and ecosystem vitality using 32 performance indicators across 11 issue categories. These indicators serve as a barometer of how close countries are to meeting established environmental policy targets on a national scale. The EPI provides a scorecard that identifies environmental leaders and laggards and provides practical guidance to countries aspiring to a more sustainable future.

5.6.2.10 Other Variables

5.6.2.10.1 Population Density

There are very few empirical studies examining the relationship between population size/density and sustainable development in an integrated framework. Rather than that, numerous studies have examined the impact of population size and density on various aspects of sustainable development, including natural resources, economic growth and industrialisation, labour markets, and environmental performance.

Numerous studies have demonstrated that while high population density can certainly have negative consequences due to increased population pressure on scarce resources such as farmland, higher densities can also be associated with increased economic activity intensity via agglomeration economies (Fujita, Krugman, & Venables, 1999; Krugman, 1996).

Within the context of environmental sustainability, few studies have been conducted on the effect of population density on carbon emissions, despite the fact that the impact of population growth on environmental quality is obvious due to increased pressure on scarce resources such as energy. According to Engelman (1998) and O'Neill, Balk, Brickman, and Ezra (2001), population density has been identified as a significant factor in both developed and developing countries' carbon emissions. Al Mamun, Sohag, Mia, Uddin, and Ozturk (2014) use a panel dynamic approach to examine the relationship between CO₂ emissions and population growth, as well as several other variables, for a total of 136 countries over the 1980–2009 period. They found that in the long run, population size increased CO₂ emissions. Additionally, Ohlan (2015) discovered a statistically significant positive effect on India's CO₂ emissions in the short and long run.

Additionally, Rahman and Alam (2021) established causal relationships between population density, clean energy, urbanisation, economic development, trade openness, and environmental pollution in Bangladesh using 1973-2014 data. They discovered that population size and density have a detrimental effect on the environment. Additionally, Rahman and Alam (2021) discovered that while the use of clean energy improved environmental quality, urbanisation and economic growth had a detrimental effect on the environment. They also discovered a unidirectional causality between CO₂ emissions and clean energy, economic growth, and urbanisation. For the sake of policy recommendation, they suggested that greater use of clean energy be ensured in order to reduce environmental pollution.

On the other hand, a few studies have demonstrated that population density may have a beneficial effect on economic sustainability. According to Y. Liu and Yamauchi (2014), urbanisation is a manifestation of these agglomeration economies and in rural areas, high population density can foster the development of non-agricultural industries that are frequently inextricably linked to urban markets. Additionally, several studies stressed that whether increased population density has a beneficial or detrimental effect depends on the magnitude

of demand-driven migration inflows relative to supply-driven natural growth. Schultz (2007) explained that natural population growth is a result of fertility and mortality dynamics. Furthermore, W. A. Lewis (1954) argued that population density is not the only factor affecting economic growth and industrialisation when considering the factors affecting population density. According to W. A. Lewis (1954), migration can be a significant factor in determining population growth in an area. Significant migration from rural to urban areas not only alleviates rural population pressures, but also contributes to industrialisation by providing low-cost labour to urban sectors. As a result, improved transportation between rural areas and urban centres facilitates labour mobility.

To capture an impact of population size in the sustainable development, this study follows Rahman and Alam (2021) by employing population density (people per sq. km of land area). The population is calculated using the de facto definition of population, which includes all residents regardless of legal status or citizenship, with the exception of refugees who are not permanently settled in the country of asylum, who are generally considered to be part of their country of origin's population.

5.6.2.10.2 Legal Origin

It should be noted that there is a dearth of literature on the role of legal origin and its relationship to sustainable development in an integrated framework. Most notably, the literature connecting history and development discourse stems from a variety of studies, most notably Engerman and Sokoloff (1994), La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997), Acemoglu, Johnson, and Robinson (2001), and La Porta, Lopez-de-Silanes, and Shleifer (2008). These studies examine one of the most significant events in world history: the impact of European expansion and the subsequent colonisation of the globe in the sixteenth century. European colonisation, as evidenced by studies, has a long-lasting effect on the development paths of formerly colonised countries. Additionally, they conclude that a critical component of the causal mechanism was the impact of colonial rule on post-independence national institutions. Furthermore, the three lines of research are conceptually consistent in that they all argue that a society's institutions are a significant determinant of long-term development and that historical events can be a significant determinant of national institutions' long-term evolution and persistence. The distinction between the studies, however, is in their

perspectives on the aspects of colonial domination that were critical in the formation of institutions and in the particularities of the proposed causal mechanisms.

According to La Porta et al. (1997) and La Porta et al. (2008), the identity of the coloniser dictated whether a civil law or common law legal system was established, both of which were necessary for long-term development. Unlike La Porta et al. (1997) and La Porta et al. (2008), Engerman and Sokoloff (1994) as well as Acemoglu et al. (2001) share the view that the characteristics of the colonised region were critical in determining the effect of colonial domination on long-term development. According to Acemoglu et al., the disease's initial environment dictated the extent to which secure property rights were established in the colony, and their persistence had a significant effect on long-term development. La Porta et al. (1997) and La Porta et al. (2008)'s primary analysis focuses on the distinctions between legal systems based on British common law and Roman civil law. According to them, countries with a legal system based on British common law provide greater investor protection than countries with a legal system based on Roman civil law. They then acknowledge that common law legal systems have been transplanted into British colonies, while European countries with a legal system based on Roman civil law –Spain, France, and Portugal– have transplanted civil law legal systems.

Acemoglu et al. (2001) established that colonial regimes influenced a country's future development, whereas A. Banerjee and Iyer (2005) examined the significance of colonial land revenue systems in India. Similarly, Nunn (2008) argues that the slave trade in Africa was detrimental to the continent's development. Additionally, Acemoglu et al. (2001) concentrated on another factor that contributed to the evolution of institutional differences between former colonies. They hypothesised that because colonies with a less lethal disease climate were more numerous in Europe, growth promotion institutions had been established to safeguard property rights during colonial rule. Colonisers in colonies with high mortality rates and small populations in Europe had no incentive to establish secure property rights, preferring instead to establish extractive rent-seeking institutions. Using this logic, the causal effect of current national institutions on per capita income can be estimated using Europe's early mortality rates as an instrument for institutions.

To capture the legal origin of OIC member countries, this study follows La Porta et al. (1997) and La Porta et al. (2008)'s classification of legal origins to gauge historical development. As is well known, they distinguished between civil and common law, resulting in the formation of four legal families: the Anglo-Saxon for common law and the French, German, and Scandinavian for civil law. According to La Porta et al. (2008), the historical origins of domestic legal systems have a significant impact on legal rules, regulatory practises, and economic outcomes.

5.6.2.10.3 Geographical Factors

Economists are increasingly convinced that geographical factors (i.e., such as location, region, climate, environmental condition, and geographical accessibility) play a significant role in determining sustainable development potential. There is some notable literature on the relationship between a country's geographical location and its development (i.e., Acemoglu, Johnson, & Robinson, 2006; Bloom, Sachs, Collier, & Udry, 1998; Engerman & Sokoloff, 1994; Gallup, Sachs, & Mellinger, 1999; Jones, 1997; Masters & Wiebe, 2000; McMillan & Masters, 2000; J. Sachs, 2000). They assert that a strong correlation exists between geographic variables and per capita income levels across countries. Hall and Jones, for example, observe that per capita income is positively correlated with the absolute value of latitude in a sample of countries.

Additionally, Gallup et al. (1999) emphasise the lower GNP per capita in tropical countries, where the tropical climate has a detrimental effect on people's health and agricultural productivity. According to this study, certain findings include the following: (i) Geographically tropical countries are poor, while almost all central and high latitude countries are wealthy; and (ii) Coastal countries generally have higher incomes than landlocked countries. Indeed, none of Europe's twenty-nine landlocked countries has a high per capita income. In their studies, they used GDP per capita and GDP growth as dependent variables to estimate development.

Similarly, McMillan and Masters (2000) emphasise the beneficial effects of winter freeze on agricultural productivity and, thus, on overall development in countries with winter freeze. Three axes can be identified in this approach: (i) the climate, which influences land and human productivity; (ii) geographical features, which influence mobility and transportation; and (iii)

the persistence of certain diseases (disease burden), which appears to be influenced by the biophysical conditions of the environment. As a result, countries located between the tropics or without access to the sea face greater challenges when it comes to implementing a successful development strategy (Alonso, 1980).

Bloom et al. (1998) suggested that climate classification might be a factor in countries' development progress, as productivity growth in tropical countries has lagged far behind that in mid-latitudes since the mid-nineteenth century. Additionally, it is believed that the temperate zone will continue to be a dynamic centre of innovation in the advancement of development. The disparities in productivity growth and innovation are almost certainly the result of the interaction of four interconnected factors. To begin, many technologies, such as those used in agriculture and construction, do not transfer well from one ecological zone to another. Second, temperate zones have a long history of experiencing much faster rates of endogenous technical change than the tropics. Third, the tropics appear to present a few inherent challenges, particularly in agriculture and public health. Fourth, the tropics suffer from a disadvantage simply due to their isolation from the large mid-altitude markets.

Prominent scholars (i.e., Braudel, 1972, 1995; Crosby, 2004; Jones, 1997; McNeill William, 1963) have incorporated geography and climate into their explanations for Europe's development progress. More precisely, Braudel (1972) and Braudel (1995) emphasise the critical role of the Mediterranean and North Atlantic coastal countries in establishing world capitalism following the fifteenth century. McNeill William (1963) similarly emphasises Europe's significant advantages in coastal trade, navigable rivers, temperate climate, and disease patterns as necessary conditions for its take-off and dominance of Australia and America. Additionally, Crosby (2004) discusses the advantages of temperate zones for climate, disease ecology, and agricultural productivity.

To ascertain the extent to which geographical patterns affect economic development, (Alonso, 1980) emphasises the critical role of geographical factors in determining a country's economic progress and development. He makes use of a variety of geographic variables, including latitude, landlocked status, average altitude, and average humidity. Additionally, he incorporates natural resource variables (i.e., oil exports) and geographic variables (i.e., regions or continents) to estimate the institutional quality of countries in relation to their development

progress. In summary, Alonso concludes that geographical conditions appear to have influenced countries' prospects for advancement.

To capture geographical factors and their impact of on sustainable development, this study will follow Gallup et al. (1999) and Alonso (1980) in which they suggested that climate conditions play a significant role in development because empirical evidence indicates that geographically tropical countries are still developing, whereas almost all temperate zone and high latitude countries are considered developed. Furthermore, this study will employ the Köppen climate classification system that is one of the most widely used. It was first published in 1884 by German-Russian climatologist Wladimir Köppen (1846–1940), who later revised it several times, most notably in 1918 and 1936 (D. Chen & Chen, 2013; Köppen & Geiger, 1930; Rubel & Kottek, 2011).

5.6.2.10.4 Islamic Schools of Thought (*Madhab*)

Madhab is an Arabic term that literally translates as 'path' or 'way to act' (Ibn-Mandzhour, 1883) and refers to a school of thought within the *fiqh* (Islamic jurisprudence) literature. In Islamic tradition, *Shari'ah* (Islamic law) is interpreted differently in various jurisdictions as a result of '*ijtihad*,' an Islamic legal term referring to independent reasoning or the thorough application of a jurist's mental faculties to resolving a legal question, particularly in the case of a discussion not explicitly mentioned in the Qur'an (Gomaa, 2001).

It should be noted that while four Sunni *madhabs* (*Hanafi*, *Maliki*, *Shafii*, and *Hanbali*) are the most prevalent Islamic schools of thought, other schools such as *Ja'fari* (*Shia*) and *Zahiri* (*Ibadi*) are also adopted by certain OIC countries. Among other things, the Hanafi *madhab* doctrine is distinguished by its discretionary jurisprudence in matters that did not occur and imposes their occurrence through the use of an Islamic legal doctrine known as '*Qiyas*', the principles of analogy applied in the interpretation of points of Islamic law when the Qur'an or Sunna are silent on the subject. As a result, Hanafi *madhab* is commonly referred to as the 'school of opinion' (*Madrast ar-Ra'yi*) (Gomaa, 2001). Moreover, Hanafi doctrines have historically been regarded as some of the most adaptable and flexible in Islamic law (Warren, 2013), and thus as the *madhab* with the largest number of adherents, with approximately one-third of Muslims worldwide adhering to it (Centre for European Studies, 2020).

In the context of sustainable development, OIC countries were classified into various *madhabs* based on their vast majority or official application in that country. Furthermore, in relation to the development of Islamic finance, the role of *madhab* is also critical. Islamic financial restrictions on financial products or modes of finance are typically stricter and more selective in countries where *Shari'ah* law is the fundamental law, such as the KSA and Pakistan (Song & Oosthuizen, 2014). Additionally, as a result of Islamic financial regulatory distinctions, certain conventional banks are permitted to offer Islamic banking products and services through an Islamic window. In several countries, including Indonesia, Malaysia, and Saudi Arabia, Islamic windows are permitted to operate, but are prohibited in Kuwait and Qatar (Song & Oosthuizen, 2014)

Table 5. 4 Description of variables for investigating development determinants

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
<i>(i) Dependant variable</i>				
<i>Sustainable development</i>				
Sustainable development measurement	Sustainable Development Index (SDI)	The combination of the calculation result of progress from the measurement of the two global development frameworks, MDGs index and SDGs index.	Author's calculation based on the study of Leo and Thuotte (2011) in MDGs progress index, while in the SDGs index, the data gathered from Sustainable Development Solutions Network (SDSN) and the Bertelsmann Stiftung.	2013-2019
<i>(ii) Explanatory variable</i>				
<i>Islamic finance</i>				
Islamic finance development	Islamic Finance Development Indicator (IFDI)	A measurement of overall development of the Islamic finance industry with the average score on five indicators: (i) Quantitative development (the number of Islamic banks, takaful, other Islamic financial institutions, sukuk, and funds); (ii) Knowledge (the number of educational institutions and research articles); (iii) Governance (the presence of regulation, <i>Shari'ah</i> Supervisory Board, and corporate governance); (iv) Corporate social responsibility (the presence of CSR activities and distribution of funds through Charity, <i>Zakat</i> and <i>Qard Hasan</i>); (v) Awareness (the number of seminars, conferences, and news volume in Islamic finance). Higher score corresponds to the better performance of development.	Islamic Corporation for the Development (subdivision of Islamic Development Bank) and Refinitiv.	2013-2019
<i>Macroeconomic variables</i>				
Economic growth	GDP	Values for gross domestic product (GDP) expressed in US dollars, converted by purchasing power parity (PPP) conversion factor.	World Development Indicators, World Bank	2013-2019
FDI	FDI (% of GDP)	The sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. This data shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP.	World Development Indicators, World Bank	2013-2019

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
Trade	Trade growth	A growth rate of exports and imports of goods and services measured as a share of gross domestic product.	World Development Indicators, World Bank	2013-2019
Labour market	Unemployment	The share of the labour force that is without work but available for and seeking employment.	World Development Indicators, World Bank	2013-2019
<i>Agriculture</i>	Agriculture, forestry, and fishing (% of GDP)	Corresponding to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production with value-added data. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.	World Development Indicators, World Bank	2013-2019
<i>Remittances</i>	Remittances received (% of GDP)	Personal transfers and the compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households. Personal transfers thus include all current transfers between resident and non-resident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by non-resident entities.	World Development Indicators, World Bank	2013-2019
<i>Good governance</i>				
Democratic institution	Democracy Index (0-10)	A data report provided by The Economist Intelligence Unit based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture.	The Economist Intelligence Unit	2013-2019
Human rights protection	Human rights protection index	a measure of the protection of the physical integrity of citizens. It aims to measure how a government protects its citizens' physical integrity by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances. Its values range from -3.8 to around 5.4. It is constructed from an econometric model with variable data from nine sources developed by Schnakenberg and Fariss (2014).	Fariss, Michael, and Kevin (2020), Harvard Dataverse	2013-2019
Control of corruption	Control of corruption index (0-100)	Capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests. This index is part of Worldwide Governance Indicators.	Worldwide Governance Indicators	2013-2019
<i>Social development</i>				
Gender equality	Gender Parity Index (Labour Force Participation Rate)	The ratio of labour force participation rate, female, ages 15-64 to labour force participation rate, male, ages 15-64. A GPI of 1 indicates parity between the sexes; a GPI that varies between 0 and 1 typically	World Development Indicators, World Bank	2013-2019

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
Refugees	Refugee Population by hosted country (head number)	means a disparity in favour of males, whereas a GPI greater than 1 indicates a disparity in favour of females. The total number of people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee like humanitarian status, and people provided temporary protection.	UNHCR	2013-2019
<i>Human capital</i>				
Health	Mortality rate, under-5 (per 1,000 live births)	Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year.	World Development Indicators, World Bank	2013-2019
Education	Expected years of schooling (years)	The sum of age-specific enrolment rates between ages 4 and 17.	World Development Indicators, World Bank	2013-2019
<i>ICT</i>				
ICT development and utilisation	Mobile cellular subscriptions (% of population)	Subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of post-paid subscriptions and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services.	World Development Indicators, World Bank	2013-2019
<i>Environment</i>				
Environmental performance	Environmental Performance Index (0-100)	A data-driven summary of the country's environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets.	Yale Centre for Environmental Law & Policy	2013-2019
<i>Population</i>				
Population density	Population density (people per sq. km of land area)	Midyear population divided by land area in square kilometres.	World Development Indicators, World Bank	2013-2019
<i>Historical development</i>	Legal origin	Historical development based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law	La Porta et al. (2008) and La Porta et al. (1997)	2013-2019

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
	English Common law	origin). The measurement of legal origin in regression analysis is by using dummy equal to 1 if a country legal system is English Common Law origin. Dummy equal to 1 if a country belongs to English Common-law legal origin		2013-2019
	French Civil law	Dummy equal to 1 if a country belongs to French Civil-law legal origin		2013-2019
<i>Geographical factors</i>				
Region	World Banks' regional classification	The classifications of geographic regions based on the World Bank's classification: East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa	World Bank	2013-2019
	Africa	Dummy equal to 1 if a country located in Africa	World Bank	2013-2019
	East Asia & Pacific	Dummy equal to 1 if a country located in East Asia & Pacific	World Bank	2013-2019
	Europe & Central Asia	Dummy equal to 1 if a country located in Europe & Central Asia	World Bank	2013-2019
	Middle East & North Africa	Dummy equal to 1 if a country located in the Middle East & North Africa	World Bank	2013-2019
	Latin America and Caribbean	Dummy equal to 1 if a country located in Latin America and Caribbean	World Bank	2013-2019
	South Asia	Dummy equal to 1 if a country located in South Asia	World Bank	2013-2019
	GCC (Gulf Cooperation Council)	Dummy equal to 1 if an Islamic bank located in a GCC country	GCC report (2021)	2016-2019
Climate	Köppen Climate classification	An empirical climate classification system developed by German botanist-climatologist Wladimir Köppen based on a subdivision of terrestrial climates into five major types: tropical, dry, temperate, continental, and polar.	Köppen Climate classification (Chen and Chen, 2013)	2013-2019
	Tropical	Dummy equal to 1 if a country's climate is tropical		2013-2019
<i>Religion identity</i>	Islamic schools of thought (<i>Madhab</i>)	A school of thought within Islamic jurisprudence characterized by differences in the methods by which certain source texts are understood	Alam et al. (2018) and the University of North Carolina's Centre for European Studies (2021)	2013-2019

Source: Author.

5.7 Variables for Firm Level Perspective

5.7.1 Dependent Variable: Corporate Sustainability Disclosure Practices (CSDP) Score

To assess Islamic banks' sustainability disclosure practices, this study employs a combination of qualitative and quantitative data derived from content analysis of annual reports in order to generate disclosure-related data for sustainability dimensions (social, economic, and environmental) to ascertain the sampled Islamic banks' sustainability practices.

There are numerous content analysis techniques that can be used to determine the degree of disclosure, including word counts (Deegan & Rankin, 1997), line counts, sentence counts (Gray, Kouhy, & Lavers, 1995a; Guthrie & Parker, 1990; Hackston & Milne, 1996a; Sobhani, Zainuddin, Amran, & Baten, 2011), paragraph counts (D. Campbell, 2000), and page counts (Guthrie & Parker, 1990), and phrase counts (C. Beck, Campbell, & Shrives, 2010).

After conducting content analysis on the text, a frequency distribution of words was calculated using three distinct keywords and their derivatives of sustainability dimensions (social, economic, and environmental), and this scoring system was used as a benchmark. The resulting score is then referred to as the corporate sustainability disclosure practices (CSDP) score. The total value of the CSDP score is calculated by adding the values of all sub scores. Total scores value of CSDP score is summed from all sub-scores value of dimensions of sustainability comprises total scores value of three-word frequencies: 'social' dimension, 'economic' dimension, and 'environment' dimension. The method to scoring is additive of unweighted scores that is calculated to the sum of the final CSDP score.

A single measurement (i.e., in this case, CSDP score), is more appropriate in representing the firms level sustainability disclosure practices by taking into considerations some important aspects. In essence, the use of CSDP score is not relatively straightforward (i.e., since there are several formulas as well as modifications made in computing the score). In response to this, CSDP is computed in this study. Detail discussion on the construction of the composite CSDP score is presented in Chapter 7.

5.7.2 Explanatory Variables

5.7.2.1 Financial Performance

5.7.2.1.1 Firm Size

Prior research on the relationship between firm size and sustainability disclosure has established that firm size is a significant determinant of the nature of sustainability reporting because larger firms are more visible to stakeholders and thus provide more voluntary information to satisfy increased stakeholder scrutiny, such as stringent regulations and widespread media attention (Branco & Rodrigues, 2008; Dissanayake, Tilt, & Xydias-Lobo, 2016; Kansal, Joshi, & Batra, 2014; Kuzey & Uyar, 2017; Xianbing Liu & Anbumozhi, 2009; Magali, Michael, & Lara, 2020; Meek, Roberts, & Gray, 1995; Nazari, Herremans, & Warsame, 2015; Sumiani, Haslinda, & Lehman, 2007).

Larger organisations that are subjected to greater social pressure reveal additional voluntary information to demonstrate their corporate citizenship, thereby legitimising their operations (Ghazali, 2007; Matuszak, Róžańska, & Macuda, 2019). Additionally, because large enterprises have more financial resources than small businesses, the cost of voluntary information disclosure decreases for large firms due to economies of scale (Jennifer Ho & Taylor, 2007; Matuszak et al., 2019).

Numerous empirical research (i.e., Chih et al., 2010; Dyduch & Krasodomska, 2017; Gamerschlag, Möller, & Verbeeten, 2011; Haniffa & Cooke, 2005; Meek et al., 1995; Menassa & Dagher, 2019) demonstrate that larger enterprises provide more information about sustainability. Sumiani et al. (2007) concluded, using data from major corporations in Malaysia, that firm size is a significant factor impacting the extent of sustainability information, owing to increased stakeholder scrutiny and external pressures that larger companies experience. Chiu and Wang (2015) discovered a favourable correlation between firm size and Taiwanese firms' corporate social disclosures. In addition, according to Dissanayake et al. (2016), sustainability reporting is extremely important among larger enterprises in Sri Lanka.

Similarly, (Bowrin, 2018) demonstrated that larger enterprises disclose more freely in the Caribbean and Southern Africa. Other researchers have discovered positive relationships between firm size and voluntary disclosures in Bangladesh (Habib Khan, Mohobbot, & Fatima, 2014), Canada (Nazari et al., 2015), China (Xianbing Liu & Anbumozhi, 2009), Ghana (Coffie, Aboagye-Otchere, & Musah, 2018), India (Kansal et al., 2014), Kazakhstan (Orazalin & Mahmood, 2019), and Turkey (Kuzey & Uyar, 2017). Numerous studies have established, within the context of the legitimacy theory, that larger corporations subjected to increased stakeholder scrutiny and external pressures reveal more information in order to prevent potential losses due to illegitimacy.

As discussed by previous literature, the most frequently studied determinants of corporate size are total assets, number of employees, and market capitalization, all of which can be considered to have a positive effect on the adoption and extent of sustainability reporting, assuming that larger companies have greater impacts, become more visible, and hence face increased scrutiny and pressure from stakeholders, but small businesses may suffer higher marginal costs of disclosure (Fortanier, Kolk, & Pinkse, 2011; Gallo & Christensen, 2011; Haddock, 2005; Orazalin & Mahmood, 2019)

With regards to the market capitalisation, several studies have discovered a positive correlation between corporate sustainability disclosure practices and financial performance, including market capitalization (Das, 2015; Dissanayake et al., 2019; Gallo & Christensen, 2011; Janggu, Joseph, & Madi, 2007; Schreck & Raithel, 2018). According to these authors, the positive relationship can be explained by large attention and pressure from the public towards publicly listed companies (A. Fernando & Pandey, 2012; S. Fernando, Lawrence, Kelly, & Arunachalam, 2015; Fortanier et al., 2011). Henri and Journeault (2008) also discovered a correlation between market capital and the extent to which companies report on environmental issues. They suggest that this could be because of public scrutiny and the availability of resources for larger established companies, implying a legitimacy motive.

5.7.2.1.2 Profitability

Lucrative businesses endure greater societal pressure and public scrutiny to justify their acts than their less profitable rivals, as being linked with behaviours that violate society's standards

is costly. Thus, (D. Campbell & Slack, 2007), Chih et al. (2010), and Gamerschlag et al. (2011) demonstrate that when firms' financial statements reflect favourable financial performance, they are more likely to act socially responsibly by providing increased sustainability information. Additionally, profitable firms have the finances and ability to absorb the costs associated with expanding their community's exposure to sustainability information, thereby legitimising their presence. As a result, profitability plays a significant role in sustainability reporting, as profitable businesses want to publish sustainability information in order to obtain legitimacy for their actions (Legendre & Coderre, 2013).

Numerous studies (i.e., Abdulrahman & Alsayegh, 2021; Alsayegh et al., 2020; Kansal et al., 2014; Menassa & Dagher, 2019; Orazalin & Mahmood, 2019) have demonstrated a positive correlation between sustainability reporting and profitability. This beneficial link may be explained by the fact that financial intermediaries actively monitor and closely follow profitable businesses (Kuzey & Uyar, 2017). Additionally, more profitable businesses tend to reveal more sustainability information in order to differentiate themselves from less profitable businesses (Kouloukoui et al., 2019; Nuskiya, Ekanayake, Beddewela, & Gerged, 2021). Another important argument in favour of this relationship is the availability of substantial financial resources as a result of increased earnings, which enables businesses to meet the social expectations of all stakeholders (Uwuigbe & Egbide, 2012). According to the agency theory, managers of profitable firms divulge additional information in order to justify their large remuneration packages (Artiach, Lee, Nelson, & Walker, 2010; Barako, 2007). However, some research have discovered a negative association between profitability and corporations' sustainability disclosures (i.e., Boshnak, 2021; Jennifer Ho & Taylor, 2007; Kansal et al., 2014; Ruhnke & Gabriel, 2013), whereas several studies (i.e., Chih et al., 2010; Dissanayake et al., 2016; Dyduch & Krasodomska, 2017; Reverte, 2009) discovered no such relationship.

The primary profitability indicators utilised to assess financial institution performance in terms of corporate sustainability were return on average assets (ROAA) and return on average equity (ROAE) (Larcker, Richardson, & Tuna, 2007; Renders, Gaeremynck, & Sercu, 2010). Following recent research (Mollah & Zaman, 2015; Orazalin & Mahmood, 2021), this study employed ROAE to determine the profitability of Islamic banks from the standpoint of shareholders. The ROAE is determined by dividing net profit by total equity.

A bank's sustained existence is contingent upon its capacity to generate adequate returns on its assets and capital. Profitability enables banks to expand and remain competitive. The return on average equity (ROAE) is used as the primary profitability metric in this study because sustainability is often valued by shareholders and investors (Kanas, Vasiliou, & Eriotis, 2012). ROAE is calculated without account for risks associated with off-balance-sheet operations that could skew the calculation of return on average asset (ROAA). The ROAE ratio is calculated as net income divided by average bank equity.

5.7.2.1.3 Capital Ratio

Capital ratio is another important measurement for evaluating a bank's financial performance. This ratio is defined as equity over average total assets (Simpson & Kohers, 2002), and it indicates whether banks have sufficient equity in relation to anticipated risks and shocks. Banks with a high capital ratio require less external funding and are more profitable as a result (Kosmidou, 2008). Given that well-capitalized banks are more efficient at pursuing available business opportunities, are more adaptable, and are able to cover unforeseen losses during times of crisis, resulting in a higher level of profitability (Athanasoglou, Brissimis, & Delis, 2008). Accordingly, it is reasonable to expect that a higher capital ratio for OIC Islamic banks will result in improved sustainability disclosure practices.

A high capital ratio shows that the bank has sufficient cash on hand, requires less external financing, and achieves a high profit margin, and vice versa (Kosmidou, 2008). Additionally, banks that are adequately funded are believed to be better ready to take advantage of any economic opportunity that arises and are more adaptable to cover any unforeseen losses profitability (Athanasoglou et al., 2008). To account for the predicted volatility in bank equity in statistical conclusions, this study includes capital ratio as a variable in assessing Islamic banks' financial performance.

5.7.2.1.4 Assets Quality

Asset quality quantifies a bank's exposure to certain risk trends in non-performing loans, as well as the health and profitability of its borrowers, most notably in the corporate sector. It is used to determine a bank's credit quality. Poor asset quality reduces profitability, has a negative

impact on capital via increased provisions for bad loans, and reduces the bank's pool of loanable resources (Brock & Suarez, 2000; García-Herrero, Gavilá, & Santabárbara, 2009).

Following prior research (i.e., Nizam, Ng, Dewandaru, Nagayev, & Nkoba, 2019), this study employs the loan loss reserves-to-gross loans ratio (loan loss reserve ratio) as an indication of asset quality, with a higher ratio indicating a lower asset quality. It is stated that banks make an effort to improve credit evaluation in order to improve credit quality. Thus, they can incorporate risks associated with clients' sustainability concerns into their credit evaluation in order to improve asset quality.

5.7.2.1.5 Liquidity

In comparison to business size and profitability, the liquidity variable is rarely included in studies of corporate sustainability disclosure practices. Jennifer Ho and Taylor (2007) explain organisations' sustainability reporting practises using signalling theory, arguing that firms with a high liquidity ratio are more likely to produce high-quality sustainability reports that are independently verified. Additionally, the adoption of sustainability reports may reflect management's confidence in a company's solvency and future (Oyelere, Laswad, & Fisher, 2003). However, except for A. Abubakar and Ameer (2011), this idea has not been validated by empirical evidence (Jennifer Ho & Taylor, 2007; Shen & Chang, 2009).

Additionally, several variables of the loan ratio (i.e., loans-to-assets, loans-to-deposits and short-term funding) are bank-specific covariates that may affect bank profitability (Chronopoulos, Liu, McMillan, & Wilson, 2015). The loans-to-deposits and short-term funding ratio, which is a direct indicator of a bank's earning ability, is computed by dividing the average total loans by the average total deposits and short-term funding as a measurement variable of liquidity of financial institutions (Simpson & Kohers, 2002).

In the case of studies related to GCC banks, Demirgüç-Kunt and Huizinga (2000) noted that due to the GCC banks' reliance on traditional financial procedures, with deposits and loans serving as the primary sources and uses of funds, loans serve as the primary source of revenue, favourably impacting bank profitability. As a result, it is projected that the loan ratio will have a beneficial effect on profitability in the case of Islamic banks in the OIC member countries, and hence it is employed in this study.

5.7.2.2 Other Variables

5.7.2.2.1 Corporate Governance

Corporate Governance (CG) is the most prevalent technique for aligning the interests of numerous stakeholders, hence boosting the firm's long-term potential for prosperity and success. In general, the literature on corporate governance demonstrates unequivocally that strong governance is critical for long-term company performance, and therefore for possible sustainable growth (Aras & Crowther, 2008). Indeed, what can be expected is that an organisation with a higher level of corporate governance competency will be able to deal with sustainability-related difficulties rather successfully. Numerous other relevant elements may also influence organisations' decision to address sustainability concerns and report on their sustainability efforts (Rosati & Faria, 2019). Furthermore, within the context of sustainable development, the United Nations' Sustainable Development Goals (SDGs) urge for robust commercial and public sector participation through a strong corporate governance system in order to contribute to contemporary pressure from stakeholders, NGOs, the media, and investors (Naciti, 2019).

Previous economic theory research indicates that the board of directors (BOD) is a critical component of a company's corporate governance structure (Fama & Jensen, 1983). The BoD of a corporation, as the highest level of management (Keasey & Wright, 1993), has a significant impact on the reporting practises and procedures of the organisation. As a result, numerous recent studies have discovered a strong association between a company's BoD composition and the quality of its sustainability reporting (Michelon & Parbonetti, 2012; Post, Rahman, & Rubow, 2011; K. K. Rao, Tilt, & Lester, 2012; Rupley, Brown, & Marshall, 2012; Webb, 2004).

In recent years, academics, professionals, and policymakers have paid increased attention to research on corporate governance and sustainability. Numerous studies have examined the usefulness of corporate governance strategies in enhancing sustainability disclosure practices, for example (Adel, Hussain, Mohamed, & Basuony, 2019; Hamad, Draz, & Lai, 2020; N. Hussain, Rigoni, & Orij, 2018; Naciti, 2019; Zahid et al., 2020).

Numerous studies have established that a larger BoD has a beneficial effect on sustainability practises due to the presence of broader perspectives and experiences from diverse professions, which enriches decision-making processes (Cuadrado-Ballesteros, García-Sánchez, & Martínez-Ferrero, 2017; Cuadrado-Ballesteros, Martínez-Ferrero, & García-Sánchez, 2017; Frias-Aceituno, Rodriguez-Ariza, & Garcia-Sanchez, 2013). Correa-Garcia, Garcia-Benau, and Garcia-Meca (2020) discovered that board size has a positive relationship with the quality of sustainability reporting and is statistically significant at a 95% confidence level, which corroborates the findings of (Cuadrado-Ballesteros et al., 2017), Frias-Aceituno et al. (2013), and (Kaymak & Bektas, 2017). This finding demonstrates that larger boards have a beneficial effect on the quality of sustainability reporting due to the diversity and expertise of their members, which results in a more prepared board with a greater strategic vision.

However, some studies (i.e., Cuadrado-Ballesteros et al., 2017; Cuadrado-Ballesteros et al., 2017) indicate an inverted ‘U’ effect for the relationship between corporate sustainability disclosure practices and BoD size, indicating that while a large board is beneficial, it becomes detrimental when it becomes too large due to decision-making difficulty.

5.7.2.2.2 Islamic Corporate Governance

In terms of corporate governance implementation in Islamic financial institutions, Islamic banking is distinguished by the role of *Shari’ah* Supervisory Board (SSB) role. Islamic banking established the SSB to ensure *Shari’ah* compliance in all activities and procedures as well as to serve as an internal check and balance mechanism. Most importantly, the SSB’s role is to ensure that financial institutions adhere to Islamic principles and values. Furthermore, Islamic banks often construct SSBs to satisfy a variety of stakeholders (Grassa, 2016), but the primary objective of an SSB is to check that Islamic banks and financial institutions adhere to Islamic norms and discipline. In general, the SSB’s functions include the prohibition of interest (*riba*), contracting vulnerability (*gharar*), calculating *zakat* payments, giving *fatwas* for new products, and advising owners and investors on profit and loss sharing (Grais & Pellegrini, 2006).

Earlier research on the *Shari’ah* element of Islamic corporate governance discovered a positive correlation between sustainable business practises and firm success. According to Hashim, Mahadi, and Amran (2015), the SSB has a beneficial effect on Islamic financial institutions’

sustainability policies. In addition, the SSB was found to have a beneficial effect on disclosures about sustainability (Farook, Hassan, & Lanis, 2011). Mollah and Zaman (2015) employed the SSB variable as a proxy for *Shari'ah* governance and supervision and found a favourable correlation between it and the financial performance of Islamic banks. Hashim et al. (2015) discovered a positive correlation between the SSBS and a firm's performance. Additionally, Mallin, Farag, and Ow-Yong (2014) discovered a positive correlation between the SSB variable and the performance of Islamic banks in 13 countries.

However, an empirical study conducted by Jan, Marimuthu, Hassan, et al. (2019) demonstrated a positive correlation between sustainable business practises and financial performance considered from the shareholders' and management's perspectives, but a non-significant correlation measured from the market perspective. Their findings showed that Islamic banks' market stakeholders are averse to their banks investing in sustainable business practises. Interestingly, the previously insignificant relationship between sustainable company practises and market performance became significant when *Shari'ah* governance and managerial ownership played a moderating role. It demonstrates that the moderating impact of *Shari'ah* governance and managerial ownership instils confidence in market stakeholders of Islamic banks in their ability to earn a superior financial return through initiatives promoting sustainable business practises.

As Jan, Marimuthu, Hassan, et al. (2019) explain, this is because *Shari'ah*-compliant governance enables professionals such as bankers and economists—even those with limited religious understanding—to serve on boards and deliver expert advice on technical topics such as sustainability.

5.7.2.2.3 Ownership Structure

Concerning corporate ownership structure, it is noted that discussion of whether a corporation is a private or publicly traded and how this may affect a corporation's sustainability disclosure practices is quite sparse.

To begin, publicly listed corporations may be deemed more actively engaged in reporting in order to comply with certain rules, adopt best practises from competitors, and/or deal with stakeholder pressure. According to (Haddock, 2005), a company's stock market listing is

related with a greater adoption of reporting methods and release a greater amount of information about sustainability (da Silva Monteiro & Aibar-Guzmán, 2010; Gamerschlag et al., 2011; Haniffa & Cooke, 2005).

However, the sustainability disclosure practices of publicly listed companies may be impacted by certain conditions. Concentrated ownership, for example—which is frequently presumed when an investor holds more than 20% of the outstanding voting shares—can be viewed as impeding sustainability reporting, as prominent shareholders are expected to already have access to essential information. In comparison, a distributed ownership structure accentuates the importance of minimising information asymmetry. According to Brammer and Pavelin (2006), a concentrated ownership structure has a detrimental effect on the adoption and quality of reporting. In supporting this condition, several studies (i.e., Cormier & Magnan, 2004; Gamerschlag et al., 2011) indicate similar findings on the scope of reporting efforts. Others (i.e., Ertuna & Tukul, 2010; Stanny & Ely, 2008; Tagesson, Blank, Broberg, & Collin, 2009), however, find no significant correlation.

This study will classify whether an Islamic bank from an OIC member country is a private or publicly listed entity as a control variable in order to capture the specific characteristics of Islamic banks in terms of their sustainability disclosure practices.

5.7.2.2.4 Legal Origin

La Porta et al. (2008) hypothesised that the legal origin is a shared social culture among countries, generally referred to as the style of social control over economic life, which may influence financial organisations' sustainable behaviour. Common-law countries view the market as a private mechanism for optimising shareholder interests, with the belief that this is the optimal way for enterprises to act in the best interests of all stakeholders, and litigation as a mechanism for discouraging bad behaviour and disagreement between economic agents. In contrast, Civil-law countries, where the state has a significant role in economic regulation, use laws and regulations to ex ante affect managerial behaviour (Castillo-Merino & Rodríguez-Pérez, 2021). Thus, sustainable performance is a compromise between the shareholders' perspective, which is more aligned with Common-law, and the major stakeholders' perspective on Civil law (Liang & Renneboog, 2020).

In terms of legal origin, numerous studies (i.e., Crespi & Migliavacca, 2020; Liang & Renneboog, 2020) have discovered that French civil law is a strong predictor of financial institution sustainability disclosure practices. Additionally, these studies underline the crucial relevance of a country's legal origin in encouraging sustainable finance industry regulations and investments.

Castillo-Merino and Rodríguez-Pérez (2021) discovered that financial enterprises headquartered in Civil-law countries outperform those based in Common-law countries in terms of sustainability practices, with the difference being more obvious for French Civil-law countries. According to Castillo-Merino and Rodríguez-Pérez (2021), countries with a legal basis in French Civil-law have the strictest regulations protecting the interests of customers, workers, and other stakeholders, in contrast to English Common-law, which prioritises shareholder protection over other stakeholders. As a result, accommodating stakeholders, such as community or environmental groups that may have an effect on public perceptions of a firm's environmental performance (Henriques & Sadorsky, 1999), has been shown to be an effective means of increasing the environmental sustainability practices (Berry & Rondinelli, 1998; Kassinis & Vafeas, 2006).

However, Castillo-Merino and Rodríguez-Pérez (2021) stated that the impact of French Civil-law and English Common-law may change when corporate governance is present. According to Di Tommaso and Thornton (2020), the rationale for this shift is that corporate governance is viewed as a tool for businesses to protect the interests of minority shareholders and other stakeholders, and that investing in sustainability disclosure practices is viewed as a potential mechanism for the banking industry to balance the interests of shareholders and other stakeholders. As a result, the corporate governance structure of organisations and their connection to their legal origins may have a moderating effect on their sustainability practices.

To ascertain the legal origins of Islamic banks, this study will examine the locations of Islamic banks' principal physical offices in OIC member countries. Additionally, this analysis employs La Porta et al. (2008) taxonomy of legal origins to track historical evolution. They distinguished between Civil- and Common-law, leading in the development of four legal families: Anglo-Saxon for Common-law and French, German, and Scandinavian for Civil-law.

La Porta et al. (2008) assert that the historical origins of domestic legal systems have a substantial impact on legal rules, regulatory practises, and economic outcomes.

5.7.2.2.5 Geographical Factor

Countries are defined by their distinct legal systems, national cultures, and behaviours. The remaining question is whether these variations are reflected in sustainability reporting practise. Certain countries, such as Sweden, and continental organisations, such as the EU, have chosen to establish some basic rules as well as binding sustainability reporting regulations (Manes-Rossi, Tiron-Tudor, Nicolò, & Zanellato, 2018; GRI, 2010). Along with the legal context in which companies operate, a country's national culture, not just in terms of history and tradition, but also in terms of moral principles, can impact organisational decision-making and management. Prevalent moral principles shape an organisation's ethical behaviour and consequently have an impact on the issues prioritised for resource allocation (Adams, 2002; GRI, 2019).

Apart from industry differences, reporting procedures may vary among countries and regions as a result of varying cultural and social conventions or governmental restrictions (Golob & Bartlett, 2007; Sotorrió & Sánchez, 2010). However, just a few research have been conducted on this variable. Several studies indicate differences in the adoption (Buhr & Freedman, 2001) and scope of sustainability reporting across countries and regions (S. Chen & Bouvain, 2009; Fortanier et al., 2011; Prado-Lorenzo, Rodríguez-Domínguez, Gallego-Álvarez, & García-Sánchez, 2009), whereas Sotorrió and Sánchez (2010) discover no significant country-of-origin effect on the volume of reporting.

To identify this variable, the OIC member countries included in this study would be classified into four different regions namely East Asia and Pacific, South Asia, Middle East and North Africa, and Sub-Saharan Africa

Along with geographical classification within OIC member nations, the GCC or non-GCC factor would also be explored as a control variable in order to establish a more detailed categorization of selected OIC Islamic banks. The GCC or non-GCC variable was chosen since the GCC states are global leaders in Islamic banking and finance (Wilson, 2009). Indeed, the GCC Islamic banking industry leads the Islamic financial sector, accounting for around 42.3

percent of total global Islamic assets (S&P Market Intelligence and the Saudi Arabian Monetary Authority's annual report, 2020).

The majority of prior research has indicated a positive correlation between firm size and sustainability reporting (K. N. Ismail & Ibrahim, 2008; Karaman et al., 2018; Xianbing Liu & Anbumozhi, 2009; Menassa & Dagher, 2019; Muttakin & Khan, 2014; Orazalin & Mahmood, 2018; Simnett et al., 2009; Uwuigbe & Egbide, 2012).

Large corporations (proxied by the total assets), according to the legitimacy theory argument, are more visible and susceptible to increased public scrutiny (Dawkins & Ngunjiri, 2008). Additionally, large businesses have a significant environmental and social influence on their operations (A. Ali & Hafez, 2012; Kansal et al., 2014; Nuskiya et al., 2021; Simnett et al., 2009; Usman, 2020). As a result, these businesses tend to provide more detailed sustainability statistics in order to validate their existence and foster a positive public image. Papaspyropoulos, Blioumis, and Christodoulou (2010) noted that large enterprises benefit from economies of scale, which minimise the cost of voluntary disclosure.

In the country-level discussion, despite the GCC's status as a semi-regional organisation with a high level of revenue and GDP per capita within OIC member countries, various studies have concluded that GCC countries are incapable of implementing social and environmental sustainability. El-Zein et al. (2016) concluded that the GCC countries' failure to attain sustainable development is likely attributable to two crucial social and political variables. To begin, the GCC has more than ten times the population of international migrant workers. Second, the GCC countries, like the rest of the Arab world, are heavily militarised, with weapons imports reaching four times the worldwide average per person. As a result, those countries have a lower ratio of health spending to military expenditures.

Additionally, the GCC countries have a plentiful supply of fossil fuels and a diverse range of minerals and are heavily reliant on fossil fuel exports. Simultaneously, Zaidan, Al-Saidi, and Hammad (2019) estimate that the GCC countries account for about half of overall Arab carbon dioxide emissions and have some of the greatest per capita ecological footprints. Additionally, the GCC's natural resources have been badly drained and stressed as a result of unchecked demographic and economic growth, poorly planned fast urbanisation, resource-intensive consumption, and the construction of irrigation systems on local farms. The situation is

projected to worsen further as a result of climate change's effects. Furthermore, environmental difficulties that result have the potential to impede future growth and expose the region to a variety of natural and man-made environmental threats.

Table 5.5 overleaf summarises the description of variables employed for investigating sustainability disclosure practices.

Table 5. 5 Description of variables for investigating sustainability disclosure practices

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
(i) Dependant variable <i>Corporate sustainability disclosure practices</i>	Corporate Sustainability Disclosure Practices (CSDP) score	Total scores value of CSDP score, summed from all sub-scores value of dimensions of sustainability comprises total scores value of three-word frequencies: 'social' dimension, 'economic' dimension, and 'environment' dimension.	Author's calculation based on content analysis methodology	2016-2019
(ii) Explanatory variable <i>Financial performance</i>				
Firm size: assets/capital	Total assets (billion USD)	The sum of all current and noncurrent assets, and it is equal to the sum of total liabilities and stockholders' equity combined.	Orbis BankFocus Database	2016-2019
	Market capitalisation	A term that refers to the total dollar market value of a company's outstanding stock. Often abbreviated as "market cap", it is calculated by multiplying the total number of outstanding shares of a company by the current market price of one share.	Orbis BankFocus Database	2016-2019
Liability	Deposits and short-term funding-to-assets (%)	The amount of deposits and short-term funding divided by total assets.	Orbis BankFocus Database	2016-2019
Profitability	Return on Average Equity/ROAE (%)	A measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity.	Orbis BankFocus Database	2016-2019
Capital ratio	Total capital ratio (%)	Ratio of total capital to risk weighted assets (RWAs). RWAs provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital.	Orbis BankFocus Database	2016-2019
	Equity-to-total assets (%)	The equity-to-asset ratio that specifically measures the amount of equity the business or farm has when compared to the total assets owned by the business or farm.	Orbis BankFocus Database	2016-2019
Asset's quality	Loan loss reserves-to-gross loans (%)	The reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans.	Orbis BankFocus Database	2016-2019
Liquidity	Net loans-to-deposits and short-term funding (%)	The ratio of net loans to deposits and short-term funding which indicates how much of deposits and short-term funding of the company are tied up in loans is used as proxy for measuring liquidity.	Orbis BankFocus Database	2016-2019
<i>Other variables</i>				
Firm size: Organisational size	Number of employees	The total number of workers recorded.	Orbis BankFocus Database	2016-2019
Corporate governance	Size of board of directors (BoD)	The total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading.	Islamic banks' annual report	2016-2019
			Islamic banks' annual report	2016-2019

<i>Variable/Indicator</i>	<i>Data series</i>	<i>Definition</i>	<i>Source</i>	<i>Coverage</i>
Islamic corporate governance	Size of <i>Shari'ah</i> Supervisory Board (SSB)	The total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic <i>Shari'ah</i> rules and principles.	Islamic banks' annual report	2016-2019
Ownership structure	Publicly listed or private company	Publicly quoted company is a public company that has sold all or a portion of itself to the public via an initial public offering (IPO), meaning shareholders have a claim to part of the company's assets and profits. Private company is a privately held company. In most cases, the company is owned by its founders, management, or a group of private investors.	Orbis BankFocus Database	2016-2019
	Publicly listed company Private company	Dummy equal to 1 if an Islamic bank is a publicly listed company Dummy equal to 1 if an Islamic bank is a private company	Orbis BankFocus Database Orbis BankFocus Database	2016-2019 2016-2019
Legal origin	Legal origin	Historical development based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). The measurement of legal origin in regression analysis is by using dummy equal to 1 if a country legal system is English Common Law origin.	La Porta et al. (1997, 1998)	2016-2019
	English Common law	Dummy equal to 1 if an Islamic bank belongs to country with English Common-law legal origin	La Porta et al. (1997, 1998)	2016-2019
	French Civil law	Dummy equal to 1 if an Islamic bank belongs to country with French Civil-law legal origin	La Porta et al. (1997, 1998)	2016-2019
Geographical factor	World Banks' regional classification	The classifications of geographic regions based on the World Bank's classification: East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa	World Bank	2016-2019
	Africa	Dummy equal to 1 if an Islamic bank located in Africa	World Bank	2016-2019
	East Asia & Pacific	Dummy equal to 1 if an Islamic bank located in East Asia & Pacific	World Bank	2016-2019
	Europe & Central Asia	Dummy equal to 1 if an Islamic bank located in Europe & Central Asia	World Bank	2016-2019
	Middle East & North Africa	Dummy equal to 1 if an Islamic bank located in the Middle East & North Africa	World Bank	2016-2019
	GCC (Gulf Cooperation Council)	Dummy equal to 1 if an Islamic bank located in a GCC country	GCC report (2021)	2016-2019

Source: Author.

5.8 Data Collection Method and Data Analysis

According to Collis and Hussey (2013), there are two major types of data collection which are primary and secondary data. Primary data is information and facts gathered specifically for the purpose of the investigation. In other words, primary data is data generated by the researcher, such as surveys, interviews, and experiments designed specifically for the purpose of comprehending and resolving the research problem at hand. On the contrary, secondary data is facts and information gathered not for the immediate study at hand but for some other purpose. In other words, secondary data is pre-existing data generated by large government institutions, healthcare facilities, and other organisations as part of their record-keeping processes, which is then extracted from more diverse datafiles. Additionally, secondary data collected for a different purpose but related to the subject of the study and gathered by the researcher to lay the theoretical groundwork for this study. The primary sources of these data were databases, books, academic papers, journals, theses, official reports, magazines, and newspapers.

Secondary data will be gathered and analysed for this study from a variety of sources, including the World Development Indicators (WDI) of the World Bank, Millennium Development Goals (MDG) database, Sustainable development Goals (SDGs) database, Sustainable Development Goals (SDGs) Index and Report Dashboard, UN Statistics, the Islamic Corporation for Development (ICD) database, Islamic banks' annual reports, Orbis BankFocus database, and other respected and reputable sources. Additionally, data collected from these sources will be analysed using appropriate methods that will be determined in advance of data collection. In summary, this research's data collection and analysis methods are quantitative in nature in order to accomplish these aims and objectives.

Notably, the correlation analysis and regression analysis would be used to analyse two perspectives: (i) country level perspective (macro analysis): the relationship between sustainable development and Islamic finance as well as other determinants; and (ii) firm level perspective (micro analysis): the relationship between corporate sustainability disclosure practices and corporate financial performance as well as other determinants in the context of Islamic banks.

The empirical analyses would be conducted in this research in order to demonstrate: (i) the relationship between Islamic finance and sustainable development performance; (ii) the relationship between sustainable development performance and factors associated; (iii) the relationship between corporate sustainability disclosure practices and corporate sustainability disclosure practices as well as other determinants in the context of Islamic banks; and (iv) the relationship between corporate sustainability disclosure practices and factors associated. Therefore, the analysis will be conducted using a variety of software packages, including Microsoft Excel for data collection, Stata for statistics and data science, and NVivo for content analysis.

5.9 Ethical Approval

It is noted that this thesis employs secondary datasets and does not contain any studies with human participants or animals performed by the student. Furthermore, since the data collected in the study is freely available in the public domain (i.e., published quantitative datasets, annual reports) where the data are properly anonymised and informed consent was obtained at the time of original data collection, it is noted that the study does not require ethical approval. This has also been confirmed on the learning agreement document signed by the student and supervisor dated 27/06/2017.

5.10 Chapter Summary

This chapter discusses the study's fundamental research design. It has detailed the models and empirical research techniques that were used in the analysis. The variables used are broadly defined and the data collections procedure is identified. With this research framework in place, the following two chapters will discuss the two primary data constructions, namely the Sustainable Development Index (SDI) and the Corporate Sustainability Disclosure Practices (CSDP) score.

CHAPTER 6

RESEARCH METHOD II: SUSTAINABLE DEVELOPMENT INDEX CONSTRUCTION

6.1 Introduction

This chapter presents the construction of sustainable development index (SDI) by combining the calculation results of MDGs and SDGs indices. The chapter starts by discussing the background and the model of index computation. Since MDGs and SDGs have a different methodology of index computation, Section 6.2 and Section 6.3 proceed by describing the variables used in the computation of the index as well as indicators selection and methodology of MDGs and SDGs respectively. Results of the SDI is presented in section 6.4 and Section 6.5 concludes the chapter.

6.2 Millennium Development Goals (MDGs) Index

Leo and Barmer (2010) argue that international organisations that oversee the MDGs, such as the UN and the World Bank, generally report progress at the global or regional level. As the MDGs are seen as targets for the developing world only, regional progress reports do not adequately reflect the scale of sustainable development in each country. In addition, existing regional reports have several notable drawbacks. More importantly, this leads to misleading perceptions about how certain regions are ‘on the verge’ of achieving the MDGs (i.e., East Asia) whereas other regions are ‘behind’ (i.e., sub-Saharan Africa). In other words, this tends to mask dramatic intraregional variations in performance. China’s impressive achievements, for instance, significantly determine the overall performance of the MDGs for East Asia while other countries with less impressive development outcomes, such as Papua New Guinea, are simply too small to affect regional aggregates. Conversely, large lagging African countries, such as Nigeria and the Democratic Republic of Congo, then affect regional aggregates negatively although many African countries have made enormous progress in achieving

development goals. Accordingly, regional reporting has many shortcomings and perceptual misunderstandings. The single index that measures the level of progress of the MDGs is expected to contribute to the literature in three aspects (Leo, 2010; Leo & Bartheimer, 2010; Leo & Thuotte, 2011), namely:

- (i) Such a measure can be used to compare the levels of progress in MDGs achievement across OIC member countries at a particular time point. It also can be employed to monitor the progress of policy initiatives for sustainable development in a country over a period.
- (ii) Such a measure would overcome the above-mentioned regional simplification bias and contributes with more user-friendly quantitative performance measures for specific countries.
- (iii) A comprehensive measurement in the form of an index with a country-to-country basis is substantial as that would be able to integrate information on several aspects (dimensions) of sustainable development in a single number.

6.2.1 Methodology

The methodology constructed to address several key issues: (1) addressing annual compliance gaps for most indicators; (2) capturing the absolute and relative progress of the MDGs indicators; and (3) reporting the alleged unrealistic nature of some MDGs. Basically, the methodology compares the country's performance to the achievement trajectories required for each of the MDGs indicators examined. This trajectory is based on linear and annualised improvement rates for each respective MDGs indicator. In the first goal of MDGs, for instance, in order to halve (50%) extreme poverty between 1990 and 2015, each country should achieve an annualised reduction rate of 2% (50% divided by 25 years). By calculating the actual rate of improvement (or deterioration) of the country over the available observation period, the country's score would be determined whether it is above or below the trajectory of MDG indicator achievement.

The baseline data for 1990 and the particular year observed would be ideally used to measure country achievements. However, in some cases, the observation period is shorter due to the lack of data available for 1990, and this potentially creates significant challenges for final assessments to determine whether countries will finally achieve their targets in 2015 for the

achievement of the MDGs. Accordingly, as stated by Leo and Barmeier (2010), these methodological limitations would be put aside and tend to focus solely on country performance based on available data to determine whether a given country is above or below the achievement trajectory during the shortened observation period.

The Index is calculated by aggregating country results on the eight primary MDGs (poverty, hunger, education, gender equality, child mortality, maternal mortality, HIV/AIDS prevalence and drinking water). If a country's improvement rate is equal to, or higher than, the required trajectory, it receives a score of 1. In response to the criticism that the MDGs targets set unrealistic expectations for many developing countries, a score of 0.5 would be given to such countries achieving at least 50% of the required trajectory. This methodological nuance captures significant development achieved that may not meet the very ambitious expectations of the MDGs. In addition, the MDGs indicator scores would be reported separately adapted with data availability (adjusted score). The adjusted index scores are calculated by dividing the country's regular scores by the total number of indicators with available baseline observations and particular observed year data. This adjustment prevents countries that lack data on MDGs indicators —such as small island and post-conflict countries— from being unnecessarily penalised. After obtaining the overall score of MDGs progress based on data availability adjustment, the index scores are then transformed into the scale of a 1-100 interval. This scale is necessary to blend the MDGs index score with SDGs index at the same frequency level, as the latter has been provided already on a 1-100 scale.

6.2.2 Indicators Selection and Data Collection

While Leo (2010), Leo and Barmeier (2010), and Leo and Thuotte (2011) only included 8 out of 60 indicators of MDGs due to data unavailability issues at the time of their studies. In this present study, on the other hand, 14 indicators and 15 data series have been selected for some reasons: (i) accuracy in representing the initial goals of the Millennium Declaration; (ii) the availability of data; and (iii) their utilities in the development literature. Furthermore, following Leo and Barmeier (2010), the index completely excludes MDGs 8 (Developing a Global Partnership for Development) since it primarily relates to the actions of donor countries only and not developing countries. The limited indicators selected in the present study is primarily based on the criteria above and data limitation is the primary challenge for measuring all

indicators (Dar & Khan, 2011; Easterly, 2009; J. Sachs, 2012). Accordingly, a progress report conducted by the World Bank named MDGs Monitor employed similarly limited indicators in their measurement of MDGs progress change focusing on monitoring overall development across regions.

The following information is the details of MDGs indicators listed in the index calculation and its summary can also be viewed in Table 6.1:

1. MDGs 1: Eradicate Extreme Hunger and Poverty

For MDG 1, two targets and three data series of progress would be examined:

Target 1: Aiming to reduce by 50% between 1990 and 2015, the proportion of people whose income is less than one dollar a day.

In measuring this target, two indicators have been included: 1) Proportion of population below \$1.25 (PPP) per day data; 2) Poverty gap ratio, and 3) Proportion of population below minimum level of dietary energy consumption. The figures are taken from the World Bank's MDGs database by using three data series: 1) Poverty headcount ratio at \$1.25 per day (PPP, % of the population); and 2) Poverty gap at \$1.25 a day (PPP, %). Given the 25-year observed period, countries are expected to achieve a 2% reduction each year in their respective target for both indicators. As a result, the target improvement is calculated by multiplying the number of years of observation by -2%.

Target 2: Reducing by 50% the proportion of people suffering from hunger between 1990 and 2015.

The indicator of this target is measuring the proportion of population below minimum level of dietary energy consumption by using the data series of prevalence of undernourishment (% of the population) from the World Bank's MDG database. Within 25 years, countries should reduce by 2% each year in the prevalence of undernourishment figures to reach their goal. The targeted improvement is calculated by multiplying the number of years of observation by -2%.

The actual improvement for these three data series is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score

of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

2. MDGs 2: Achieving universal primary education

This goal aims to ensure that all children —boys and girls— can complete a full primary education by 2015. Countries should be able to achieve a completion rate of 100% in primary education. The data used in this target is ‘primary completion rate (% of relevant age group)’ from the World Bank’s MDG database. The required improvement calculated by subtracting the baseline data point from the 100% target to determine the total gap, and then dividing this respective gap by 25 years to produce the required annual progress to achieve the goal. This change from year-to-year is then multiplied by the number of actual years observed to obtain the reduction rate of the target achievement.

The actual improvement is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

3. MDGs 3: Promote Gender Equality and Empower Women

This goal aims to eliminate gender disparities in education by 2015. To achieve this goal, two indicators are included: 1) Ratios of girls to boys in primary, secondary, and tertiary education; and 2) Proportion of seats held by women in national parliament. Accordingly, the third MDG goal uses three data series: 1) Gender Parity Index in primary level enrolment; 2) Gender Parity Index in secondary level enrolment; and 3) Proportion of seats held by women in national parliaments.

The required improvement for net enrolment ratio in primary and secondary education (Gender Parity Index) is calculated by subtracting the baseline from the 1 parity goal

¹ to estimate the total variance and then dividing by 25 to determine the year-on-year change needed to reach the target within 1990-2015. This year-on-year then multiplied by the number of actual observation years to reach the reduction rate of the target achievement. For proportion of seats held by women in national parliaments, the required improvement is calculated by subtracting the baseline from the 50% (to approach equal proportion between men and women) goal to estimate the total variance and then dividing by 25 to determine the year-on-year change needed to reach the target within 1990-2015. This year-on-year then multiplied by the number of actual observation years to reach the reduction rate of the target achievement.

The actual improvement is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

4. MDGs 4: Reduce child mortality

The goal is to reduce the under-five mortality rate by two-thirds between 1990 and 2015. This goal employs two indicators: 1) Under-five mortality rate; and 2) Infant mortality rate. The data is derived from the World Bank's MDGs database by using two series: 1) Children under five mortality rates per 1,000 live births; and 2) Infant Mortality rate (per 1000 live birth). To obtain a two-thirds reduction, countries should make annual improvements of, at least, -2.667% over the period covered by the MDGs.

The actual improvement is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

¹ A GPI of 1 indicates parity between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males, whereas a GPI greater than 1 indicates a disparity in favour of females.

5. MDGs 5: Improving maternal health

The goal is to reduce the maternal mortality rate by three quarters within 1990 and 2015 using the ‘maternal mortality ratio (modelled estimate, per 100,000 live births)’ data from the World Bank’s MDGs database. For achieving a 75% reduction over the 1990-2015 period, countries are expected to obtain an average annualised decline of 3%.

The actual improvement is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

6. MDGs 6: Combat HIV/AIDS, malaria, and other diseases.

The target of this goal is to stop the spread of HIV/AIDS, malaria, and other disease by 2015 and reversing its spread. To achieve this goal, two indicators are included: 1) HIV prevalence among population aged 15-24 years; and 2) Incidence, prevalence and death rates associated with tuberculosis. In measuring this progress, two data series from the World Bank’s MDG database employed: 1) Prevalence of HIV, total (% of population ages 15-49); and 2) Incidence of tuberculosis (per 100,000 people). To achieve this target, countries had to reduce their prevalence rate for the reference year.

The actual improvement is calculated by the difference between the baseline and most current data. The above or below track is the difference (positive or negative) between the actual and the required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Since the HIV/AIDS target entails a zero percent increase in prevalence rates, partial scores of 0.5 to countries not applied.

7. MDGs 7: Ensuring environmental sustainability

The target of this goal is to reduce by 50% the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. To achieve this goal, two indicators are included: 1) Proportion of population using an improved drinking water source; and 2) Proportion of population using an improved sanitation facility. In measuring this progress, two

data series from the World Bank's MDGs database employed: 1) Improved water source (% of the population with access); and 2) Improved sanitation facilities (% of population with access).

As the MDGs target focuses on the population without access to improved water sources and basic sanitation, we are subtracting sustainable development from the indicator figures of 100%. Given the 25-year observed period, countries must achieve a 2% reduction each year to achieve the goal. Therefore, the required improvement is calculated by multiplying the number of years of observation by -2%.

The actual improvement is simply the change between the baseline and current data. The above or below track is the difference (positive or negative) between the actual and required improvement. Those countries that are on par or above track receive a score of 1 and those below a score of 0. Countries that achieve at least 50 percent of their target reduction rate receive a score of 0.5.

The details of MDGs goals, targets, indicators, and data series selected can be seen in the Table 6.1 as follows:

Table 6. 1 Summary of MDGs variables included in the MDGs Index calculation

<i>MDGs</i>		<i>Target</i>		<i>Indicator</i>		<i>Data series</i>		<i>Source</i>	
1	Eradicate extreme poverty and hunger	1	Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1	The proportion of population below \$1.25 (PPP) per day	1	Poverty headcount ratio at \$1.25 a day (2011 PPP) (% of the population)	MDGs database, World Bank	
				2	Poverty gap ratio	2	Poverty gap ratio (%)	MDGs database, World Bank	
		2	Halve, between 1990 and 2015, the proportion of people who suffer from hunger	3	The proportion of population below minimum level of dietary energy consumption	3	Prevalence of undernourishment (% of the population)	MDGs database, World Bank	
				3	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	4	The proportion of pupils starting grade 1 who reach last grade of primary	4	Primary completion rate, total (% of relevant age group)
2	Achieve universal primary education	3	Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	4	The proportion of pupils starting grade 1 who reach last grade of primary	4	Primary completion rate, total (% of relevant age group)	MDGs database, World Bank	
				4	Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	5	Ratios of girls to boys in primary, secondary, and tertiary education	5	School enrolment, primary (gross), gender parity index (GPI)
3	Promote gender equality and empower women	4	Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	6	Proportion of seats held by women in national parliament	6	School enrolment, secondary (gross), gender parity index (GPI)	MDGs database, World Bank	
						7	Seats held by women in national parliament (%)	MDGs database, World Bank	
4	Reduce child mortality	5	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	7	Under-five mortality rate	8	Mortality rate, under-5 (per 1,000 live births)	MDGs database, World Bank	
				8	Infant mortality rate	9	Mortality rate, infant (per 1000 live birth)	MDGs database, World Bank	
				9	Proportion of 1 year-old children immunised against measles	10	Proportion of 1 year-old children immunised against measles	MDGs database, World Bank	

<i>MDGs</i>		<i>Target</i>	<i>Indicator</i>		<i>Data series</i>	<i>Source</i>
5	Improve maternal health	6 Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	10	Maternal mortality ratio	11 Maternal mortality ratio (modelled estimate, per 100,000 live births)	MDGs database, World Bank
6	Combat HIV/AIDS, malaria, and other diseases	7 Have halted by 2015 and begun to reverse the spread of HIV/AIDS	11	HIV prevalence among population aged 15-24 years	12 Prevalence of HIV, total (% of population ages 15-49)	MDGs database, World Bank
			12	Incidence, prevalence, and death rates associated with tuberculosis	13 Incidence of tuberculosis (per 100,000 people)	MDGs database, World Bank
7	Ensure environmental sustainability	8 Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	13	Proportion of population using an improved drinking water source	14 Improved water source (% of the population with access)	MDGs database, World Bank
			14	Proportion of population using an improved sanitation facility	15 Improved sanitation facilities (% of population with access)	MDGs database, World Bank

Source: MDGs Database

6.2.3 Country Selection

While Leo and Barmerier (2010) analysis focus on 76 countries that are eligible for International Development Association (IDA) assistance, this study will focus only on OIC member countries, which includes 47 out of 57 countries due to data limitations. In terms of geographical distribution, Sub-Saharan Africa accounts for the most significant number of countries (18 countries) followed by the Middle East and North Africa (15 countries), Europe and Central Asia (7 countries), South Asia (3 countries), East Asia and Pacific (2 countries), and Latin America and Caribbean (2 countries).

6.2.4 Data Limitations

There has been various data limitation across countries. Overall, the vast majority of OIC member countries observed (41 out of 57) have at least 80% available data, 5 countries have 70-79% data available and only 1 country have 60-69% data available. The remaining 10 countries, on the other hand, had less than 50% data available and/or did not have data for SDGs, rendering them ineligible for inclusion in the SDI. In general, data availability is most limited for countries with a small population and a few post-conflict states such as Brunei Darussalam, Palestine, and Libya.

Table 6. 2 Summary of data coverage, by country

<i>Data availability</i>	<i>No. of countries</i>	<i>Countries</i>
100%	12	Albania, Benin, Burkina Faso, Indonesia, Kazakhstan, Kyrgyz, Lebanon, Mauritania, Mozambique, Pakistan, Senegal, and Suriname.
90-99%	11	Niger, Cote d'Ivoire, Malaysia, Mali, Chad, Iran, Bangladesh, Cameroon, Sierra Leone, Egypt, Turkey.
80-89%	18	Guinea, Sudan, Tajikistan, Algeria, Azerbaijan, Bahrain, Gambia, Morocco, Togo, Tunisia, Uzbekistan, Nigeria, Uganda, Kuwait, Gabon, Guyana, Qatar, United Arab Emirates.
70-79%	5	Oman, Saudi Arabia, Afghanistan, Iraq, Jordan.
60-69%	1	Yemen
<50%	10	Brunei Darussalam, Comoros, Djibouti, Guinea-Bissau, Libya, Maldives, Palestine, Somalia, Syria, and Turkmenistan.

Source: Author

6.3 Sustainable Development Goals (SDGs) Index

It should be noted that the literature on measuring the current framework for sustainable development, the SDGs, is extremely limited. This condition is most likely triggered by the fact that the SDGs were only implemented in 2015. Furthermore, unlike its predecessor, the SDGs include an official metric in the form of an index and dashboard produced by the Bertelsmann Stiftung with the support of the UN Sustainable Development Solutions Network (Schmidt-Traub et al., 2017b; SDSN, 2016). The SDGs index and dashboards used as analytical tools for assessing countries' baseline levels for the SDGs that can be applied by researchers in multidisciplinary analyses needed by policymakers. The Index and Dashboards synthesise available country-level data for the 17 goals and, for each country, estimate the extent of the delay in achieving the SDGs. The study illustrates the analytical value of the index by examining its relationship with other widely used development indices and showing how it explains transnational differences in subjective well-being.

The annual SDGs Index is a standardised, quantitative, and scalable composite measure of 149 countries' SDGs baselines, with sufficient data to cover all goals. It combines 63 global indicators with 14 additional indicators for OECD countries to create an overall assessment of the SDGs' baselines and ranks countries based on their performance. The SDGs' official indicators include only those countries for which data are available for at least 80% of the population and have a population of more than one million. As a result, the indicators' gaps were filled using publicly available data from other sources Schmidt-Traub et al. (2017a).

6.3.1 Methodology

As discussed by Schmidt-Traub et al. (2017a), procedures for calculating the SDGs Index comprised four steps:

- (i) Performing statistical tests for normality and truncate extreme values from the distribution of each indicator; These tests include skewness and kurtosis tests for normality as well as Shapiro–Wilk and Shapiro–Francia tests. For most indicators, the normality hypothesis at the 5% significance level is rejected. Often the deviation from normality was substantial, rendering some common statistical techniques invalid.

- (ii) Rescaling the data to ensure comparability across indicators; To make the data comparable across indicators, each variable was rescaled from 0 to 100 with 0 denoting worst performance and 100 describing the optimum.
- (iii) Weighting and aggregating the indicators within and across SDGs; Using equal weight and the arithmetic mean respectively.

Indicators aggregated arithmetically (arithmetic mean) within each goal and then averaged across goals, applying the same weight to every goal according to the equation:

$$I_i(N_i, N_{ij}, I_{ijk}) = \sum_{j=1}^{N_i} \frac{1}{N_i} \sum_{k=1}^{N_{ij}} \frac{1}{N_{ij}} I_{ijk}$$

Where I_i is the index score for country i , N_i the number of SDGs for which the country has data, N_{ij} the number of indicators for SDG j for which data is available for country i , and I_{ijk} denotes the score of indicator k under SDG j for country i .

- (iv) Conduct sensitivity and other statistical tests on the SDGs Index. The median rank between the arithmetic and geometric ranks are calculated. For robustness test, the upper and lower bounds used for the normalisation of variables, alternative approach to setting “worst” (=0) performance is 5 percentiles instead of 2.5 percentile.

6.3.2 Indicators Selection

The study identifies technically sound quantitative indicators for each SDGs that met five statistical criteria to determine suitable metrics for inclusion in the SDGs Index:

- (i) Global relevance and applicability to a wide range of countries; This must be relevant and applicable for monitoring all countries as well as internationally comparable.
- (ii) Statistical adequacy; Statistically reliable without any large or frequent revisions.
- (iii) Timeliness; Published and available for recent years
- (iv) Data quality; Must be internationally comparable and derived from reputable international resources.
- (v) Coverage: Data needed to be available for at least 80% of the 149 Member States with a higher population to 1 million).

To calculate the index, data that met the preceding five criteria were normalised on a linear scale of 0 to 100 prior to ranking all countries Schmidt-Traub et al. (2017a). The following is the SDGs indicators summary included in the SDGs index calculation.

Table 6. 3 Summary of SDGs indicators included in the SDGs Index calculation

<i>SDG</i>	<i>Indicator</i>
1	1) Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of the population)
	2) Poverty rate after taxes and transfers, poverty line 50% (% of the population)
2	3) Prevalence of undernourishment (% of the population)
	4) Cereal yield (t/ha)
	5) Prevalence of stunting (low height-for-age) in children under 5 years of age (%)
	6) Prevalence of wasting in children under 5 years of age (%)
	7) Sustainable Nitrogen Management Index (0-1)
	8) Prevalence of obesity, BMI \geq 30 (% of adult population)
3	9) Mortality rate, under-5 (per 1,000 live births)
	10) Maternal mortality rate (per 100,000 live births)
	11) Neonatal mortality rate (per 1000 live births)
	12) Physician density (per 1000 people)
	13) Incidence of tuberculosis (per 100,000 people)
	14) Traffic deaths rate (per 100,000 people)
	15) Adolescent fertility rate (births per 1,000 women ages 15-19)
	16) Subjective wellbeing (average ladder score, 0-10)
	17) Healthy life expectancy at birth (years)
	18) Percentage of surviving infants who received 2 WHO-recommended vaccines (%)
	19) Daily smokers (% of the population aged 15+)
4	20) Expected years of schooling (years)
	21) The literacy rate of 15–24-year-old, both sexes (%)
	22) Net primary school enrolment rate (%)
	23) Population aged 25-64 with tertiary education (%)
	24) PISA (Programme for International Student Assessment) score (0-600)
	25) Population aged 25-64 with upper secondary and post-secondary non-tertiary educational attainment (%)
5	26) The proportion of seats held by women in national parliaments (%)
	27) Female years of schooling of the population aged 25 and above (% male)
	28) Female labour force participation rate (% male)
	29) Estimated demand for contraception that is unmet (% of women married or in the union, ages 15-49)
	30) Gender wage gap (% of male median wage)
6	31) Access to the improved water source (% of the population)
	32) Access to improved sanitation facilities (% of the population)
	33) Freshwater withdrawal (% of total renewable water resources)
7	34) Access to electricity (% of the population)
	35) Access to non-solid fuels (% of the population)
	36) CO ₂ emissions from fuel combustion and electricity output (MtCO ₂ /TWh)
	37) The share of renewable energy in total final energy consumption (%)
8	38) Unemployment rate (% of total labour force)
	39) Automated teller machines (ATMs per 100,000 adults)
	40) Adjusted growth rate (%)
	41) Youth not in employment, education or training (NEET) (%)
	42) Percentage of children 5–14 years old involved in child labour (%)
9	43) Employment-to-Population ratio (%)
	44) Research and development expenditure (% of GDP)
	45) Research and development researchers (per 1000 employed)
	46) Logistics Performance Index: Quality of trade and transport-related infrastructure (1-5)
	47) Quality of overall infrastructure (1-7)
	48) Mobile broadband subscriptions (per 100 inhabitants)
	49) The proportion of the population using the internet (%)
50) Patent applications filed under the PCT in the inventor's country of residence (per million population)	
10	51) Gini index (0-100)

<i>SDG</i>	<i>Indicator</i>
	52) Palma ratio
	53) PISA Social Justice Index (0-10)
11	54) The annual mean concentration of particulate matter of fewer than 2.5 microns of diameter (PM2.5) ($\mu\text{g}/\text{m}^3$) in urban areas
	55) Rooms per person
	56) Improved water source piped (% of urban population with access)
12	57) Percentage of anthropogenic wastewater that receives treatment (%)
	58) Municipal solid waste (kg/year/capita)
	59) Non-recycled municipal solid waste (kg/person/year)
13	60) Energy-related CO2 emissions per capita (tCO2/capita)
	61) Climate Change Vulnerability Monitor (0-1)
14	62) Ocean Health Index Goal - Clean Waters (0-100)
	63) Ocean Health Index Goal - Biodiversity (0-100)
	64) Ocean Health Index Goal - Fisheries (0-100)
	65) Marine sites of biodiversity importance that are completely protected (%)
	66) Percentage of fish stocks overexploited or collapsed by EEZ (%)
15	67) Red List Index of species survival (0-1)
	68) Annual change in forest area (%)
	69) Terrestrial sites of biodiversity importance that are completely protected (%)
16	70) Homicides (per 100,000 people)
	71) Prison population (per 100,000 people)
	72) The proportion of the population who feel safe walking alone at night in the city or area where they live (%)
	73) Corruption Perception Index (0-100)
	74) The proportion of children under 5 years of age whose births have been registered with civil authority, by age (%)
	75) Government efficiency (1-7)
	76) Property rights (1-7)
17	77) For high-income and all OECD DAC countries: International concessional public finance, including official development assistance (% of GNI)
	78) For all other countries: Tax revenue (% of GDP)
	79) Health, education and R&D spending (% of GDP)

Source: Schmidt-Traub et al. (2017a)

6.3.3 Data Collection

Due to the fact that the SDGs index is well-publicized and classified as secondary data provided by the UN-SDSN under the works of Schmidt-Traub et al. (2017a), the SDI was constructed using the available data from OIC member countries in the SDGs Index database.

6.3.4 Country Selection

It is noted that the countries included in the SDGs index calculation are similar to those included in the MDGs index calculation, which are 47 OIC member countries. As explained in the following section, certain countries lacked data for this study.

6.3.5 Data Limitation

The SDGs Index is intended to guide country discussions about their SDGs priorities using robust and publicly available data. As a result, Schmidt-Traub et al. (2017a), argue that missing data should not be entered or modelled in the index calculation. Accordingly, only 47 of the 57 OIC member countries observed have complete data for all years observed for the purpose of calculating the SDG index. As a result, the index does not include Brunei Darussalam, Comoros, Djibouti, Guinea Bissau, Libya, Maldives, Palestine, Somalia, Syria, or Turkmenistan.

6.4 Results of SDI Computation

This section presents the SDI computation results using a unified scale of 1-100 as a result of a combination of the sustainable development framework, MDGs and SDGs indices. The index's general descriptive statistics are presented first, followed by the index's empirical distribution, in order to gain a better understanding of the index.

6.4.1 General descriptive statistics of SDI

The SDI values for various countries are presented in Table 6.4 for the years 2013–2019. The number of countries included in the index computation is constant across years because balanced panel data is used to determine the availability of data on the components of indicators considered in the index computation.

It is noteworthy that the overall average of SDI of OIC member countries is recorded very low (53.91 out of 100), with the highest score is 70.26 achieved by Kazakhstan and the lowest score is 36.96 obtained by Yemen. Furthermore, as evident from Table 6.4 and as expected, different countries around the world are relatively at different levels of SDI. Among 47 OIC member countries observed in the year of 2013 to 2017, Kazakhstan, Azerbaijan, Iran, Indonesia, and Kyrgyz are those among the highest ranked countries, whereas Cameroon, Iraq, Togo, Chad, and Yemen are among the countries ranked at the bottom of the list. Although gained low scores in the index, some countries such as Gabon, Iraq, Guyana, Yemen, and Cameroon have obtained remarkable progress across the year observed as described in Figure 6.1. To portray

overall progress across the region within OIC member countries, Figure 6.2 and 6.3 shows the SDI score (mean) by region and geographical location.

It is worth noting that the overall average SDI score for OIC member countries is extremely low (53.91 out of 100), with the highest, Kazakhstan, scoring 70.26 while the lowest, Yemen, scoring 36.96. Additionally, as illustrated in Table 6.4, it is expected that different OIC member countries around the world have a range of SDI values. Kazakhstan, Azerbaijan, Iran, Indonesia, and Kyrgyzstan are the highest-ranked countries among the 47 OIC member countries observed from 2013 to 2019, while Cameroon, Iraq, Togo, Chad, and Yemen are at the bottom of the list.

In addition to incorporating various social and moral factors that determine economic and financial decisions that, in essence, could contribute to achieve sustainable development, the precepts of the Islamic moral economy (IME) express the essence of the notion of shared prosperity, as discussed previously in the literature review. Therefore, from an IME vantage point, IFIs should also adhere to the financial tenets of *Shari'ah* and the principles of sustainable development. Accordingly, since economic, social, and environmental factors are distinguishing pillars of sustainable development, it is thus proposed that the level of SDI performance (as a global development framework) is able to represent the degree to which *Maqasid al-Shari'ah* and IME are implemented at the country level by OIC member countries.

As observed in the descriptive statistics of this section, the performance of 47 OIC member countries on sustainable development varies, suggesting that the degree of achievement of the substance of *Maqasid al-Shari'ah*, including social justice and human-centred development, differs across nations.

Table 6. 4 SDI values for OIC member countries, 2013-2019

Country	MDGs Index (2013-2015)				SDGs Index (2015-2019)					SDI Score	Country rank
	2013	2014	2015	Mean	2016	2017	2018	2019	Mean		
Kazakhstan	76.67	73.33	70.00	73.33	63.85	71.09	68.13	68.71	67.95	70.26	1
Azerbaijan	61.54	65.38	73.08	66.67	61.34	70.81	70.80	70.46	68.35	67.63	2
Iran	67.86	64.29	66.67	66.27	58.55	64.70	65.54	70.49	64.82	65.44	3
Indonesia	66.67	66.67	70.00	67.78	54.38	62.88	62.84	64.19	61.07	63.95	4
Kyrgyz	60.00	56.67	56.67	57.78	60.85	70.67	70.33	71.62	68.37	63.83	5
Morocco	61.54	57.69	57.69	58.97	61.62	66.66	66.27	69.07	65.91	62.93	6
Egypt	60.00	64.29	58.33	60.87	60.88	64.92	63.47	66.21	63.87	62.59	7
Turkey	57.69	53.57	53.57	54.95	66.12	68.48	65.96	68.49	67.26	61.98	8
Oman	58.33	55.00	62.50	58.61	59.88	64.31	63.91	67.86	63.99	61.68	9
Jordan	54.55	54.55	54.55	54.55	62.73	65.96	64.36	68.09	65.28	60.68	10
Tunisia	50.00	53.85	46.15	50.00	65.06	68.66	66.15	69.99	67.47	59.98	11
United Arab Emirates	50.00	50.00	45.83	48.61	63.58	66.01	69.22	69.71	67.13	59.19	12
Bahrain	53.85	50.00	50.00	51.28	61.14	64.59	65.90	68.72	65.09	59.17	13
Bangladesh	66.67	58.33	66.67	63.89	44.42	56.21	59.35	60.88	55.21	58.93	14
Qatar	54.17	50.00	50.00	51.39	65.83	63.10	60.85	66.28	64.01	58.60	15
Uzbekistan	46.15	46.15	46.15	46.15	58.70	71.25	70.29	71.13	67.84	58.55	16
Saudi Arabia	50.00	50.00	60.00	53.33	58.03	62.68	62.92	64.84	62.12	58.35	17
Algeria	50.00	50.00	42.31	47.44	58.14	68.76	67.88	71.10	66.47	58.31	18
Mauritania	63.33	63.33	63.33	63.33	60.72	51.14	51.57	53.33	54.19	58.11	19
Senegal	63.33	63.33	63.33	63.33	45.84	56.24	57.17	57.30	54.14	58.08	20
Malaysia	38.46	46.67	46.67	43.93	61.66	69.68	70.01	69.56	67.72	57.53	21
Albania	33.33	50.00	50.00	44.44	60.77	68.90	68.91	70.27	67.21	57.46	22
Burkina Faso	66.67	66.67	66.67	66.67	35.63	49.90	50.88	52.40	47.20	55.55	23
Uganda	57.69	57.69	62.50	59.29	43.62	52.86	54.93	52.57	51.00	54.55	24
Lebanon	43.33	40.00	40.00	41.11	57.99	64.93	64.79	65.67	63.34	53.82	25
Tajikistan	42.86	42.31	34.62	39.93	50.69	66.77	67.18	69.23	63.47	53.38	26
Suriname	36.67	36.67	36.67	36.67	57.98	70.35	67.97	67.03	65.83	53.33	27
Kuwait	46.15	41.67	41.67	43.16	52.54	62.40	61.14	63.51	59.90	52.73	28
Afghanistan	63.64	63.64	59.09	62.12	36.50	46.81	46.24	49.65	44.80	52.22	29
Mali	61.54	60.00	56.67	59.40	38.22	48.54	49.72	50.21	46.67	52.13	30
Niger	60.00	63.33	64.29	62.54	31.42	44.80	48.51	49.45	43.55	51.69	31
Guinea	57.69	56.67	54.17	56.18	35.93	48.78	52.12	52.81	47.41	51.17	32
Mozambique	56.67	50.00	53.33	53.33	39.48	49.24	50.66	53.03	48.10	50.34	33
Sudan	46.67	50.00	61.54	52.74	42.17	49.87	49.58	51.36	48.25	50.17	34
Pakistan	43.33	46.67	46.67	45.56	45.71	55.63	54.89	55.57	52.95	49.78	35
Guyana	29.17	29.17	25.00	27.78	52.35	64.66	61.90	61.41	60.08	46.24	36
Sierra Leone	50.00	50.00	40.00	46.67	36.92	47.11	49.11	49.24	45.59	46.05	37
Nigeria	46.43	41.67	41.67	43.25	36.06	48.65	47.48	46.41	44.65	44.05	38

<i>Country</i>	<i>MDGs Index (2013-2015)</i>				<i>SDGs Index (2015-2019)</i>					<i>SDI</i>	
	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>Mean</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>Mean</i>	<i>Score</i>	<i>Country rank</i>
Gambia	38.46	38.46	38.46	38.46	37.77	47.82	51.58	55.00	48.04	43.94	39
Benin	40.00	40.00	36.67	38.89	39.98	49.47	48.98	50.85	47.32	43.71	40
Gabon	16.67	16.67	16.67	16.67	56.21	65.14	62.84	64.76	62.24	42.71	41
Cote d'Ivoire	30.77	30.00	26.67	29.15	43.49	53.34	55.18	55.70	51.93	42.16	42
Cameroon	33.33	23.33	23.33	26.67	46.33	52.83	55.78	56.02	52.74	41.57	43
Iraq	22.73	22.73	22.73	22.73	50.87	56.63	53.75	60.79	55.51	41.46	44
Togo	30.77	30.77	30.77	30.77	40.85	50.18	52.00	51.60	48.66	40.99	45
Chad	40.00	39.29	39.29	39.52	31.79	41.50	42.81	42.79	39.72	39.64	46
Yemen	33.33	22.22	16.67	24.07	37.31	49.80	45.66	53.70	46.62	36.96	47

*The MDGs index values in this table are based on the author's calculation using formula initiated by (Leo & Barmeier, 2010) and employing the MDGs Database provided by the World Bank.

**The SDGs index values are publicly accessible data gathered from the SDGs Index database, based on the work of Schmidt-Traub et al. (2017a).

Figure 6. 1 SDI values 2013-2019 (mean), by country

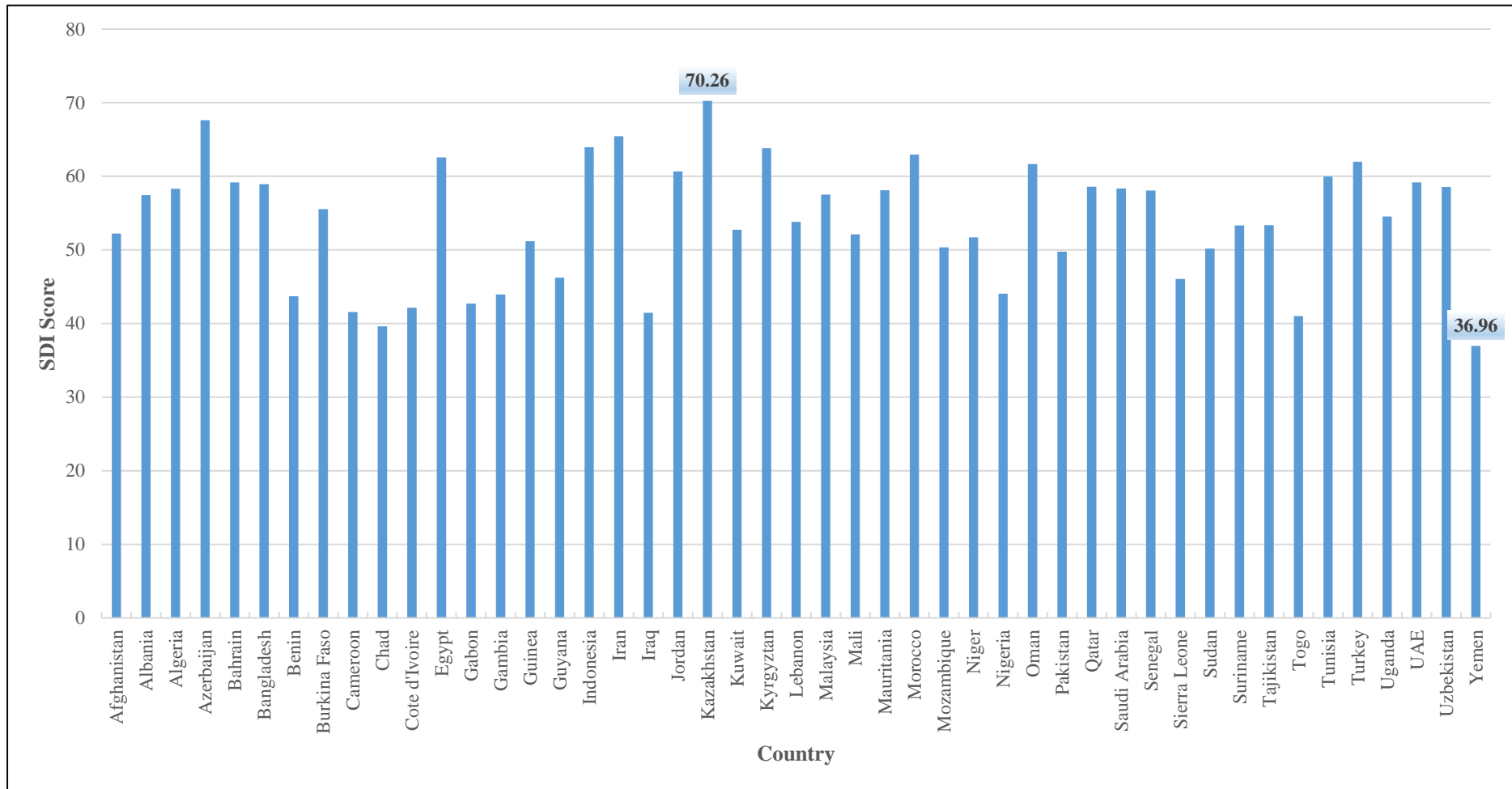


Figure 6. 2 SDI values 2013-2019 (mean), by region

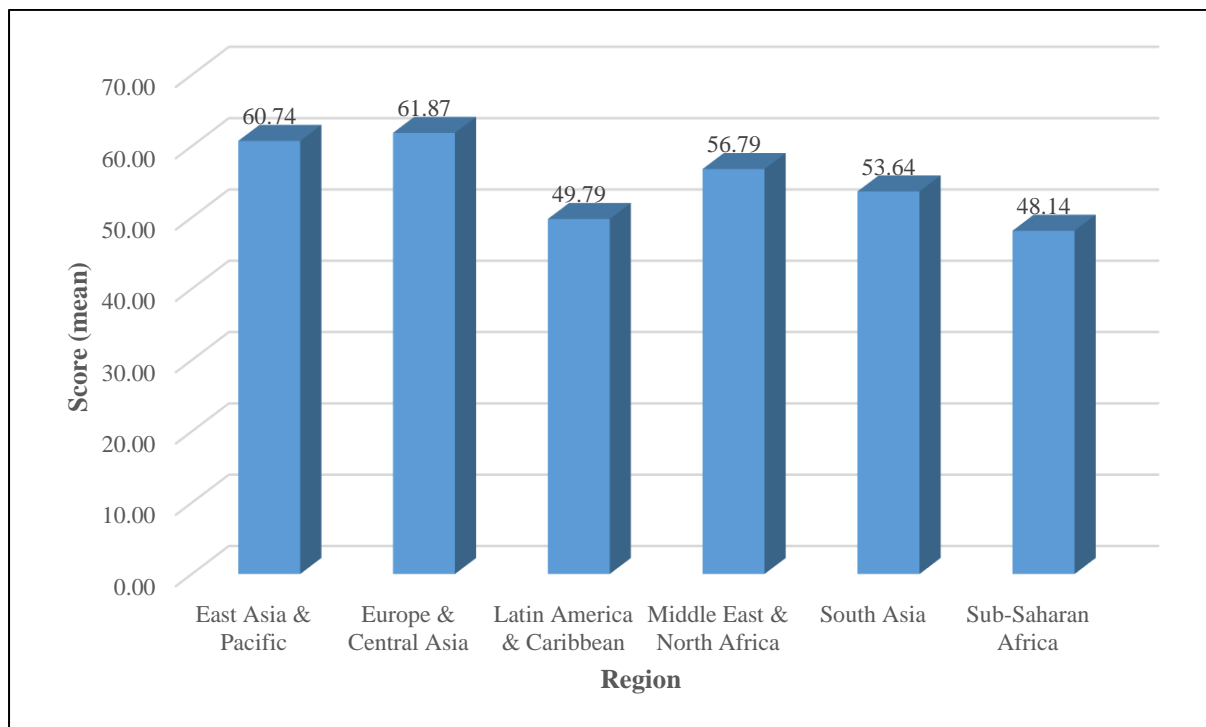
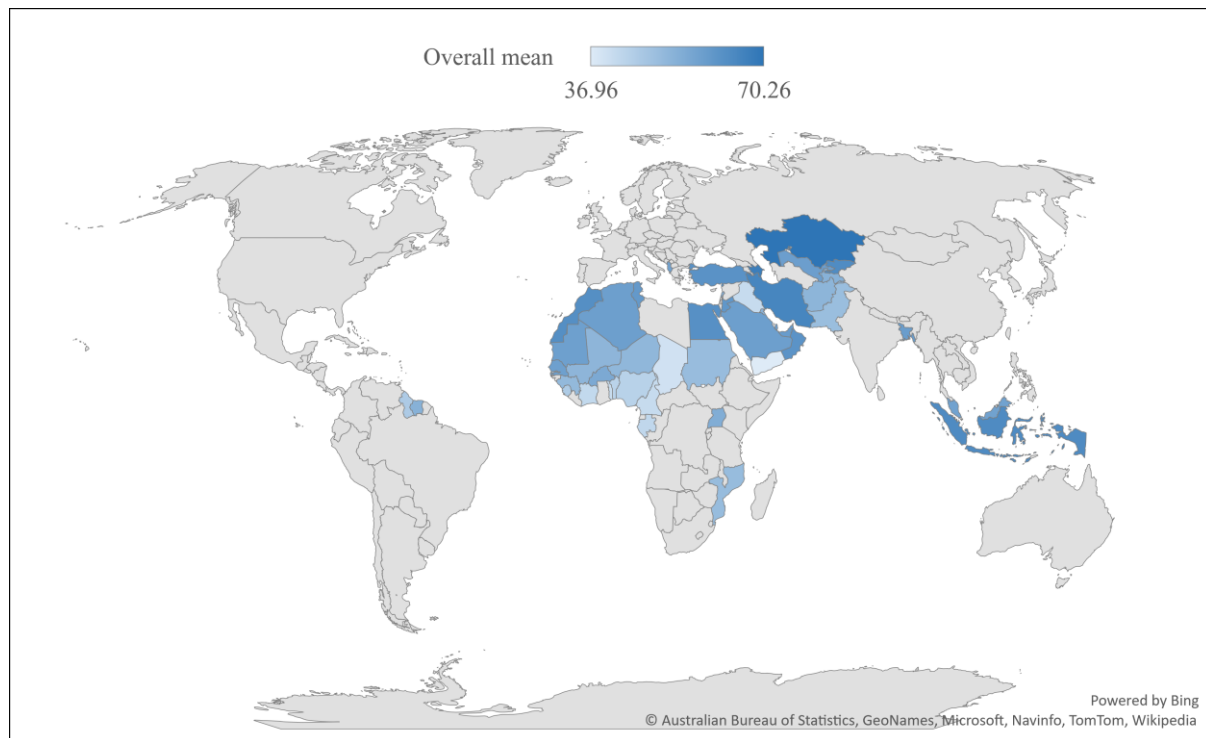


Figure 6. 3 SDI values 2013-2019 (mean), by geographical location



6.4.2 Empirical Distribution

This section endeavours the understanding of the SDI through the empirical distribution based on two aspects, namely level of SDI and marginal differences (i.e., the percentage of changes in the SDI values between years).

6.4.2.1 Distribution of SDI based on score level

SDI values are classified into four categories for ease of reference. Countries with SDI values greater than 80.00 are classified as having ‘very high’ sustainable development, those with SDI values between 70.00 and 79.99 as having ‘high’ sustainable development, those with SDI values between 55.00 and 69.99 as having ‘medium’ sustainable development, and those with SDI values less than 54.99 are classified as having ‘low’ sustainable development, as summarised in Table 6.5. This level classification is frequently used in the calculation of indices such as the Human Development Index (see Ul Haq, 2003).

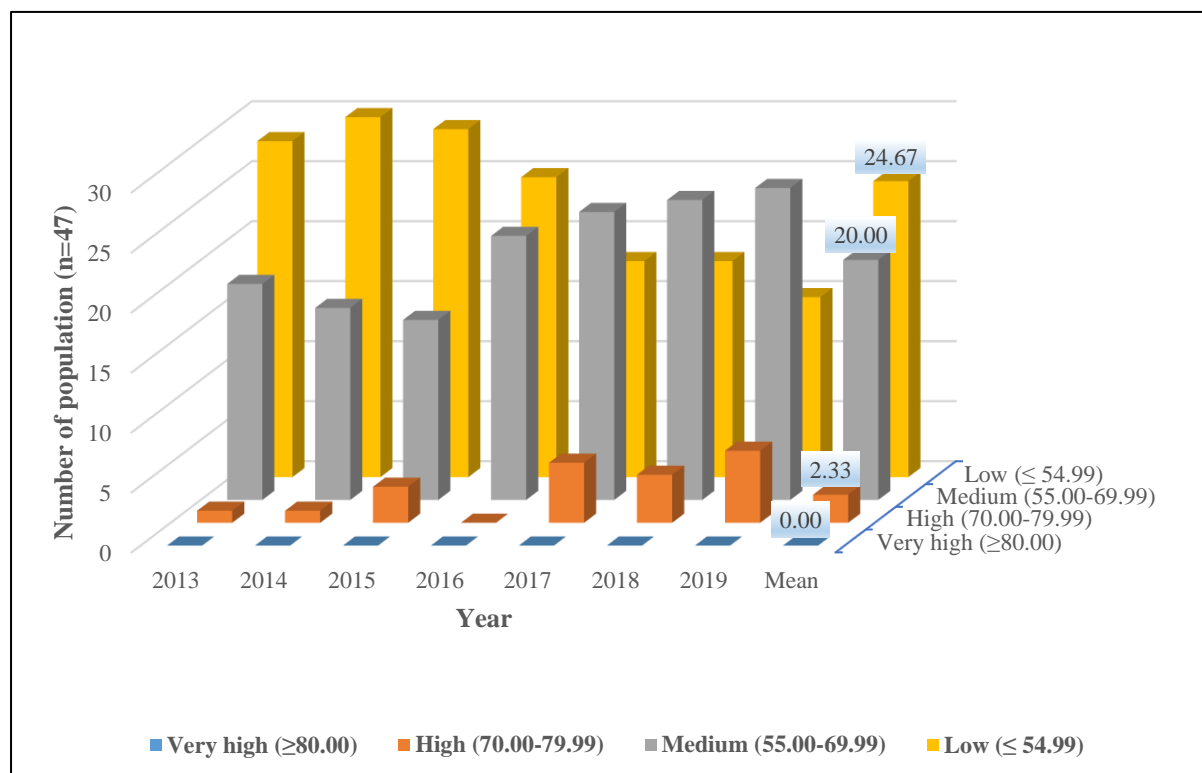
Table 6. 5 Level of sustainable development based on SDI values

<i>Score level</i>	<i>Score</i>
Very high	(≥ 80.00)
High	70.00-79.99
Medium	55.00-69.99
Low	(≤ 54.99)

Source: Author

To make it clear, the following Figure 6.4 also shows the empirical distribution of the SDI according to the level of sustainable development over observed years:

Figure 6. 4 Empirical distribution of SDI values 2013-2019 (mean), by score level classification

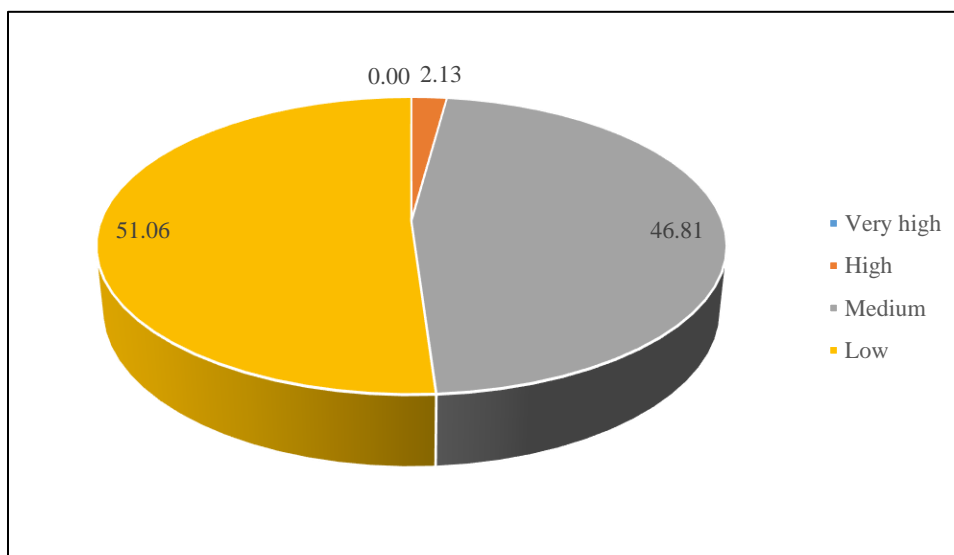


Between 2013 and 2014, the number of countries with a low SDI score increased slightly, but then gradually decreased until 2019. Simultaneously, the number of countries achieving a medium SDI score increased gradually from 2016 to 2019, following a moderate decline from 2013 to 2015. Compared to the initial year of observation, six years later in 2019, the level of sustainable development among OIC member countries has improved significantly, as the number of countries with a low SDI score, which was prevalent in 2013, has decreased significantly. This situation is highly symmetrical, with the number of countries that improved their performance in attaining the medium level increasing to become the majority in 2019. Additionally, it is noted that OIC countries with a high level of sustainable development achieved very marginal results, with the highest being in 2019 and none achieving it in 2016.

In addition, Figure 6.5 demonstrates that the majority of the distribution is concentrated at the medium and low SDI levels, but there is significant variation in the index across countries (over time). A cross-sectional comparison reveals that none of the OIC member states achieve an exceptionally high level of sustainable development. Additionally, only about 2% of OIC

countries have a high level of sustainable development, about 47% have a medium level, and more than 50% have a low level.

Figure 6. 5 Empirical distribution of SDI values 2013-2019 (mean), by score level classification (%)

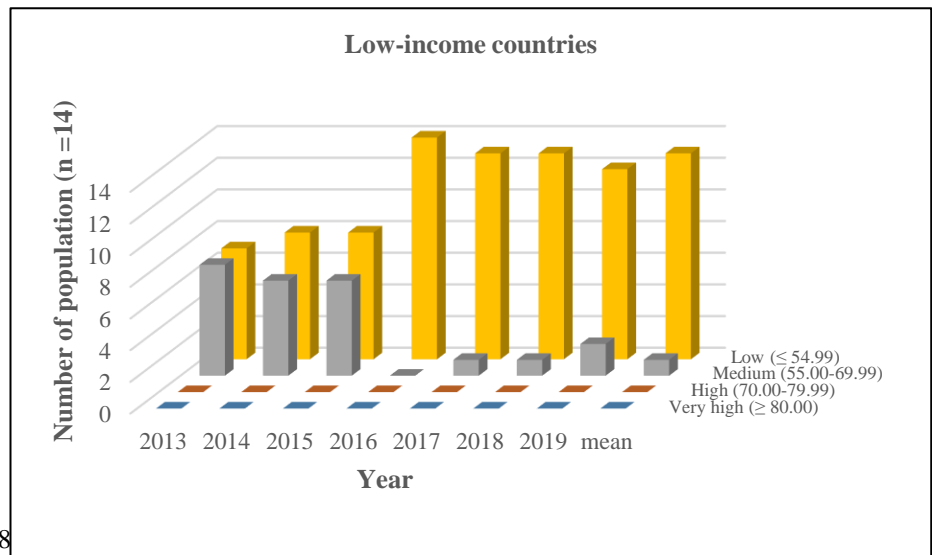
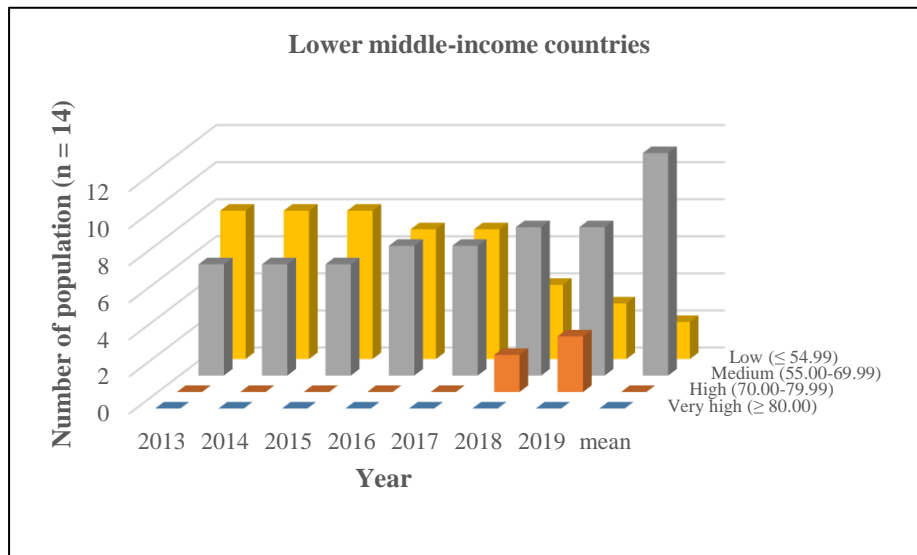
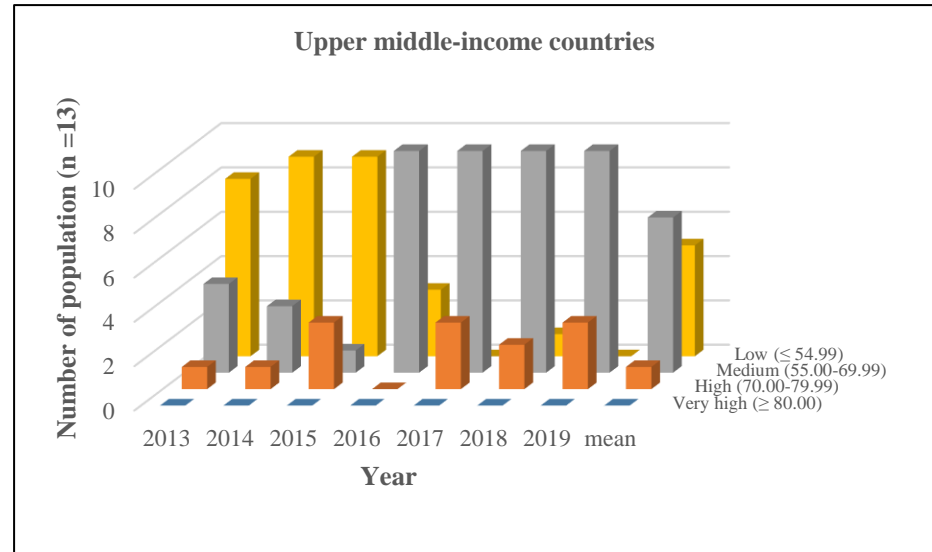
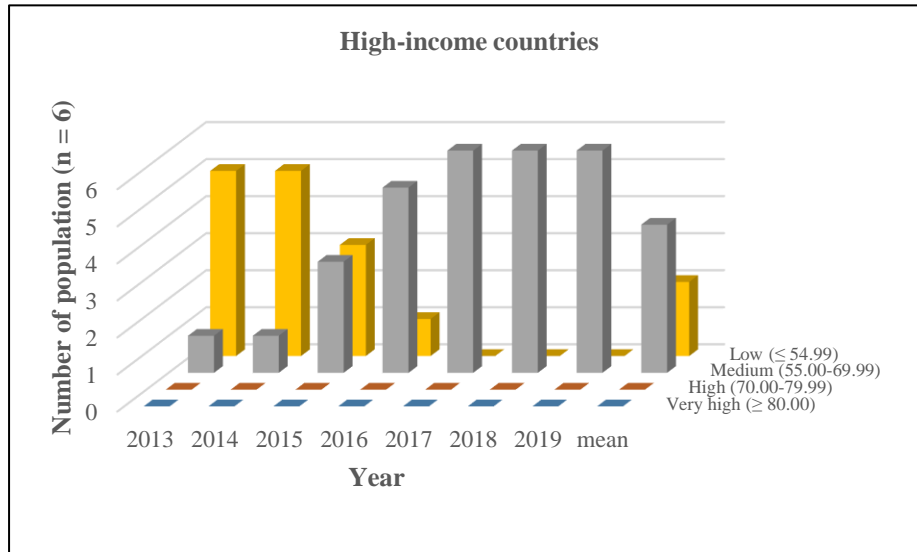


6.4.2.2 Distribution of SDI based on countries income level

The SDI distribution by income level is further illustrated in Figures 6.6 overleaf (i.e., based on GNP per capita¹). In comparison to Leo and Barmeier (2010)'s MDGs index and Schmidt-Traub et al. (2017a)'s SDGs Index, some SDI results are consistent with expectations, while others are not (i.e., as countries' income levels increase, their development level increases). In other words, the proportion of countries with a low SDI level is lower in high-income countries and higher in low-income countries. Additionally, except for low-income countries, SDI results indicate that the trend is relatively consistent across almost all income levels of countries (i.e., the number of countries under the medium SDI level are still dominant). Additionally, it is worth noting that the high SDI score was only achieved by countries classified as upper-middle and lower-middle income over the observed period.

¹ As of 1 July 2020, the World Bank income classifications by GNI per capita are: Low-income: \$1,034 or less; Lower-middle income: \$1,035-\$4,045; Upper-middle income: \$4,046-12,535; High-income: \$12,535 or more.

Figure 6. 6 Empirical distribution of SDI values 2013-2019 (mean) based on Income level



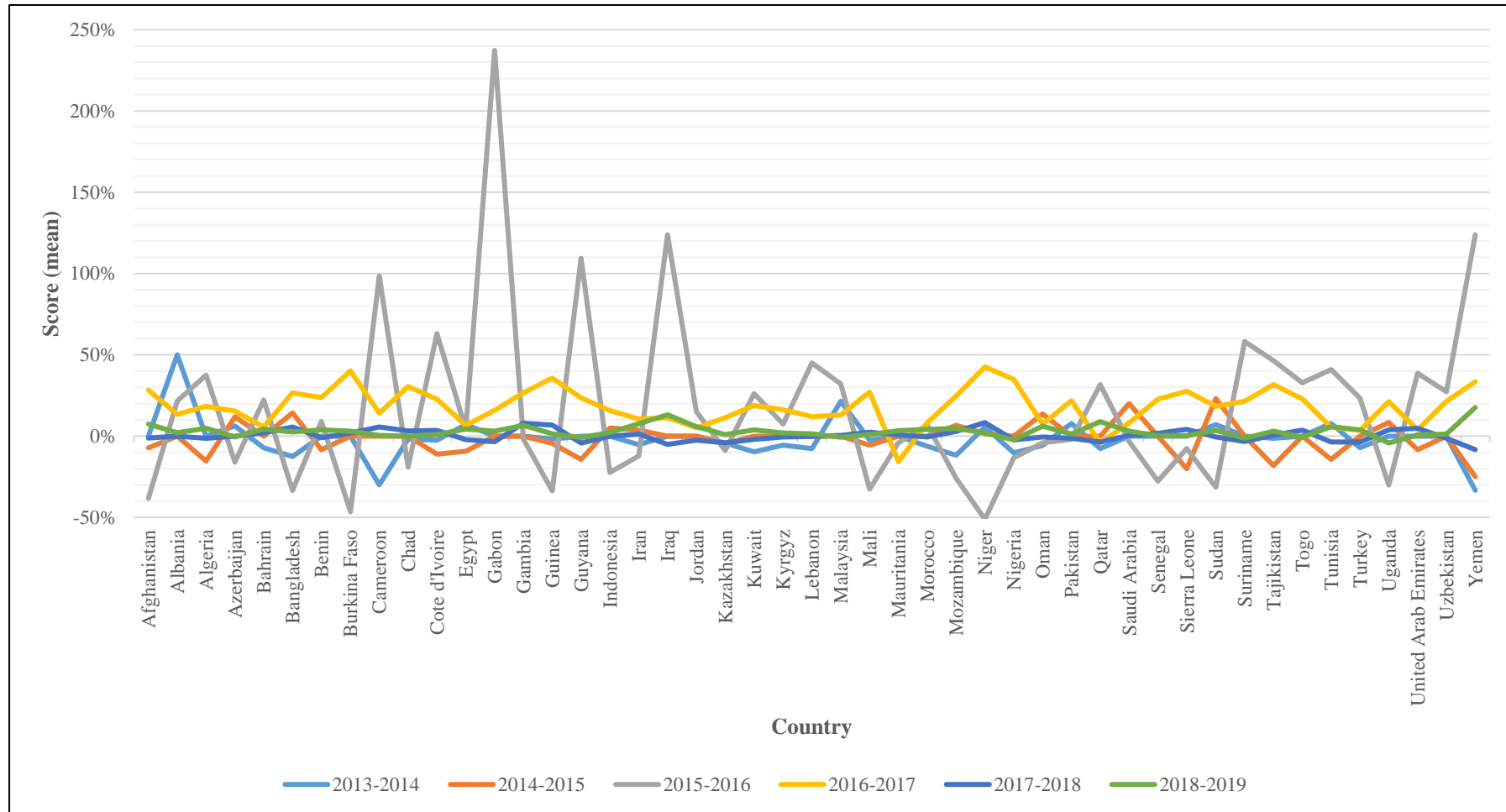
6.4.2.3 Distribution of SDI based on marginal differences

Empirical distribution based on marginal differences is added in the present study. Bearing in mind that sustainable development is a complex issue, there are too many issues that need to be studied. Hence, changes over the years are considered an important matter to gauge the progress of sustainable development rather than examining this issue based on solely on the level of sustainable development. The empirical distribution of SDI based on marginal differences is described in Figure 6.7 and 6.8.

This illustrates that the distribution of percentage of changes in the SDI values is mixed and various. Overall, the majority of OIC member countries experienced a modest increase within the period of seven years observed in this study. Only one country, Gabon, achieved a remarkable improvement in the SDI with more than 40% of increase while another country, Iraq, also achieved a noticeable progress in the SDI performance with more than 20% of increase. Eight countries such as Malaysia and Guyana have also achieved a moderate progress of around 10%-20%. Moreover, seven OIC member countries observed (Uganda, Burkina Faso, Senegal, Kazakhstan, Mali, Afghanistan, and Mauritania) having no enhancement at all but resulted with negative percentage in the index. As can be seen clearly in Figure 6.7 and 6.8, the vast majority of OIC member countries obtained a progress of approximately 1% to 10% in the SDI from 2013 to 2019.

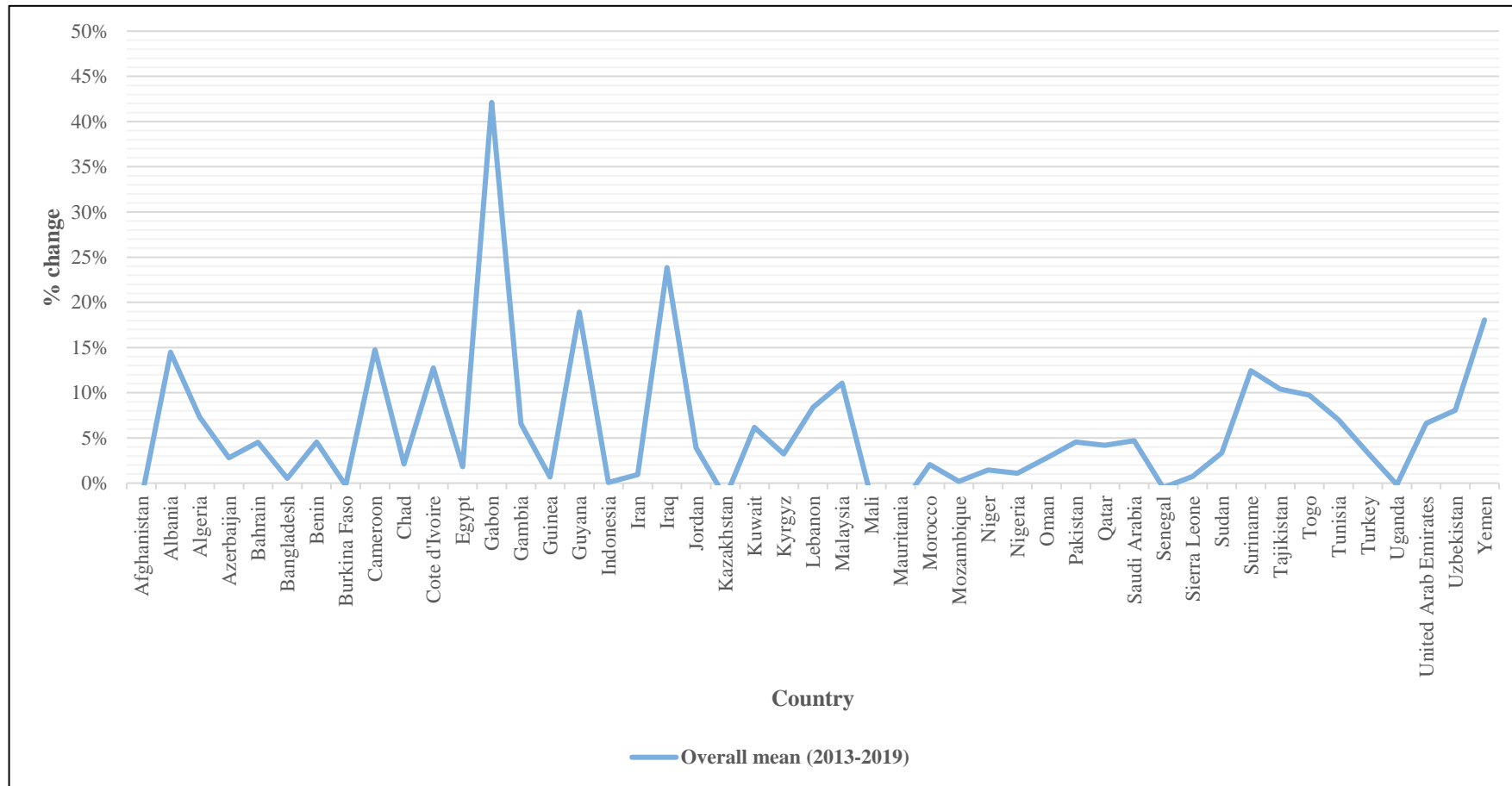
It is noted that Figure 6.9 shows the progress of SDI among OIC member countries in which it increased significantly from the 2014-2015-progress year to the 2015-2016-progress year and marginally increased again a year after. Two years later, the index progress decreased remarkably before it slightly rose again in the 2018-2019-progress year. These fluctuate changes could be understood from the perspective that the declaration of sustainable development framework has been shifted from MDGs to SDGs in 2015 as the former contains only 8 goals while the latter equipped with more massive commitments (17 goals) among countries in the world as well as broader indicators and data series of sustainable development included (Schmidt-Traub et al., 2017b).

Figure 6. 7 Empirical distribution of SDI values 2013-2019 based on marginal differences (per year), by country



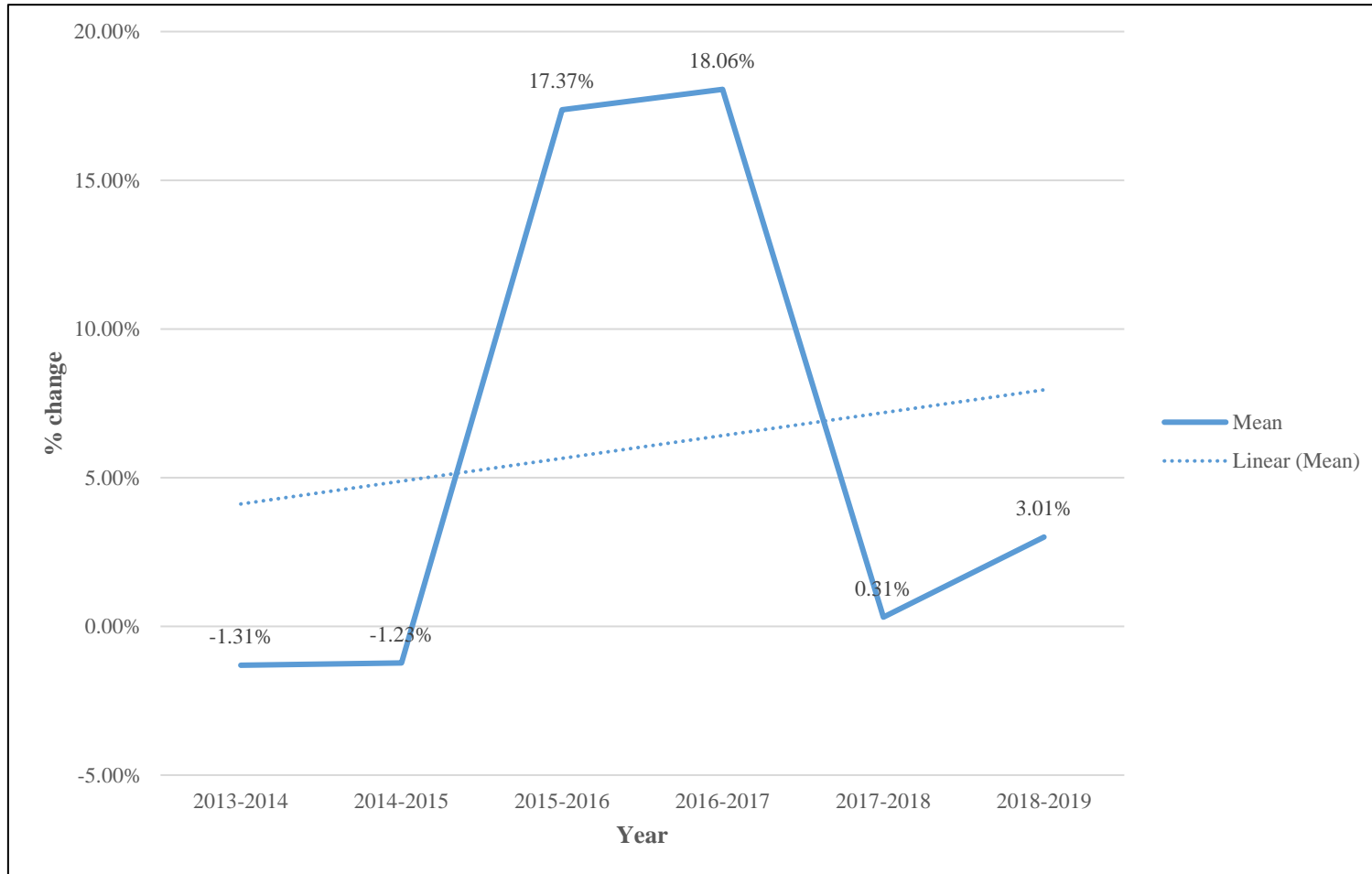
Source: Author.

Figure 6.8 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by country



Source: Author.

Figure 6.9 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by country



Source: Author.

Figure 6. 10 Empirical distribution of SDI values 2013-2019 (mean) based on marginal differences, by countries' income level



More specifically, within the year 2015-2016, a considerable improvement of more than 20% change of SDI experienced by approximately 20 countries, including Bahrain, Turkey, Kuwait, Gabon, Guyana, and Cameroon. Furthermore, few countries reached around 1-20% changes, including Egypt and Benin, while the remaining 22 countries experienced a negative progress.

Figures 6.10 further depicts the percentage changes of SDI values based on countries' income level (i.e., based on GNP per capita). It is noted that OIC member countries in three income levels (high, lower-middle, and low) recorded relatively marginal progress (below 5% change) in the SDI across the years observed whereas countries classified as upper-middle income countries achieved the best overall progress at around 10%. Overall, these results indicate that all income level countries are having similar opportunities to a positive change in the sustainable development performance, which in turn affect the level of sustainable development as 'the development for all' is the ultimate objective of sustainable development framework.

6.5 Chapter Summary

This chapter discusses the methodology for calculating the sustainable development index (SDI), which is actually a combination of two distinct indices, the MDGs and the SDGs. In terms of MDGs Index section, following Leo and Barmeier (2010), 14 core indicators and 15 data series have been selected based on such criteria, including accuracy, availability of data, and utilities in the sustainable development literature. While in the calculation of SDGs, the index is a publicly accessible data and gathered from the UN-SDSN, which is a study of Schmidt-Traub et al. (2017b). Both, MDGs and SDGs results of the index calculation, are also elaborated in detail. It is noted that all areas of the index's discussions play an essential role in conducting the present study.

CHAPTER 7

RESEARCH METHOD III: MEASURING CORPORATE SUSTAINABILITY DISCLOSURE PRACTICES

7.1 Introduction

This chapter discusses the procedures and methodology for assessing Islamic banks' sustainability disclosure practises in OIC member countries.

The chapter begins by discussing the context and model for calculating the score for sustainability disclosure practises. Section 7.3 describes the methodology, explaining the research design, unit of analysis, data collection period and technique, sampling and population, and data limitations. Section 7.4 presents the sustainability disclosure score's results, and Section 7.5 concludes the chapter.

7.2 Corporate Sustainability Disclosure

Over the last three decades, the concept of non-financial reporting has evolved continuously. Non-financial reporting has evolved from a few small sections in the company's annual report to a separate sustainability report. Such comprehensive reports include comprehensive disclosures about a company's social and environmental performance (KPMG, 2015). Businesses have become more accountable and have adopted international standards for sustainability reporting, such as the Global Reporting Initiative (GRI). This establishes benchmarks and increases the level of disclosure transparency (Milne & Gray, 2007). According to KPMG (2015), over 95% of the 250 largest corporations in the world publish sustainability reports. Additionally, numerous studies indicate that organisations can benefit in a variety of ways from CSR or SR (Healy, Hutton, & Palepu, 1999; M. Khan, Halabi, & Samy, 2009). In developed and developing countries, extensive research has been conducted on the

nature and content of companies' CSR or SR (i.e, W. Ali et al., 2017; Boiral & Henri, 2017; Frost, Jones, Loftus, & Laan, 2005; Gray, Kouhy, & Lavers, 1995b; M. Khan et al., 2009; Raman, 2006; Roca & Searcy, 2012a; Willis, 2003).

Recently, there has been an increased awareness among financial institutions to adopt and report on sustainability issues (M. Khan et al., 2009). According to M. Islam, Jain, and Thomson (2016), banks have made deliberate efforts to comply with environmental regulations and to disclose their environmental management policies in order to incorporate environmental considerations into banking operations. Environmental management policies must be disclosed as part of sustainability reporting (Lock & Seele, 2015). Banks are increasingly implementing environmental management systems as a means of reducing resource consumption and optimising costs (Chaklader & Gulati, 2015; Jizi, Salama, Dixon, & Stratling, 2014; Sahoo & Nayak, 2007). Jeucken (2001) emphasised the importance of banks disclosing both qualitative and quantitative data on their environmental stewardship practises in their non-financial reporting.

In the literature on sustainability reporting, financial institutions' social behaviour is most frequently measured by the extent to which they disclose various sustainability indicators in nonfinancial reporting, such as community development programmes, health care programmes, and training and development programmes (Adams & Frost, 2008b; Belal, 2008; Frost et al., 2005; Murthy, 2008; Raman, 2006). Banks are increasingly disclosing financial literacy and financial inclusion initiatives as part of their non-financial disclosure in order to communicate to various stakeholders their socially responsible business practises (Kamath, 2007; Sarma & Pais, 2011). The disclosure of policies relating to business ethics, values, and human rights is a critical tool for improving banking institutions' transparency and sustainability practices (Jeucken, 2001; Scholtens, 2009). M. Islam et al. (2016) emphasised the critical importance of anti-corruption and decent labour practises in enhancing financial institutions' sustainability practices. According to M. Khan et al. (2009), sustainability practises such as environmental management systems, community development initiatives, business ethics, human rights, and environmental policy form the foundation of global sustainability frameworks such as the GRI, UNGC principles, and others.

Having said that, only few studies have examined corporate sustainability disclosure from the standpoint of sustainability theory, which includes three dimensions: social, economic, and environmental. Majority of studies use the phrase ‘business sustainability practices’ while in fact they refer solely to social activities (i.e., Christmann, 2000; Pelozo, 2009; Platonova et al., 2018). Additionally, the majority of prior research on corporate sustainability disclosure has used content analysis of annual reports or other publicly available data to determine a company’s sustainability (i.e., Jan, Marimuthu, Hassan, et al., 2019; Nikolaou, 2019; Nikolaou et al., 2019).

Therefore, a comprehensive measure such as a scoring system, is required in this study to quantify and compare the extent to which Islamic banks in OIC member countries disclose sustainability information.

7.3 Methodology

This section will explain the steps of constructing corporate sustainability disclosure practices (henceforth CSDP) score within Islamic banks in the OIC member countries.

7.3.1 Research Design

To assess Islamic banks’ sustainability disclosure practices, this study employs a combination of qualitative and quantitative data derived from content analysis of annual reports in order to generate disclosure-related data for sustainability dimensions (social, economic, and environmental) to ascertain the sampled Islamic banks’ sustainability disclosure practices.

There are numerous content analysis techniques that can be used to determine the degree of disclosure, including word counts (Deegan & Rankin, 1997), line counts, sentence counts (Gray et al., 1995a; Guthrie & Parker, 1990; Hackston & Milne, 1996a; Sobhani et al., 2011), paragraph counts (D. Campbell, 2000), page counts (Guthrie & Parker, 1990), and phrase counts (C. Beck et al., 2010).

Each alternative unit has a distinct set of advantages and disadvantages. A measurement through the number of pages varies between authors due to differences in print size, column

width, and page width. Pages and percentages of pages are very straightforward units of measurement, but they are extremely unlikely to provide any comparable unit of quantification (Hackston & Milne, 1996a). Moreover, phrases are imprecise, incorporate subjectivity, and lack any objective metric for counting (D. Campbell & Rahman, 2010). The literature supporting word counts of content analysis (i.e., Dicle & Dicle, 2018; Forgas, Vincze, & László, 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker, Francis, & Booth, 2001) argues that the frequency distribution of words is quite reliable and reproducible. Other measures, on the other hand, such as sentence count or phrase recognition, are considered inefficient, only feasible for a very small sample size, expensive, and require a great deal of time and effort. Most importantly, as Laver, Benoit, and Garry (2003) suggest, phrase recognition may not be as widespread in other languages as it is in English. Furthermore, by quantifying sustainability disclosure in terms of sentence count, the author retains subjectivity in determining which sentences constitute sustainability disclosure and which do not. Thus, in this study, sentence count or frequency distribution of words measurement was chosen as the most appropriate and balanced method for quantifying the sustainability disclosures provided in annual reports of Islamic banks.

A critical step in conducting content analysis for the purpose of generating disclosure-related data is the development of specific dimensions or pre-determined keywords and their associated criteria to which content units of documents and texts can be assigned (Haniffa & Hudaib, 2007). The pre-determined keywords for this study were modified primarily from the existing literature (i.e., Akinpelu, Ogunbi, Olaniran, & Ogunseye, 2013; Aribi & Gao, 2012; Farook et al., 2011; Hassan & Harahap, 2010; Heemskerk, Pistorio, & Scicluna, 2002; Feisal Khan, 2010; Sobhani et al., 2011) on the concept of sustainability disclosure and reporting. According to Heemskerk et al. (2002), three keywords from three dimensions, 'social, economic, and environment', are the primary indicators of corporate sustainability practices because they indicate how well companies adhere to good disclosure practises.

In analysing the text through content analysis, frequency distribution of words measurement using three distinct keywords and its derivative of sustainability dimensions (social, economic, and environmental) was constructed and used as a benchmark. Total scores value of CSDP is summed from all sub-scores value of dimensions of sustainability comprises total scores value

of three-word frequencies: ‘social’, ‘economic’, and ‘environment’ dimension. The method to scoring is additive of unweighted scores that is calculated to the sum of the final CSDP score.

The calculation of CSDP score according to each dimension of sustainability (social, economic, environment) is completed through the following formula:

$$CSDPs_{i,t,d} = \sum_{i=1}^n X_i \quad (\text{Eq. 7. 1})$$

Where:

CSDPs = Corporate Sustainability Disclosure Practices score of ‘*d*’ dimension of sustainability (sub-score of each social/economic/environment) of ‘*i*’ Islamic banks in year ‘*t*’;

X_i = words count score of each sustainability dimensions of ‘*i*’ Islamic banks in year *t*;

Consequently, the calculation of the overall CSDP score is based on the following formula:

$$CSDPs_{i,t} = \frac{\sum_{i=1}^n SDPs_{i,t,d}}{3} \quad (\text{Eq. 7. 2})$$

Where:

CSDPs = Corporate Sustainability Disclosure Practices score of Islamic banks ‘*i*’ in year ‘*t*’; where Islamic banks with higher CSDP score are considered more sustainability responsible firms.

7.3.2 Unit of Analysis

The study’s unit of analysis is the annual reports of Islamic banks, which were gathered from their respective websites. This is consistent with previous research in this field (i.e., Hackston & Milne, 1996b; Haron, Yahya, Manasseh, & Ismail, 2006; Thompson & Zakaria, 2004). The annual reports were chosen as the primary documents because it is conveniently available and publicly accessible, despite the fact that not all OIC Islamic banks publish annual reports. Furthermore, annual reports are widely regarded as the primary mode of business communication (Haron et al., 2006; Zeghal & Ahmed, 1990).

7.3.3 Data Period and Collection Technique

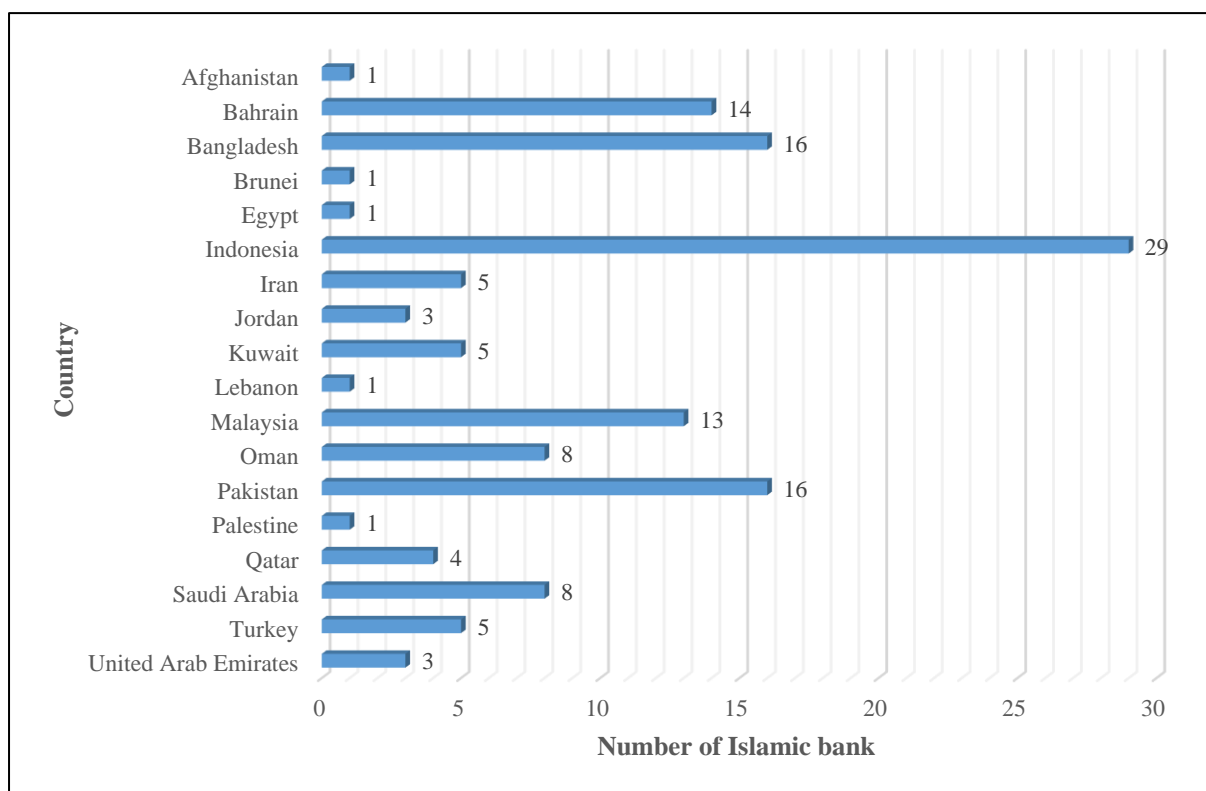
Four years of sustainability reporting data for the post-SGDs agenda period, 2016-2019, were extracted by employing content analysis from the annual reports of the observed Islamic banks. The year 2016 was chosen as the starting point in accordance with the Global Reporting Initiative's (GRI) reporting frameworks, which just launched in 2016 (GRI, 2016), while the observation period is limited to 2019 due to the fact that the vast majority of Islamic banks observed have the most complete data on annual reports and financial performance reports as of that year. The GRI Standards, developed by the Global Sustainability Standards Board (GSSB), serve as a benchmark for sustainability reporting and are the first step toward adapting to the existence of SDGs (GRI, 2016).

7.3.4 Sampling, Population, and Data Limitations

Concerning the precise number of Islamic banks, it is worth noting that different organisations counted the total number differently depending on the type and number of main branches included (Refinitiv, 2019). According to the Islamic Corporation for the Development of the Private Sector (ICD) and Refinitiv, the global population of Islamic banks, both fully pledged and Islamic window, is estimated to be around 526 in 2019 (ICD-Refinitiv, 2020). In addition, the Islamic Financial Services Board (IFSB) and the OIC Statistics Database recorded only 23 of the 57 OIC member countries have a well-established Islamic banking industry, with a total of 269 Islamic banks (fully pledged/Islamic window) in 2019 (OIC Statistics and IFSB, 2020).

Due to the fact that this study employs content analysis to extract annual reports from corporations' official websites, there have been a variety of data restrictions imposed on OIC member countries and their Islamic banks. Accordingly, in total, only 18 of the 57 OIC member countries examined in this study, with a total of 134 Islamic banks, have data available for the period 2016–2019 covering the examined CSDP score. The sample was determined by the availability of annual reports and financial statements for the observed four-year period. Figure 7.1 illustrates the sample distribution by country.

Figure 7. 1 Sample distribution, by country



As illustrated in Figure 7.1, countries such as Indonesia, Pakistan, Bangladesh, Bahrain, and Malaysia each have more than ten Islamic banks with available annual reports, whereas Afghanistan, Brunei, Egypt, Lebanon, and Palestine each have only one Islamic bank with available annual reports.

To provide a clear overview of the data population for this study, Table 7.1 overleaf summarises the profiles and characteristics of the OIC Islamic banks included in this study.

Table 7. 1 Summary of the OIC Islamic banks included in the study (2016-2019, mean)

No.	Country	Bank	Region ¹	GCC/Non-GCC	Type	Ownership	Total assets (billion USD)	Number of branches	Number of employees	No of BoD members	No of SSB members
1	Afghanistan	Afghanistan International Bank	SA	GCC	Full pledged	Public	0.88	36.50	602.50	7.00	3.00
2	Bahrain	ABC Islamic Bank	MENA	GCC	Full pledged	Private	1.75	94.00	383.00	9.00	3.00
3	Bahrain	Ahli United Bank (Al-Hilal Islamic)	MENA	GCC	Full pledged	Public	35.09	136.25	3880.50	11.00	3.00
4	Bahrain	Al Baraka Islamic Bank Bahrain	MENA	GCC	Full pledged	Private	2.28	7.75	47.00	9.50	3.00
5	Bahrain	Al Salam bank	MENA	Non-GCC	Full pledged	Public	4.67	10.75	356.50	10.50	5.00
6	Bahrain	Bahrain Islamic Bank	MENA	Non-GCC	Window	Public	3.16	8.75	361.75	10.00	5.00
7	Bahrain	Bank Al Khair	MENA	Non-GCC	Full pledged	Public	0.46	125.00	105.50	10.75	3.00
8	Bahrain	First Energy Bank	MENA	GCC	Full pledged	Public	0.92	3.00	54.75	10.50	3.00
9	Bahrain	GFH Investment Bank	MENA	GCC	Full pledged	Public	4.59	11.00	121.25	10.00	4.00
10	Bahrain	Gulf International Bank	MENA	Non-GCC	Full pledged	Private	26.54	10.50	1061.75	7.00	4.00
11	Bahrain	International Investment Bank	MENA	Non-GCC	Full pledged	Private	0.11	1.00	27.25	6.50	3.00
12	Bahrain	Khaleeji Commercial Bank	MENA	Non-GCC	Full pledged	Private	2.22	5.00	257.75	9.75	3.00
13	Bahrain	Kuwait Finance House Bahrain	MENA	GCC	Window	Public	4.05	9.50	275.50	9.00	3.00
14	Bahrain	Liquidity Management Centre	MENA	GCC	Window	Public	0.12	1.00	19.75	7.50	3.00
15	Bahrain	Venture Capital Bank	MENA	GCC	Full pledged	Public	0.28	1.00	39.75	11.25	3.00
16	Bangladesh	AB Bank Ltd.	SA	Non-GCC	Window	Private	3.89	104.75	2324.25	10.00	6.00
17	Bangladesh	Agrani Bank Ltd.	SA	GCC	Full pledged	Public	8.49	946.75	12544.25	10.75	6.00
18	Bangladesh	Al-Arafah Islami Bank Ltd.	SA	Non-GCC	Window	Private	3.83	156.00	3498.25	16.25	7.25
19	Bangladesh	Bank Asia Ltd.	SA	Non-GCC	Window	Public	3.55	118.00	2172.25	10.25	9.00
20	Bangladesh	Dhaka Bank Ltd.	SA	Non-GCC	Full pledged	Public	2.90	99.50	1829.00	17.50	8.50
21	Bangladesh	First Security Islami Bank Ltd.	SA	GCC	Full pledged	Public	4.28	171.75	3581.75	12.25	12.00
22	Bangladesh	ICB Islamic Bank Ltd.	SA	Non-GCC	Full pledged	Private	0.10	33.00	489.75	7.25	5.00
23	Bangladesh	Islami Bank Bangladesh Ltd.	SA	Non-GCC	Full pledged	Private	11.17	337.25	14708.50	21.00	10.50
24	Bangladesh	Jamuna Bank Ltd.	SA	Non-GCC	Full pledged	Private	2.48	126.75	2725.00	18.75	7.75
25	Bangladesh	Premier Bank Ltd.	SA	Non-GCC	Window	Private	2.42	106.50	1682.00	13.50	7.00
26	Bangladesh	Prime Bank Ltd	SA	Non-GCC	Window	Public	3.46	136.75	3199.00	18.75	7.00
27	Bangladesh	Shahjalal Islami Bank Ltd.	SA	GCC	Full pledged	Private	2.65	117.50	2410.00	19.00	10.50
28	Bangladesh	Social Islami Bank Ltd.	SA	GCC	Full pledged	Public	3.40	144.75	2689.00	15.00	7.25
29	Bangladesh	Southeast Bank Ltd.	SA	GCC	Full pledged	Public	4.19	133.00	2783.75	12.00	7.00
30	Bangladesh	Standard Bank Ltd.	SA	GCC	Full pledged	Public	2.22	127.00	2202.50	16.00	4.50
31	Bangladesh	Trust Bank Ltd	SA	Non-GCC	Full pledged	Private	2.97	105.50	1900.25	11.25	5.00
32	Brunei	Bank Islam Brunei Darussalam	EAP	Non-GCC	Full pledged	Private	7.25	16.50	900.00	7.50	5.50
33	Egypt	Al Baraka Egypt	MENA	GCC	Window	Private	3.31	32.00	955.75	12.00	4.00
34	Indonesia	Bank Aceh Syariah	EAP	Non-GCC	Window	Public	1.62	135.25	1888.50	4.25	2.00

¹ Region categories: Europe Asia and Pacific (EAP), Europe and central Asia (ECA), Middle East and North Africa (MENA), and South Asia (SA).

<i>No.</i>	<i>Country</i>	<i>Bank</i>	<i>Region¹</i>	<i>GCC/Non-GCC</i>	<i>Type</i>	<i>Ownership</i>	<i>Total assets (billion USD)</i>	<i>Number of branches</i>	<i>Number of employees</i>	<i>No of BoD members</i>	<i>No of SSB members</i>
35	Indonesia	Bank BCA Syariah	EAP	Non-GCC	Window	Public	0.48	33.25	530.50	3.50	2.00
36	Indonesia	Bank BNI Syariah	EAP	Non-GCC	Full pledged	Private	2.78	271.50	4301.75	3.75	2.00
37	Indonesia	Bank BRI Syariah	EAP	Non-GCC	Full pledged	Public	2.53	272.50	3044.50	4.75	2.00
38	Indonesia	Bank CIMB Niaga	EAP	Non-GCC	Full pledged	Private	18.95	112.00	12438.50	10.75	3.00
39	Indonesia	Bank Danamon Indonesia, Tbk	EAP	Non-GCC	Full pledged	Private	13.24	426.50	35410.25	8.75	3.00
40	Indonesia	Bank Jawa Barat Banten Syariah	EAP	Non-GCC	Window	Public	0.54	65.75	979.00	4.00	3.00
41	Indonesia	Bank Maybank Indonesia, Tbk	EAP	Non-GCC	Full pledged	Private	12.40	375.25	6691.75	7.75	3.00
42	Indonesia	Bank Mega Syariah	EAP	Non-GCC	Window	Public	0.51	65.00	1171.00	3.25	2.50
43	Indonesia	Bank Muamalat Indonesia	EAP	Non-GCC	Full pledged	Private	4.07	308.75	5780.25	6.00	2.75
44	Indonesia	Bank OCBC NISP	EAP	Non-GCC	Full pledged	Private	11.66	261.25	6324.25	9.50	2.00
45	Indonesia	Bank Panin Dubai Syariah	EAP	Non-GCC	Window	Public	0.67	20.00	584.50	3.25	2.00
46	Indonesia	Bank Permata	EAP	Non-GCC	Window	Public	11.36	299.75	7321.50	9.00	2.00
47	Indonesia	Bank Sinarmas	EAP	Non-GCC	Full pledged	Private	2.33	67.50	5368.00	6.25	2.00
48	Indonesia	Bank Syariah Bukopin	EAP	Non-GCC	Window	Public	0.49	23.25	820.25	3.75	2.00
49	Indonesia	Bank Syariah Mandiri	EAP	Non-GCC	Full pledged	Public	6.81	614.50	8827.50	6.00	3.00
50	Indonesia	Bank Tabungan Negara	EAP	Non-GCC	Full pledged	Private	19.71	208.25	9693.50	8.00	3.00
51	Indonesia	Bank Tabungan Pensiunan Nasional Syariah	EAP	Non-GCC	Window	Private	0.79	110.50	11892.75	5.00	2.00
52	Indonesia	Bank Victoria Syariah	EAP	Non-GCC	Window	Private	0.14	13.75	209.25	4.00	2.00
53	Indonesia	BPD Bank Sumut	EAP	Non-GCC	Window	Private	2.08	121.00	2491.25	4.75	3.00
54	Indonesia	BPD Daerah Istimewa Yogyakarta	EAP	Non-GCC	Full pledged	Private	0.83	34.25	1036.75	4.00	2.00
55	Indonesia	BPD DKI	EAP	Non-GCC	Window	Private	3.62	220.25	3431.00	6.00	2.00
56	Indonesia	BPD Jawa Tengah	EAP	Non-GCC	Window	Private	4.53	151.75	5105.50	5.25	2.00
57	Indonesia	BPD Jawa Timur	EAP	Non-GCC	Full pledged	Public	4.21	191.00	3981.50	6.00	2.00
58	Indonesia	BPD Kalimantan Barat	EAP	Non-GCC	Full pledged	Private	1.20	65.00	1800.75	4.00	3.00
59	Indonesia	BPD Kalimantan Selatan	EAP	Non-GCC	Full pledged	Public	0.92	48.25	1087.25	3.75	2.00
60	Indonesia	BPD Nusa Tenggara Barat Syariah	EAP	Non-GCC	Full pledged	Private	0.58	28.75	704.00	4.50	2.00
61	Indonesia	BPD Sulawesi Selatan dan Sulawesi Barat	EAP	Non-GCC	Full pledged	Public	1.40	5.00	1010.25	3.50	2.00
62	Indonesia	BPD Sumatera Selatan dan Bangka Belitung	EAP	Non-GCC	Full pledged	Private	1.66	9.00	2641.00	3.25	2.75
63	Iran	Karafarin Bank	MENA	Non-GCC	Full pledged	Private	4.23	107.25	1892.00	7.50	0.00
64	Iran	Khavarmianeh (Middle East) Bank	MENA	Non-GCC	Full pledged	Private	2.37	15.50	362.00	7.00	0.00
65	Iran	Parsian Bank	MENA	Non-GCC	Window	Private	24.02	319.00	4295.50	6.00	0.00
66	Iran	Saman Bank	MENA	Non-GCC	Full pledged	Public	9.04	138.00	2447.75	5.00	0.00
67	Iran	Tejarat Bank	MENA	GCC	Window	Public	38.20	1607.50	17924.00	4.75	0.00
68	Jordan	Islamic International Arab Bank	MENA	Non-GCC	Full pledged	Private	2.99	43.25	931.50	8.25	3.00
69	Jordan	Jordan Islamic Bank	MENA	Non-GCC	Full pledged	Private	5.96	76.00	2354.00	11.00	4.00
70	Jordan	Safwa Islamic Bank (Jordan Dubai Islamic Bank)	MENA	Non-GCC	Window	Public	1.60	29.50	567.50	11.00	4.00
71	Kuwait	Ahli United Bank Kuwait	MENA	GCC	Full pledged	Public	12.86	32.00	923.25	9.25	3.50
72	Kuwait	Boubyan Bank	MENA	Non-GCC	Window	Private	14.08	40.50	1483.50	9.00	4.00
73	Kuwait	Kuwait Finance House	MENA	GCC	Full pledged	Public	58.48	493.00	15092.50	10.00	5.00
74	Kuwait	Kuwait International Bank	MENA	GCC	Full pledged	Public	7.10	24.50	723.50	9.00	4.00
75	Kuwait	Warba Bank	MENA	GCC	Full pledged	Public	6.79	12.00	400.00	10.00	3.50
76	Lebanon	Blom Development Bank	MENA	Non-GCC	Window	Public	0.25	3.00	89.00	7.00	3.00

No.	Country	Bank	Region ¹	GCC/Non-GCC	Type	Ownership	Total assets (billion USD)	Number of branches	Number of employees	No of BoD members	No of SSB members
77	Malaysia	Affin Islamic Bank Berhad	EAP	GCC	Full pledged	Private	5.04	9.00	230.00	5.50	5.75
78	Malaysia	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	EAP	GCC	Full pledged	Private	1.91	16.00	633.00	5.00	5.00
79	Malaysia	Alliance Islamic Bank Berhad	EAP	Non-GCC	Window	Public	2.66	85.75	3473.00	5.00	5.75
80	Malaysia	AmBank Islamic	EAP	Non-GCC	Full pledged	Public	9.49	2.50	154.25	8.25	5.00
81	Malaysia	Bank Islam Malaysia Berhad	EAP	Non-GCC	Full pledged	Public	14.65	146.25	4554.00	9.00	5.75
82	Malaysia	Bank Muamalat Malaysia Berhad	EAP	Non-GCC	Full pledged	Private	5.72	62.50	1739.25	10.00	5.75
83	Malaysia	CIMB Islamic Bank Berhad	EAP	Non-GCC	Full pledged	Public	21.36	817.00	37000.00	8.00	6.50
84	Malaysia	Hong Leong Islamic Bank Berhad	EAP	Non-GCC	Full pledged	Private	7.31	6.75	176.50	4.50	5.00
85	Malaysia	Kuwait Finance House (Malaysia) Berhad	EAP	Non-GCC	Full pledged	Private	2.28	14.00	406.00	6.00	4.00
86	Malaysia	Maybank Islamic Berhad	EAP	Non-GCC	Window	Public	51.18	357.25	6176.29	6.00	5.00
87	Malaysia	MBSB Bank Berhad	EAP	Non-GCC	Window	Public	5.83	46.00	1569.50	5.00	4.75
88	Malaysia	OCBC Al-Amin Bank Berhad	EAP	Non-GCC	Full pledged	Private	3.86	12.00	615.25	5.00	5.00
89	Malaysia	Public Islamic Bank Berhad	EAP	Non-GCC	Window	Public	14.25	2.00	110.50	8.00	5.00
90	Oman	Ahli Islamic Bank (Ahli Bank)	MENA	GCC	Full pledged	Private	5.67	21.75	583.50	7.25	4.00
91	Oman	Allzz Bank (Oman Arab Bank)	MENA	Non-GCC	Window	Public	1.53	9.25	282.25	7.00	3.00
92	Oman	Bank Nizwa	MENA	Non-GCC	Window	Public	2.03	12.50	349.50	8.00	3.00
93	Oman	Bank Sohar International	MENA	Non-GCC	Full pledged	Private	7.75	38.00	775.75	7.00	4.00
94	Oman	HSBC Oman	MENA	Non-GCC	Full pledged	Private	6.18	48.00	889.00	7.00	0.00
95	Oman	Maisarah Bank (Dhofar Bank)	MENA	GCC	Window	Private	1.36	10.00	221.38	9.25	5.00
96	Oman	Meethaq Bank (Bank Muscat)	MENA	Non-GCC	Window	Public	30.27	164.50	3764.00	9.00	5.00
97	Oman	National Bank of Oman (Muzn Islamic Banking)	MENA	Non-GCC	Window	Public	9.25	60.00	1550.25	11.00	4.75
98	Pakistan	Allied Bank	SA	Non-GCC	Full pledged	Public	10.22	1283.50	11711.75	8.25	3.00
99	Pakistan	Askari Bank	SA	Non-GCC	Window	Public	5.60	517.00	7543.00	11.00	3.00
100	Pakistan	Bank Al Habib Ltd.	SA	Non-GCC	Full pledged	Public	7.92	664.25	12530.00	10.00	3.00
101	Pakistan	Bank Alfalah Ltd.	SA	Non-GCC	Window	Public	8.00	593.25	8726.00	8.50	3.00
102	Pakistan	Bank Islami Pakistan Ltd.	SA	Non-GCC	Window	Public	1.78	328.75	3592.75	8.00	3.00
103	Pakistan	Faysal Bank Ltd. (Ithmaar Bank Bahrain)	SA	GCC	Full pledged	Public	4.00	410.25	5763.50	9.50	3.00
104	Pakistan	Habib Bank Ltd.	SA	Non-GCC	Full pledged	Private	22.74	1686.00	19227.25	7.75	3.00
105	Pakistan	MCB Islamic Bank Ltd.	SA	Non-GCC	Window	Public	0.53	125.75	1149.25	7.75	3.00
106	Pakistan	Meezan Bank Ltd.	SA	Non-GCC	Full pledged	Public	6.89	648.00	10511.75	11.25	3.50
107	Pakistan	National Bank of Pakistan	SA	Non-GCC	Window	Public	20.52	1510.75	16633.50	6.75	3.00
108	Pakistan	Sindh Bank	SA	GCC	Full pledged	Public	1.35	305.00	2445.75	7.50	3.00
109	Pakistan	Soneri Bank Ltd.	SA	GCC	Full pledged	Public	2.80	295.25	3141.25	8.00	3.00
110	Pakistan	Standard Chartered Bank Pakistan Ltd.	SA	GCC	Full pledged	Public	4.35	83.00	3374.00	7.00	4.00
111	Pakistan	The Bank of Khyber	SA	GCC	Window	Public	1.94	163.50	1599.25	7.00	5.00
112	Pakistan	The Bank of Punjab	SA	GCC	Window	Public	5.48	535.25	8287.25	9.75	2.75
113	Pakistan	United Bank Ltd.	SA	Non-GCC	Full pledged	Private	15.66	1357.00	14025.75	9.00	3.00
114	Palestine	Palestine Islamic Bank	MENA	Non-GCC	Full pledged	Public	1.06	21.75	642.50	10.75	3.75
115	Qatar	Barwa Bank (Dukhan Bank)	MENA	Non-GCC	Window	Private	14.85	8.00	119.00	10.00	3.00
116	Qatar	Masraf AL Rayan	MENA	GCC	Window	Public	27.35	16.00	250.00	8.50	3.00
117	Qatar	Qatar International Islamic Bank	MENA	Non-GCC	Window	Public	13.48	18.75	870.00	8.50	3.00

<i>No.</i>	<i>Country</i>	<i>Bank</i>	<i>Region¹</i>	<i>GCC/Non-GCC</i>	<i>Type</i>	<i>Ownership</i>	<i>Total assets (billion USD)</i>	<i>Number of branches</i>	<i>Number of employees</i>	<i>No of BoD members</i>	<i>No of SSB members</i>
118	Qatar	Qatar Islamic Bank	MENA	Non-GCC	Window	Public	41.69	29.75	1179.00	13.00	3.00
119	Saudi Arabia	Al Bilad Bank	MENA	GCC	Full pledged	Public	18.44	111.75	4069.25	11.50	5.75
120	Saudi Arabia	Al Inma Bank	MENA	GCC	Full pledged	Private	31.52	86.50	2337.25	9.00	4.00
121	Saudi Arabia	Al Rajhi Bank	MENA	GCC	Full pledged	Private	95.40	584.00	13433.00	11.00	5.00
122	Saudi Arabia	Arab National Bank	MENA	Non-GCC	Full pledged	Public	46.90	142.75	4218.75	10.00	3.00
123	Saudi Arabia	Banque Saudi Fransi	MENA	Non-GCC	Window	Private	50.98	86.25	3082.50	10.00	3.00
124	Saudi Arabia	The National Commercial Bank	MENA	GCC	Window	Public	123.13	410.50	12921.75	9.00	4.00
125	Saudi Arabia	The Saudi British Bank (SABB)	MENA	GCC	Window	Public	54.29	94.75	3572.00	7.50	4.00
126	Saudi Arabia	The Saudi Investment Bank	MENA	Non-GCC	Full pledged	Public	25.58	50.25	1587.00	8.50	3.00
127	Turkey	Albaraka Turk Participation Bank	ECA	Non-GCC	Full pledged	Public	8.90	225.00	3868.50	12.50	2.00
128	Turkey	Kuwait Turk Participation Bank - KFH	ECA	GCC	Window	Public	15.14	408.00	5397.75	9.00	6.00
129	Turkey	Turkey Finance Participation Bank	ECA	Non-GCC	Full pledged	Private	9.78	297.25	2671.75	6.75	3.00
130	Turkey	Vakıf Katılım Bankası A.Ş.	ECA	Non-GCC	Full pledged	Private	3.48	72.00	842.25	7.00	3.00
131	Turkey	Ziraat Katılım Bankası A.Ş.	ECA	GCC	Full pledged	Public	4.26	70.00	929.00	6.25	3.00
132	United Arab Emirates	Abu Dhabi Islamic Bank	MENA	GCC	Full pledged	Public	33.82	85.00	2500.00	7.25	5.00
133	United Arab Emirates	Emirates Islamic Bank	MENA	GCC	Full pledged	Public	16.63	61.75	1045.00	7.00	3.00
134	United Arab Emirates	Mashreq Al Islami (Mashreq Bank)	MENA	GCC	Window	Public	37.44	41.50	4000.00	6.50	3.00

7.4 Results of CSDP Score Computation

This section presents the empirical results including the CSDP score computation at the individual Islamic bank followed by the empirical distribution of the score in order to gain a better understanding of the CSDP score.

7.4.1 General Descriptive Statistics of CSDP Score

Table 7.2 presents the CSDP score values for various Islamic banks in OIC member countries for the years 2016-2019. The number of Islamic banks for the score computation is the same for four different years since balanced panel data is used based on the availability of data on the component of indicators that are considered in computing the CSDP score.

As can be seen, many Islamic banks in Indonesia —local or part of multinational company— dominated the top twenty banks with the highest CSDP score. More specifically, Bank CIMB Niaga Indonesia (853.75), BPD DKI (768.50), Bank Maybank Indonesia (722), BPD Sumatera Selatan dan Bangka Belitung (669), and Bank Tabungan Negara (648.50) are the five best banks with the highest scores for CSDP, whereas Emirates Islamic Bank (12.50), Parsian Bank (15.75), Mashreq Al-Islami Bank (16.75), Standard Chartered Bank Pakistan (19.50) and Venture Capital Bank (26) demonstrated the lowest scores.

Regarding the Islamic moral economy (IME) perspective, CSDP is arguably designed to capture the accomplishment of Islamic banks in conducting their activities in accordance with the principles of *Maqasid al-Shari'ah*, which emphasise social and economic dimensions by essentialising and adopting sustainable development practices in addition to satisfying Islamic *fiqhi* or jurisprudential requirements. By applying content analysis of Islamic banks' disclosure, it is anticipated that the research will determine the degree to which Islamic banks are capable of responding to sustainability concerns while also meeting *Maqasid al-Shari'ah* standards.

The findings of the CSDP level vary across the sampled 134 Islamic banks in the OIC countries, as shown in the general descriptive section of this Chapter.

Table 7. 2 CSDP score (2016-2019)

<i>Bank</i>	<i>Country</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>Total score</i>	<i>Mean</i>	<i>Rank</i>
Bank CIMB Niaga	Indonesia	944	896	858	717	3415	853.75	1
BPD DKI	Indonesia	320	1166	919	669	3074	768.50	2
Bank Maybank Indonesia, Tbk	Indonesia	480	775	652	981	2888	722.00	3
BPD Sumatera Selatan dan Bangka Belitung	Indonesia	500	751	716	709	2676	669.00	4
Bank Tabungan Negara	Indonesia	643	747	748	456	2594	648.50	5
BPD Jawa Tengah	Indonesia	443	421	906	807	2577	644.25	6
Social Islami Bank Ltd.	Bangladesh	678	417	747	654	2496	624.00	7
BPD Sulawesi Selatan dan Sulawesi Barat	Indonesia	691	460	734	559	2444	611.00	8
Bank Permata	Indonesia	638	580	576	620	2414	603.50	9
Bank BCA Syariah	Indonesia	714	643	634	254	2245	561.25	10
Bank Danamon Indonesia, Tbk	Indonesia	698	412	626	475	2211	552.75	11
BPD Bank Sumut	Indonesia	538	456	669	528	2191	547.75	12
Bank Sinarmas	Indonesia	647	342	366	803	2158	539.50	13
BPD Kalimantan Selatan	Indonesia	716	155	575	546	1992	498.00	14
BPD Daerah Istimewa Yogyakarta	Indonesia	530	518	442	202	1692	423.00	15
Bank BRI Syariah	Indonesia	209	324	498	479	1510	377.50	16
Bank Muamalat Indonesia	Indonesia	585	335	301	257	1478	369.50	17
Prime Bank Ltd	Bangladesh	146	385	405	473	1409	352.25	18
Bank Aceh Syariah	Indonesia	446	470	270	171	1357	339.25	19
BPD Nusa Tenggara Barat Syariah	Indonesia	351	273	567	166	1357	339.25	20
Bank Asia Ltd.	Bangladesh	349	339	307	305	1300	325.00	21
Southeast Bank Ltd.	Bangladesh	352	359	304	270	1285	321.25	22
Bank OCBC NISP	Indonesia	279	300	240	432	1251	312.75	23
Jamuna Bank Ltd.	Bangladesh	372	322	294	198	1186	296.50	24
BPD Kalimantan Barat	Indonesia	334	291	329	131	1085	271.25	25
Affin Islamic Bank Berhad	Malaysia	306	287	254	235	1082	270.50	26
Maybank Islamic Berhad	Malaysia	275	239	261	300	1075	268.75	27
Bank Mega Syariah	Indonesia	268	242	288	232	1030	257.50	28
Shahjalal Islami Bank Ltd.	Bangladesh	361	233	174	169	937	234.25	29
Bank Jawa Barat Banten Syariah	Indonesia	277	234	235	191	937	234.25	30
Bank Syariah Bukopin	Indonesia	268	251	223	147	889	222.25	31
Bank Panin Dubai Syariah	Indonesia	289	227	217	142	875	218.75	32
Bank BNI Syariah	Indonesia	255	465	47	55	822	205.50	33
Albaraka Turk Participation Bank	Turkey	183	195	223	210	811	202.75	34
Public Islamic Bank Berhad	Malaysia	221	166	183	222	792	198.00	35
Dhaka Bank Ltd.	Bangladesh	237	176	157	194	764	191.00	36
Standard Bank Ltd.	Bangladesh	234	252	74	193	753	188.25	37
Agrani Bank Ltd.	Bangladesh	224	219	201	108	752	188.00	38
Islami Bank Bangladesh Ltd.	Bangladesh	254	30	242	223	749	187.25	39
CIMB Islamic Bank Berhad	Malaysia	203	184	175	175	737	184.25	40
BPD Jawa Timur	Indonesia	191	205	179	157	732	183.00	41
Premier Bank Ltd.	Bangladesh	217	207	173	130	727	181.75	42
Bank Muamalat Malaysia Berhad	Malaysia	227	226	100	128	681	170.25	43
Khavarmianeh (Middle East) Bank	Iran	165	198	184	110	657	164.25	44
Meethaq Bank (Bank Muscat)	Oman	181	172	152	152	657	164.25	45
Alliance Islamic Bank Berhad	Malaysia	201	144	138	156	639	159.75	46
AmBank Islamic	Malaysia	201	144	138	156	639	159.75	47
The Saudi Investment Bank	Saudi Arabia	169	167	233	56	625	156.25	48
Allied Bank	Pakistan	196	152	126	113	587	146.75	49
Blom Development Bank	Lebanon	189	131	109	103	532	133.00	50
Al-Arafah Islami Bank Ltd.	Bangladesh	148	149	131	95	523	130.75	51
Meezan Bank Ltd.	Pakistan	169	130	109	113	521	130.25	52
Bank Sohar International	Oman	134	144	134	101	513	128.25	53
Kuwait Turk Participation Bank - KFH	Turkey	151	113	104	129	497	124.25	54
Bank Alfalah Ltd.	Pakistan	212	69	100	90	471	117.75	55
Bank Islam Malaysia Berhad	Malaysia	153	128	96	90	467	116.75	56
National Bank of Pakistan	Pakistan	143	108	116	93	460	115.00	57
Bank Tabungan Pensiunan Nasional Syariah	Indonesia	193	113	72	77	455	113.75	58
Ahli Islamic Bank (Ahli Bank)	Oman	128	113	114	97	452	113.00	59
Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	Malaysia	153	105	104	82	444	111.00	60

<i>Bank</i>	<i>Country</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>Total score</i>	<i>Mean</i>	<i>Rank</i>
Gulf International Bank	Bahrain	86	105	112	123	426	106.50	61
AB Bank Ltd.	Bangladesh	117	105	85	108	415	103.75	62
Turkey Finance Participation Bank	Turkey	106	116	94	98	414	103.50	63
National Bank of Oman (Muzn Islamic Banking)	Oman	121	113	84	92	410	102.50	64
Safwa Islamic Bank (Jordan Dubai Islamic Bank)	Jordan	115	107	79	95	396	99.00	65
Trust Bank Ltd	Bangladesh	139	103	69	69	380	95.00	66
Ziraat Katilim Bankası A.Ş.	Turkey	98	101	87	83	369	92.25	67
Ahli United Bank Kuwait	Kuwait	91	96	82	97	366	91.50	68
Kuwait Finance House	Kuwait	113	94	80	74	361	90.25	69
Kuwait International Bank	Kuwait	90	89	86	80	345	86.25	70
Hong Leong Islamic Bank Berhad	Malaysia	129	84	67	64	344	86.00	71
First Security Islami Bank Ltd.	Bangladesh	68	87	111	68	334	83.50	72
Al Rajhi Bank	Saudi Arabia	75	130	88	39	332	83.00	73
Bank Victoria Syariah	Indonesia	78	86	81	84	329	82.25	74
MBSB Bank Berhad	Malaysia	77	53	93	103	326	81.50	75
Jordan Islamic Bank	Jordan	116	81	70	57	324	81.00	76
Maisarah Bank (Dhofar Bank)	Oman	95	74	75	73	317	79.25	77
Allzz Bank (Oman Arab Bank)	Oman	82	77	86	58	303	75.75	78
HSBC Oman	Oman	73	92	93	44	302	75.50	79
Al Baraka Islamic Bank Bahrain	Bahrain	72	71	72	78	293	73.25	80
Ahli United Bank (Al-Hilal Islamic)	Bahrain	80	74	68	62	284	71.00	81
Bank Islam Brunei Darussalam	Brunei	68	74	68	74	284	71.00	82
Karafarin Bank	Iran	68	83	67	63	281	70.25	83
Bank Nizwa	Oman	79	77	69	56	281	70.25	84
The Saudi British Bank (SABB)	Saudi Arabia	99	72	65	43	279	69.75	85
Banque Saudi Fransi	Saudi Arabia	108	84	38	46	276	69.00	86
Vakıf Katılım Bankası A.Ş.	Turkey	76	78	61	61	276	69.00	87
Abu Dhabi Islamic Bank	United Arab Emirates	81	75	64	56	276	69.00	88
Qatar Islamic Bank	Qatar	85	74	61	52	272	68.00	89
The National Commercial Bank	Saudi Arabia	84	90	57	41	272	68.00	90
Habib Bank Ltd.	Pakistan	74	77	50	66	267	66.75	91
Al Baraka Egypt	Egypt	81	63	57	62	263	65.75	92
Masraf AL Rayan	Qatar	62	67	64	59	252	63.00	93
Bank Islami Pakistan Ltd.	Pakistan	59	72	59	57	247	61.75	94
Boubyan Bank	Kuwait	69	63	52	48	232	58.00	95
Bahrain Islamic Bank	Bahrain	53	68	49	55	225	56.25	96
ICB Islamic Bank Ltd.	Bangladesh	64	63	47	44	218	54.50	97
Warba Bank	Kuwait	90	62	43	21	216	54.00	98
Faysal Bank Ltd. (Ithmaar Bank Bahrain)	Pakistan	28	80	56	52	216	54.00	99
Al Salam bank	Bahrain	62	61	50	37	210	52.50	100
Arab National Bank	Saudi Arabia	46	51	67	45	209	52.25	101
Saman Bank	Iran	42	46	32	84	204	51.00	102
Al Bilad Bank	Saudi Arabia	58	51	40	51	200	50.00	103
OCBC Al-Amin Bank Berhad	Malaysia	55	54	45	36	190	47.50	104
First Energy Bank	Bahrain	47	49	49	43	188	47.00	105
Khaleeji Commercial Bank	Bahrain	47	47	50	44	188	47.00	106
Bank Syariah Mandiri	Indonesia	57	49	37	44	187	46.75	107
ABC Islamic Bank	Bahrain	45	51	43	38	177	44.25	108
United Bank Ltd.	Pakistan	72	25	51	27	175	43.75	109
Afghanistan International Bank	Afghanistan	73	41	30	30	174	43.50	110
Soneri Bank Ltd.	Pakistan	61	53	45	15	174	43.50	111
The Bank of Punjab	Pakistan	41	45	38	46	170	42.50	112
Askari Bank	Pakistan	48	35	35	47	165	41.25	113
Kuwait Finance House Bahrain	Bahrain	48	42	40	33	163	40.75	114
Liquidity Management Centre	Bahrain	39	41	40	41	161	40.25	115
Kuwait Finance House (Malaysia) Berhad	Malaysia	47	47	36	31	161	40.25	116
Al Inma Bank	Saudi Arabia	45	49	37	23	154	38.50	117
Qatar International Islamic Bank	Qatar	46	60	23	24	153	38.25	118
Tejarat Bank	Iran	29	32	40	41	142	35.50	119
Palestine Islamic Bank	Palestine	47	34	24	34	139	34.75	120
Barwa Bank (Dukhan Bank)	Qatar	77	20	23	17	137	34.25	121
Bank Al Khair	Bahrain	27	26	37	43	133	33.25	122

<i>Bank</i>	<i>Country</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>Total score</i>	<i>Mean</i>	<i>Rank</i>
The Bank of Khyber	Pakistan	46	36	25	26	133	33.25	123
GFH Investment Bank	Bahrain	26	18	43	41	128	32.00	124
Islamic International Arab Bank	Jordan	19	36	30	40	125	31.25	125
MCB Islamic Bank Ltd.	Pakistan	50	30	7	37	124	31.00	126
International Investment Bank	Bahrain	30	31	32	29	122	30.50	127
Bank Al Habib Ltd.	Pakistan	54	29	18	16	117	29.25	128
Sindh Bank	Pakistan	33	26	27	23	109	27.25	129
Venture Capital Bank	Bahrain	51	18	17	18	104	26.00	130
Standard Chartered Bank Pakistan Ltd.	Pakistan	46	30	1	1	78	19.50	131
Mashreq Al Islami (Mashreq Bank)	United Arab Emirates	5	2	24	36	67	16.75	132
Parsian Bank	Iran	17	17	15	14	63	15.75	133
Emirates Islamic Bank	United Arab Emirates	22	9	8	11	50	12.50	134

The CSDP values in this table are based on author's calculation using content analysis of frequency distribution of words.
Source of data: Islamic banks' annual reports.

As regards to country level performance, as shown in Figure 7.2 overleaf, Indonesia achieved the highest average CSDP score of 421.25, followed by Bangladesh (222.31), Malaysia (145.71), Lebanon (133.00), and Turkey (118.35). The three countries with a low Islamic banks CSDP score are Qatar (50.88), Bahrain (50.04), Afghanistan (43.50), Palestine (34.75) and the United Arab Emirates (32.75).

Such a low level of CSDP score by Islamic banks in the three wealthy GCC countries supports Zaidan et al. (2019) study criticism that, to a certain extent, GCC countries are confronted with complex sustainability issues as a result of fossil fuel-based businesses becoming critical economic activities. GCC countries accounted for roughly half of all carbon dioxide emissions in Arab countries and had some of the highest ecological footprints per capita Zaidan et al. (2019). Hence, the irony is that, despite the advantages of higher economic development in comparison to other OIC member countries, Islamic banks based in the GCC countries are unable to provide more comprehensive sustainability disclosure practices.

Figure 7. 2 CSDP score 2016-2019 (mean), by country

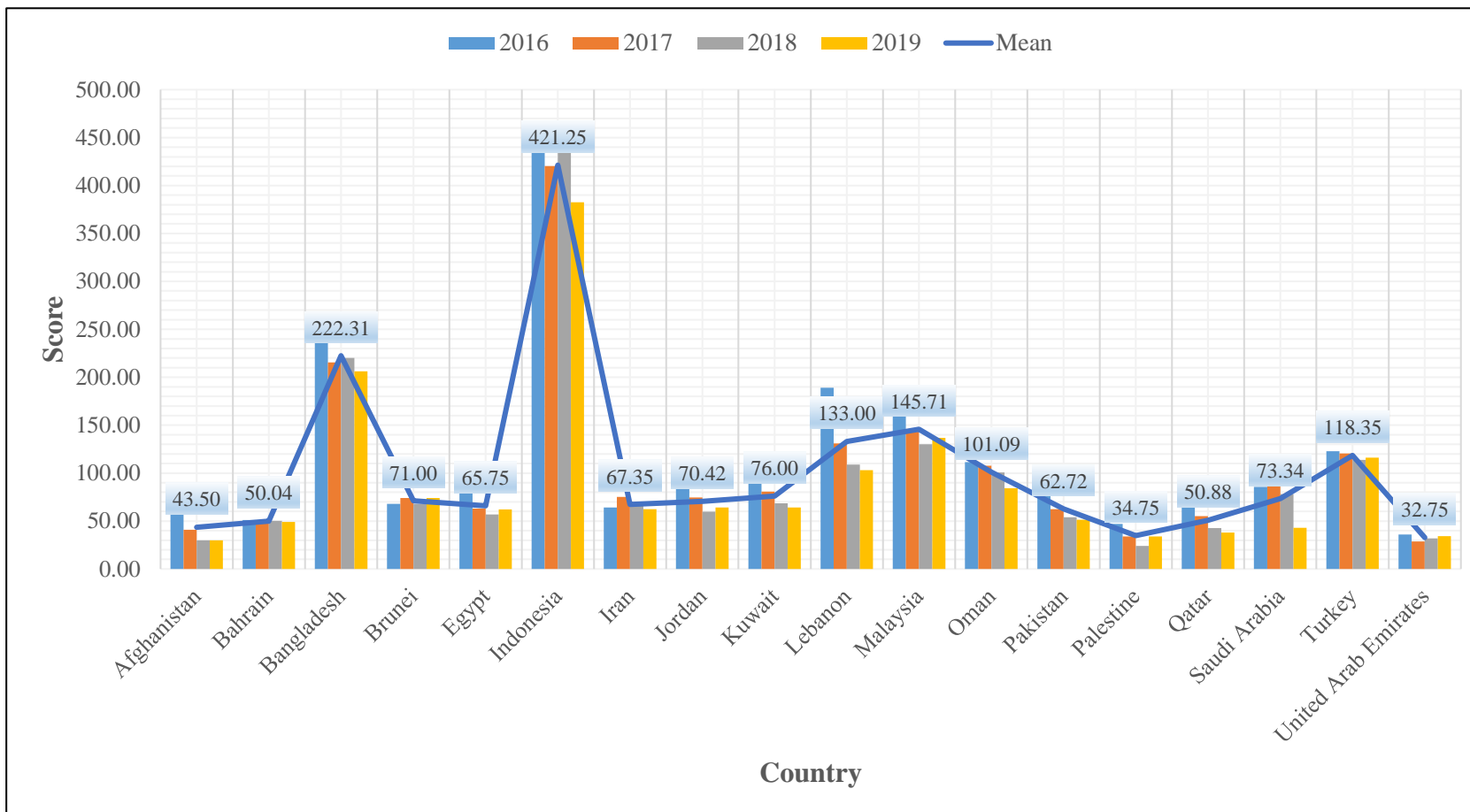


Figure 7. 3 CSDP score 2016-2019 (mean), by region

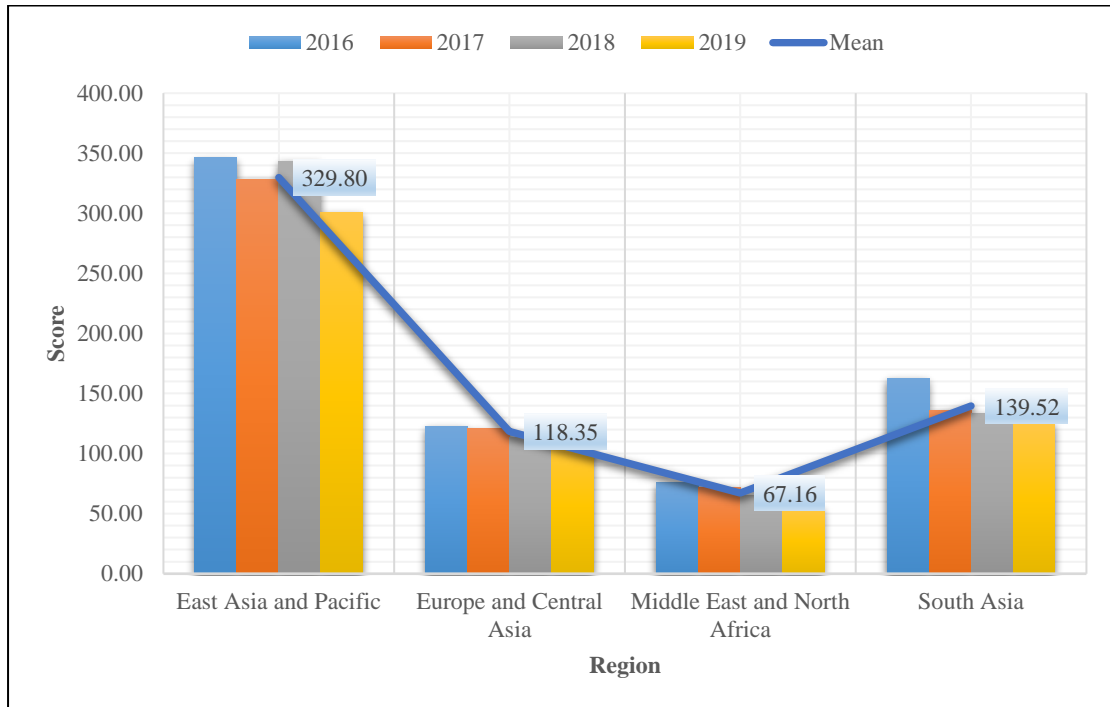


Figure 7. 4 CSDP score 2016-2019 (mean), by GCC/non-GCC countries

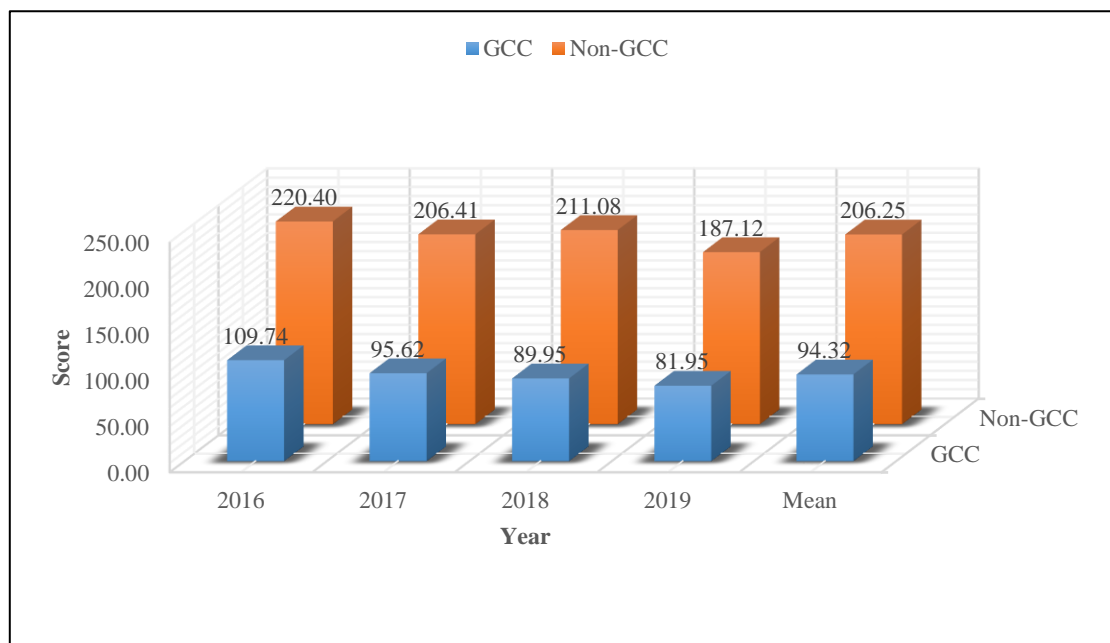
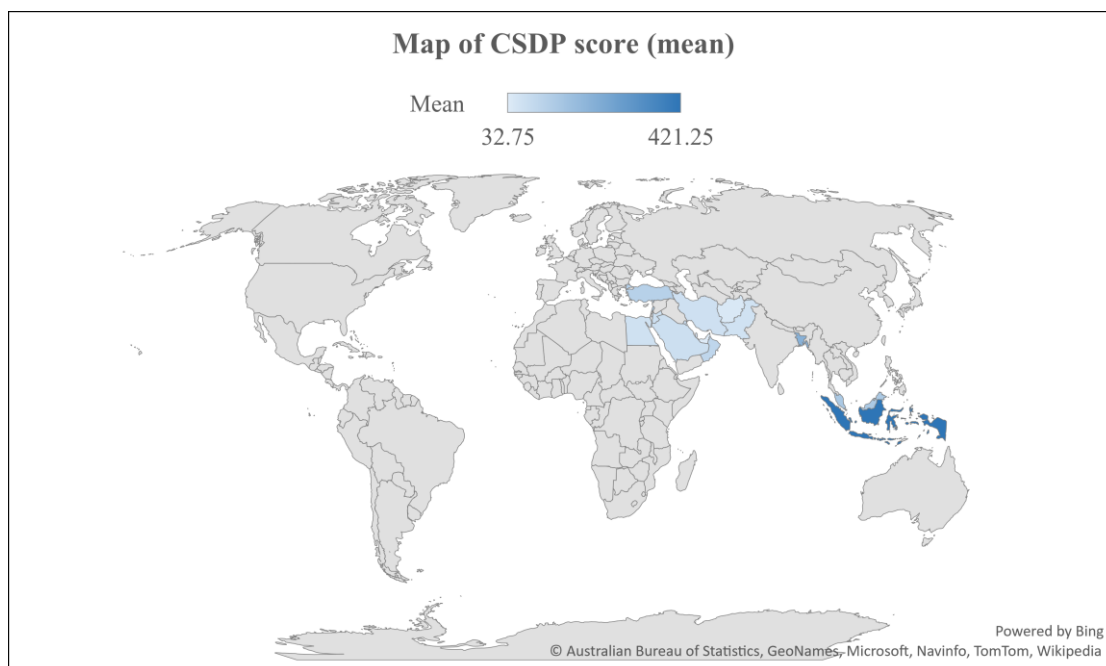


Figure 7.5 CSDP score 2016-2019 (mean), by geographical location



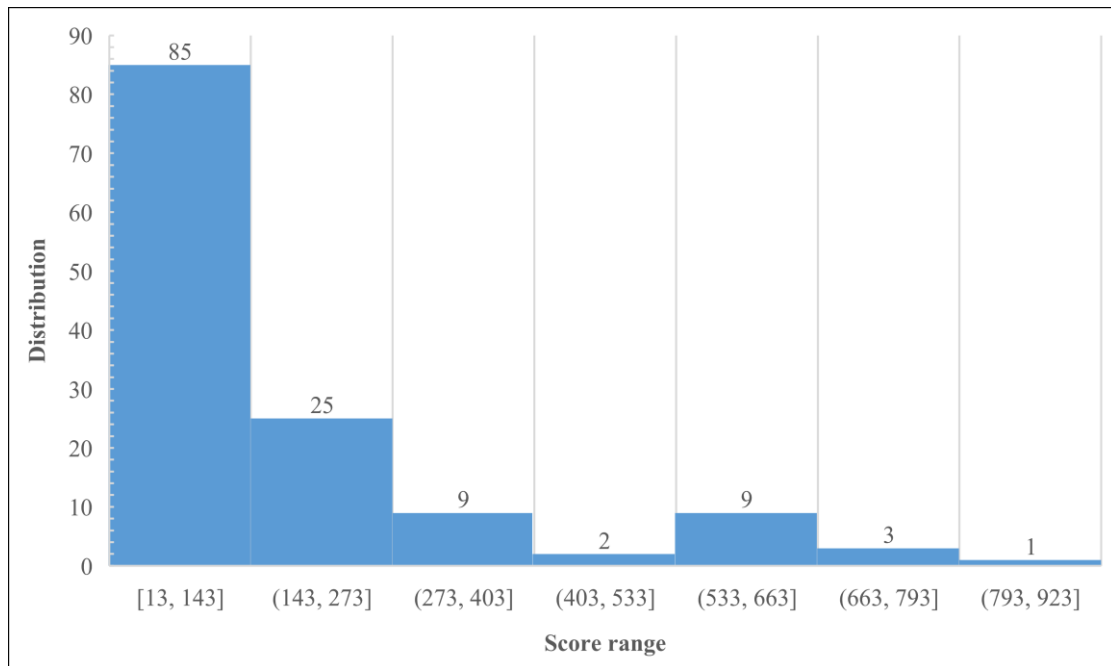
7.4.2 Empirical Distribution

This section endeavours the understanding of the CSDP score through the empirical distribution based on several perspectives.

7.4.2.1 Distribution of CSDP Score Based on Score Range

Islamic banks are classified into several score range distributions in this brief analysis of the calculated CSDP score, as illustrated by a histogram in Figure. This demonstrates that the majority of the distribution is concentrated in the 13-143 score range (85 Islamic banks) of the CSDP score, but that there is significant variation in the score range across Islamic banks over the observed period. The second largest population (25 Islamic banks) scored between 143 and 273, while only about 9 Islamic banks scored between 273 and 403. Additionally, only a few Islamic banks achieved a CSDP score of 400 or higher.

Figure 7. 6 Distribution of CSDP score 2016-2019 (mean), by score range



Since the majority of Islamic banks are concentrated in the low level of CSDP, it is important to note that within the context of Islamic moral economy, in which *Maqasid al-Shari'ah* provides endogenous norms for Islamic banks to shape their operations with, the findings of this study reveal that Islamic banks have not yet shaped their operations in accordance with the expected *maqasid* outcomes. Asutay's (2012) research supports this conclusion, arguing that despite Islamic banks' unprecedented success in transforming the financial sector in terms of asset accumulation, financial performance, and institutional and geographic diffusion, their primary goal of contributing to social good in the creation of a '*ihsani*' society in pursuit of *falah* has not been realised.

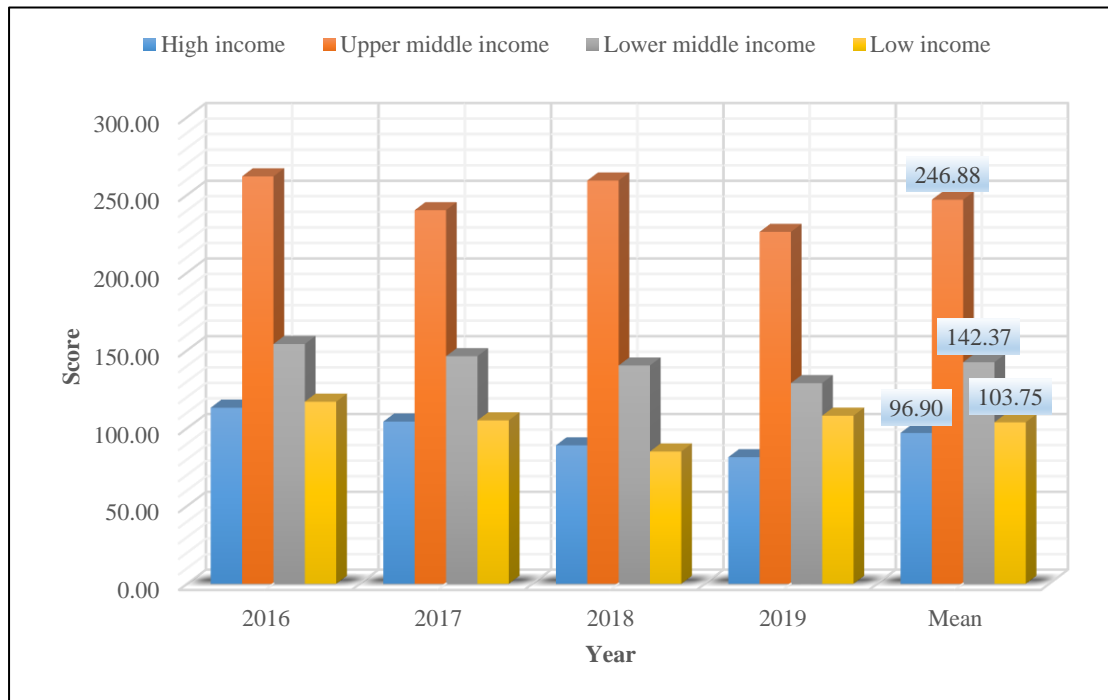
7.4.2.2 Distribution of CSDP Score Based on Countries' Income Level

Figures 7.7 further illustrate the CSDP score distribution according to countries' income level (i.e., based on GNP per capita¹). Concerning the CSDP score, the results indicate that the level of a country's income does not determine the high score of CSDP.

This can be explained in greater detail by the fact that Islamic banks located in countries classified as upper-middle-income tend to achieve the highest score for CSDP across all three dimensions: social, economic, and environmental. On the other hand, Islamic banks in high-income countries achieved the lowest level of overall CSDP score when compared to banks in other income groups. Given that all high-income countries are members of the GCC, which includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates, Zaidan et al. (2019) conclude that GCC countries face complex sustainability issues as a result of their reliance on fuel-based businesses as their primary economic activity, and thus are unable to provide more comprehensive sustainability disclosures.

¹ As of 1 July 2020, the World Bank income classifications by GNI per capita are: Low-income: \$1,034 or less; Lower-middle income: \$1,035-\$4,045; Upper-middle income: \$4,046-12,535; High-income: \$12,535 or more.

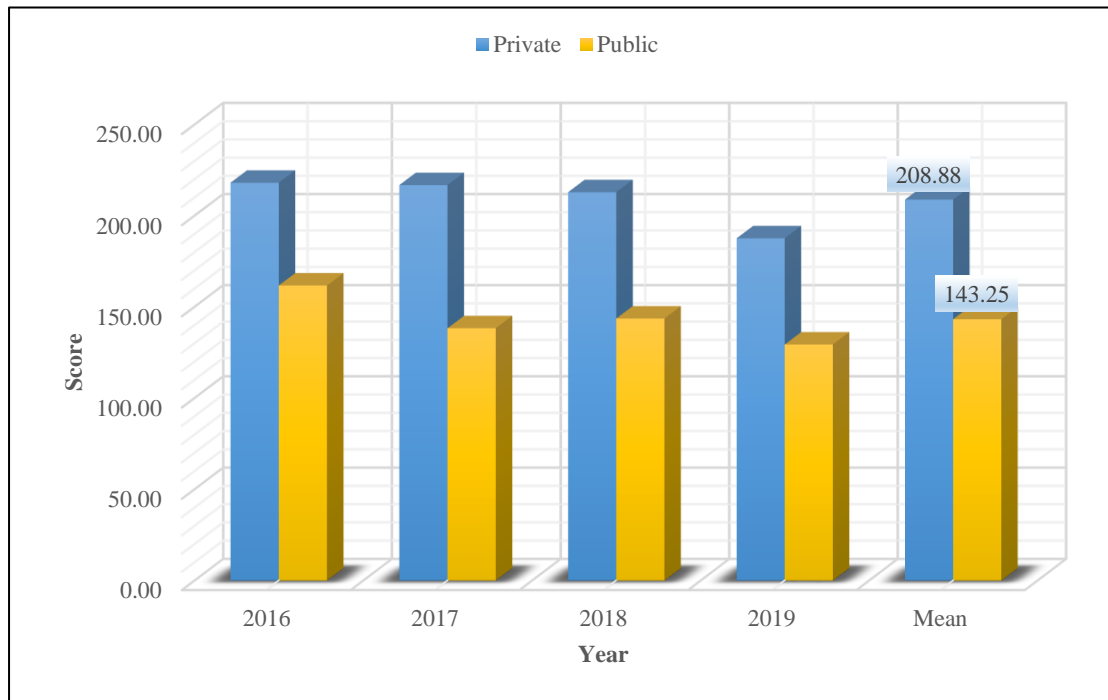
Figure 7.7 CSDP score 2016-2019 (mean), by countries' income level



7.4.2.3 Distribution of CSDP Score Based on Ownership Structure

When it comes to the CSDP of private and publicly listed companies, the score is, somewhat, surprising (Figure 7.8). Theoretically, as discussed in several studies (i.e., A. Fernando & Pandey, 2012; S. Fernando et al., 2015; Fortanier et al., 2011; Henri & Journeault, 2008), publicly listed companies tend to report more comprehensive sustainability disclosure, which can be explained by the public's high level of interest and pressure. Although few empirical studies (J. Andrew & Baker, 2020; Azim, Ahmed, & Islam, 2009; Belal & Cooper, 2011; Rashid et al., 2019) demonstrated that publicly listed companies' social sustainability disclosures were insufficient and focused primarily on employee-related descriptive information.

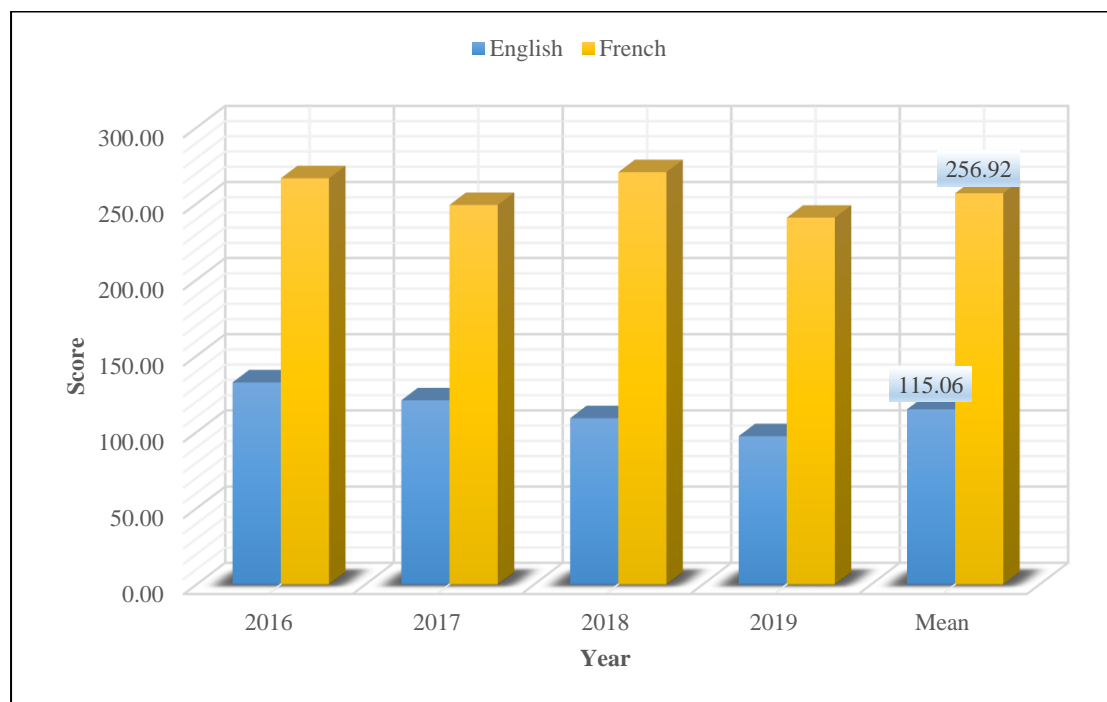
Figure 7. 8 CSDP score 2016-2019 (mean), by type of bank ownership



7.4.2.4 Distribution of CSDP Score Based on Legal Origin

In terms of the CSDP score based on legal origin, the data (as illustrated in Figure 7.9) indicates that countries with French legal origin achieved better CSDP score than countries with English common law legal origin. This finding is consistent with a previous study conducted by Castillo-Merino and Rodríguez-Pérez (2021), who discovered that financial firms based in French civil law countries outperform those based in common-law countries in terms of sustainability disclosure practices. According to Castillo-Merino and Rodríguez-Pérez (2021), this phenomenon is explained by the fact that French-civil-law countries have the strictest regulations protecting the interests of customers, workers, and other stakeholders, in contrast to English common law, which prioritises shareholder protection over other stakeholders. As a result, accommodating stakeholders, such as social community or environmental groups, has been shown to increase the sustainability practices (Berry & Rondinelli, 1998; Henriques & Sadorsky, 1999; Kassinis & Vafeas, 2006).

Figure 7.9 CSDP score 2016-2019 (mean), by legal origin

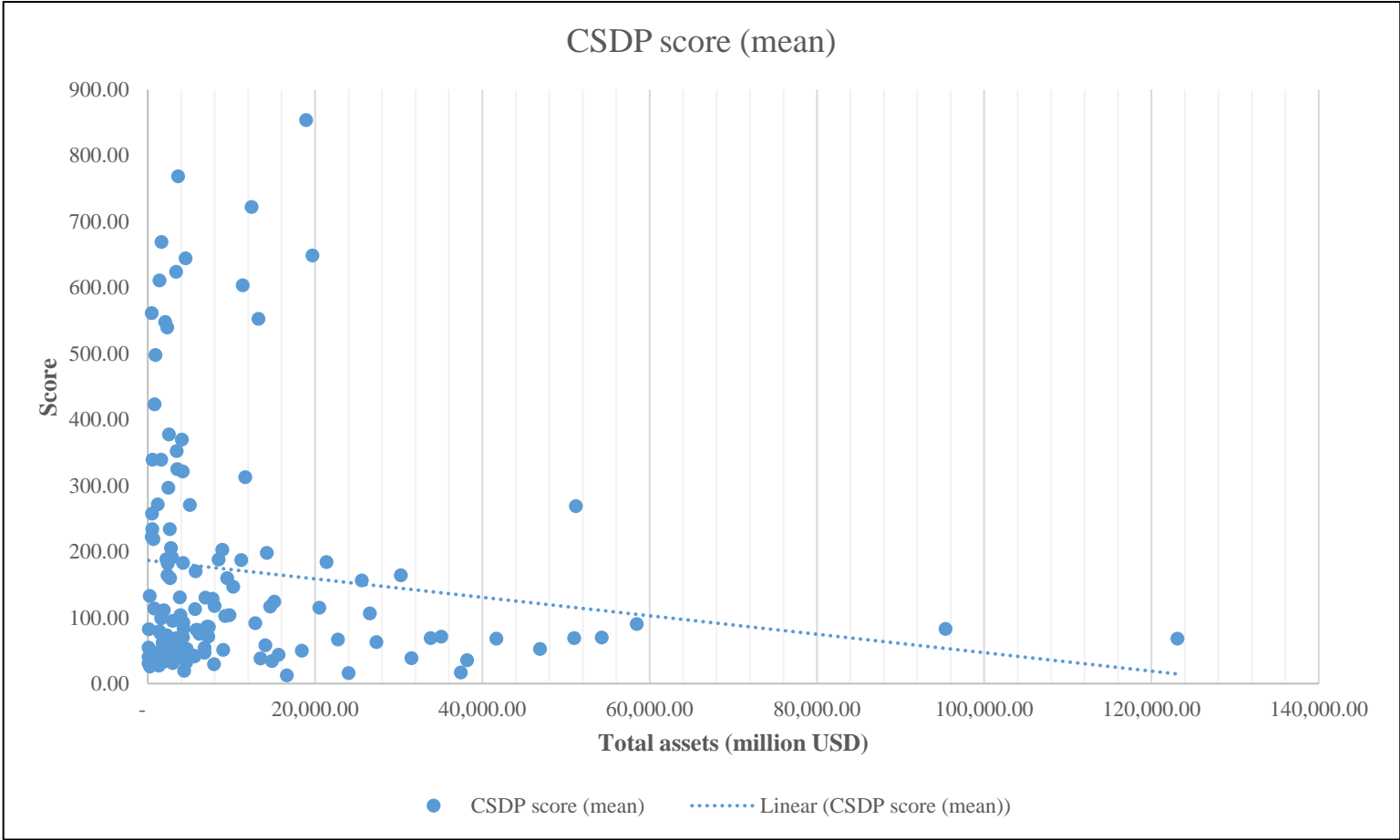


Source: Author

7.4.2.5 Distribution of CSDP Score Based on Size of Islamic Banks

As can be seen in Figure 7.10, a scatter plot of the total assets of Islamic banks against the CSDP overall score is reviewed to capture the relationship between the size of Islamic banks and their sustainability disclosure practices. It is noted that the scatterplot overleaf shows a weak, negative, linear association between the two variables, with a few potential outliers.

Figure 7. 10 The association between the CSDP score of Islamic banks and their size



7.5 Chapter Summary

This chapter provides a methodology in the calculation of corporate sustainability disclosure (CSDP) score of 134 Islamic banks within the OIC member countries from 2016 to 2019.

To conclude, the chapter draws the following key findings:

- i. In terms of the score distribution for CSDP, it is worth noting that the majority of Islamic banks are concentrated in the low score range, with only a few Islamic banks reaching the high score range.
- ii. Indonesian, Bangladeshi, Malaysian, Lebanese, and Turkish Islamic banks achieved the highest average score for CSDP whereas Qatar, Bahrain, Afghanistan, Palestine, and the United Arab Emirates all have low scores for the CSDP of Islamic banks.
- iii. Despite their economic development advantage, GCC countries are unable to adequately disclose social, economic, and environmental dimensions, as measured by the CSDP score.
- iv. Surprisingly, the relationship between the size of Islamic banks (i.e., total assets) and their CSDP scores is a weak, negative, and linear relationship with a few potential outliers.

CHAPTER 8

RESULT I: SUSTAINABLE DEVELOPMENT DETERMINANTS

8.1 Introduction

This chapter presents empirical evidence on the determinants of sustainable development within the sustainability and development theories. As far as the determinants of sustainable development are concerned, there are a voluminous literature in this area (i.e., Boos & Holm-Müller, 2013; Boyacioglu, 2012; Koirala & Pradhan, 2020; Mokhtar & Deng, 2015; Phimphanthavong, 2014; Rajkumar & Swaroop, 2008; J. Sachs et al., 2016; Stiglitz et al., 2009; Stojanović et al., 2016). However, the understanding of the factors remains mixed and incomplete concerning their impact on sustainable development in OIC member countries. Apart from the existing barriers studied by previous research, this chapter particularly investigates another important variable, namely the Islamic financial development, as one of the important determinants in shaping sustainable development in OIC member countries.

A balanced sample of countries throughout 2013 through 2019 is used in the investigation. The potential sample was 57 OIC member countries (or 399 country-year observations). Countries with an index variable not available were removed from the initial sample. A total of 10 OIC member countries (or 70 country-year observations) were removed due to the data availability constraint. As a result, the final sample contains a balanced panel of 47 OIC member countries or 329 country-year observations. The chapter proceeds as follows: Section 8.2 presents the descriptive statistics of the key variables, followed by a brief description of the univariate results in Section 8.3. The main results based on the multivariate analysis are discussed in Section 8.4. The robustness checks and regression diagnostics are explained in Section 8.5 and Section 8.6 summarises the chapter.

8.2 Descriptive Statistics

Descriptive statistics for the key variables are presented in Table 8.1. The overall mean (median) level of the Sustainable Development Index (SDI) of OIC member countries is 53.9053 (55.0011). The close mean-median difference of the index reflects the approximately normal distribution of countries in the sample. Putting this figure into perspective, the mean (median) of SDI stands at a low level, below 55.00.

Panel B of Table 8.1 gives a clear example to support this case. In the group of 47 countries, 51% of countries are reported to belong to low SDI mean values such as Yemen (36.96), Nigeria (44.05), Sudan (50.17), and Suriname (53.33). Even this can be further supported by mean values of SDI based on region, legal origin, GCC or non-GCC countries, income group, climate classification, and *madhab* majority as shown in Panel C, D, E, F, and G, respectively, of Table 8.1.

In terms of the regional group, three regions, Latin America and the Caribbean, South Asia, and Sub-Saharan Africa, are classified as low level of sustainable development with the SDI score at 49.79, 53.64, and 48.14, respectively. On the contrary, the other three regions, which are East Asia and Pacific, Europe and Central Asia, and the Middle East and North Africa, can be classified into the medium level of sustainable development with the SDI score 60.74, 61.87, and 56.79 in a row.

Taking the cooperation council for the Arab States of the Gulf (GCC) into consideration as one of particular classification within OIC member countries, the sustainable development' achievement of GCC countries is at the medium level (58.29), which is higher than those in non-GCC countries that are only classified at low level (53.26).

As for the legal origin, OIC member countries are only categorised into two legal origins, English and French, based on La Porta et al. (2008). Both English and French are at the low level of sustainable development with very similar figures which are 53.25 and 54.11, respectively.

The performance of sustainable development among OIC member countries is also similar to their income group classification, where high-income and upper-middle-income countries have achieved a medium level of sustainable development (58.29 and 57.11). In other words, they

have performed better than those lower-middle- and low-income countries with only the low level of achievement at 54.47 and 48.48, respectively.

It is also noted that the geographical land of OIC member countries spread across four climate characteristics based on Köppen climate classification (D. Chen & Chen, 2013). Interestingly, except tropical countries which belong to low SDI with value 48.29, other climate classifications can be classified as a medium level of sustainable development.

Moreover, since OIC member countries also have different characteristics of Islamic tenets which are rooted in various schools of thought (*madhab*), accordingly, from such standpoint, countries with the vast majority or official *madhab* are *Hanafi*, *Hanbali*, *Ibadi* and *Ja'fari* have achieved better SDI (medium level) than those countries where *Maliki* and *Shafii madhab* are dominant (low level).

Furthermore, the descriptive statistics for SDI and IFDI score are presented in bar charts for ease of comparison. These are presented in Figure 8.1 for country comparison, Figure 8.2 for regional and legal origin comparison, Figure 8.3 for GCC/non-GCC and income group comparison, Figure 8.4 for climate and the schools of thoughts (*madhab*) comparison.

In this part, the determinants of sustainable development are discussed in detail in order to investigate the link between Islamic finance and other variables in influencing the performance of OIC member countries on sustainable development. This topic is pertinent from the viewpoint of Islamic moral economy (IME) in order to explore the role of Islamic financial institutions (IFIs), which are considered as the paradigm's funding and operational instruments of IME. As previously noted in the literature review chapter, IFIs—in which operating under the IME paradigm—are held to a higher standard of social responsibility and are expected to prioritise not only financial return, but also social outcomes of their operations, such as those related to social welfare and environmental preservation, which is defined as sustainable development. The IME axioms, including but not limited to *tawhid*, *'adalah*, *rububiyah*, and *tazkiyah*, all directly allude to sustainable development that prioritises social development, environmental issues, and human and economic growth. In light of this, the IME expects IFIs to adhere to sustainable development standards in addition to Shari'ah compliance in financial terms.

Table 8. 1 Summary statistics of key variables

Panel A: Overall sample description

<i>Variable</i>	<i>Indicator</i>	<i>n</i>	<i>mean</i>	<i>median</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>	<i>Skewness</i>	<i>Kurtosis</i>
Sustainable development	Sustainable Development Index (SDI)	329	53.91	55.00	12.38	16.67	76.67	-0.7236	3.1172
Islamic finance development	Islamic Finance Development Indicators (IFDI)	329	17.7761	6.6700	24.0015	0.0000	131.8600	2.1629	8.3022
	Islamic Finance Development Indicators (ln IFDI)	329	1.9598	1.8976	1.4835	-2.9957	4.8817	-0.1980	2.6824
Macroeconomic	GDP PPP (USD billion)	329	357.00	93.10	585.00	4.10	3,340.00	2.5777	10.0946
	GDP PPP (<i>ln</i> GDP)	329	25.4241	25.2567	1.6098	22.1349	28.8364	0.1822	2.1220
	FDI (% of GDP)	329	3.3003	2.2874	4.9690	-11.6248	39.4562	3.2873	19.3894
	Trade growth rate (%)	329	0.3688	0.4180	19.2879	-67.0300	90.3090	-0.0414	5.3412
	Unemployment (% of total labour force)	329	7.0840	5.8000	4.8078	0.1100	20.4100	0.7671	2.7881
	Remittances received (% of GDP)	329	4.9957	1.7716	6.9860	0.0024	43.7681	2.5084	10.3732
Agriculture	Agriculture, forestry, and fishing (% of GDP)	329	2.2832	2.6318	1.2831	-2.3432	4.0991	-1.4771	4.8991
Good governance	Democracy Index (0-10)	329	4.0443	3.8500	1.4238	1.5000	7.1600	0.3117	2.1960
	Human rights protection index	329	-0.0991	-0.0302	0.9973	-2.1180	2.5994	-0.1290	2.2964
	Control of corruption index (0-100)	329	32.2142	27.9621	21.0318	0.9615	87.2038	0.5862	2.4389
Social development	Refugee Population by hosted country (head number)	329	287376	8039	650605	0.0000	3681688	3.1334	13.1086
	Refugee Population by hosted country (ln number)	329	9.2187	8.9921	3.3471	2.4849	15.1189	-0.0043	1.8934
	Gender Parity Index (Labour Force Participation Rate)	329	0.5661	0.6159	0.2932	0.0856	1.1965	1.0483	1.9017
ICT infrastructure	Mobile cellular subscriptions (% of population)	329	104.4193	100.2576	37.6021	34.5015	212.6390	0.5008	2.9220
Health	Mortality rate, under-5 (per 1,000 live births)	329	47.3222	31.5000	37.1881	6.5000	139.8000	0.6901	2.2377
Education	Expected years of schooling (years)	329	11.5973	11.7000	2.5799	5.5000	17.1000	-0.0854	2.2414
Environment	Environmental Performance Index (0-100)	329	49.6259	47.9300	13.7999	18.4300	83.7800	0.0390	2.3543
Urban development	Population density (people per sq. km of land area)	329	155.8606	74.8500	317.2482	3.5083	2040.5890	4.1919	21.0890
	Population density (ln people per sq. km of land area)	329	4.1158	4.3155	1.3625	1.2551	7.6210	-0.0695	3.1775
Legal origin	English origin	329	0.2340	0.0000	0.4240	0.0000	1.0000	1.2563	2.5783
	French origin	329	0.7660	1.0000	0.4240	0.0000	1.0000	-1.2563	2.5783
Region	East Asia (EA)	329	0.0426	0.0000	0.2022	0.0000	1.0000	4.5326	21.5444
	Europe & Central Asia (ECA)	329	0.1489	0.0000	0.3566	0.0000	1.0000	1.9721	4.8893
	Middle East & North Africa (MENA)	329	0.3191	0.0000	0.4669	0.0000	1.0000	0.7759	1.6021
	South Asia (SA)	329	0.0638	0.0000	0.2448	0.0000	1.0000	3.5686	13.7349
	Sub-Saharan Africa (SSA)	329	0.3830	0.0000	0.4869	0.0000	1.0000	0.4815	1.2318
	Latin America-Caribbean (LAC)	329	0.0426	0.0000	0.2022	0.0000	1.0000	4.5326	21.5444
GCC and non-GCC	Gulf Countries Cooperation (GCC)	329	0.1277	0.0000	0.3342	0.0000	1.0000	2.2315	5.9797
Income group	High income (HI)	329	0.1277	0.0000	0.3342	0.0000	1.0000	2.2315	5.9797
	Low income (LI)	329	0.2979	0.0000	0.4580	0.0000	1.0000	0.8840	1.7814
	Upper middle income (UMI)	329	0.2766	0.0000	0.4480	0.0000	1.0000	0.9989	1.9977
	Lower middle income (LMI)	329	0.2979	0.0000	0.4580	0.0000	1.0000	0.8840	1.7814
Climate classification	Tropical	329	0.3617	0.0000	0.4812	0.0000	1.0000	0.5756	1.3314
	Dry	329	0.4681	0.0000	0.4997	0.0000	1.0000	0.1279	1.0164
	Temperate	329	0.1277	0.0000	0.3342	0.0000	1.0000	2.2315	5.9797
	Continental	329	0.0426	0.0000	0.2022	0.0000	1.0000	4.5326	21.5444
Islamic school of thought (madhab)	Hanafi	329	0.2766	0.0000	0.4480	0.0000	1.0000	0.9989	1.9977
	Hanbali	329	0.0213	0.0000	0.1445	0.0000	1.0000	6.6349	45.0217

<i>Variable</i>	<i>Indicator</i>	<i>n</i>	<i>mean</i>	<i>median</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>	<i>Skewness</i>	<i>Kurtosis</i>
	Ibadi	329	0.0213	0.0000	0.1445	0.0000	1.0000	6.6349	45.0217
	Jafari	329	0.0426	0.0000	0.2022	0.0000	1.0000	4.5326	21.5444
	Maliki	329	0.4894	0.0000	0.5006	0.0000	1.0000	0.0426	1.0018
	Shafii	329	0.1489	0.0000	0.3566	0.0000	1.0000	1.9721	4.8893

Panel B: Sustainable development and country-level data: mean by country.

<i>No</i>	<i>Country</i>	<i>Region</i>	<i>GCC/Non-GCC</i>	<i>Legal origin</i>	<i>Income group</i>	<i>Climate classification</i>	<i>Madhab majority</i>	<i>SDI score</i>	<i>Islamic Finance Development Indicators (IFI)</i>	<i>Islamic Finance Development Indicators (In IFDI)</i>	<i>GDP PPP (USD billion)</i>	<i>GDP PPP (In GDP)</i>	<i>FDI (% of GDP)</i>	<i>Trade growth rate (%)</i>	<i>Unemployment (% of total labour force)</i>
1	Afghanistan	SA	Non-GCC	French	LI	Dry	Hanafi	52.22	10.2614	2.1128	72.89	25.0096	0.4084	10.9086	11.2729
2	Albania	ECA	Non-GCC	French	UMI	Temperate	Hanafi	57.46	3.0200	0.7378	35.73	24.2939	8.5246	5.8020	14.8471
3	Algeria	MENA	Non-GCC	French	LMI	Temperate	Maliki	58.31	3.9600	1.2934	494.25	26.9258	0.6537	-7.3054	11.0200
4	Azerbaijan	ECA	Non-GCC	French	UMI	Dry	Jafari	67.63	4.7829	1.5263	149.60	25.7291	6.0077	-4.2843	4.9400
5	Bahrain	MENA	GCC	English	HI	Dry	Maliki	59.17	76.5129	4.3299	69.30	24.9592	3.0240	0.0327	1.3857
6	Bangladesh	SA	Non-GCC	English	LMI	Tropical	Hanafi	58.93	25.1800	3.2140	624.59	27.1451	1.1355	6.7154	4.3471
7	Benin	SSA	Non-GCC	French	LMI	Tropical	Maliki	43.71	2.0529	0.6565	32.97	24.2100	1.8318	14.9758	2.4986
8	Burkina Faso	SSA	Non-GCC	French	LI	Dry	Maliki	55.55	1.7671	0.5172	36.18	24.2966	1.9890	6.1988	5.5200
9	Cameroon	SSA	Non-GCC	French	LMI	Tropical	Maliki	41.57	2.2643	0.7134	82.11	25.1228	2.1394	1.6209	3.4729
10	Chad	SSA	Non-GCC	French	LI	Tropical	Maliki	39.64	1.8300	0.5465	24.10	23.9029	2.7780	-2.7257	1.8686
11	Cote d'Ivoire	SSA	Non-GCC	French	LMI	Tropical	Maliki	42.16	1.6671	0.1547	105.90	25.3484	1.3589	0.6230	3.3214
12	Egypt	MENA	Non-GCC	French	LMI	Dry	Maliki	62.59	15.7157	2.7433	1,077.14	27.7026	2.4114	0.4836	11.8586
13	Gabon	SSA	Non-GCC	French	UMI	Tropical	Maliki	42.71	2.0671	0.6739	30.09	24.1251	6.3032	-2.7264	20.0543
14	Gambia	SSA	Non-GCC	French	LI	Tropical	Maliki	43.94	8.1757	2.0927	4.59	22.2416	1.5346	2.3513	9.2000
15	Guinea	SSA	Non-GCC	French	LI	Tropical	Maliki	51.17	2.1657	0.7079	25.73	23.9484	3.9693	15.0301	4.3100
16	Guyana	LAC	Non-GCC	English	UMI	Tropical	Hanafi	46.24	1.5057	-0.4324	9.14	22.9322	11.6760	2.1675	13.5900
17	Indonesia	EAP	Non-GCC	French	UMI	Tropical	Shafii	63.95	38.2629	3.5866	2,842.86	28.6714	2.0319	-1.3351	4.1571
18	Iran	MENA	Non-GCC	French	UMI	Dry	Jafari	65.44	21.9229	3.0735	1,129.15	27.7517	0.6658	-4.5023	11.4000
19	Iraq	MENA	Non-GCC	French	UMI	Dry	Jafari	41.46	7.2829	1.7717	430.93	26.7816	-2.7490	1.4841	11.4357
20	Jordan	MENA	Non-GCC	French	UMI	Dry	Shafii	60.68	42.9114	3.7282	92.23	25.2423	4.0832	0.8692	14.5400
21	Kazakhstan	ECA	Non-GCC	French	UMI	Dry	Hanafi	70.26	12.7343	2.4873	444.62	26.8176	4.0529	-2.6666	4.9571
22	Kuwait	MENA	GCC	English	HI	Dry	Maliki	52.73	44.1271	3.7689	218.73	26.0992	0.2998	-5.2429	2.4029
23	Kyrgyz Republic	ECA	Non-GCC	French	LMI	Continental	Hanafi	63.83	6.4129	1.8324	28.80	24.0726	6.1153	1.4795	7.3643
24	Lebanon	MENA	Non-GCC	French	UMI	Temperate	Hanafi	53.82	13.0114	2.5523	101.11	25.3368	4.9730	-1.4351	6.2357

25	Malaysia	EAP	Non-GCC	English	UMI	Tropical	Shafii	57.53	112.5986	4.7029	803.88	27.4074	3.1606	1.1189	3.2214
26	Mali	SSA	Non-GCC	French	LI	Dry	Maliki	52.13	1.7514	0.5146	38.70	24.3668	2.4576	5.6346	7.1457
27	Mauritania	SSA	Non-GCC	French	LMI	Dry	Maliki	58.11	4.7371	1.4555	19.94	23.7058	6.2327	0.2383	10.1971
28	Morocco	MENA	Non-GCC	French	LMI	Temperate	Maliki	62.93	10.4900	2.2318	257.43	26.2708	2.6328	4.6724	9.2814
29	Mozambique	SSA	Non-GCC	French	LI	Tropical	Shafii	50.34	2.1586	0.7024	35.27	24.2780	23.9963	4.3065	3.3386
30	Niger	SSA	Non-GCC	French	LI	Dry	Maliki	51.69	1.9757	0.6352	24.60	23.9190	5.0281	-2.7378	0.5986
31	Nigeria	SSA	Non-GCC	English	LMI	Tropical	Maliki	44.05	17.4529	2.7040	989.73	27.6193	0.8361	-2.7441	6.4286
32	Oman	MENA	GCC	French	HI	Dry	Ibadi	61.68	53.5314	3.9559	142.18	25.6778	2.8555	-2.2767	2.7871
33	Pakistan	SA	Non-GCC	English	LMI	Dry	Hanafi	49.78	48.1643	3.8445	917.75	27.5399	0.7229	-0.5235	3.4471
34	Qatar	MENA	GCC	English	HI	Dry	Maliki	58.60	40.0157	3.6759	267.85	26.3050	-0.1323	-5.5686	0.1671
35	Saudi Arabia	MENA	GCC	French	HI	Dry	Hanbali	58.35	43.1200	3.7148	1,615.72	28.1095	0.8525	-2.8693	5.7986
36	Senegal	SSA	Non-GCC	English	LMI	Dry	Maliki	58.08	4.3229	1.4372	46.92	24.5617	2.7260	7.7530	7.0300
37	Sierra Leone	SSA	Non-GCC	English	LI	Tropical	Maliki	46.05	1.8700	0.5667	12.42	23.2408	7.3524	1.0146	4.5400
38	Sudan	SSA	Non-GCC	French	LI	Dry	Maliki	50.17	26.2657	3.2619	176.66	25.8955	2.5330	0.5455	17.1371
39	Suriname	LAC	Non-GCC	French	UMI	Tropical	Shafii	53.33	1.3029	0.0376	9.28	22.9488	3.2081	-1.7874	6.9929
40	Tajikistan	ECA	Non-GCC	French	LI	Continental	Hanafi	53.38	4.2686	1.3957	27.75	24.0421	3.4778	-0.8705	7.3786
41	Togo	SSA	Non-GCC	French	LI	Tropical	Maliki	40.99	2.0514	0.6712	11.03	23.1141	1.6367	-2.3950	2.9186
42	Tunisia	MENA	Non-GCC	French	LMI	Temperate	Maliki	59.98	18.5229	2.8838	119.86	25.5080	2.1128	-1.5561	15.3757
43	Turkey	ECA	Non-GCC	French	UMI	Temperate	Hanafi	61.98	15.3643	2.7052	2,099.29	28.3661	1.5437	2.6815	10.7243
44	Uganda	SSA	Non-GCC	English	LI	Tropical	Shafii	54.55	2.6571	0.7839	84.48	25.1541	2.9889	5.9367	1.8200
45	United Arab Emirates	MENA	GCC	French	HI	Dry	Maliki	59.19	61.2786	4.0965	644.07	27.1899	2.6780	1.6923	2.0200
46	Uzbekistan	ECA	Non-GCC	French	LMI	Dry	Hanafi	58.55	0.8514	-0.6270	208.26	26.0571	1.9369	4.1578	5.3657
47	Yemen	MENA	Non-GCC	French	LI	Dry	Shafii	36.96	11.1329	2.3722	72.40	24.9893	-0.9390	-37.6071	13.2357

No	Country	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		<i>Remittances, received (% of GDP)</i>	<i>Agriculture, forestry, and fishing (% of GDP)</i>	<i>Democracy Index (0- 10)</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0- 100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
1	Afghanistan	3.0277	3.1594	2.7057	-1.5429	4.5291	122141	11.3451	0.2442	58.5676	68.0143	10.2000	30.7414	54.0806	3.9889
2	Albania	10.3521	2.9598	5.8586	1.0821	35.9334	119	4.7721	0.7123	113.1244	9.7000	14.9000	64.9986	105.0128	4.6541
3	Algeria	0.9884	2.4318	3.7486	0.4895	31.0316	94835	11.4598	0.2428	110.2071	24.6714	14.2143	57.6629	17.0336	2.8344
4	Azerbaijan	2.4159	1.7164	2.7571	-0.1488	18.0290	1215	7.0995	0.9541	106.7956	24.9429	12.3857	63.7529	117.8870	4.7695
5	Bahrain	1.0000	-1.2133	2.7557	-0.1014	58.7870	270	5.5941	0.2682	163.3504	7.4000	15.5000	57.9900	1857.5000	7.5248
6	Bangladesh	7.0060	2.6449	5.7114	-1.1759	19.0504	523628	12.9588	0.4092	89.2712	35.9000	10.7571	33.7757	1213.4030	7.1009
7	Benin	1.7834	3.2922	5.6214	1.0267	34.2212	771	6.4819	0.9658	85.5583	97.2857	12.6286	39.8400	96.4999	4.5681
8	Burkina Faso	2.8858	3.0990	4.4543	-0.4003	47.5210	28977	10.2661	0.8071	84.4139	97.5000	8.5000	42.0914	68.2066	4.2209
9	Cameroon	0.8354	2.6665	3.3829	-1.3495	11.1746	317317	12.6012	0.8867	77.1588	85.1714	11.9857	44.6014	50.6477	3.9235

No	Country	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		Remittances, received (% of GDP)	Agriculture, forestry, and fishing (% of GDP)	Democracy Index (0- 10)	Human rights protection score	Control of corruption index (0-100)	Refugee Population by hosted country (head number)	Refugee Population by hosted country (ln number)	Gender Parity Index (Labour Force Participation Rate, Ages 15-64)	Mobile cellular subscriptions (% of population)	Mortality rate, under-5 (per 1,000 live births)	Expected years of schooling (years)	Environmental Performance Index (0- 100)	Population density (people per sq. km of land area)	Population density (ln people per sq. km of land area)
10	Chad	1.0000	3.8619	1.5314	-0.2737	5.4857	421928	12.9500	0.8311	40.8040	125.4143	7.5143	37.0571	11.5689	2.4464
11	Cote d'Ivoire	0.7885	2.9951	3.7186	-0.1752	35.6606	1949	7.5496	0.6578	117.1611	88.0143	9.2000	48.3514	74.9895	4.3161
12	Egypt	7.6129	2.4301	3.2429	-1.2901	31.3906	232849	12.3560	0.2943	102.9213	22.6571	13.0000	61.8171	94.8647	4.5515
13	Gabon	0.1226	1.5177	3.6929	0.6854	23.4972	921	6.7637	0.6729	143.4555	47.8429	12.7714	53.7071	7.7759	2.0492
14	Gambia	12.2084	3.0970	3.5629	0.6200	30.5752	7617	8.8759	0.7801	125.4634	58.0000	9.2143	34.9229	212.5591	5.3575
15	Guinea	0.9378	2.9837	3.0786	0.0879	14.8755	6519	8.7389	1.1934	89.9232	105.3143	9.2000	41.1614	47.8934	3.8676
16	Guyana	7.1499	3.0947	6.2200	1.1455	38.3313	15	2.6615	0.6136	77.3673	32.1714	11.4429	50.3357	3.9180	1.3655
17	Indonesia	0.9823	2.5794	6.7186	-0.1809	39.9738	7442	8.8282	0.6272	134.3566	26.8429	13.1857	52.3643	141.0935	4.9494
18	Iran	0.3064	2.3173	2.2486	-1.2277	24.1182	962365	13.7761	0.2230	104.1072	15.5429	14.8143	56.2643	48.8791	3.8890
19	Iraq	0.4293	1.1631	4.0543	-1.6844	6.7151	270238	12.5061	0.1723	94.0261	28.6429	10.5429	43.7771	84.0368	4.4296
20	Jordan	12.6575	1.4814	3.8671	0.2803	62.0326	2853585	14.8636	0.2165	108.7188	17.1000	11.7429	60.3714	106.7325	4.6684
21	Kazakhstan	0.2463	1.5031	3.0414	-0.0394	25.9225	606	6.4033	0.9368	152.3766	11.6714	15.1714	55.8257	6.5885	1.8849
22	Kuwait	0.0137	-0.7675	3.8414	0.9883	49.0674	698	6.5379	0.3589	186.1218	8.5429	13.9571	59.5429	220.4388	5.3936
23	Kyrgyz Republic	29.8463	2.5779	5.0429	-0.1054	13.2340	378	5.9219	0.6645	129.7418	21.3286	12.9429	54.7957	31.6952	3.4554
24	Lebanon	14.4485	1.2023	4.8000	0.0435	15.0699	1457391	14.1902	0.3208	65.9656	8.0429	11.3714	58.2986	645.7906	6.4688
25	Malaysia	0.4887	2.1133	6.6471	0.1246	63.1855	105364	11.5578	0.6157	141.9921	8.2286	13.5571	64.0043	93.4213	4.5368
26	Mali	6.1440	3.6213	5.5800	-1.3931	27.0832	19026	9.8234	0.7466	121.7562	105.0143	7.4143	32.2386	14.7457	2.6892
27	Mauritania	0.9781	2.9706	3.9743	1.1967	20.9716	80778	11.2967	0.4480	97.1084	80.3714	8.6429	36.0957	4.0419	1.3951
28	Morocco	6.3180	2.5124	4.6371	0.5736	49.4284	4086	8.1516	0.3292	124.6943	24.3429	12.8714	60.6914	78.6828	4.3651
29	Mozambique	1.3369	3.1821	4.2243	0.0857	24.5863	4823	8.4786	1.0987	55.0139	82.7714	9.7429	40.5914	35.4420	3.5663
30	Niger	1.9969	3.5557	3.9271	-0.3884	30.4948	135347	11.7389	0.7416	39.8313	90.8714	6.1143	36.4686	16.4395	2.7968
31	Nigeria	4.9048	3.0396	4.1257	-1.6802	11.7937	13780	8.2728	0.8027	82.1547	124.3143	9.7714	49.2286	204.3111	5.3183
32	Oman	0.0528	0.6364	3.0900	1.0653	64.7053	253	5.4839	0.1646	146.0801	11.3000	14.2000	51.7714	14.3633	2.6600
33	Pakistan	6.9834	3.1440	4.3843	-1.1498	20.8430	1464639	14.1952	0.2655	69.2735	73.8571	7.5714	40.9371	264.2678	5.5761
34	Qatar	0.2924	-1.7907	3.1843	1.9968	79.0893	162	5.0671	0.1544	140.8664	7.4571	11.7429	64.0186	228.8235	5.4304
35	Saudi Arabia	0.0417	0.8644	1.8986	-0.7686	62.2406	301	5.5315	0.1904	146.5801	8.0143	16.5143	62.2129	15.0499	2.7103
36	Senegal	10.1145	2.6638	6.1000	0.9512	57.0325	14420	9.5763	0.6679	102.4301	50.9857	9.0714	50.6986	77.9502	4.3545
37	Sierra Leone	1.3106	4.0178	4.6400	0.7173	26.5387	1049	6.7595	0.9835	78.3279	125.7000	9.8857	34.6086	101.5795	4.6199
38	Sudan	0.8316	3.1865	2.4029	-1.9571	4.1180	601302	13.0842	0.4272	72.6715	64.0286	7.6857	36.6900	21.5627	3.0698
39	Suriname	1.2837	2.2974	6.8286	1.4298	46.1239	17	3.5899	0.6238	144.7936	19.6429	12.8000	58.0386	3.6200	1.2863
40	Tajikistan	32.2003	3.0431	2.0729	-0.3180	9.4634	2532	7.8125	0.5902	103.7089	36.7429	11.3714	49.0371	62.4426	4.1330
41	Togo	8.6516	3.2396	3.2971	0.9582	23.4578	16221	9.6555	0.9187	71.1571	73.6000	12.4714	40.0343	138.1197	4.9269
42	Tunisia	4.8025	2.2764	6.3771	0.3181	54.9652	921	6.7655	0.3807	125.9221	17.1571	14.8857	63.4143	72.8061	4.2876
43	Turkey	0.1506	1.8476	4.8929	-1.2509	50.8356	2621376	14.6413	0.4748	94.6754	12.2571	16.2143	56.5571	103.6815	4.6408
44	Uganda	3.5208	3.1727	5.1757	-0.2353	13.2282	842809	13.4577	0.9652	55.9359	53.6571	11.2286	45.8886	198.3117	5.2873

No	Country	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		Remittances, received (% of GDP)	Agriculture, forestry, and fishing (% of GDP)	Democracy Index (0-10)	Human rights protection score	Control of corruption index (0-100)	Refugee Population by hosted country (head number)	Refugee Population by hosted country (ln number)	Gender Parity Index (Labour Force Participation Rate, Ages 15-64)	Mobile cellular subscriptions (% of population)	Mortality rate, under-5 (per 1,000 live births)	Expected years of schooling (years)	Environmental Performance Index (0-100)	Population density (people per sq. km of land area)	Population density (ln people per sq. km of land area)
45	United Arab Emirates	1.0000	-0.3350	2.6957	0.2687	83.8863	838	6.6707	0.1955	197.3765	7.7571	13.6000	64.7471	132.4001	4.8856
46	Uzbekistan	10.4994	3.3747	2.0057	-0.3421	10.9724	63	3.6889	0.6794	75.5560	21.5000	11.8429	48.2571	72.8412	4.2881
47	Yemen	11.8516	1.8836	2.2657	-1.6133	2.7974	262805	12.4785	0.0890	58.8427	56.8571	8.7286	42.1386	51.4490	3.9394

Panel C: Sustainable development and country-level data: mean by region

Region	1	2	3	4	5	6	7	8	9	10	11
	SDI score	Islamic Finance Development Indicators (IFI)	Islamic Finance Development Indicators (ln IFDI)	GDP PPP (USD billion)	GDP PPP (ln GDP)	FDI (% of GDP)	Trade growth rate (%)	Unemployment (% of total labour force)	Remittances, received (% of GDP)	Agriculture, forestry, and fishing (% of GDP)	Democracy Index (0-10)
East Asia & Pacific	60.74	75.4307	4.1447	1,823.37	28.0394	2.5963	-0.1081	3.6893	0.7355	2.3464	6.6829
Europe & Central	61.87	6.7763	1.4368	427.72	25.6255	4.5227	0.8999	7.9396	12.2444	2.4318	3.6673
Latin America &	49.79	1.4043	-0.1974	9.21	22.9405	7.4421	0.1900	10.2914	4.2168	2.6961	6.5243
Middle East & North Africa	56.79	30.9024	3.0795	448.82	26.3233	1.5615	-3.9420	7.9296	4.1211	1.0062	3.5138
South Asia	53.64	27.8686	3.0571	538.41	26.5649	0.7556	5.7001	6.3557	5.6724	2.9828	4.2671
Sub-Saharan Africa	48.14	4.8463	1.0442	98.97	24.3917	4.3162	2.9389	6.1889	3.3529	3.1202	4.0272
	12	13	14	15	16	17	18	19	20	21	22

<i>Region</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0-100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
East Asia & Pacific	-0.0282	51.5797	56403	10.1930	0.6215	138.1744	17.5357	13.3714	58.1843	117.2574	4.7431
Europe & Central	-0.1604	23.4843	375184	7.1913	0.7160	110.8541	19.7347	13.5469	56.1749	71.4498	3.9751
Latin America &	1.2876	42.2276	16	3.1257	0.6187	111.0805	25.9071	12.1214	54.1871	3.7690	1.3259
Middle East & North Africa	-0.0441	45.0217	409440	9.4288	0.2400	125.0520	17.6991	13.1791	57.6479	244.5901	4.5359
South Asia	-1.2895	14.8075	703469	12.8331	0.3063	72.3708	59.2571	9.5095	35.1514	510.5838	5.5553
Sub-Saharan Africa	-0.0846	24.5731	139753	9.7984	0.8108	85.5736	86.4365	9.6135	41.3487	76.8136	3.8208

Panel D: Sustainable development and country-level data: mean by GCC or non-GCC

	1	2	3	4	5	6	7	8	9	10	11
<i>GCC/Non-GCC</i>	<i>SDI score</i>	<i>Islamic Finance Development Indicators (IFDI)</i>	<i>Islamic Finance Development Indicators (ln IFDI)</i>	<i>GDP PPP (USD billion)</i>	<i>GDP PPP (ln GDP)</i>	<i>FDI (% of GDP)</i>	<i>Trade growth rate (%)</i>	<i>Unemployment (% of total labour force)</i>	<i>Remittances, received (% of GDP)</i>	<i>Agriculture, forestry, and fishing (% of GDP)</i>	<i>Democracy Index (0-10)</i>
GCC	58.29	53.0976	3.9237	492.98	26.3901	1.5963	-2.3721	2.4269	0.4001	-0.4343	2.9110
Non-GCC	53.26	12.6071	1.6724	337.33	25.2828	3.5497	0.7699	7.7656	5.6683	2.6809	4.2102
	12	13	14	15	16	17	18	19	20	21	22
<i>GCC/Non-GCC</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0-100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
GCC	0.5749	66.2960	420	5.8142	0.2220	163.3959	8.4119	14.2524	60.0471	411.4293	4.7675
Non-GCC	-0.1977	27.2266	329370	9.7169	0.6165	95.7886	53.0164	11.2087	48.1008	118.4603	4.0204

Panel E: Sustainable development and country-level data: mean by legal origin

	1	2	3	4	5	6	7	8	9	10	11
<i>Legal origin</i>	<i>SDI score</i>	<i>Islamic Finance Development Indicators (IFI)</i>	<i>Islamic Finance Development Indicators (IFI)</i>	<i>GDP PPP (USD billion)</i>	<i>GDP PPP (ln GDP)</i>	<i>FDI (% of GDP)</i>	<i>Trade growth rate (%)</i>	<i>Unemployment (% of total labour force)</i>	<i>Remittances, received (% of GDP)</i>	<i>Agriculture, forestry, and fishing (% of GDP)</i>	<i>Democracy Index (0-10)</i>
English	53.25	34.0370	2.5996	367.71	25.7240	3.0718	0.9691	4.3982	3.8895	1.8290	4.7987
France	54.11	12.8075	1.7643	353.98	25.3325	3.3702	0.1854	7.9047	5.3338	2.4220	3.8138
	12	13	14	15	16	17	18	19	20	21	22
<i>Legal origin</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0-100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
English	0.1437	39.7225	269712	8.7853	0.5550	107.9174	48.0195	11.3169	50.0935	405.8113	5.1371
France	-0.1733	29.9200	292774	9.3511	0.5695	103.3504	47.1091	11.6829	49.4830	79.4868	3.8037

Panel F: Sustainable development and country-level data: mean by income group

	1	2	3	4	5	6	7	8	9	10	11
<i>Income group</i>	<i>SDI score</i>	<i>Islamic Finance Development Indicators (IFI)</i>	<i>Islamic Finance Development Indicators (IFI)</i>	<i>GDP PPP (USD billion)</i>	<i>GDP PPP (ln GDP)</i>	<i>FDI (% of GDP)</i>	<i>Trade growth rate (%)</i>	<i>Unemployment (% of total labour force)</i>	<i>Remittances, received (% of GDP)</i>	<i>Agriculture, forestry, and fishing (% of GDP)</i>	<i>Democracy Index (0-10)</i>
High income	58.29	53.0976	3.9237	492.98	26.3901	1.5963	-2.3721	2.4269	0.4001	-0.4343	2.9110
Low income	48.48	5.5951	1.2058	46.20	24.1713	4.2294	0.3993	6.4489	6.2789	3.2217	3.4942
Lower middle income	54.47	11.5567	1.7527	357.55	25.8421	2.3461	2.1850	7.2149	6.6758	2.7872	4.4338
Upper middle income	57.11	21.2898	2.0885	629.07	25.8772	4.1140	-0.3549	9.7766	3.9257	1.9841	4.7405

	12	13	14	15	16	17	18	19	20	21	22
<i>Income group</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0-100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
High income	0.5749	66.2960	420	5.8142	0.2220	163.3959	8.4119	14.2524	60.0471	411.4293	4.7675
Low income	-0.4038	18.9110	176650	10.3903	0.7440	75.4584	81.6776	9.2337	38.8336	73.8858	3.9221
Lower middle income	-0.1937	28.6978	196458	9.3769	0.5496	99.2256	54.8255	11.3847	49.2977	168.1453	4.3096
Upper middle income	0.0199	34.5975	636973	9.3580	0.5510	113.9811	20.2022	13.1462	56.7920	112.9567	3.8148

Panel G: Sustainable development and country-level data: mean by madhab majority

	1	2	3	4	5	6	7	8	9	10	11
<i>Madhab majority</i>	<i>SDI score</i>	<i>Islamic Finance Development Indicators (IFDI)</i>	<i>Islamic Finance Development Indicators (ln IFDI)</i>	<i>GDP PPP (USD billion)</i>	<i>GDP PPP (ln GDP)</i>	<i>FDI (% of GDP)</i>	<i>Trade growth rate (%)</i>	<i>Unemployment (% of total labour force)</i>	<i>Remittances, received (% of GDP)</i>	<i>Agriculture, forestry, and fishing (% of GDP)</i>	<i>Democracy Index (0-10)</i>
Hanafi	56.95	12.7977	1.8020	415.45	25.6012	4.0515	2.5833	8.1391	11.0828	2.5956	4.2487
Hanbali	58.35	43.1200	3.7148	1,615.72	28.1095	0.8525	-2.8693	5.7986	0.0417	0.8644	1.8986
Ibadi	61.68	53.5314	3.9559	142.18	25.6778	2.8555	-2.2767	2.7871	0.0528	0.6364	3.0900
Jafari	58.18	11.3295	2.1238	569.89	26.7541	1.3082	-2.4341	9.2586	1.0505	1.7323	3.0200
Maliki	51.47	14.7100	1.7639	200.43	25.0241	2.6828	1.2444	6.6564	3.2301	2.3063	3.8989
Shafii	53.91	30.1463	2.2734	562.91	25.5273	5.5043	-4.0712	6.7580	4.5888	2.3871	5.1039

	12	13	14	15	16	17	18	19	20	21	22
<i>Region</i>	<i>Human rights protection score</i>	<i>Control of corruption index (0-100)</i>	<i>Refugee Population by hosted country (head number)</i>	<i>Refugee Population by hosted country (ln number)</i>	<i>Gender Parity Index (Labour Force Participation Rate, Ages 15-64)</i>	<i>Mobile cellular subscriptions (% of population)</i>	<i>Mortality rate, under-5 (per 1,000 live births)</i>	<i>Expected years of schooling (years)</i>	<i>Environmental Performance Index (0-100)</i>	<i>Population density (people per sq. km of land area)</i>	<i>Population density (ln people per sq. km of land area)</i>
Hanafi	-0.3321	22.1986	562990	8.9628	0.5374	93.6026	30.1078	12.1623	49.4146	233.0656	4.3233
Hanbali	-0.7686	62.2406	301	5.5315	0.1904	146.5801	8.0143	16.5143	62.2129	15.0499	2.7103

Ibadi	1.0653	64.7053	253	5.4839	0.1646	146.0801	11.3000	14.2000	51.7714	14.3633	2.6600
Jafari	-1.0203	16.2875	411273	11.1272	0.4498	101.6430	23.0429	12.5810	54.5981	83.6010	4.3627
Maliki	0.0779	35.0895	83441	9.0432	0.6148	107.5348	64.1423	10.9101	47.8200	160.4767	4.1330
Shafii	-0.0156	35.9897	582407	10.4649	0.6052	99.9505	37.8714	11.5694	51.9139	90.0100	4.0334

The full sample consists of 329 country-year observations (i.e., 47 countries with year observations from 2013 to 2019) which are denoted as n . The dependent variable is the *Sustainable Development Index (SDI)* for the country's sustainable development performance measure, calculated based on the formula initiated by Leo and Barneier (2010) for the MDGs Progress Index while following Schmidt-Traub et al. (2017)'s study for the SDGs Progress Index. *Islamic Finance Development Indicator (IFDI)* is a measurement of the overall development of the Islamic finance industry with the average score on five indicators: (i) *Quantitative development* (the number of Islamic banks, takaful, other Islamic financial institutions, sukuk, and funds); (ii) *Knowledge* (the number of educational institutions and research articles); (iii) *Governance* (the presence of regulation, *Shari'ah* Supervisory Board, and corporate governance); (iv) *Social responsibility* (the presence of CSR activities and distribution of funds through Charity, *zakat* and *qard hasan*); (v) *Market awareness* (the number of seminars, conferences, and news volume in Islamic finance), higher score corresponds to the better performance of development. The IFDI is calculated based on the study of the Islamic Corporation for the Development (a subdivision of Islamic Development Bank) and Thomson Reuters. *GDP PPP* is values for gross domestic product (GDP) expressed in US dollars, converted by purchasing power parity (PPP) conversion factor. *FDI (% of GDP)* is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. This data shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. *Trade growth rate (%)* is a growth rate of exports and imports of goods and services measured as a share of gross domestic product. *Unemployment (% of total labour force)* refers to the share of the labour force that is without work but available for and seeking employment. *Remittances received (% of GDP)* comprise personal transfers and the compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households. Personal transfers thus include all current transfers between resident and non-resident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by non-resident entities. *Agriculture, forestry, and fishing (% of GDP)* corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production with value-added data. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. *Democracy Index (0-10)* is a data report provided by The Economist Intelligence Unit based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. *Human rights protection score* provides a measure of the protection of the physical integrity of citizens. It aims to measure how a government protects its citizens' physical integrity by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances. Its values range from -3.8 to around 5.4. It is constructed from an econometric model with variable data from nine sources developed by Schnakenberg and Fariss (2014) *Control of corruption index (0-100)* captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests. This index is part of Worldwide Governance Indicators. *Refugee Population by hosted country (head number)* is the total number of people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee like humanitarian status, and people provided temporary protection. *Gender Parity Index (Labour Force Participation Rate, Ages 15-64)* is the ratio of labour force participation rate, female, ages 15-64 to labour force participation rate, male, ages 15-64. A GPI of 1 indicates parity between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males, whereas a GPI greater than 1 indicates a disparity in favour of females. *Mobile cellular subscriptions (% of population)* are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of post-paid subscriptions and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services. *Mortality rate, under-5 (per 1,000 live births)* Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year. *Expected years of schooling (years)* is the sum of age-specific enrolment rates between ages 4 and 17. *Environmental Performance Index (0-100)* provides a data-driven summary of the country's environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. *Population density (people per sq. km of land area)* is midyear population divided by land area in square kilometres. *Legal origin* is classified based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). *East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa* are the classifications of geographic regions based on the World Bank. *GCC (Gulf Cooperation Council)* is a regional, intergovernmental political and economic union that consists of six Arab states, which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. *Income group* is a classification provided by the World Bank in which economies are divided into four income groups based on their GNI: low (< USD 1045), lower-middle (USD 1046-4095), upper-middle (USD 4096-12695), and high income (> USD 12696). *Climate classification* is an empirical climate classification system developed by German botanist-climatologist Wladimir Köppen based on a subdivision of terrestrial climates into five major types: tropical, dry, temperate, continental, and polar. *Madhab* is a school of thought within Islamic jurisprudence characterized by differences in the methods by which certain source texts are understood.

Figure 8. 1 SDI and IFDI score, mean by country

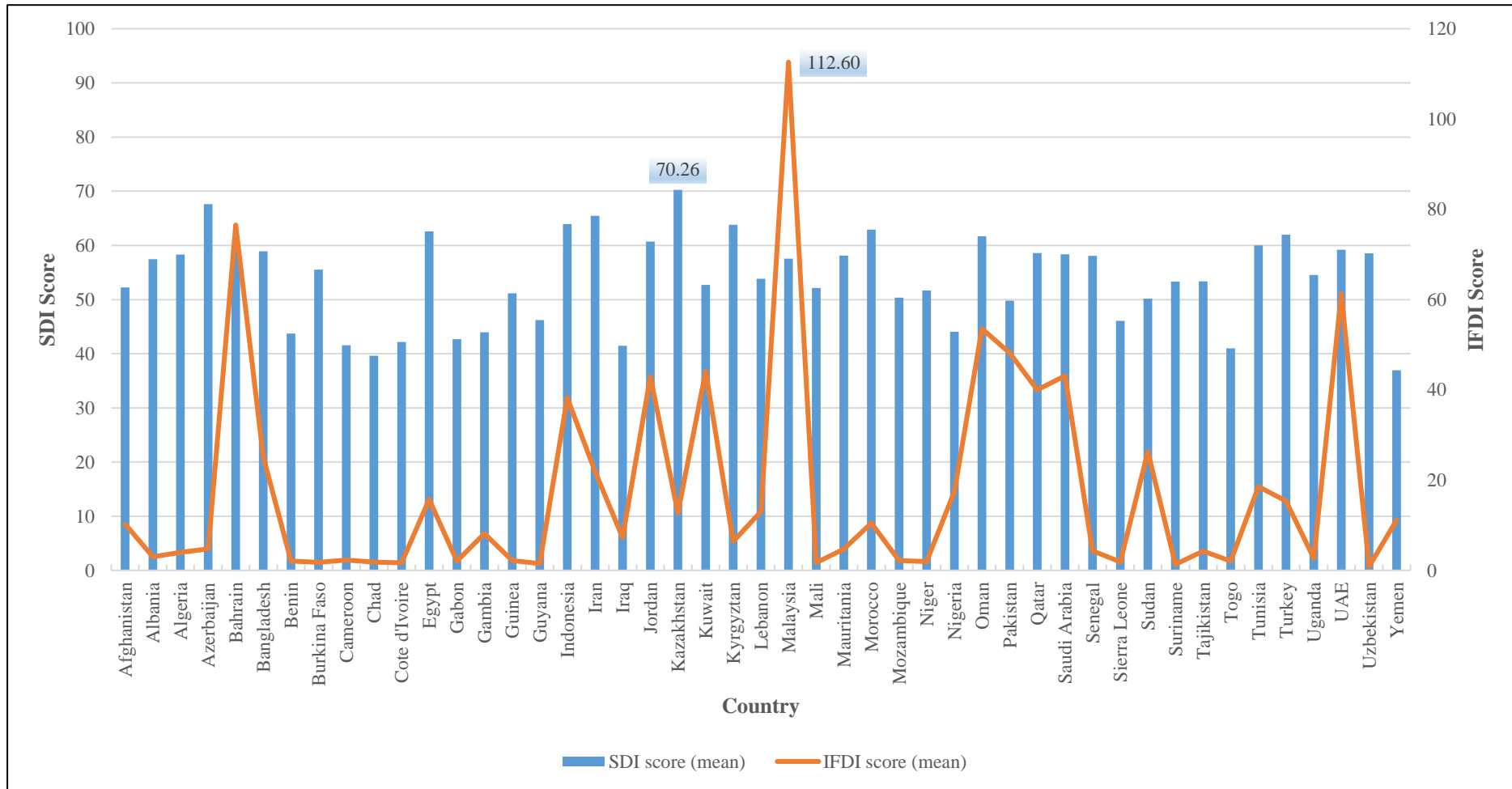


Figure 8. 2 SDI and IFDI score, mean by region and legal origin

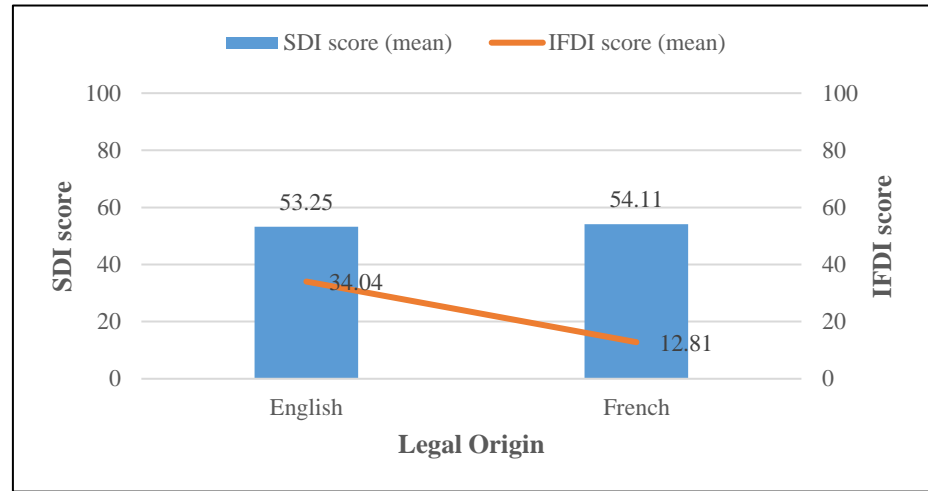
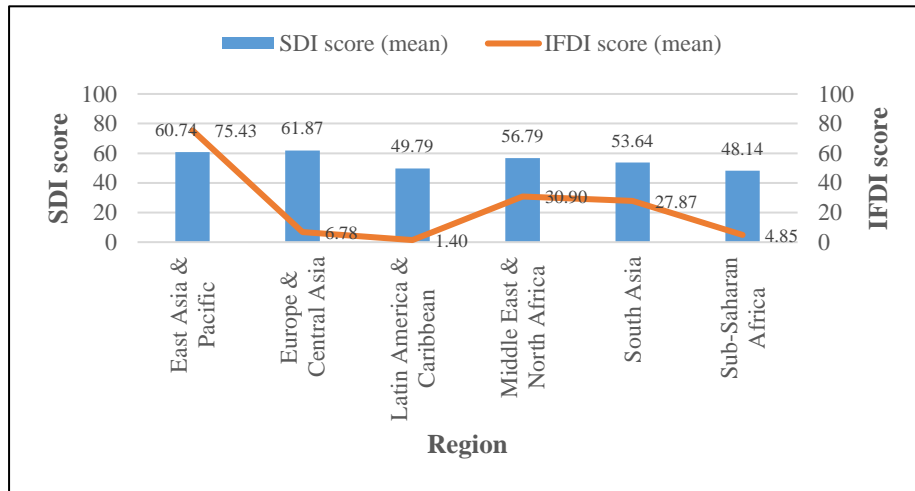


Figure 8. 3 SDI and IFDI score, mean by GCC/non-GCC and income group

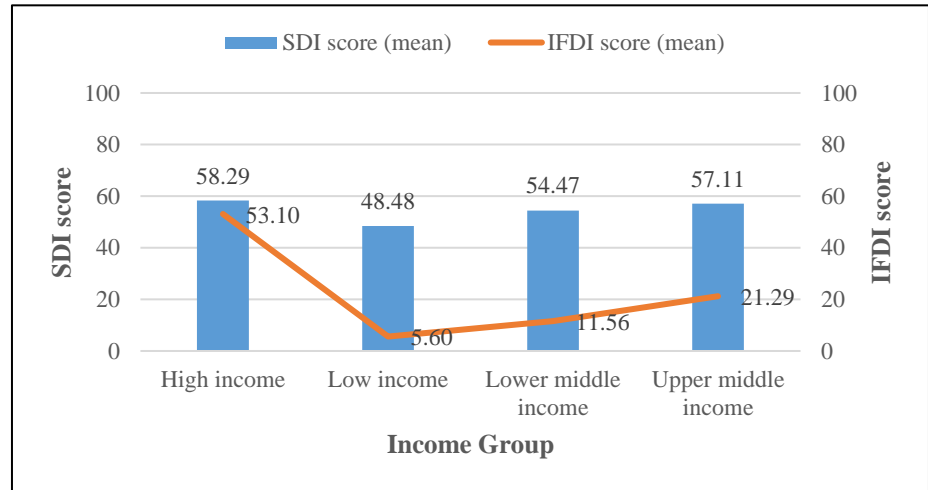
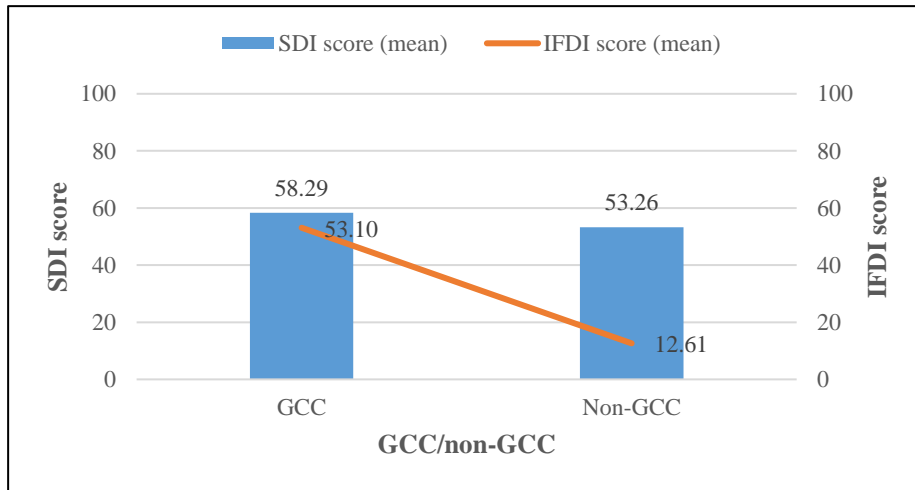
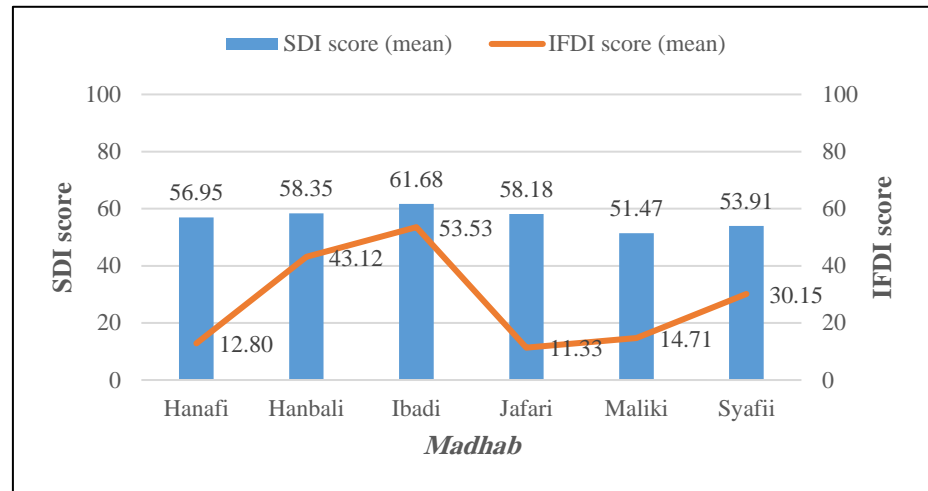
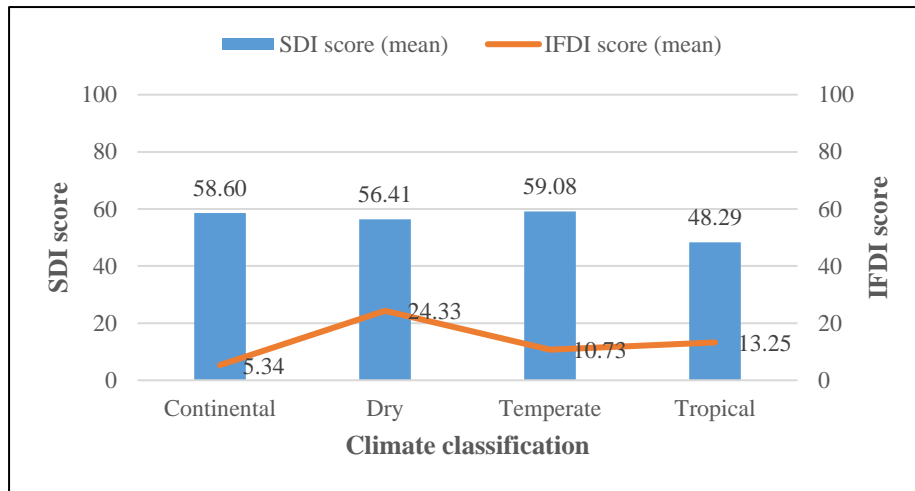


Figure 8. 4 SDI and IFDI score, mean by climate classification and Islamic school of thoughts (*Madhab*)



8.3 Univariate Results

Table 8.2 provides correlation statistics. The Pearson's correlation tests indicate that a significant correlation coefficient can be found between Continental and Remittances, with highly association (0.7866). In addition, GCC is also significantly related to the MENA (0.7626) as this is intuitively appropriate since all GCC countries are in the MENA region. Other variable, Gender Parity Index in the Labour Market Participation has also significantly negative correlation with the MENA region (0.7626).

Another correlation between variables occurred between GCC and Agriculture that is significantly negative correlation (-0.8114) as well as the same value of highly negative correlation occurred between High Income and Agriculture (-0.8114). This negative correlation could easily be understood as the desert (the Arabian desert) encompasses almost the entire Arabian Peninsula (2.3 million km²), which is the home of GCC countries, blanketing the area in sandy terrain, low rainfall, and seasonal winds that caused those countries struggling to process agricultural fields. In this correlation analysis, it is also noted that the education and health variables included are highly correlated, in which the Expected Years of Schooling is significantly related to the Mortality rate (-0.7461).

As presented in Table 8.2, a significant pair-wise correlation can also be found between Dry climates and Tropical climates (-0.7062). This correlation obviously understandable as deserts and steppes comprise the regions that are characterized by dry climates which have the opposite characteristics of Tropical climates. Lastly, the highest correlation of 0.8299 recorded between Sub-Saharan Africa and Child Mortality ratio as the unfortunate situation in the region. In order to deal with those correlations, the highly correlated variables mentioned above were used as a guidance in specifying the regression models. Therefore, the problem of multicollinearity is unlikely to be a major issue in this study.

Table 8. 2 Pearson correlation coefficients for key variables for SDI

<i>Variable</i>	1	2	3	4	5	6	7	8	9	10
1 SDI	1.0000									
2 Islamic finance development	0.2903***	1.0000								
3 GDP	0.3127***	0.615***	1.0000							
4 FDI	0.0557	-0.2233***	-0.3101***	1.0000						
5 Trade growth	0.1852***	-0.0460	-0.0377	0.0611	1.0000					
6 Unemployment	-0.0061	-0.0447	-0.0389	0.0211	-0.0466	1.0000				
7 Remittances	0.0334	-0.0902	-0.2717***	0.0423	-0.0198	0.1624***	1.0000			
8 Agriculture, forestry, and fishing	-0.2142***	-0.5957***	-0.3515***	0.1751***	0.1027*	0.1422***	0.1968***	1.0000		
9 Democracy	0.0670	-0.0867	-0.0743	0.1613***	0.1147**	0.0546	0.0179	0.1981***	1.0000	
10 Human rights protection	0.0644	-0.1447***	-0.4326***	0.2270***	0.0582	-0.1564***	-0.0176	-0.2252***	0.2935***	1.0000
11 Control of corruption	0.2654***	0.4204***	0.2142***	-0.0111	0.0298	-0.1825***	-0.2493***	-0.5837***	0.2421***	0.4924***
12 Refugee Population	-0.0705	0.2004***	0.2689***	-0.1962***	-0.0247	0.1243**	-0.0287	0.2283***	-0.0899	-0.5542***
13 Gender parity (labour force participation)	-0.1496***	-0.6002***	-0.4723***	0.3616***	0.1523***	-0.2899***	-0.0163	0.5618***	0.1866***	0.1424***
14 Mobile cellular subscriptions	0.2631***	0.4428***	0.2504***	-0.1344**	-0.0420	-0.0402	-0.1082**	-0.6584***	0.0815	0.3429***
15 Mortality rate	-0.4324***	-0.4851***	-0.4270***	0.0969*	0.0515	-0.1869***	-0.1202**	0.6518***	-0.0607	-0.1920***
16 Expected years of schooling	0.3741***	0.3549***	0.4141***	-0.0648	-0.0017	0.0909*	-0.0853	-0.5199***	0.0559	0.2214***
17 Environmental Performance	0.3923***	0.3004***	0.3278***	-0.0140	0.1023*	0.0848	0.0048	-0.4615***	0.0702	0.2235***
18 Population density	0.0504	0.4036***	0.2910**	-0.2047***	0.0450	-0.3055***	0.1444***	-0.2844***	0.0455	-0.1428***
19 English origin	-0.0295	0.2388***	0.1031*	-0.0255	0.0172	-0.3093***	-0.0877	-0.1960***	0.2933***	0.1348***
20 French origin	0.0295	-0.2388***	-0.1031*	0.0255	-0.0172	0.3093***	0.0877	0.1960***	-0.2933***	-0.1348**
21 East Asia (EA)	0.1165**	0.3110***	0.3430***	-0.0299	-0.0052	-0.1491***	-0.1288**	0.0104	0.3913***	0.0150
22 Europe & Central Asia (ECA)	0.2695***	-0.1477***	0.0524	0.1031*	0.0115	0.0746	0.4347***	0.0485	-0.1109**	-0.0257
23 Middle East & North Africa (MENA)	0.1599***	0.5175***	0.3830***	-0.2400***	-0.1533***	0.1206**	-0.0859	-0.6824***	-0.2555***	0.0378
24 South Asia (SA)	-0.0055	0.1934***	0.1853***	-0.1339**	0.0723	-0.0396	0.0253	0.1426***	0.0409	-0.3122***
25 Sub-Saharan Africa (SSA)	-0.3671***	-0.4870***	-0.5060***	0.1613***	0.1051**	-0.1469***	-0.1856***	0.5147***	-0.0095	0.0114
26 Latin America-Caribbean (LAC)	-0.0703	-0.3070***	-0.3257***	0.1760***	-0.0020	0.1409**	-0.0235	0.0679	0.3678***	0.2936***
27 Gulf Countries Cooperation (GCC)	0.1356**	0.5072***	0.2299***	-0.1314**	-0.0544	-0.3711***	-0.2520***	-0.8114***	-0.3050***	0.2589***
28 High income (HI)	0.1356**	0.5072***	0.2299***	-0.1314**	-0.0544	-0.3711***	-0.2520***	-0.8114***	-0.3050***	0.2589***
29 Low income (LI)	-0.2856***	-0.3316***	-0.5077***	0.1220**	0.0010	-0.0862	0.1198**	0.4771***	-0.2521***	-0.1993***
30 Upper middle income (UMI)	0.1605***	0.0537	0.1743	0.1014***	-0.0232	0.3468***	-0.0949*	-0.1444***	0.3028***	0.0739
31 Lower middle income (LMI)	0.0297	-0.0911*	0.1694***	-0.1253**	0.0614	0.0178	0.1569***	0.2562***	0.1784***	-0.0619
32 Tropical	-0.3422***	-0.3358***	-0.2975***	0.1948***	0.0825	-0.2246***	-0.1944***	0.3795***	0.2935***	0.1554***
33 Dry	0.1900***	0.3247***	0.2487***	-0.2188***	-0.0806	-0.0107	-0.1744***	-0.3850***	-0.4349***	-0.2192***
34 Temperate	0.1601***	0.0278	0.1649***	0.0082	0.0021	0.3318***	0.0648	-0.0233	0.2712***	0.1185
35 Continental	0.0801	-0.0492	-0.1793***	0.0636	-0.0007	0.0126	0.7866***	0.0868	-0.0721	-0.0238
36 Hanafi	0.1143*	-0.0366	0.1652***	0.0127	0.0632	0.2054***	0.4433***	0.0914*	0.0487	-0.2551***
37 Hanbali	0.0530	0.1747***	0.2463***	-0.0727	-0.0248	-0.0395	-0.1047**	-0.1633***	-0.2225***	-0.0991*
38 Ibadi	0.0927*	0.1987***	0.0233	-0.0132	-0.0203	-0.1320**	-0.1045*	-0.1895***	-0.0990*	0.1724***
39 Jafari	0.2154***	0.0484	0.1726***	0.0015	-0.0521	0.0477	-0.1099**	-0.0438	-0.2286***	-0.1247**
40 Maliki	-0.2314***	-0.1576***	-0.3145***	-0.1195**	0.0462	-0.1333**	-0.2745***	0.0136	-0.0805	0.2325***
41 Shafii	0.0000	0.0886	0.0269	0.1858***	-0.0964*	-0.0284	-0.0244	0.0339	0.3118***	0.0351
<i>Variable</i>	11	12	13	14	15	16	17	18	19	20

33	Dry	-0.1978	-0.0331	0.3639***	0.1039*	-0.2128***	-0.1978***	0.4078***	0.4078***	-0.0516	-0.1034*
34	Temperate	-0.0806	0.1981***	0.2852***	-0.0999*	-0.3014***	-0.0806	-0.1463***	-0.1463***	-0.2492***	0.1911***
35	Continental	-0.0444	0.5040***	-0.1443***	-0.055	-0.1661***	-0.0444	-0.0806	-0.0806	0.0932*	-0.1304**
36	Hanafi	-0.1304**	0.5429***	-0.1172**	0.4223***	-0.4872***	0.1053*	-0.2365***	-0.2365***	-0.1947***	0.2557***
37	Hanbali	-0.0311	-0.0617	0.2154***	-0.0385	-0.1162**	-0.0311	0.3854***	0.3854***	-0.0960*	-0.0912*
38	Ibadi	-0.0311	-0.0617	0.2154***	-0.0385	-0.1162**	-0.0311	0.3854***	0.3854***	-0.0960*	-0.0912*
39	Jafari	-0.0444	0.2079***	0.0818	-0.055	-0.1661***	-0.0444	-0.0806	-0.0806	-0.1373**	0.3409***
40	Maliki	-0.2064***	-0.4095***	-0.0311	-0.2556***	0.6297***	-0.2064***	0.1357**	0.1357**	0.2000***	-0.5102***
41	Shafii	0.5040***	-0.1750***	-0.03	-0.1092**	-0.0837	0.2079***	-0.1600***	-0.1600***	0.1196**	0.2757***

The correlations are based on 329 country-year observations (i.e., 47 countries with year observations from 2013 to 2019). The full sample consists of 329 country-year observations (i.e., 47 countries with year observations from 2013 to 2019) which are denoted as $n_{c,t}$. The dependent variable is the *Sustainable Development Index (SDI)* for the country's sustainable development performance measure, calculated based on the formula initiated by Leo and Barmeier (2010) for the MDGs Progress Index while following Schmidt-Traub et al. (2017)'s study for the SDGs Progress Index. *Islamic Finance Development Indicator (IFDI)* is a measurement of the overall development of the Islamic finance industry with the average score on five indicators: (i) *Quantitative development* (the number of Islamic banks, takaful, other Islamic financial institutions, sukuk, and funds); (ii) *Knowledge* (the number of educational institutions and research articles); (iii) *Governance* (the presence of regulation, *Shari'ah* Supervisory Board, and corporate governance); (iv) *Social responsibility* (the presence of CSR activities and distribution of funds through Charity, *zakat* and *qard hasan*); (v) *Market awareness* (the number of seminars, conferences, and news volume in Islamic finance), higher score corresponds to the better performance of development. The IFDI is calculated based on the study of the Islamic Corporation for the Development (a subdivision of Islamic Development Bank) and Thomson Reuters. *GDP PPP* is values for gross domestic product (GDP) expressed in US dollars, converted by purchasing power parity (PPP) conversion factor. *FDI (% of GDP)* is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. This data shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. *Trade growth rate (%)* is a growth rate of exports and imports of goods and services measured as a share of gross domestic product. *Unemployment (% of total labour force)* refers to the share of the labour force that is without work but available for and seeking employment. *Remittances received (% of GDP)* comprise personal transfers and the compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households. Personal transfers thus include all current transfers between resident and non-resident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by non-resident entities. *Agriculture, forestry, and fishing (% of GDP)* corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production with value-added data. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. *Democracy Index (0-10)* is a data report provided by The Economist Intelligence Unit based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. *Human rights protection score* provides a measure of the protection of the physical integrity of citizens. It aims to measure how a government protects its citizens' physical integrity by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances. Its values range from -3.8 to around 5.4. It is constructed from an econometric model with variable data from nine sources developed by Schnakenberg and Fariss (2014) *Control of corruption index (0-100)* captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests. This index is part of Worldwide Governance Indicators. *Refugee Population by hosted country (head number)* is the total number of people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee like humanitarian status, and people provided temporary protection. *Gender Parity Index (Labour Force Participation Rate, Ages 15-64)* is the ratio of labour force participation rate, female, ages 15-64 to labour force participation rate, male, ages 15-64. A GPI of 1 indicates parity between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males, whereas a GPI greater than 1 indicates a disparity in favour of females. *Mobile cellular subscriptions (% of population)* are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of post-paid subscriptions and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services. *Mortality rate, under-5 (per 1,000 live births)* Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year. *Expected years of schooling (years)* is the sum of age-specific enrolment rates between ages 4 and 17. *Environmental Performance Index (0-100)* provides a data-driven summary of the country's environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. *Population density (people per sq. km of land area)* is midyear population divided by land area in square kilometres. *Legal origin* is classified based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). *East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa* are the classifications of geographic regions based on the World Bank. *GCC (Gulf Cooperation Council)* is a regional, intergovernmental political and economic union that consists of six Arab states, which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. *Income group* is a classification provided by the World Bank in which economies are divided into four income groups based on their GNI: low (< \$1,034), lower-middle (\$1,035-\$4,045), upper-middle (\$4,046-12,535), and high income (> \$12,535). *Climate classification* is an empirical climate classification system developed by German botanist-climatologist Wladimir Köppen based on a subdivision of terrestrial climates into five major types: tropical, dry, temperate, continental, and polar. *Madhab* is a school of thought within Islamic jurisprudence characterized by differences in the methods by which certain source texts are understood. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

8.4 Multivariate Results

To investigate the determinants of sustainable development, the OLS and panel data analysis are performed on a full set of all geographical regions. Table 8.3 summarises the results of the OLS and panel data analyses (i.e., fixed effects and random effects).

The OLS result shows that the relationship between sustainable development index and Islamic finance development is somewhat expected in which it is found to be weakly significant at the 10% level (1.5212*). This indicates that there is some evidence to suggest that the development of the Islamic finance in OIC member countries is potentially an influencing factor in determining the level of sustainable development that is depicted by the SDI.

In addition, the OLS result also shows that the proportion of two economic factors, FDI and Trade growth, are highly significant at 1 % level (33.9568*** and 11.2662*** respectively) while the other economic factor, GDP, is significant at 5% level (1.9628**). Furthermore, the environmental factor (Environmental performance) is noted as significant at 5% level (0.1551**), whereas one of the social factors, Human rights protection, is in the predicted direction but only marginally significant at 10% level (1.7060*). The high significance of such economic factors indicates that macroeconomic factors are more dominant in influencing the sustainable development performance of OIC member countries compared to other factors. In addition, other variables such as Tropical countries and countries with Hanafi *madhab* majority are found negatively significant at 1% and 10% level, respectively.

On the other hand, although some variables are in the predicted direction, they are found to be statistically insignificant, including Unemployment (-31.8764), Agriculture, forestry, and fishing (42.0405), Democracy (0.5297), Control of corruption (0.0000), Refugee population (-0.0672), ICT development (2.3597), and Population density (-0.1252). In addition, countries that receive higher Remittances are also found negatively insignificant (-1.5093).

In terms of geographical region, it is noted that only countries located in Europe and Central Asia are found to be positive although insignificant. In addition, countries with low-, upper middle-, and lower middle-income countries are also found to have positive performance in sustainable development.

Table 8. 3 Multivariate results of sustainable development determinants

Independent variable	Exp. Sign	(1)	(2)	(3)
		OLS	Fixed effects	Random effects
<i>Islamic finance development</i>	+	1.5212* (1.8200)	0.2147 (0.2000)	1.4593 1.6100
<i>GDP</i>	+	1.9628** (2.3800)	0.0236 (0.0000)	2.2800 1.8300
<i>FDI</i>	+	33.9568*** (2.9300)	38.3325** (2.2000)	29.0577 1.9500
<i>Trade growth rate</i>	+	11.2662*** (3.9400)	5.8615* (1.9300)	9.4924 3.1000
<i>Unemployment</i>	-	-31.8764 (-1.5200)	34.6366 (0.4900)	-27.0435 -1.0900
<i>Remittances</i>	+	-1.5093 (-0.1100)	25.0537 (0.6600)	7.4358 0.4000
<i>Agriculture, forestry, and fishing</i>	+	42.0405 (0.3000)	-909.4302*** (-2.2000)	-48.2688 -0.2800
<i>Democracy</i>	+	0.5279 (0.7800)	4.8413** (2.0200)	0.8216 0.8500
<i>Human rights protection</i>	+	1.7060* (1.7000)	-1.8610 (-0.8600)	1.2767 0.9200
<i>Control of corruption</i>	+	0.0000 (0.0000)	-0.2819** (-2.1200)	-0.0015 -0.0200
<i>Refugee population</i>	-	-0.0672 (-0.2200)	-2.3943** (-1.9900)	-0.2879 -0.6100
<i>ICT infrastructure</i>	+	2.3597 (0.8700)	-7.4511 (-1.5000)	-0.9334 -0.2600
<i>Environmental performance</i>	+	0.1551** (2.5500)	0.0480 (0.7500)	0.1741 2.9700
<i>Population density</i>	-	-0.1252 (-0.1700)	76.0340*** (5.2500)	-0.1417 -0.1300
<i>French</i>		1.1729 (0.6100)		1.9704 0.6900
<i>East Asia</i>		-6.3497 (-0.8300)		-6.2479 -0.7100
<i>Europe & Central Asia</i>		1.5192 (0.2400)		0.9838 0.1200
<i>Middle East & North Africa</i>		-5.7560 (-0.8400)		-6.7466 -0.7400
<i>South Asia</i>		-1.1217 (-0.1400)		-0.2767 -0.0300
<i>Sub-Saharan Africa</i>		-6.5059 (-0.9800)		-5.7267 -0.7800
<i>Low income</i>		8.2246 (1.4500)		7.6182 0.8900
<i>Upper middle income</i>		6.4181 (1.3400)		6.0405 0.8200
<i>Lower middle income</i>		6.7321 (1.4100)		6.0873 0.8100
<i>Tropical</i>	-	-8.0922*** (-3.4800)		-8.0248 -2.5200
<i>Hanafi</i>	+	-4.3231* (-1.8700)		-5.2371 -1.5000
<i>CONSTANT</i>		-8.3215 (-0.390)	-227.4928 -1.8100	-11.2732 -0.3700
<i>R2</i>		0.3718		
<i>Joint test statistic (regression)</i>		9.9400	5.8400	100.43
<i>Corr (μ_i, x)</i>			-0.9961	0.0000
<i>F-statistic (all $\mu_i = 0$)</i>			3.8400***	
<i>Hausman test FE vs RE (χ^2)</i>			55.5800***	
<i>R2 within</i>			0.2338	0.0945
<i>R2 between</i>			0.0061	0.7257
<i>R2 overall</i>			0.0045	0.3661

The full sample consists of 329 country-year observations (i.e., 47 countries with year observations from 2013 to 2019) which are denoted as n_{ct} . The dependent variable is the **Sustainable Development Index (SDI)** for the country's sustainable development performance measure, calculated based on the formula initiated by Leo and Barmeier (2010) for the MDGs Index while following Schmidt-Traub et al. (2017)'s study for the SDGs Progress Index. **Islamic Finance Development Indicator (IFDI)** is a measurement of the overall development of the Islamic finance industry with the average score on five indicators: (i) *Quantitative development* (the number of Islamic banks, takaful, other Islamic financial institutions, sukuk, and funds); (ii) *Knowledge* (the number of educational institutions and research articles); (iii) *Governance* (the presence of regulation, *Shari'ah* Supervisory Board, and corporate governance); (iv) *Social responsibility* (the presence of CSR activities and distribution of funds through Charity, *zakat* and *qard hasan*); (v) *Market awareness* (the number of seminars, conferences, and news volume in Islamic finance), higher score corresponds to the better performance of development. The IFDI is calculated based on the study of the Islamic Corporation for the Development (a subdivision of Islamic Development Bank) and Thomson Reuters. **GDP PPP** is values for gross domestic product (GDP) expressed in US dollars, converted by purchasing power parity (PPP) conversion factor. **FDI (% of GDP)** is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. This data shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. **Trade growth rate (%)** is a growth rate of exports and imports of goods and services measured as a share of gross domestic product. **Unemployment (% of total labour force)** refers to the share of the labour force that is without work but available for and seeking employment. **Remittances received (% of GDP)** comprise personal transfers and the compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households. Personal transfers thus include all current transfers between resident and non-resident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by non-resident entities. **Agriculture, forestry, and fishing (% of GDP)** corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production with value-added data. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. **Democracy Index (0-10)** is a data report provided by The Economist Intelligence Unit based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. **Human rights protection score** provides a measure of the protection of the physical integrity of citizens. It aims to measure how a government protects its citizens' physical integrity by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances. Its values range from -3.8 to around 5.4. It is constructed from an econometric model with variable data from nine sources developed by Schnakenberg and Fariss (2014) **Control of corruption index (0-100)** captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests. This index is part of Worldwide Governance Indicators. **Refugee Population by hosted country (head number)** is the total number of people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee like humanitarian status, and people provided temporary protection. **Mobile cellular subscriptions (% of population)** are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of post-paid subscriptions and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services. **Environmental Performance Index (0-100)** provides a data-driven summary of the country's environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. **Population density (people per sq. km of land area)** is midyear population divided by land area in square kilometres. **Legal origin** is classified based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). **East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa** are the classifications of geographic regions based on the World Bank. **Income group** is a classification provided by the World Bank in which economies are divided into four income groups based on their GNI: low (< \$1,034), lower-middle (\$1,035-\$4,045), upper-middle (\$4,046-12,535), and high income (> \$12,535). **Climate classification** is an empirical climate classification system developed by German botanist-climatologist Wladimir Köppen based on a subdivision of terrestrial climates into five major types: tropical, dry, temperate, continental, and polar. **Madhab** is a school of thought within Islamic jurisprudence characterized by differences in the methods by which certain source texts are understood. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

Since there are arguments that OLS results may be biased due to the failure to control time-invariant heterogeneity (see, for example, Bevan & Danbolt, 2004), the result of panel data analysis is therefore conducted for the present study.

This argument is confirmed where, based on the fixed effects (FE) estimate, it is showed that one could reject the null hypothesis of no unobservable time-invariant country-specific effects (i.e., $\mu_i = 0$) in the sample, at less than 1% level [F-statistic= 3.8400***]. In order to choose between the fixed effects and the random effects, as discussed by Baltagi (2008, p. 19), the formal Hausman specification test for fixed versus random effects panel estimation is performed where it could reject the null hypothesis that difference in coefficients is not systematic (or random) and thus the fixed effects methods are preferred for the regression tests of panel data analysis.

However, as the results suggest, it appears that the result of fixed effects, as shown in the joint F-test [F(46,268)=3.84, Prob> F=0000], is inconsistent with the OLS result for the majority of variables, except for FDI and Trade growth. For instance, Islamic finance development is no longer significant although the predicted direction remains positive. Similar results are also shown at other social, economic, and environmental variables.

Based on the presented OLS and fixed effects results, it can be argued that the effect of Islamic finance development towards the sustainable development performance within OIC member countries is rather weak and unclear. This is consistent with T. Khan (2019) that the performance of Islamic finance development was absent from the sustainable development agenda (MDGs or SDGs) within OIC member countries. Accordingly, T. Khan (2019) suggests that the role of Islamic finance could be optimised by paradigmatic and regulatory reform, government support as well as more advanced surveillance.

Conceptually, Islamic finance should be more than financial contracts within the framework of IME, as it represents a comprehensive approach to funding a society in which Islamic axioms such as *tawhid*, *'adalah*, *rububiyah*, and *tazkiyah* directly allude to sustainable development. In contrast to the theoretical underpinning, however, the panel data indicate that the purpose of Islamic finance as a financial instrument for IME is not fully met, since the influence of Islamic finance performance has been very modest. This evidence, as discussed by numerous scholars such as Asutay (2007) and Miah and Suzuki (2020), may be attributable to a variety of factors,

such as the fact that IFIs prefer debt-based financing over profit and loss sharing (PLS) mode of financing, poor corporate governance performance, failures in social responsibility, and so on.

Additionally, the following section discusses the results of OLS and panel data analysis in greater detail.

8.4.1 Islamic finance development variable

On the possible empirical relationship between Islamic finance and sustainable development, the evidence is not supporting that Islamic finance has an impact considerably on the sustainable development, as measured by SDI in the panel data analysis. This is not surprising in the light of the extant evidence presented in several prior studies.

Z. Iqbal and Mirakhor (2013) posit that Islamic finance activities insert morality and social justice into the core of societal development. However, they found empirically no real correlation between sustainable development and Islamic finance. Although, they argued that such finding could be driven by many factors, including the practice of corruption, unrepresentative, and oppressive governments in the countries with the existing Islamic finance industry. Moreover, the insufficient condition of OIC member countries in such sustainable development indices has been criticised by H. Ahmed (2011) as Islamic finance has neglected its substance which is enhancing social function. Consequently, the Islamic finance industry is trying to replicate the conventional products to serve the market pragmatically instead of aiming to invest in social welfare, hence, focusing only on economic growth rather than promoting a more comprehensive development (Asutay, 2012).

Furthermore, Asutay (2007) and El-Gamal (2006) criticised that since the IME provides the moral base for Islamic finance, it is expected that Islamic finance works within the moral framework suggested by the Islamic moral economy. However, the current practice of Islamic finance indicates that the practice has deviated from the expectations of the 'Islamic moral economy'. This phenomenon is observed in terms of social responsibility areas but also developmental objectives as it has been, according to Asutay (2007), largely ignored.

Highlighting the unavailability of Islamic finance in achieving sustainable development, T. Khan (2019) suggests that revolutionary changes must be done by Muslim majority countries in order to strengthen sustainable development by facilitating a shifting paradigm from the economic objective to ecological economy, transforming global financial architecture, developing synchrony between *Maqasid al-Shari'ah*, national goals and SDGs, reforming *Shari'ah* governance, and enhancing control and management system of the Islamic finance industry.

8.4.2 Other explanatory variables

As for the remaining explanatory variables, this study observes a positive relationship between GDP and sustainable development across SDI with a significant level at 5 % in the OLS regression and positively not significant in the panel data analysis. This result also indicates that although the effect of GDP towards the sustainable development performance is positive, it remains weak and unclear.

A positive finding of GDP in the OLS result is consistent with numerous works by scientists and experts advocating for the use of the gross domestic product (GDP) as the primary indicator of national prosperity. It has been reaffirmed by academics from a variety of disciplines, ranging from ecological economics (i.e., Costanza, 2014; Costanza, 2020) to political science and sociology (i.e., Fioramonti, 2013; Fioramonti, Coscieme, & Mortensen, 2019; R. G. Wilkinson, Pickett, & De Vogli, 2010), as well as echoed by Nobel laureates in economics (i.e., Krugman, 2018; Stiglitz et al., 2009). However, GDP cannot be the sole indicator of prosperity Fioramonti (2013) and the current agenda for sustainable development goes beyond GDP (Fleurbaey & Blanchet, 2013; Svenfelt et al., 2019)

In relation to the widely used GDP, Fioramonti (2013) emphasised that GDP is not only used as an economic metric but also as a tool for society's performance assessment. Countries are ranked according to their GDP, international organisations and investors evaluate governments' policies in terms of GDP, and politicians and businesses are evaluated on their success in promoting GDP growth. This statistic has developed considerable institutional power, serving as the econometric foundation for an economic model based on industrial production, large corporations, and mass consumption, which is increasingly being questioned.

Having said that, the supremacy of GDP utilisation for prosperity measurement is being eroded not only in the scientific community but also in policy circles, public debate, and the international development agendas. At the global level, for instance, the climate change negotiations that resulted in the Paris Agreement, and more specifically, the United Nations 2030 Agenda and the SDGs, provide a roadmap for development that is based on the interconnectedness of social, economic, and environmental dynamics and points toward the indivisibility of human and ecosystem wellbeing.

As far as the FDI variable is concerned, the findings seem to support the importance of FDI –as part of economic variable– on sustainable development with positive significance in both panel data and OLS analysis (at 1%). It is evident that the relationship between SDI and FDI in a positive direction supports the previous evidence that emphasizing the mobilisation capital for MDGs and SDGs investment is critical for all countries. This finding is consistent with Borensztein et al. (1998) and Malikane and Chitambara (2017a) that found a positive effect of FDI on economic growth and development when the host country possesses a certain level of human capital. On the contrary, this study's finding those of Shahbaz, Balsalobre-Lorente, and Sinha (2019) and Abdouli and Hammami (2020) who conclude that the relationship between FDI and sustainability, particularly environmental sustainability (as measured by CO₂ emissions), is consistent with the environmental Kuznets curve hypothesis; FDI contribution towards CO₂ emission is high, resulting that countries with higher FDI tend to exploit the environment.

Regarding the role of the Trade growth variable, it appears that the OLS estimate shows a statistically significant positive correlation between sustainable development performance and trade growth rate at a 1% level. Although, it only shows marginal influence (at 10%) under the panel data method.

The result of this study is consistent with the findings of many studies in which cultivating incentives to invest in tradable activities is a key factor determining an economy's growth potential and performance, although numerous countries that have pursued trade liberalization have not been able to leverage it for development. Along with foreign direct investment (FDI), trade growth is considered as a source of technology and knowledge, as well as mechanisms whereby firms can specialise in activities in which they have a comparative advantage. According to Hoekman (2017), the experience of many countries such as Indonesia,

Bangladesh, and Pakistan demonstrates how effective global integration can be as a core element of sustainable development where trade has been a driver of growth to greatly increase per capita incomes and reduce poverty. Hoekman (2017) also added that the boom in global trade is a result of innovation, outward-oriented strategies, and economic policy freedom.

While the trade environment is universally recognised as critical to development, there is considerable disagreement regarding how the two are related (Page, 2006). Trade policy is also inextricably linked to the sustainability agenda, and the international trade system—as one of the more legalised spheres of global governance—is frequently referred to as a stabilising force. For many years, the Doha Development Agenda, launched in 2001, has remained dormant. There was widespread support for the WTO among major powers (established economies and emerging powers) but sharp disagreement over how it should develop (J. Scott, 2015). Accordingly, contemporary issues in global trade and sustainable development, according to R. Wilkinson et al. (2014) focused on the relationship between trade and environmental sustainability, the role and nature of ‘trade aid’, the application of the principle of ‘special and differential treatment’, and the perennial issue of developed states’ agricultural policies, the importance of trade policy coherence for development, and so on. Several scholars (i.e., E. Holden, Linnerud, & Banister, 2017; Meunier & Nicolaïdis, 2006; Young & Peterson, 2013) have emphasised the importance of a neoliberal approach in enhancing trade in achieving sustainable development. Thus, neoliberal trade policy is necessary as a precondition for improved trade performance toward sustainable development (De Ville & Orbie, 2011; Siles-Brügge, 2014).

With regard to the relationship between good governance and sustainable development, the coefficient of Democratic institutions is positively and significantly correlated at a 5% level in the panel data analysis, while it remains positive but insignificant in the OLS result. This result indicates that countries with more vital democratic institutions inhibit a better performance of sustainable development. This finding corroborates the findings of Halperin et al. (2010), who discovered that democracy and civil liberties promote economic and societal development.

Further research showed that civil liberties, as a core of democracy, increase equality and people’s income (Oztig & Donduran, 2020) and that countries with greater civil liberties and political freedoms show higher levels of economic and environmental quality (S. Barrett & Graddy, 2000; S. Dasgupta & De Cian, 2018). Further research has demonstrated that

democracy and civil liberties increase equality and people's income (Oztig & Donduran, 2020) and that countries with more civil liberties and political freedoms have higher levels of environmental quality (S. Barrett & Graddy, 2000; S. Dasgupta & De Cian, 2018). Additionally, democracy has been asserted to interpret economic growth more effectively into higher quality of development than autocracies (Blaydes & Kayser, 2011) and to result in greater environmental commitment (Neumayer, 2002).

The relationship between democracy and development is also reviewed based on median voter theory developed by Meltzer and Richard (1981) stated that democratic institutions such as universal suffrage and regular pluralist elections lead to more equal economic and social outcomes as a result of electorate pressure. Furthermore, in accordance with Sen's development theory, leaders are assumed to act in the public interest if they are elected by informed citizens who hold them accountable for their actions if they face opposition in a competitive political process, and if they are subject to a system of checks and balances (Norris, 2012; Sen, 1999; Siegle et al., 2004).

Although showing expected direction consistently at both OLS and panel data analysis, two variables, Refugee population and Environmental performance, show mixed effects on the sustainable development of OIC countries. Based on panel data analysis, the finding of Refugee population variable (negatively significant at 5% level) is consistent with the finding of Verme and Schuettler (2021), arguing that several economic variables such as the labour market, wages, and local prices were negatively affect the local residents of the hosting country. However, the finding of this study contradicts E. Taylor et al. (2016) that identify significant positive effects for host residents living within a 10-kilometer radius of cash camps that could positively affect their per capita income as refugees tend to purchase goods and services from resident-owned businesses located outside the camps. (E. Taylor et al., 2016).

In terms of Environmental performance, although found positively significant at 5% level in the OLS, it is not significant at the panel data analysis. As discussed by many studies (i.e, M. Ahmad et al., 2021; Ehigiamusoe & Lean, 2019; K. Li et al., 2021), environmental performance is critical and even the core pillar of sustainability. Accordingly, they emphasize that the persistent increase in global CO₂ emissions continues to be a source of concern for policymakers, particularly in light of the negative effects of climate change on global economic growth and sustainable development.

Tropical variable is found negatively significant at 1% level (-8.0922***), indicating that OIC countries with Tropical climate classification are negatively associated with sustainable development performance. This finding is similar with Gallup et al. (1999)'s study where he found that GNP per capita in tropical countries is low and tropical climate has a detrimental effect on people's health and agricultural productivity. In addition, Gallup et al. (1999) conclude that geographically tropical countries are poor, while almost all central and high latitude countries are wealthy. Similarly, McMillan and Masters (2000) emphasise the beneficial effects of winter freezes on agricultural productivity and overall development, whereas tropical countries saw the opposite effect.

With regards to the remaining variables (Unemployment, Remittances, Agriculture, Human rights protection, Control of corruption, ICT development, and Population density), it is shown that the impacts of these variables are mixed and contradictory between OLS and panel data analysis as shown in this study.

8.5 Robustness Check: Sub-sample Analysis Using GCC Countries

In this section, a sub-sample test is conducted to examine the robustness of the results obtained in this chapter as follows:

For robustness purposes, this study also employs sub-sample analysis. In the primary analysis, we pooled all sustainable development determinants along with the combined all-region variables (East Asia, Europe and Central Asia, Middle East and North Africa, South Asia, and Sub-Saharan Africa) in one single regression to identify the effect of explanatory variables on sustainable development. Instead of using all region variables, this study employed one new entity variable in the shape of intergovernmental political and economic union within OIC member countries called the Gulf Cooperation Council (GCC). This regional organisation consists of six OIC countries which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The results and discussions are explained in the following sub-sections.

In recent decades, the GCC region has enjoyed prosperity and sustained above-average growth. Economic, human, and social advancements are expected to continue at a rapid pace in the

coming years, as they may serve as critical tools for achieving sustainable development. By contrast, other OIC regions may lack the financial resources necessary to embrace sustainability gradually and selectively. Even when comparing the GCC's situation to that of the rest of the Arab world, Morocco, for example, has set a renewable energy target of more than 50% by 2030, far more ambitious than any other GCC country. Additionally, for countries such as Lebanon, providing adequate food and primary education to growing populations, including large numbers of refugees, is a significant challenge that motivates projects utilising innovations such as urban agriculture (Albakri & Shibli, 2019; Dehnavi & Süß, 2019). On the contrary, access to food, energy, and water, as well as other basic necessities such as public employment and decent wages, has always been a prerogative of GCC citizens. Compared to other regions within the OIC, the average GCC countries' GDP per capita is far higher where the lowest average GDP per capita (2013-2019) was Oman at USD 17,248, and the highest was Qatar at USD 70,089. In contrast, the average (2013-2019) GDP per capita of non-GCC countries started from USD 439 (Niger) up to only USD 10,806 (Turkey). According to the World Bank's income group classification, therefore, only those GCC countries are classified as high-income level countries within the OIC.

In the earlier analysis, the study employs a combination of all-region variables (East Asia, Europe and Central Asia, Middle East and North Africa, South Asia, and Sub-Saharan Africa) and all World Bank's income group classification (high income, upper-middle income, lower middle income and low income) in one single regression to identify the effect of explanatory variables on sustainable development. Therefore, for robustness purposes, this section employs GCC or non-GCC countries variables to replace region and income group variables.

The pooled model in Table 8.4 generally supports the notion of social, economic and environmental factors which have an influence on sustainable development in two global development frameworks: MDGs and SDGs. These warrant subsample analysis to shed light on potential reasons and statistical influence. The regression models similar to those in Table 8.3 are rerun with this alternative economic and political organisation as the independent variable. These indicators regression specifications, which focus on the GCC impact, are helpful since economic progression is still the essential factor to achieve sustainable development goals (Sachs, 2016). Accordingly, pointing out the GCC factor and its relationship with the sustainable development framework is necessary for explicitly explaining

the impact of high income and more advanced economic factors toward sustainable development.

The results are reported in Table 8.4 where sub-sample analysis is mainly consistent with the main results; only a few variables support the notion that economic (i.e., GDP, FDI, trade growth), social (i.e., gender equality), environment (i.e., environmental performance), geographical condition (i.e., climate), health quality (i.e., child mortality), education (i.e., expected years of schooling) as well as good governance dimensions (i.e., human right protection) matters in sustainable development. Furthermore, by only examining GCC variable as geographical and income level based independent variable, it appears that OLS estimates of sub-sample analysis is similar to that prior OLS estimates of complete set analysis using all regions and income levels in the main results.

Table 8. 4 Multivariate results of sustainable development determinants (sub-sample)

Independent variable	Exp. Sign	OLS		Fixed effects		Random effects	
		(1)	(2)	(3)	(4)	(5)	(6)
<i>Islamic finance development</i>	+	1.7240** (2.4500)	1.8335*** (2.5800)	-0.0872 (-0.0800)	0.1214 (0.1100)	1.6826** (2.1300)	1.7378** (2.1500)
<i>GDP</i>	+	1.4274** (2.4500)	1.1513* (1.8100)	12.8534** (2.0400)	0.8061 (0.1400)	1.5190* (1.8400)	1.1930 (1.3100)
<i>FDI</i>	+	22.8941* (1.9600)	29.1717** (2.5200)	34.9049** (2.0100)	39.2299** (2.2100)	21.4975 (1.4900)	25.8405* (1.7600)
<i>Trade growth rate</i>	+	11.4504*** (4.0600)	11.1532*** (3.9100)	6.6074** (2.2200)	6.3775** (2.1000)	10.0143*** (3.3600)	9.7438*** (3.2700)
<i>Unemployment</i>	-	-35.3928 (-1.5000)	-45.0770* (-1.8100)	65.5307 (0.9400)	50.1945 (0.7100)	-30.3586 (-1.3100)	-39.7967 (-1.5800)
<i>Remittances</i>	+	2.1722 (0.2000)	5.4157 (0.5000)	59.1805 (1.5700)	40.6216 (1.0600)	4.9532 (0.3500)	9.4367 (0.6300)
<i>Agriculture, forestry, and fishing</i>							
<i>Democracy Index</i>	+	0.1742 (0.3000)	0.2146 (0.3600)	3.4559 (1.4700)	3.9119 (1.6300)	0.4157 (0.5400)	0.4798 (0.5900)
<i>Human rights protection</i>	+	0.4410* (0.4700)	0.7254 (0.8200)	-4.1009* (-1.8800)	-1.9264 (-0.8900)	0.2781 (0.2400)	0.3772 (0.3100)
<i>Control of corruption</i>	+	0.0151 (0.3100)	0.0144 (0.3000)	-0.0623 (-0.4600)	-0.2091 (-1.5900)	0.0039 (0.0600)	0.0062 (0.0900)
<i>Refugee population</i>	-	-0.2860* (-1.0300)	-0.2164 (-0.7600)	-2.2176* (-1.8900)	-2.2373* (-1.8700)	-0.3110 (-0.8600)	-0.2503 (-0.6600)
<i>ICT: mobile cellular subscriptions</i>	+	-0.8842 (-0.3100)	0.3380 (0.1200)	-1.9367 (-0.3700)	-10.8479** (-2.0800)	-2.4390 (-0.7700)	-1.9595 (-0.6100)
<i>Environmental performance</i>	+	0.0852 (1.5400)	0.1057** (1.9400)	0.0823 (1.3000)	0.0370 (0.5800)	0.1168** (2.0500)	0.1328** (2.3600)
<i>Population density</i>	-	-0.7612*** (-1.4100)	-0.7897 (-1.4800)	114.3302*** (6.4800)	60.2156*** (4.0200)	-0.7247 (-1.0300)	-0.7743 (-1.0400)
<i>French</i>		-0.4274 (-0.2600)	-1.0480 (-0.6100)			-0.1547 (-0.0700)	-0.9870 (-0.4000)
<i>Tropical</i>	+	-9.5051*** (-5.2600)	-10.8127*** (-5.9500)			-9.4179*** (-4.3700)	-10.8387*** (-4.6800)
<i>Hanafi</i>	+	-2.3380 (-1.3000)	-1.3770 (-0.7800)			-2.7061 (-1.1300)	-2.0623 (-0.8500)
<i>Gender Parity Index (Labour Force Participation Rate)</i>	+	10.1687**	5.0012	36.4763	39.8085	11.1425**	6.0750

Independent variable	Exp. Sign	OLS		Fixed effects		Random effects	
		(1)	(2)	(3)	(4)	(5)	(6)
Child mortality rate	-	(2.4900) -0.1052*** (-3.7000)	(1.1100)	(0.9500) 0.9939*** (4.1100)	(1.0100)	(2.2400) -0.1060*** (-2.8500)	(1.1500)
Expected years of schooling	+		1.1213*** (3.2400)		3.5787** (2.2600)		1.2939*** (2.6900)
GCC		-8.5709** (-2.0600)	-10.8473** (-2.5200)			-6.4589 (-1.1400)	-8.5872 (-1.4000)
CONSTANT		21.8849 (1.1600)	11.9940 (0.6800)	(-813.7216 (-4.6000)***	-264.7611 (-2.1400)**	17.7707 (0.7500)	8.3719 (0.3500)
R2		0.3848	0.3789				
Joint test statistic (regression)		12.5800	12.1400	6.5500	5.5300	127.6300	117.1500
Corr (μ_i, x)				-0.9982	-0.9935	0.0000	0.0000
F-statistic (all $\mu_i = 0$)				3.7600	3.7000		
Hausman test FE vs RE (χ^2)				59.7600	61.5000		
R2 within				0.2668	0.2730	0.0993	0.1108
R2 between				0.0017	0.0050	0.7570	0.7255
R2 overall				0.0002	0.0045	0.3826	0.3751

The sub-sample consists of 329 country-year observations (i.e., 47 countries with year observations from 2013 to 2019) which are denoted as n_t . The dependent variable is the *Sustainable Development Index (SDI)* for the country's sustainable development performance measure, calculated based on the formula initiated by Leo and Barmeier (2010) for the MDGs Index while following Schmidt-Traub et al. (2017)'s study for the SDGs Progress Index. *Islamic Finance Development Indicator (IFDI)* is a measurement of the overall development of the Islamic finance industry with the average score on five indicators: (i) *Quantitative development* (the number of Islamic banks, takaful, other Islamic financial institutions, sukuk, and funds); (ii) *Knowledge* (the number of educational institutions and research articles); (iii) *Governance* (the presence of regulation, *Shari'ah* Supervisory Board, and corporate governance); (iv) *Social responsibility* (the presence of CSR activities and distribution of funds through Charity, *zakat* and *qard hasan*); (v) *Market awareness* (the number of seminars, conferences, and news volume in Islamic finance), higher score corresponds to the better performance of development. The IFDI is calculated based on the study of the Islamic Corporation for the Development (a subdivision of Islamic Development Bank) and Thomson Reuters. *GDP PPP* is values for gross domestic product (GDP) expressed in US dollars, converted by purchasing power parity (PPP) conversion factor. *FDI (% of GDP)* is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. This data shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. *Trade growth rate (%)* is a growth rate of exports and imports of goods and services measured as a share of gross domestic product. *Unemployment (% of total labour force)* refers to the share of the labour force that is without work but available for and seeking employment. *Remittances received (% of GDP)* comprise personal transfers and the compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from non-resident households. Personal transfers thus include all current transfers between resident and non-resident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not residents and of residents employed by non-resident entities. *Agriculture, forestry, and fishing (% of GDP)* corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production with value-added data. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. *Democracy Index (0-10)* is a data report provided by The Economist Intelligence Unit based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. *Human rights protection score* provides a measure of the protection of the physical integrity of citizens. It aims to measure how a government protects its citizens' physical integrity by taking into account torture, government killing, political imprisonment, extrajudicial executions, mass killings and disappearances. Its values range from -3.8 to around 5.4. It is constructed from an econometric model with variable data from nine sources developed by Schnakenberg and Fariss (2014) *Control of corruption index (0-100)* captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests. This index is part of Worldwide Governance Indicators. *Refugee Population by hosted country (head number)* is the total number of people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organisation of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee like humanitarian status, and people provided temporary protection. *Gender Parity Index (Labour Force Participation Rate, Ages 15-64)* is the ratio of labour force participation rate, female, ages 15-64 to labour force participation rate, male, ages 15-64. A GPI of 1 indicates parity between the sexes; a GPI that varies between 0 and 1 typically means a disparity in favour of males, whereas a GPI greater than 1 indicates a disparity in favour of females. *Mobile cellular subscriptions (% of population)* are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of post-paid subscriptions and the number

of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging and telemetry services. **Mortality rate, under-5 (per 1,000 live births)** Under-five mortality rate is the probability per 1,000 that a new born baby will die before reaching age five, if subject to age-specific mortality rates of the specified year. **Expected years of schooling (years)** is the sum of age-specific enrolment rates between ages 4 and 17. **Environmental Performance Index (0-100)** provides a data-driven summary of the country's environmental health and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. **Population density (people per sq. km of land area)** is midyear population divided by land area in square kilometres. **Legal origin** is classified based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). **East Asia, Europe and Central Asia, Middle East & North Africa, South Asia, Latin America and Sub-Saharan Africa** are the classifications of geographic regions based on the World Bank. **GCC (Gulf Cooperation Council)** is a regional, intergovernmental political and economic union that consists of six Arab states, which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. **Income group** is a classification provided by the World Bank in which economies are divided into four income groups based on their GNI: low (< USD 1045), lower-middle (USD 1046-4095), upper-middle (USD 4096-12695), and high income (> USD 12696). **Climate classification** is an empirical climate classification system developed by German botanist-climatologist Wladimir Köppen based on a subdivision of terrestrial climates into five major types: tropical, dry, temperate, continental, and polar. **Madhab** is a school of thought within Islamic jurisprudence characterized by differences in the methods by which certain source texts are understood. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

With regards to the Islamic finance development variable, we continue to find the statistically significant impact of the Islamic finance industry on sustainable development performance at a 5% level at the OLS result. In the panel data analysis, however, the Islamic finance development is mixed and tentative: negatively insignificant when the regression is combined with the health variable (Child mortality) and positively insignificant if it is combined with the education variable (Expected years of schooling).

In terms of macroeconomic factors, the link between the level of sustainable development with such explanatory variables (i.e., GDP, FDI, and Trade growth) is very similar to the main regression results, in which the relation is positively significant in the OLS at the 5%, 10% and 1% level in a row when it is combined with Child mortality and at the 10%, 5% and 1% level respectively in its combination with Expected years of schooling variable. In the panel data analysis, the three macroeconomic variables (GDP, FDI, and Trade growth) remain to show consistent results which are positively significant except the GDP variable that is positively significant in its combination with health factor while it is positively insignificant in its combination with education factor. Moreover, the result of other macroeconomic variables, Unemployment, in this sub-sample analysis remains unclear and is noted similar with the primary analysis in which it is negatively insignificant at the OLS combined with health factor and negatively significant at the 10% level combined with education factor except.

Regarding good governance factors in this sub-sample analysis, the OLS results with the dual combination (health and education variables) is identical with the main regression. Although not significant in this sub-sample analysis, Democratic institutions variable has remained positive impact to the sustainable development performance while Control of corruption and Human rights protection show mixed and contradictory relationships between the results of OLS and panel data analysis at both full sample and sub-sample analysis, indicating the effect of those two variables remains unclear.

In sub-sample analysis, Refugees population variable remains negative and significant (similar to the OLS result of full-sample analysis) in all combinations with health and education factors in panel data analysis and OLS, except found negatively insignificant, where combined with education factor (Expected years of schooling) in OLS. As discussed previously, this finding is consistent with Verme and Schuettler (2021) that argue that several economic variables such as the labour market, wages, and local prices were negatively affect the local residents of the

hosting country of refugees while others suggest that the impacts are heterogeneous, with negative shocks disproportionately affecting poor host-country households (Chambers, 1986; Mabiso, Maystadt, Vandercasteelen, & Hirvonen, 2014; Whitaker, 2002).

The findings of this study are consistent with (Alix-Garcia & Saah, 2010) empirical study on refugees from Burundi and Rwanda to Tanzania, in which they discovered that an increase in the refugee population increased prices, particularly in areas adjacent to refugee camps, with the effect being stronger for non-food items and less pronounced for aid-related food items. Another study discovered that refugees have a detrimental effect on the economic condition of the hosting country, resulting in increased prices for certain items in Darfur (Alix-Garcia & Saah, 2010). Del Caprio and Wagner (2015) found that Syrian refugees in Turkey without work permits had a negative impact on Turkish workers, particularly informal and agricultural workers, low-educated workers, and female workers. On the contrary, according to Fasih and Ibrahim (2016), Syrian refugees in Jordan had little impact on the Jordanian labour market, possibly due to policy measures prohibiting firms from hiring refugees and a higher likelihood of refugees working in the informal sector, or due to a mismatch between refugees' skills and the needs of the local labour market.

Numerous studies have also been conducted to determine the security implications of refugees on their hosts. According to some studies, refugees have the potential to destabilise the countries that accept them. This could be political activists attempting to use the host country as a base for mobilising and recruiting insurgents (Zolberg, Suhrke, & Aguayo, 1989). Host countries may also act as conduits for spillover violence if those arriving bring weapons or militant ideologies or if they harbour fighters posing as refugees (Harpviken & Lischer, 2013; Salehyan & Gleditsch, 2006).

Similar to the results of full-sample analysis, the Environmental performance variable is found to be positively non-significant in OLS and panel data analysis in sub-sample analysis, except when combined with the Expected years of schooling variable in OLS, where it is found to be positively significant at 5% level (0.1057**). As discussed by many studies (i.e, M. Ahmad et al., 2021; Ehigiamusoe & Lean, 2019; K. Li et al., 2021), environmental performance is critical and is even considered a core pillar of sustainability, as they emphasise that the persistent increase in global CO₂ emissions remains a source of concern for policymakers, particularly

in light of the negative effects of climate change on global economic growth and sustainable development.

Similar to the full-sample analysis result, the Tropical variable is found to be negatively significant at the 1% level when combined with health and education variables in the sub-sample analysis, indicating that OIC countries with Tropical climates perform poorly in terms of sustainable development. As previously stated, this finding corroborates Gallup et al. (1999) and McMillan and Masters (2000) findings that tropical countries are significantly poorer than developed countries, with lower health performance and agricultural productivity and underperformance in overall development.

In sub-sample analysis, this study observes a positive relationship between Gender equality variable and sustainable development performance at a 5% significant level in the OLS estimates when combined with the Health factor. In contrast, it is still positive but insignificant in the panel data analysis. This result indicates that countries with gender equality inhibit a higher level of sustainable development. The finding of the present study is in line with the work conducted by Lagerlöf (2003), in which he argues that there is a significant positive correlation between country's sustainable development rates and gender equality, that is, for instance, measured by the ratio of female to male in education and labour force participation levels. Conversely, the view of lesser value of girls that is generally influenced by culture may not be a valid economic choice. Moreover, Becker (2014) is strongly asserted that gender equality is massively shown in the preference not to educate girls in further education, underinvestment in girls, discrimination or biological differences at the societal level, lower wages or direct barriers to entry, excluding women from managerial positions as women are only allowed to be staff workers, leads to a distortion that prevents the efficient accumulation of human capital. Thus, gender inequality will hinder potential innovation that could contribute to economic development and welfare while the economy and overall development are coordinated on a balance of gender equality (Galor & Weil, 1999).

With regards to the education factor, the Expected years of schooling variable is found to be positively significant at the 1% level in both OLS and panel data analysis. This finding indicates that OIC countries with more opportunity to educational attainment have better sustainable development performance. In addition, this finding also support Šlaus and Jacobs (2011)'s study as they that education is a determinant factor of employment, growth, and

overall development. They demonstrated through cross-country studies that an additional year of schooling is associated with a 30% increase in per capita income. Moreover, they also found that higher levels of education are associated with increased employment and income.

Although the GCC is considered a group of countries with a high level of income and GDP per capita within OIC member countries, their performance on sustainable development is negative at the 5% level when health or education dimensions are combined. The findings of this study corroborate El-Zein et al. (2016) assertion that the GCC countries' failure to achieve sustainable development is likely due to two critical factors related to social and political problems. Firstly, the GCC has more than ten times the number of international migrant workers as a percentage of the population. Second, the GCC countries, like the rest of the Arab world, are highly militarized, with weapons imports per person exceeding four times the global average. As a result, those countries have a lower health expenditure ratio in comparison to their military expenditures.

Furthermore, it is noteworthy that the GCC countries have an ample supply of fossil fuels and a variety of minerals and are characterised by a heavy reliance on fossil fuel exports. Simultaneously, according to Zaidan et al. (2019), the region's countries account for roughly half of Arab countries' total carbon dioxide emissions and have some of the highest per capita ecological footprints. Moreover, natural resources in the region have been severely stressed and depleted as a result of uncontrolled demographic and economic growth, poorly planned rapid urbanisation, resource-intensive consumption, and the expansion of irrigation systems on local farms. The situation is expected to deteriorate further as a result of the effects of climate change. The resulting environmental challenges have the potential to constrain future growth and expose the region to a mix of natural and man-made environmental risks.

Zaidan et al. (2019) also suggested that the low level of sustainability disclosure practices among the GCC countries is accurate. In their study focusing on the risk management perspective, they found that risk management systems are becoming more prevalent throughout the world but remain underrepresented in the GCC region. As a result, the damage from natural disasters (i.e., climate change variability issues such as heatwaves, storms, and sea-level rise) and man-made disasters (i.e., oil spills, supply system breakdowns, and cyberattacks) can have a detrimental effect on infrastructure and ecosystems. For instance, a significant decline in agricultural output and the ability to import sufficient food products may jeopardise local or

regional food security, resulting in further regional instability. As an essential factor of sustainable development, according to Saif, Mezher, and Arafat (2014), food security has emerged as a critical issue for the Gulf countries in this context, and efforts to address it through increased local agriculture have resulted in the depletion of significant portions of non-renewable groundwater resources. Failure to ensure basic supply security can have negative consequences such as a breakdown of the social contract and redistributive strategies that currently define state-society relations. Additionally, increased food prices as a result of reliance on international markets have exacerbated macroeconomic and political instabilities throughout the Arab world, as evidenced by the 2011 food price increases (caused by a severe drought in China) and their contribution to the Arab Spring uprising (Sternberg, 2012).

With regards to the *Hanafi madhab* variable, it is found to be negatively significant at the 10% level (-4.3231*), indicating that OIC countries with a majority of *Hanafi madhab* adherents tend to have lower performance in terms of sustainable development. To a certain extent, this finding contradicts the notion that *Hanafi madhab* is widely regarded as some of the most adaptable and flexible schools of thought in Islamic law (Warren, 2013) as a conclusion that *Hanafi madhab* is commonly referred to as the 'school of opinion' (*Madrasat ar-Ra'yi*) (Gomaa, 2001).

With regards to the remaining variables (ICT development, population density, and Child mortality) it is shown that the impacts of these variables are mixed and contradictory between OLS and panel data analysis as shown in this study.

8.6 Chapter Summary

This chapter has presented an empirical analysis of the predictions of sustainability and development theories on sustainable development framework: MDGs and SDGs, represented in the SDI by employing both OLS and panel data methods.

To conclude, the chapter draws the following findings:

- i. The relationship between Islamic finance and sustainable development is not clear in determining the level of sustainable development framework of OIC member countries.

- ii. The relationships between the level of sustainable development and gender equality, adult mortality, legal origin and particular regions are consistent with previous studies, which indicate the importance of these factors in shaping sustainable development.

It is worth noted that, to my knowledge, the empirical findings of relationships between two sustainable development frameworks (MDGs and SDGs) and the Islamic finance development across OIC member countries is the first of its kind that uses the SDI as the dependent variable.

CHAPTER 9

RESULTS II: DETERMINANTS OF ISLAMIC BANKS' SUSTAINABILITY DISCLOSURE PRACTICES

9.1 Introduction

This chapter presents empirical evidence on the relationship between corporate sustainability disclosure practices (CSDP) and corporate financial performance, as well as other factors associated, among Islamic banks in the OIC member countries. As far as the relationship between financial performance and the notion of sustainability (social, economic, and environmental dimension) is concerned, there are voluminous literature in this area (i.e., Arsad et al., 2014; Cochran & Wood, 1984; Eccles, Ioannou, & Serafeim, 2014; Z. Islam, Ahmed, & Hasan, 2012; C.-H. Lin, Yang, & Liou, 2009; Mallin et al., 2014; Nelling & Webb, 2009; Platonova et al., 2018; Soytaş, Denizel, & Usar, 2019; Torugsa, O'Donohue, & Hecker, 2012) and particularly examining and measuring firm's financial performance based on their ROA (Return on Assets), ROAA (Return on Average Assets), ROAE (Return on Average Equity), Growth in interest income, ROC (Return on Capital), and EPS (Earnings per Share). However, the understanding of the factors remains mixed and incomplete concerning their impacts on Islamic banks' sustainability disclosure practices in OIC member countries.

Apart from the existing barriers (i.e., unavailability of annual reports or, if available, presented in non-English language) studied by prior studies, this chapter particularly investigates the Islamic banks' characteristics and sustainability disclosure practices as this is considerably critical in recognising Islamic financial institutions' contribution to the sustainable development of OIC member countries.

A balanced sample of Islamic banks from OIC member countries throughout 2016 through 2019 is used in the investigation. Based on the IFSB and OIC SESRIC data, the initial sample was made up 186 Islamic banks (or 744 firm-year observations). A total of 52 Islamic banks (or 208 firm-year observations) were removed due to the data availability constraints including

unavailable annual reports. The final sample contains a balanced panel of 134 Islamic banks or 536 firm-year observations. The chapter proceeds as follows: Section 9.2 presents the descriptive statistics of the key variables, followed by a brief description of the univariate results in Section 9.3. The main results based on the multivariate analysis are discussed in Section 9.4. The robustness checks and regression diagnostics are explained in Section 9.5, respectively. Section 9.6 summarizes the chapter.

9.2 Descriptive Statistics

As a goal of IME, conducting banking operations in accordance with Islamic principles is enshrined in the practice of Islamic banking. The Islamic bank is seen as a financial instrument within the context of an IME system that institutionally puts the ideal theory into practice. In the idealistic perspective of IME, Islamic banks are tasked with funding economic growth, but unlike banks in a capitalist system, they are seen as investing in the actual economy rather than creating a purely financialised one. Therefore, it is a fundamental concept that Islamic banks do not engage in *riba*, *gharar*, and *maysir*; instead, they should infuse ethical investment; advocate for social justice; integrate a risk-sharing mindset; and support sustainable development.

To analyse the degree to which Islamic banks have fulfilled their financial objectives and IME principles in this research, it is necessary, among other things, to examine Islamic banks' disclosure as a source of corporate financial performance information offered to stakeholders. In addition, the disclosure performance captures Islamic banks' social, environmental, and ethical responsibilities to the environment and society in which they operate (Boolaky, Omoteso, Ibrahim, & Adelopo, 2018; Zaini, Samkin, Sharma, & Davey, 2018) in order to fulfil moral values within the context of IME as a tool to achieve *falah* (social welfare) in the society. In respect to the social, economic, and environmental components supported by Islamic banks, this research also investigates the financial performance and other related variables of CSDP.

Table 9.1 presents the descriptive statistics of the variables as part of the model examined, covering both the dependent and independent variables across the 536 observations collected. As can be seen, the mean of the CSDP score is approximately 171.17 while the range of this score is from a minimum zero score to a maximum of 1166. Such wide dispersion in the CSDP

score indicates that some Islamic banks overperformed in sustainability disclosure practices, while others did not undertake any actions in these sustainability issues during the 2016-2019 period. To deal with the distant variant of sustainability disclosure score for the regression later, this study uses natural logs (that is, logarithms base e) because coefficients on the natural-log scale are directly interpretable as approximate proportional differences (Gelman & Hill, 2006).

In terms of the dependent variables, the Total assets of Islamic banks ranges between USD 0.05 billion and USD 135 billion with a mean value around USD 11 billion. The data demonstrates that the total assets of Islamic banks are varied within the OIC member countries.

In addition, the ratio of Deposits and short-term funding-to-total assets ranges from 0% to 223% with the mean of almost 79%. These figures point out that several Islamic banks observed during the 2016-2019 period did not operate their companies by employing customer deposits (current, savings and term) and short-term borrowing (money market instruments, customer deposits, and other deposits) as this, in the case of Islamic banks, operated by investment banking or capital management banking system.

In addition, as can be seen in Table 9.1, the minimum and maximum values of the ratio of Loan loss reserve-to-gross loans are zero and 2648% respectively, with a mean value of 14%. The Loan loss reserve-to-gross loans ratio used to indicate the ability of a bank to absorb losses from non-performing loans.

With regards to the Capital ratio variable, the Total capital ratio (CAR) ranges widely between -125% and 133% with a mean value of %17. As the CAR used to ensure the efficiency and stability of a nation's financial system by lowering the risk of banks becoming insolvent, it is noted that according to the data, some Islamic banks observed did not have enough cushion to absorb a reasonable number of losses before they become insolvent and consequently lose depositors' funds. Generally, a bank with a high CAR is considered safe and likely to meet its financial obligations. The second Capital ratio variable, the Equity-to-total asset ratio recorded a minimum value of %-151 while the lowest is 96% and having a mean of 11%. These figures show that the higher the percentage the less of a company is leveraged or owned by the bank through shareholder's equity.

Table 9. 1 Summary statistics of key variables

Panel A: Overall sample description

<i>Variable</i>	<i>Indicator</i>	<i>n</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skewness</i>	<i>Kurtosis</i>
Corporate sustainability disclosure practices	CSDP score	536	171.17	90.00	194.59	1.00	1166.00	2.0936	7.2327
	CSDP score (<i>ln</i>)	536	4.6250	4.4998	1.0406	0.0000	7.0613	-0.1839	4.0234
Size	Total assets (billion USD)	536	11.07	4.33	17.43	0.05	135.27	3.5210	19.0165
Liability ratio	Deposits and short-term funding-to-assets ratio (%)	536	78.9839	82.2243	20.6326	0.0000	223.1429	-0.1910	19.0869
Asset's quality ratio	Loan loss reserves-to-gross loans (%)	536	14.6185	3.1940	126.8843	0.0000	2648.7590	17.6630	352.4902
Capital ratio	Total capital ratio (%)	536	17.1192	17.1900	13.3386	-125.0800	133.1100	-4.1173	69.3463
Profit/Earning	ROAE (%)	536	-2.0435	9.8622	246.5507	-5692.7330	54.2710	-23.0054	531.4862
Liquidity	Net loans-to-deposits and short-term funding (%)	536	93.6786	79.4057	242.7502	0.0000	3941.3070	14.4969	224.5001
Organisational size	Total employees	536	3964.8800	1953.5000	5818.4230	11.0000	44019.0000	3.2511	17.0023
Corporate governance	Board of directors (BoD) size	536	8.4832	8.0000	3.5303	2.0000	22.0000	1.1843	5.1859
	<i>Shari'ah</i> supervisory board (SSB) size	536	3.7799	3.0000	2.0223	0.0000	12.0000	1.3208	6.1061
Ownership structure	Publicly listed company	536	0.5746	1.0000	0.4949	0.0000	1.0000	-0.3019	1.0911
	Private company	536	0.4254	0.0000	0.4949	0.0000	1.0000	0.3019	1.0911
Legal origin	English	536	0.6045	1.0000	0.4894	0.0000	1.0000	-0.4273	1.1826
	French	536	0.3955	0.0000	0.4894	0.0000	1.0000	0.4273	1.1826
Region	East Asia and Pacific (EAP)	536	0.3209	0.0000	0.4673	0.0000	1.0000	0.7673	1.5888
	Europe and Central Asia (ECA)	536	0.0373	0.0000	0.1897	0.0000	1.0000	4.8825	24.8388
	Middle East and North Africa (MENA)	536	0.3955	0.0000	0.4894	0.0000	1.0000	0.4273	1.1826
	South Asia (SA)	536	0.2463	0.0000	0.4312	0.0000	1.0000	1.1779	2.3873
GCC	GCC (Gulf Cooperation Council)	536	0.3134	0.0000	0.4643	0.0000	1.0000	0.8044	1.6470

Panel B: Corporate sustainability disclosure practices and financial performance, firm-level data: mean by Islamic banks (2016-2019)

No	Country	Bank	Region	GCC/Non-GCC	Legal origin	Ownership	Type	(1)	(2)	(3)
								CSDP score	CSDP score (ln)	Total assets (billion USD)
1	Afghanistan	Afghanistan International Bank	SA	Non-GCC	French	Public	Islamic window	43.50	3.7016	0.88
2	Bahrain	ABC Islamic Bank	MENA	GCC	English	Private	Full pledged	44.25	3.7843	1.75
3	Bahrain	Ahli United Bank (Al-Hilal Islamic)	MENA	GCC	English	Publicly quoted	Full pledged	71.00	4.2582	35.09
4	Bahrain	Al Baraka Islamic Bank Bahrain	MENA	GCC	English	Private	Full pledged	73.25	4.2932	2.28
5	Bahrain	Al Salam bank	MENA	GCC	English	Publicly quoted	Full pledged	52.50	3.9402	4.67
6	Bahrain	Bahrain Islamic Bank	MENA	GCC	English	Publicly quoted	Full pledged	56.25	4.0222	3.16
7	Bahrain	Bank Al Khair	MENA	GCC	English	Private	Full pledged	33.25	3.4815	0.46
8	Bahrain	First Energy Bank	MENA	GCC	English	Private	Full pledged	47.00	3.8487	0.92
9	Bahrain	GFH Investment Bank	MENA	GCC	English	Publicly quoted	Full pledged	32.00	3.4058	4.59
10	Bahrain	Gulf International Bank	MENA	GCC	English	Private	Islamic window	106.50	4.6597	26.54
11	Bahrain	International Investment Bank	MENA	GCC	English	Private	Full pledged	30.50	3.4171	0.11
12	Bahrain	Khaleeji Commercial Bank	MENA	GCC	English	Publicly quoted	Full pledged	47.00	3.8491	2.22
13	Bahrain	Kuwait Finance House Bahrain	MENA	GCC	English	Private	Full pledged	40.75	3.6986	4.05
14	Bahrain	Liquidity Management Centre	MENA	GCC	English	Private	Full pledged	40.25	3.6949	0.12
15	Bahrain	Venture Capital Bank	MENA	GCC	English	Private	Full pledged	26.00	3.1364	0.28
16	Bangladesh	AB Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	103.75	4.6352	3.89
17	Bangladesh	Agrani Bank Ltd.	SA	Non-GCC	English	Private	Islamic window	188.00	5.1965	8.49
18	Bangladesh	Al-Arafah Islami Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	130.75	4.8576	3.83
19	Bangladesh	Bank Asia Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	325.00	5.7821	3.55
20	Bangladesh	Dhaka Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	191.00	5.2407	2.90
21	Bangladesh	First Security Islami Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	83.50	4.4036	4.28
22	Bangladesh	ICB Islamic Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	54.50	3.9841	0.10
23	Bangladesh	Islami Bank Bangladesh Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	187.25	4.9587	11.17
24	Bangladesh	Jamuna Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	296.50	5.6663	2.48
25	Bangladesh	Premier Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	181.75	5.1834	2.42
26	Bangladesh	Prime Bank Ltd	SA	Non-GCC	English	Publicly quoted	Islamic window	352.25	5.7750	3.46
27	Bangladesh	Shahjalal Islami Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	234.25	5.4072	2.65
28	Bangladesh	Social Islami Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	624.00	6.4129	3.40
29	Bangladesh	Southeast Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	321.25	5.7656	4.19
30	Bangladesh	Standard Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	188.25	5.1379	2.22
31	Bangladesh	Trust Bank Ltd	SA	Non-GCC	English	Publicly quoted	Islamic window	95.00	4.5094	2.97
32	Brunei	Bank Islam Brunei Darussalam	EAP	Non-GCC	English	Private	Full pledged	71.00	4.2618	7.25
33	Egypt	Al Baraka Egypt	MENA	Non-GCC	French	Publicly quoted	Full pledged	65.75	4.1769	3.31
34	Indonesia	Bank Aceh Syariah	EAP	Non-GCC	French	Private	Full pledged	339.25	5.7483	1.62
35	Indonesia	Bank BCA Syariah	EAP	Non-GCC	French	Private	Full pledged	561.25	6.2566	0.48
36	Indonesia	Bank BNI Syariah	EAP	Non-GCC	French	Private	Full pledged	205.50	4.8852	2.78
37	Indonesia	Bank BRI Syariah	EAP	Non-GCC	French	Private	Full pledged	377.50	5.8763	2.53
38	Indonesia	Bank CIMB Niaga	EAP	Non-GCC	French	Publicly quoted	Islamic window	853.75	6.7444	18.95
39	Indonesia	Bank Danamon Indonesia, Tbk	EAP	Non-GCC	French	Publicly quoted	Islamic window	552.75	6.2930	13.24
40	Indonesia	Bank Jawa Barat Banten Syariah	EAP	Non-GCC	French	Private	Full pledged	234.25	5.4478	0.54
41	Indonesia	Bank Maybank Indonesia, Tbk	EAP	Non-GCC	French	Publicly quoted	Islamic window	722.00	6.5488	12.40
42	Indonesia	Bank Mega Syariah	EAP	Non-GCC	French	Private	Full pledged	257.50	5.5474	0.51

No	Country	Bank	Region	GCC/Non-GCC	Legal origin	Ownership	Type	(1)	(2)	(3)
								CSDP score	CSDP score (ln)	Total assets (billion USD)
43	Indonesia	Bank Muamalat Indonesia	EAP	Non-GCC	French	Private	Full pledged	369.50	5.8605	4.07
44	Indonesia	Bank OCBC NISP	EAP	Non-GCC	French	Publicly quoted	Islamic window	312.75	5.7210	11.66
45	Indonesia	Bank Panin Dubai Syariah	EAP	Non-GCC	French	Private	Full pledged	218.75	5.3568	0.67
46	Indonesia	Bank Permata	EAP	Non-GCC	French	Publicly quoted	Islamic window	603.50	6.4018	11.36
47	Indonesia	Bank Sinarmas	EAP	Non-GCC	French	Publicly quoted	Islamic window	539.50	6.2245	2.33
48	Indonesia	Bank Syariah Bukopin	EAP	Non-GCC	French	Private	Full pledged	222.25	5.3785	0.49
49	Indonesia	Bank Syariah Mandiri	EAP	Non-GCC	French	Private	Full pledged	46.75	3.8325	6.81
50	Indonesia	Bank Tabungan Negara	EAP	Non-GCC	French	Publicly quoted	Islamic window	648.50	6.4555	19.71
51	Indonesia	Bank Tabungan Pensiunan Nasional Syariah	EAP	Non-GCC	French	Private	Full pledged	113.75	4.6526	0.79
52	Indonesia	Bank Victoria Syariah	EAP	Non-GCC	French	Private	Full pledged	82.25	4.4091	0.14
53	Indonesia	BPD Bank Sumut	EAP	Non-GCC	French	Private	Islamic window	547.75	6.2963	2.08
54	Indonesia	BPD Daerah Istimewa Yogyakarta	EAP	Non-GCC	French	Private	Islamic window	423.00	5.9806	0.83
55	Indonesia	BPD DKI	EAP	Non-GCC	French	Private	Islamic window	768.50	6.5397	3.62
56	Indonesia	BPD Jawa Tengah	EAP	Non-GCC	French	Private	Islamic window	644.25	6.4096	4.53
57	Indonesia	BPD Jawa Timur	EAP	Non-GCC	French	Publicly quoted	Islamic window	183.00	5.2047	4.21
58	Indonesia	BPD Kalimantan Barat	EAP	Non-GCC	French	Private	Islamic window	271.25	5.5389	1.20
59	Indonesia	BPD Kalimantan Selatan	EAP	Non-GCC	French	Private	Islamic window	498.00	6.0685	0.92
60	Indonesia	BPD Nusa Tenggara Barat Syariah	EAP	Non-GCC	French	Private	Full pledged	339.25	5.7307	0.58
61	Indonesia	BPD Sulawesi Selatan dan Sulawesi Barat	EAP	Non-GCC	French	Private	Islamic window	611.00	6.3985	1.40
62	Indonesia	BPD Sumatera Selatan dan Bangka Belitung	EAP	Non-GCC	French	Private	Islamic window	669.00	6.4934	1.66
63	Iran	Karafarin Bank	MENA	Non-GCC	French	Publicly quoted	Full pledged	70.25	4.2465	4.23
64	Iran	Khavarmianeh (Middle East) Bank	MENA	Non-GCC	French	Private	Full pledged	164.25	5.0774	2.37
65	Iran	Parsian Bank	MENA	Non-GCC	French	Publicly quoted	Full pledged	15.75	2.7534	24.02
66	Iran	Saman Bank	MENA	Non-GCC	French	Private	Full pledged	51.00	3.8657	9.04
67	Iran	Tejarat Bank	MENA	Non-GCC	French	Publicly quoted	Full pledged	35.50	3.5589	38.20
68	Jordan	Islamic International Arab Bank	MENA	Non-GCC	French	Private	Full pledged	31.25	3.4045	2.99
69	Jordan	Jordan Islamic Bank	MENA	Non-GCC	French	Publicly quoted	Full pledged	81.00	4.3599	5.96
70	Jordan	Safwa Islamic Bank (Jordan Dubai Islamic Bank)	MENA	Non-GCC	French	Publicly quoted	Full pledged	99.00	4.5853	1.60
71	Kuwait	Ahli United Bank Kuwait	MENA	GCC	English	Publicly quoted	Full pledged	91.50	4.5142	12.86
72	Kuwait	Boubyan Bank	MENA	GCC	English	Publicly quoted	Full pledged	58.00	4.0499	14.08
73	Kuwait	Kuwait Finance House	MENA	GCC	English	Publicly quoted	Full pledged	90.25	4.4892	58.48
74	Kuwait	Kuwait International Bank	MENA	GCC	English	Publicly quoted	Full pledged	86.25	4.4562	7.10
75	Kuwait	Warba Bank	MENA	GCC	English	Publicly quoted	Full pledged	54.00	3.8582	6.79
76	Lebanon	Blom Development Bank	MENA	Non-GCC	French	Private	Full pledged	133.00	4.8608	0.25
77	Malaysia	Affin Islamic Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	270.50	5.5950	5.04
78	Malaysia	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	EAP	Non-GCC	English	Private	Full pledged	111.00	4.6839	1.91
79	Malaysia	Alliance Islamic Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	159.75	5.0626	2.66
80	Malaysia	AmBank Islamic	EAP	Non-GCC	English	Private	Full pledged	159.75	5.0626	9.49
81	Malaysia	Bank Islam Malaysia Berhad	EAP	Non-GCC	English	Private	Full pledged	116.75	4.7367	14.65
82	Malaysia	Bank Muamalat Malaysia Berhad	EAP	Non-GCC	English	Private	Full pledged	170.25	5.0757	5.72
83	Malaysia	CIMB Islamic Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	184.25	5.2144	21.36
84	Malaysia	Hong Leong Islamic Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	86.00	4.4136	7.31

No	Country	Bank	Region	GCC/Non-GCC	Legal origin	Ownership	Type	(1)	(2)	(3)
								CSDP score	CSDP score (ln)	Total assets (billion USD)
85	Malaysia	Kuwait Finance House (Malaysia) Berhad	EAP	Non-GCC	English	Private	Full pledged	40.25	3.6795	2.28
86	Malaysia	Maybank Islamic Berhad	EAP	Non-GCC	English	Private	Full pledged	268.75	5.5904	51.18
87	Malaysia	MBSB Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	81.50	4.3704	5.83
88	Malaysia	OCBC Al-Amin Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	47.50	3.8466	3.86
89	Malaysia	Public Islamic Bank Berhad	EAP	Non-GCC	English	Private	Full pledged	198.00	5.2806	14.25
90	Oman	Ahli Islamic Bank (Ahli Bank)	MENA	GCC	French	Publicly quoted	Islamic window	113.00	4.7226	5.67
91	Oman	AllIzz Bank (Oman Arab Bank)	MENA	GCC	French	Publicly quoted	Full pledged	75.75	4.3163	1.53
92	Oman	Bank Nizwa	MENA	GCC	French	Publicly quoted	Full pledged	70.25	4.2432	2.03
93	Oman	Bank Sohar International	MENA	GCC	French	Publicly quoted	Islamic window	128.25	4.8452	7.75
94	Oman	HSBC Oman	MENA	GCC	French	Publicly quoted	Islamic window	75.50	4.2823	6.18
95	Oman	Maisarah Bank (Dhofar Bank)	MENA	GCC	French	Private	Islamic window	79.25	4.3665	1.36
96	Oman	Meethaq Bank (Bank Muscat)	MENA	GCC	French	Publicly quoted	Islamic window	164.25	5.0984	30.27
97	Oman	National Bank of Oman (Muzn Islamic Banking)	MENA	GCC	French	Publicly quoted	Islamic window	102.50	4.6189	9.25
98	Pakistan	Allied Bank	SA	Non-GCC	English	Publicly quoted	Islamic window	146.75	4.9664	10.22
99	Pakistan	Askari Bank	SA	Non-GCC	English	Publicly quoted	Islamic window	41.25	3.7080	5.60
100	Pakistan	Bank Al Habib Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	29.25	3.2548	7.92
101	Pakistan	Bank Alfalah Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	117.75	4.6739	8.00
102	Pakistan	Bank Islami Pakistan Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	61.75	4.1187	1.78
103	Pakistan	Faysal Bank Ltd. (Ithmaar Bank Bahrain)	SA	Non-GCC	English	Publicly quoted	Islamic window	54.00	3.9227	4.00
104	Pakistan	Habib Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	66.75	4.1874	22.74
105	Pakistan	MCB Islamic Bank Ltd.	SA	Non-GCC	English	Private	Full pledged	31.00	3.2175	0.53
106	Pakistan	Meezan Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Full pledged	130.25	4.8540	6.89
107	Pakistan	National Bank of Pakistan	SA	Non-GCC	English	Private	Islamic window	115.00	4.7328	20.52
108	Pakistan	Sindh Bank	SA	Non-GCC	English	Private	Islamic window	27.25	3.2965	1.35
109	Pakistan	Soneri Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	43.50	3.6490	2.80
110	Pakistan	Standard Chartered Bank Pakistan Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	19.00	1.8075	4.35
111	Pakistan	The Bank of Khyber	SA	Non-GCC	English	Publicly quoted	Islamic window	33.25	3.4723	1.94
112	Pakistan	The Bank of Punjab	SA	Non-GCC	English	Publicly quoted	Islamic window	42.50	3.7466	5.48
113	Pakistan	United Bank Ltd.	SA	Non-GCC	English	Publicly quoted	Islamic window	43.75	3.6808	15.66
114	Palestine	Palestine Islamic Bank	MENA	Non-GCC	English	Publicly quoted	Full pledged	34.75	3.5202	1.06
115	Qatar	Barwa Bank (Dukhan Bank)	MENA	GCC	English	Private	Full pledged	34.25	3.3271	14.85
116	Qatar	Masraf AL Rayan	MENA	GCC	English	Publicly quoted	Full pledged	63.00	4.1421	27.35
117	Qatar	Qatar International Islamic Bank	MENA	GCC	English	Publicly quoted	Full pledged	38.25	3.5591	13.48
118	Qatar	Qatar Islamic Bank	MENA	GCC	English	Publicly quoted	Full pledged	68.00	4.2022	41.69
119	Saudi Arabia	Al Bilad Bank	MENA	GCC	English	Publicly quoted	Full pledged	50.00	3.9032	18.44
120	Saudi Arabia	Al Inma Bank	MENA	GCC	English	Publicly quoted	Full pledged	38.50	3.6112	31.52
121	Saudi Arabia	Al Rajhi Bank	MENA	GCC	English	Publicly quoted	Full pledged	83.00	4.3315	95.40
122	Saudi Arabia	Arab National Bank	MENA	GCC	English	Publicly quoted	Islamic window	52.25	3.9430	46.90
123	Saudi Arabia	Banque Saudi Fransi	MENA	GCC	English	Publicly quoted	Islamic window	69.00	4.1448	50.98
124	Saudi Arabia	The National Commercial Bank	MENA	GCC	English	Publicly quoted	Islamic window	68.00	4.1718	123.13
125	Saudi Arabia	The Saudi British Bank (SABB)	MENA	GCC	English	Publicly quoted	Islamic window	69.75	4.2018	54.29
126	Saudi Arabia	The Saudi Investment Bank	MENA	GCC	English	Publicly quoted	Islamic window	156.25	4.9311	25.58
127	Turkey	Albaraka Turk Participation Bank	ECA	Non-GCC	French	Publicly quoted	Full pledged	202.75	5.3092	8.90

No	Country	Bank	Region	GCC/Non-GCC	Legal origin	Ownership	Type	(1)	(2)	(3)
								CSDP score	CSDP score (ln)	Total assets (billion USD)
128	Turkey	Kuwait Turk Participation Bank - KFH	ECA	Non-GCC	French	Private	Full pledged	124.25	4.8122	15.14
129	Turkey	Turkey Finance Participation Bank	ECA	Non-GCC	French	Private	Full pledged	103.50	4.6363	9.78
130	Turkey	Vakıf Katılım Bankası A.Ş.	ECA	Non-GCC	French	Private	Full pledged	69.00	4.2273	3.48
131	Turkey	Ziraat Katılım Bankası A.Ş.	ECA	Non-GCC	French	Private	Full pledged	92.25	4.5212	4.26
132	United Arab Emirates	Abu Dhabi Islamic Bank	MENA	GCC	English	Publicly quoted	Full pledged	69.00	4.2240	33.82
133	United Arab Emirates	Emirates Islamic Bank	MENA	GCC	English	Publicly quoted	Full pledged	12.50	2.4414	16.63
134	United Arab Emirates	Mashreq Al Islami (Mashreq Bank)	MENA	GCC	English	Publicly quoted	Full pledged	16.75	2.2660	37.44

Bank No	Country	Bank	(4)	(5)	(6)	(7)	(8)
			Deposits and short-term funding/assets (%)	Loan loss reserve/gross loans (%)	Total capital ratio (%)	ROAE (%)	Net loans/deposits and short-term funding (%)
1	Afghanistan	Afghanistan International Bank	93.2867	5.7916	14.3250	13.1300	5.7233
2	Bahrain	ABC Islamic Bank	44.3702	1.0771	29.0000	8.8861	368.2073
3	Bahrain	Ahli United Bank (Al-Hilal Islamic)	82.3139	3.5336	16.8500	14.6744	68.2014
4	Bahrain	Al Baraka Islamic Bank Bahrain	80.9731	7.1806	16.0150	-1.9661	67.7831
5	Bahrain	Al Salam bank	61.7981	5.5291	21.1125	5.9085	85.4172
6	Bahrain	Bahrain Islamic Bank	88.0854	5.0172	17.9175	7.6594	70.7472
7	Bahrain	Bank Al Khair	54.2294	70.3291	-0.3850	-9.5207	2.9886
8	Bahrain	First Energy Bank	27.7583	664.3839	50.8500	-1.3471	98.2624
9	Bahrain	GFH Investment Bank	58.0477	5.6989	17.7700	10.9617	43.3816
10	Bahrain	Gulf International Bank	77.2193	4.8478	16.3250	-0.7666	48.6019
11	Bahrain	International Investment Bank	0.0000	0.0000	21.9625	-26.3126	0.0000
12	Bahrain	Khaleeji Commercial Bank	84.4561	4.9447	17.0550	-2.4501	65.4860
13	Bahrain	Kuwait Finance House Bahrain	77.0403	3.4444	20.9750	7.7576	67.5236
14	Bahrain	Liquidity Management Centre	0.0000	29.7479	44.4200	-7.4338	0.0000
15	Bahrain	Venture Capital Bank	0.0000	16.4948	16.3975	-17.3835	0.0000
16	Bangladesh	AB Bank Ltd.	78.6950	4.1600	10.8550	1.7906	92.7093
17	Bangladesh	Agrani Bank Ltd.	83.8565	9.9804	9.6975	-0.2245	54.5421
18	Bangladesh	Al-Arafah Islami Bank Ltd.	86.7580	2.3281	13.7375	13.5163	85.1119
19	Bangladesh	Bank Asia Ltd.	74.9282	4.4595	14.8325	9.4219	88.5551
20	Bangladesh	Dhaka Bank Ltd.	81.8157	5.1389	13.9100	9.7703	80.1475
21	Bangladesh	First Security Islami Bank Ltd.	92.1173	2.5800	10.9900	13.1676	87.3577
22	Bangladesh	ICB Islamic Bank Ltd.	207.0779	43.2423	-54.0325	3.7497	30.8646
23	Bangladesh	Islami Bank Bangladesh Ltd.	89.2328	4.5246	11.7600	10.0043	87.6087
24	Bangladesh	Jamuna Bank Ltd.	85.9602	2.4424	12.6325	13.2076	83.7393
25	Bangladesh	Premier Bank Ltd.	85.6935	2.4957	12.3775	16.3978	85.4876
26	Bangladesh	Prime Bank Ltd	73.6071	4.0638	14.9575	7.1256	91.0474
27	Bangladesh	Shahjalal Islami Bank Ltd.	82.2783	1.9803	13.5950	10.8905	90.9823
28	Bangladesh	Social Islami Bank Ltd.	84.3911	3.2267	12.7925	11.7452	90.1736
29	Bangladesh	Southeast Bank Ltd.	81.4783	4.7493	11.7825	7.7547	82.3647
30	Bangladesh	Standard Bank Ltd.	81.7614	2.5184	12.3725	9.2915	87.5389

<i>Bank No</i>	<i>Country</i>	<i>Bank</i>	<i>(4) Deposits and short-term funding/assets (%)</i>	<i>(5) Loan loss reserve/gross loans (%)</i>	<i>(6) Total capital ratio (%)</i>	<i>(7) ROAE (%)</i>	<i>(8) Net loans/deposits and short-term funding (%)</i>
31	Bangladesh	Trust Bank Ltd	88.0428	3.5322	13.9900	15.5666	82.6782
32	Brunei	Bank Islam Brunei Darussalam	82.6893	2.2963	18.5750	10.5798	42.7333
33	Egypt	Al Baraka Egypt	89.9382	6.8114	15.0400	30.5792	32.1032
34	Indonesia	Bank Aceh Syariah	80.9598	1.2789	20.2025	20.0226	72.1862
35	Indonesia	Bank BCA Syariah	77.2706	2.1138	32.1875	4.0794	80.1317
36	Indonesia	Bank BNI Syariah	88.1549	2.9305	18.3125	11.3297	75.6725
37	Indonesia	Bank BRI Syariah	81.0584	2.3402	23.9775	3.8079	70.3042
38	Indonesia	Bank CIMB Niaga	78.2147	3.7054	19.4225	8.2205	87.8796
39	Indonesia	Bank Danamon Indonesia, Tbk	60.6767	3.3508	22.3625	9.4705	116.3808
40	Indonesia	Bank Jawa Barat Banten Syariah	46.7839	6.2880	16.4700	-21.0998	480.0436
41	Indonesia	Bank Maybank Indonesia, Tbk	73.4485	1.8073	18.6800	9.4568	96.8061
42	Indonesia	Bank Mega Syariah	81.8750	0.5264	21.5550	6.4147	87.7809
43	Indonesia	Bank Muamalat Indonesia	86.5960	1.9410	12.7800	1.0533	71.6802
44	Indonesia	Bank OCBC NISP	78.8906	3.7016	18.1300	10.8018	82.5246
45	Indonesia	Bank Panin Dubai Syariah	86.4637	6.0344	16.8225	-31.9826	81.2974
46	Indonesia	Bank Permata	79.2806	7.7187	18.5275	-4.9515	78.2020
47	Indonesia	Bank Sinarmas	77.2597	2.9548	17.4825	4.2774	78.7652
48	Indonesia	Bank Syariah Bukopin	82.4017	3.0063	17.6900	1.3038	78.7434
49	Indonesia	Bank Syariah Mandiri	89.3093	3.1348	15.5775	8.3465	73.9464
50	Indonesia	Bank Tabungan Negara	75.9947	1.5622	18.6850	10.9847	101.3681
51	Indonesia	Bank Tabungan Pensiunan Nasional Syariah	67.4230	3.0043	34.5500	31.3658	92.4722
52	Indonesia	Bank Victoria Syariah	85.0367	1.0773	20.1350	-1.6305	71.8152
53	Indonesia	BPD Bank Sumut	76.4697	3.4081	17.2000	19.8713	94.3404
54	Indonesia	BPD Daerah Istimewa Yogyakarta	81.2586	1.9198	21.4325	13.5929	74.6656
55	Indonesia	BPD DKI	72.8838	2.3674	27.4200	9.3799	82.6903
56	Indonesia	BPD Jawa Tengah	83.7768	1.2562	19.1675	18.3823	81.4544
57	Indonesia	BPD Jawa Timur	83.5404	3.7345	23.6275	15.4314	67.7381
58	Indonesia	BPD Kalimantan Barat	78.4246	1.1886	22.6500	14.7819	84.3522
59	Indonesia	BPD Kalimantan Selatan	75.3522	3.0551	22.9075	9.0665	90.6657
60	Indonesia	BPD Nusa Tenggara Barat Syariah	41.5289	1.1429	33.3225	11.4871	1982.8180
61	Indonesia	BPD Sulawesi Selatan dan Sulawesi Barat	70.2236	0.3659	23.4500	21.8640	109.6162
62	Indonesia	BPD Sumatera Selatan dan Bangka Belitung	77.1284	5.6075	0.2258	13.6850	0.7653
63	Iran	Karafarin Bank	86.7336	5.6207	9.3400	8.0054	74.3024
64	Iran	Khavarmianeh (Middle East) Bank	84.9659	2.0511	13.4300	34.9298	82.2974
65	Iran	Parsian Bank	90.3337	4.4983	7.1825	-9.6593	68.5641
66	Iran	Saman Bank	93.4040	4.6785	5.3675	10.7266	47.7411
67	Iran	Tejarat Bank	85.4739	6.4464	-2.0400	-1432.9460	72.1389
68	Jordan	Islamic International Arab Bank	88.5613	5.6629	17.9975	18.0661	73.2982
69	Jordan	Jordan Islamic Bank	88.9407	11.1534	23.0325	14.4780	72.6507
70	Jordan	Safwa Islamic Bank (Jordan Dubai Islamic Bank)	84.5437	7.8360	29.2475	5.3716	84.8417
71	Kuwait	Ahli United Bank Kuwait	85.8905	3.9780	17.2000	11.4937	83.5748
72	Kuwait	Boubyan Bank	87.1797	1.9788	19.8175	13.1172	83.7337

<i>Bank No</i>	<i>Country</i>	<i>Bank</i>	<i>(4) Deposits and short-term funding/assets (%)</i>	<i>(5) Loan loss reserve/gross loans (%)</i>	<i>(6) Total capital ratio (%)</i>	<i>(7) ROAE (%)</i>	<i>(8) Net loans/deposits and short-term funding (%)</i>
73	Kuwait	Kuwait Finance House	83.2535	4.8082	17.6950	10.7312	61.3603
74	Kuwait	Kuwait International Bank	83.9733	3.2358	18.8650	6.8028	83.4241
75	Kuwait	Warba Bank	87.6396	1.6843	20.8325	6.6504	82.7504
76	Lebanon	Blom Development Bank	80.5884	4.5475	17.2775	5.7390	12.1098
77	Malaysia	Affin Islamic Bank Berhad	88.6945	0.6651	17.4800	6.6629	86.9254
78	Malaysia	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	85.1185	1.5863	19.3950	2.0004	80.6927
79	Malaysia	Alliance Islamic Bank Berhad	87.3731	1.1752	15.0225	9.5985	83.6491
80	Malaysia	AmBank Islamic	82.1987	1.1756	15.9500	8.7877	88.1086
81	Malaysia	Bank Islam Malaysia Berhad	87.0877	1.5625	17.0675	11.9138	82.6978
82	Malaysia	Bank Muamalat Malaysia Berhad	85.9363	12.0547	17.4350	7.5012	74.4834
83	Malaysia	CIMB Islamic Bank Berhad	91.0906	0.5740	16.8705	14.4312	78.1801
84	Malaysia	Hong Leong Islamic Bank Berhad	87.9669	0.8554	14.6100	12.4845	82.5646
85	Malaysia	Kuwait Finance House (Malaysia) Berhad	79.0846	5.2320	28.3425	-0.9159	74.0425
86	Malaysia	Maybank Islamic Berhad	90.8069	1.1073	20.1825	19.4145	87.1274
87	Malaysia	MBSB Bank Berhad	77.1135	3.8594	22.5625	4.1322	79.5926
88	Malaysia	OCBC Al-Amin Bank Berhad	88.6640	2.3757	18.8775	12.3793	72.3363
89	Malaysia	Public Islamic Bank Berhad	89.8941	0.7046	15.5425	11.0199	81.6442
90	Oman	Ahli Islamic Bank (Ahli Bank)	78.6453	1.6386	16.5375	9.8172	103.2366
91	Oman	Allzz Bank (Oman Arab Bank)	26.4612	1.7104	17.4875	-5.0694	306.8642
92	Oman	Bank Nizwa	79.0503	4.9515	17.9000	3.9428	100.6446
93	Oman	Bank Sohar International	83.0763	2.7872	16.0200	7.4622	88.3600
94	Oman	HSBC Oman	83.8454	2.6604	18.4500	7.3360	71.7008
95	Oman	Maisarah Bank (Dhofar Bank)	81.1559	1.6507	14.2613	7.6662	90.2334
96	Oman	Meethaq Bank (Bank Muscat)	76.5656	3.3734	18.6125	10.8359	95.7595
97	Oman	National Bank of Oman (Muzn Islamic Banking)	70.1508	3.9475	16.9000	9.3734	109.6312
98	Pakistan	Allied Bank	89.3150	4.0338	21.7750	13.1193	35.1776
99	Pakistan	Askari Bank	88.8977	8.2048	12.6350	16.2597	47.9661
100	Pakistan	Bank Al Habib Ltd.	87.4069	2.1548	14.0250	19.1805	44.0945
101	Pakistan	Bank Alfalah Ltd.	82.4000	3.7651	14.5375	14.5609	54.5716
102	Pakistan	Bank Islami Pakistan Ltd.	87.6618	10.0231	14.5000	6.8710	56.4020
103	Pakistan	Faysal Bank Ltd. (Ithmaar Bank Bahrain)	82.7384	8.9417	15.4375	12.0313	59.0795
104	Pakistan	Habib Bank Ltd.	85.1758	7.0881	15.7550	9.0941	39.1818
105	Pakistan	MCB Islamic Bank Ltd.	76.3932	0.0267	22.6400	-3.8383	77.2750
106	Pakistan	Meezan Bank Ltd.	88.1102	2.2389	14.7750	22.0595	56.2376
107	Pakistan	National Bank of Pakistan	87.4731	13.3732	16.5350	10.9378	36.7395
108	Pakistan	Sindh Bank	87.0166	10.1276	14.2875	-12.1745	43.8930
109	Pakistan	Soneri Bank Ltd.	85.0340	4.7739	14.3450	9.7692	56.0775
110	Pakistan	Standard Chartered Bank Pakistan Ltd.	78.0756	10.9808	18.8725	17.2523	36.8851
111	Pakistan	The Bank of Khyber	83.7273	6.2616	17.2300	9.3700	38.1051
112	Pakistan	The Bank of Punjab	87.1982	11.3596	12.4075	12.4630	54.6023
113	Pakistan	United Bank Ltd.	88.6864	7.4239	16.2325	13.0639	38.2380

<i>Bank No</i>	<i>Country</i>	<i>Bank</i>	<i>(4)</i> <i>Deposits and short-term funding/assets (%)</i>	<i>(5)</i> <i>Loan loss reserve/gross loans (%)</i>	<i>(6)</i> <i>Total capital ratio (%)</i>	<i>(7)</i> <i>ROAE (%)</i>	<i>(8)</i> <i>Net loans/deposits and short-term funding (%)</i>
114	Palestine	Palestine Islamic Bank	87.4492	642.5000	1.6388	14.0002	71.0011
115	Qatar	Barwa Bank (Dukhan Bank)	79.8327	3.0508	16.8250	9.9128	80.3038
116	Qatar	Masraf AL Rayan	82.6617	0.4885	19.4175	15.9444	87.4281
117	Qatar	Qatar International Islamic Bank	81.3032	1.4743	18.0650	14.8048	77.8465
118	Qatar	Qatar Islamic Bank	77.7573	1.5852	18.0750	15.0113	88.1251
119	Saudi Arabia	Al Bilad Bank	80.6563	2.9483	18.4575	11.7407	84.8513
120	Saudi Arabia	Al Inma Bank	79.3382	2.1292	20.4425	10.8738	87.2687
121	Saudi Arabia	Al Rajhi Bank	82.1783	2.7977	21.3275	15.2711	80.0148
122	Saudi Arabia	Arab National Bank	80.6706	2.2938	17.6375	12.7681	82.8341
123	Saudi Arabia	Banque Saudi Fransi	79.0456	2.7803	19.0350	9.5102	82.6358
124	Saudi Arabia	The National Commercial Bank	81.1999	2.5519	19.6450	16.0685	70.0794
125	Saudi Arabia	The Saudi British Bank (SABB)	75.7642	3.3021	19.9475	9.9578	81.7022
126	Saudi Arabia	The Saudi Investment Bank	80.6108	2.5929	17.1675	6.1067	76.5797
127	Turkey	Albaraka Turk Participation Bank	71.2142	3.6072	15.5875	7.2481	91.1399
128	Turkey	Kuwait Turk Participation Bank - KFH	72.5423	4.0050	18.2050	16.5304	84.5755
129	Turkey	Turkey Finance Participation Bank	60.9973	4.5198	16.9200	9.2589	109.6510
130	Turkey	Vakıf Katılım Bankası A.Ş.	72.3173	1.2308	17.9550	14.9292	90.8490
131	Turkey	Ziraat Katılım Bankası A.Ş.	67.5217	1.5522	13.7150	13.3791	117.8583
132	United Arab Emirates	Abu Dhabi Islamic Bank	83.7690	3.7590	17.0050	13.9641	75.5945
133	United Arab Emirates	Emirates Islamic Bank	76.1412	9.3082	18.0650	9.5574	77.5370
134	United Arab Emirates	Mashreq Al Islami (Mashreq Bank)	76.5164	4.7209	16.6875	10.0937	64.0920

Panel C: Corporate sustainability disclosure practices and financial performance, firm-level data: mean by country (2016-2019)

<i>Country</i>	<i>(1)</i> <i>CSDP score</i>	<i>(2)</i> <i>CSDP score (ln)</i>	<i>(3)</i> <i>Total assets (billion USD)</i>	<i>(4)</i> <i>Deposits and short-term funding/assets (%)</i>	<i>(5)</i> <i>Loan loss reserve/gross loans (%)</i>	<i>(6)</i> <i>Total capital ratio (%)</i>	<i>(7)</i> <i>ROAE (%)</i>	<i>(8)</i> <i>Net loans/deposits and short-term funding (%)</i>
Afghanistan	43.50	3.7016	0.88	93.2867	5.7916	14.3250	13.1300	5.7233
Bahrain	50.04	3.8207	6.16	52.5923	58.7307	21.8761	-0.8095	70.4714
Bangladesh	222.31	5.1822	3.87	91.1059	6.3389	8.5156	9.5735	81.3068
Brunei	71.00	4.2618	7.25	82.6893	2.2963	18.5750	10.5798	42.7333
Egypt	65.75	4.1769	3.31	89.9382	6.8114	15.0400	30.5792	32.1032
Indonesia	421.25	5.8035	4.56	76.4719	2.8456	20.5156	7.8901	160.2450
Iran	67.35	3.9004	15.57	88.1822	4.6590	6.6560	-277.7887	69.0088
Jordan	70.42	4.1166	3.52	87.3486	8.2174	23.4258	12.6386	76.9302
Kuwait	76.00	4.2735	19.86	85.5873	3.1370	18.8820	9.7591	78.9686
Lebanon	133.00	4.8608	0.25	80.5884	4.5475	17.2775	5.7390	12.1098
Malaysia	145.71	4.8163	11.20	86.2330	2.5329	18.4106	9.1854	80.9265
Oman	101.09	4.5617	8.00	72.3689	2.8400	17.0211	6.4205	120.8038
Pakistan	62.69	3.8306	7.49	85.3319	6.9236	15.9994	10.6262	48.4079

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Country	CSDP score	CSDP score (ln)	Total assets (billion USD)	Deposits and short-term funding/assets (%)	Loan loss reserve/gross loans (%)	Total capital ratio (%)	ROAE (%)	Net loans/deposits and short-term funding (%)
Palestine	34.75	3.5202	1.06	87.4492	642.5000	1.6388	14.0002	71.0011
Qatar	50.88	3.8076	24.34	80.3887	1.6497	18.0956	13.9183	83.4259
Saudi Arabia	73.34	4.1548	55.78	79.9330	2.6745	19.2075	11.5371	80.7457
Turkey	118.35	4.7012	8.31	68.9186	2.9830	16.4765	12.2691	98.8147
United Arab Emirates	32.75	2.9772	29.29	78.8089	5.9294	17.2525	11.2051	72.4078

Panel D: Sustainability and financial performance, firm-level data: mean by region (2016-2019)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Region	CSDP score	CSDP score (ln)	Total assets (billion USD)	Deposits and short-term funding/assets (%)	Loan loss reserve/gross loans (%)	Total capital ratio (%)	ROAE (%)	Net loans/deposits and short-term funding (%)
East Asia & Pacific	329.80	5.4692	6.63	79.5675	2.7383	19.8341	8.3443	133.5322
Europe & Central	118.35	4.7012	8.31	68.9186	2.9830	16.4765	12.2691	98.8147
Middle East & North Africa	67.16	4.0219	18.38	73.6143	30.3438	17.9652	-19.4396	79.9210
South Asia	139.50	4.4820	5.53	88.3724	6.6058	12.3202	10.1917	63.0654

Panel E: Sustainability and financial performance, firm-level data: mean by region (2016-2019)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GCC or Non-GCC	CSDP score	CSDP score (ln)	Total assets (billion USD)	Deposits and short-term funding/assets (%)	Loan loss reserve/gross loans (%)	Total capital ratio (%)	ROAE (%)	Net loans/deposits and short-term funding (%)
GCC	66.14	4.0179	20.98	70.0149	21.5814	19.3963	6.4384	84.3992
Non-GCC	219.11	4.9021	6.55	83.0785	11.4398	16.0797	-5.9156	97.9148

Panel F: Sustainability and financial performance, firm-level data: mean by legal origin (2016-2019)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Legal origin	CSDP score	CSDP score (ln)	Total assets (billion USD)	Deposits and short-term funding/assets (%)	Loan loss reserve/gross loans (%)	Total capital ratio (%)	ROAE (%)	Net loans/deposits and short-term funding (%)
English	105.30	4.2822	14.23	79.9487	21.8966	16.4231	8.4720	71.8463
French	271.83	5.1489	6.24	77.5094	3.4954	18.1831	-18.1143	127.0449

Panel G: Sustainability and financial performance, firm-level data: mean by type (2016-2019)

Type	(1) CSDP score	(2) CSDP score (ln)	(3) Total assets (billion USD)	(4) Deposits and short-term funding/assets (%)	(5) Loan loss reserve/gross loans (%)	(6) Total capital ratio (%)	(7) ROAE (%)	(8) Net loans/deposits and short-term funding (%)
Full pledged	119.77	4.4022	10.13	77.9457	20.8806	17.3146	-9.7668	107.1919
Islamic window	254.81	4.9875	12.59	80.6735	4.4273	16.8012	10.5259	71.6864

Panel H: Sustainability and financial performance, firm-level data: mean by ownership structure (2016-2019)

Ownership structure	(1) CSDP score	(2) CSDP score (ln)	(3) Total assets (billion USD)	(4) Deposits and short-term funding/assets (%)	(5) Loan loss reserve/gross loans (%)	(6) Total capital ratio (%)	(7) ROAE (%)	(8) Net loans/deposits and short-term funding (%)
Private	194.82	4.7855	5.47	74.3974	16.4830	19.0660	6.5475	113.9842
Publicly listed	152.56	4.5025	15.47	82.4842	13.1956	15.6335	-8.5997	78.1822

The full sample consists of 536 firm-year observations (i.e., 134 Islamic banks with year observations from 2016 to 2019) which denoted as *n*. The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. **Total assets (billion USD)** are the sum of all current and noncurrent assets, and it is equal to the sum of total liabilities and stockholders' equity combined. **Deposits and short-term funding/assets (%)** is the amount of deposits and short-term funding divided by total assets. **Loan loss reserve/gross loans (%)** indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. **Total capital ratio (%)** is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. **Equity/total assets (%)** is the equity-to-asset ratio that specifically measures the amount of equity the business or farm has when compared to the total assets owned by the business or farm. **ROAE (%)** is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. **Net loans/total assets (%)** is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. **Full pledged** is a full-fledged Islamic bank which runs on *Shari'ah* approved policies, and all the products are free of interest paid or received. **Islamic window** is an Islamic subsidiary within a conventional bank. The subsidiary also runs on *Shari'ah* approved policies but offers a limited range of products. **Publicly quoted company** is a public company that has sold all or a portion of itself to the public via an initial public offering (IPO), meaning shareholders have a claim to part of the company's assets and profits. **Private company** is a privately held company. In most cases, the company is owned by its founders, management, or a group of private investors. **English and French** are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). **East Asia, Europe and Central Asia, Middle East & North Africa**, and **South Asia** are the classification of geographic regions based on the World Bank. **GCC (Gulf Cooperation Council)** is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. **Number of branches** is the total number of branches operated by the bank. **Employees (total)** is the total number of workers recorded. **Board of directors (total)** is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. **Shari'ah supervisory board (total)** is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles.

In addition, one of the most often indicators used by banks and other financial institutions to gauge financial performance, ROAE (return on average equity), shows a very distant and insufficient figures in which the lowest is -5692% and the highest is around 54%, with a negative mean of around -2%. From this data, it is noted that in general, Islamic banks within the OIC countries were not able to obtain satisfactory profit in relation to stockholders' equity for the observed period of financial years.

Turning into Liquidity ratio variables, the Loan-to-deposit ratio (Net loans/deposits and short-term funding) also shows a broad variation with the mean of around 93% and it has the minimum value of 0% while the maximum is around 3941% within four years observation. It is noted that typically, the ideal loan-to-deposit ratio is 80% to 90%. A Loan-to-deposit ratio of 100% means a bank loaned one dollar to customers for every dollar received in deposits it received. This data indicates that if the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, the bank may not be earning as much as it could be.

Furthermore, the descriptive statistics for CSDP score and Total assets of sampled Islamic banks are presented in bar charts for ease of comparison. These are presented in Figure 9.1 for frequency distributions of CSDP score, Figure 9.2 for frequency distributions of the total assets, and Figure 9.3 for country, region, GCC/non-GCC, legal origin, and ownership comparison of CSDP score and the total assets.

Figure 9. 1 Frequency distributions of CSDP score of Islamic banks (2016-2019)

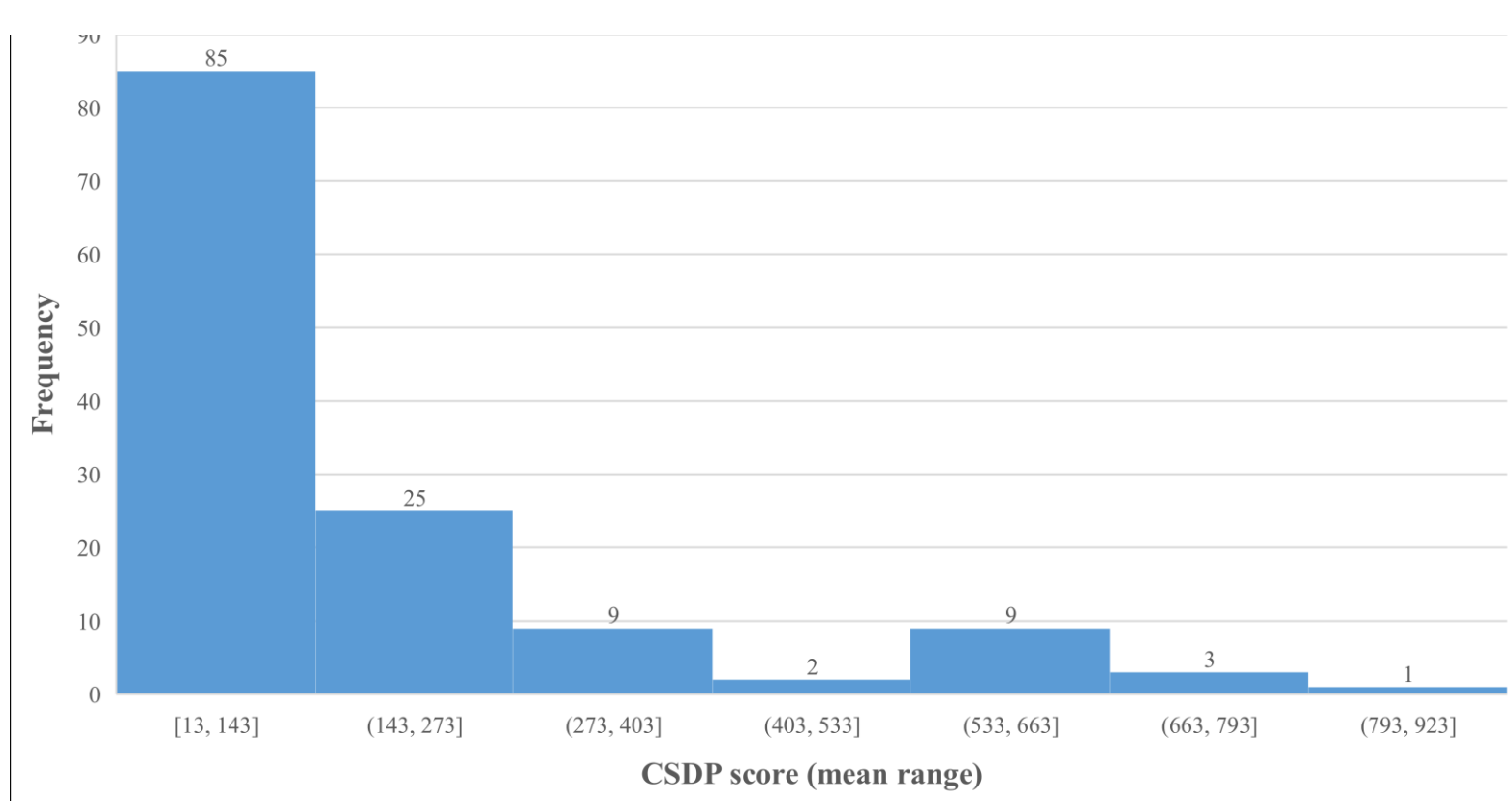


Figure 9. 2 Frequency distributions of the total assets of Islamic bank (2016-2019)

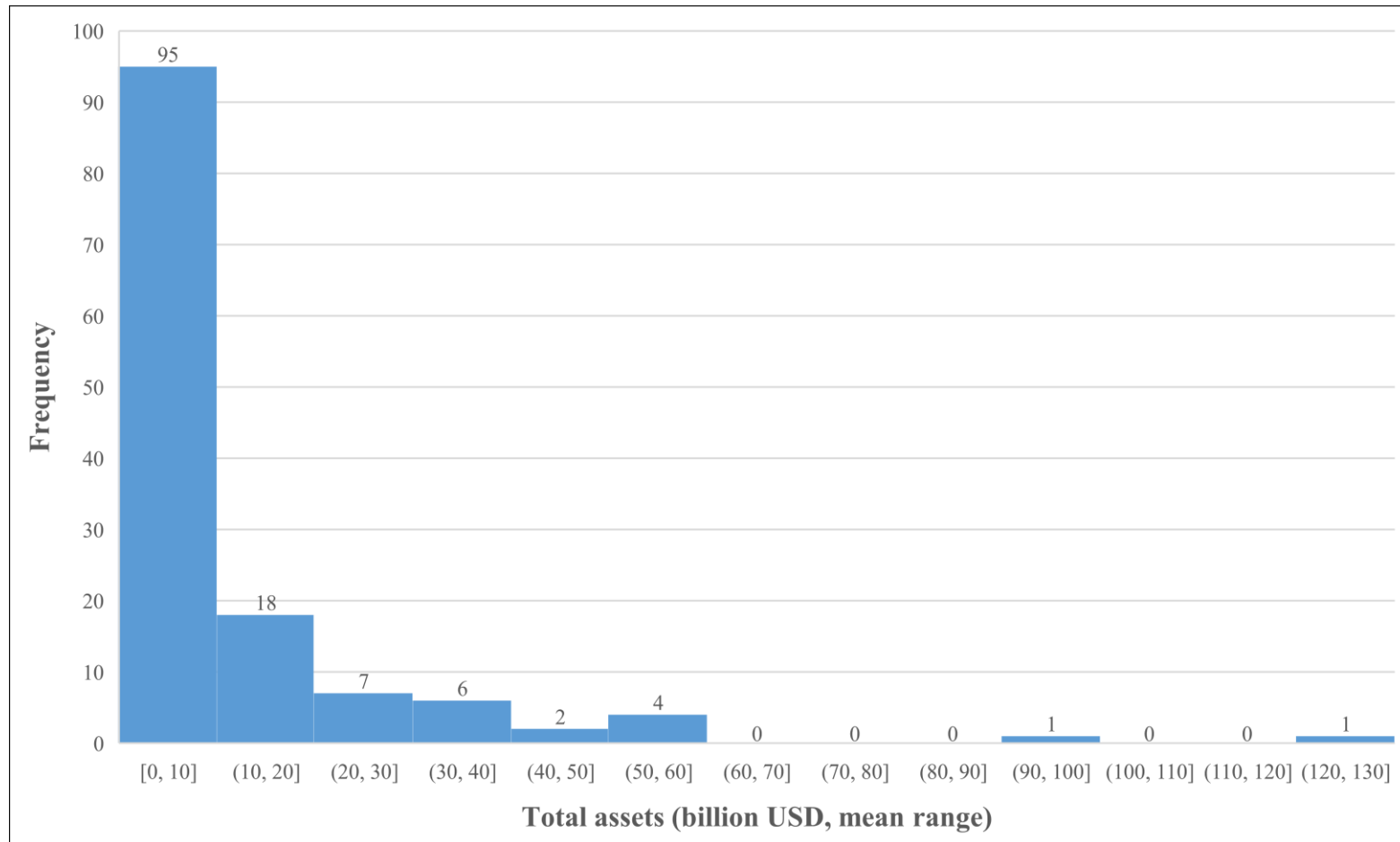
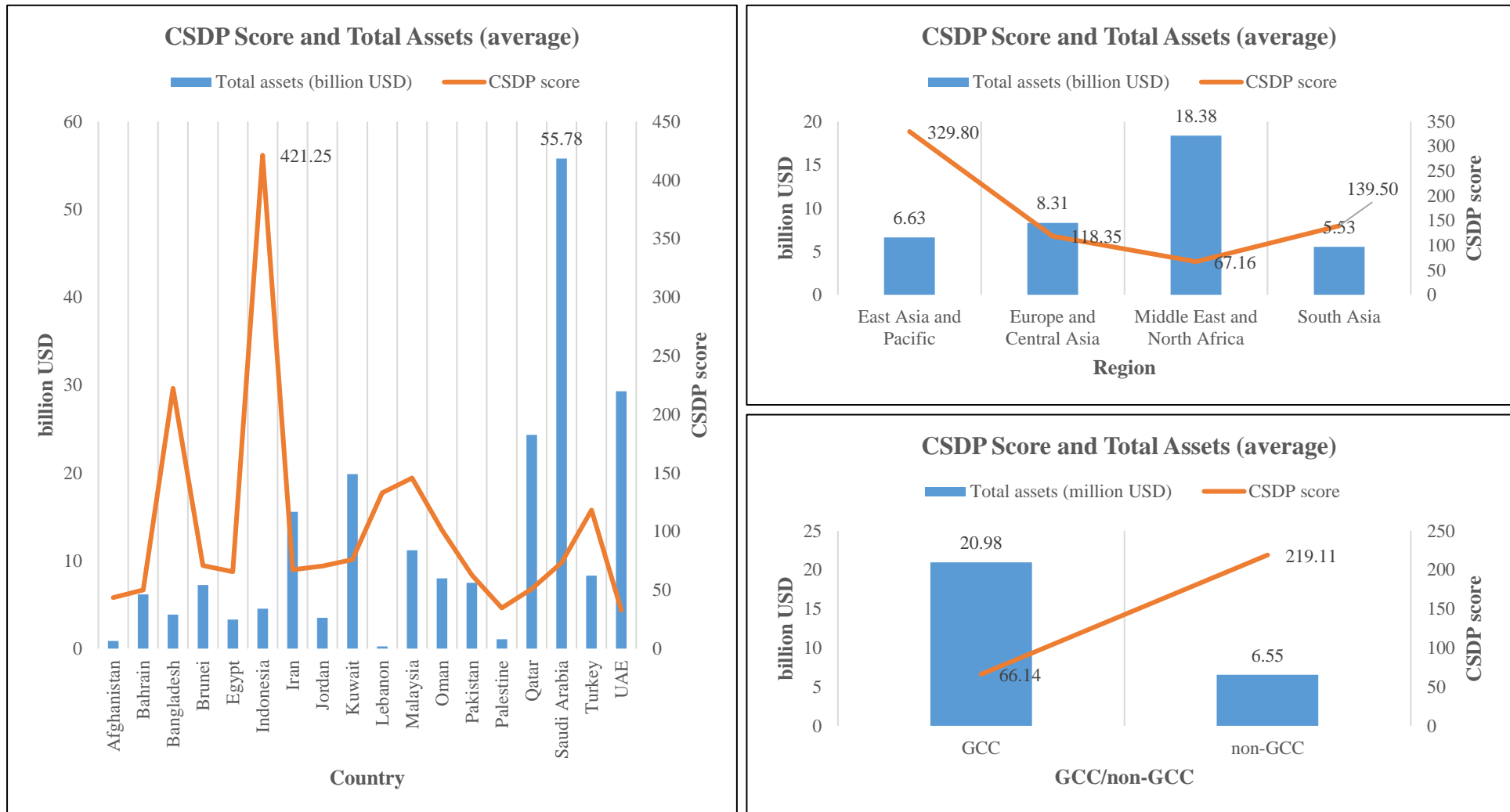
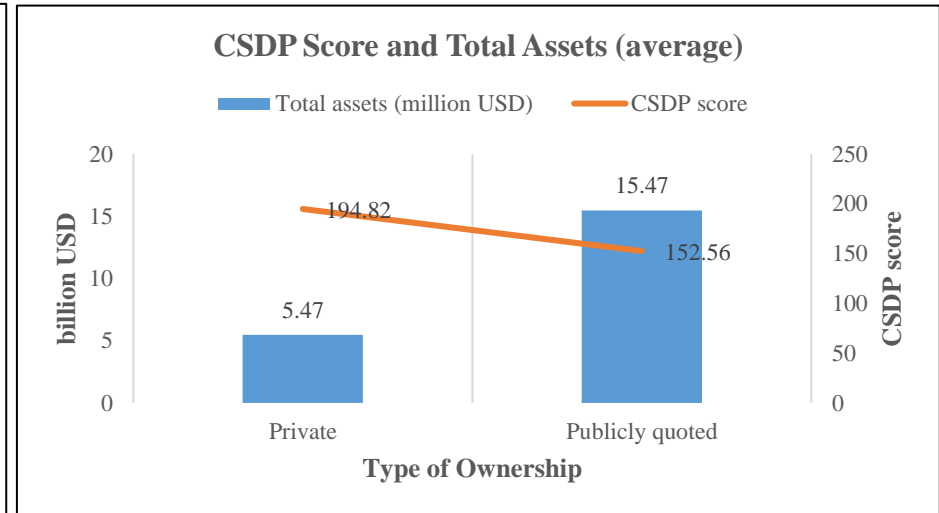
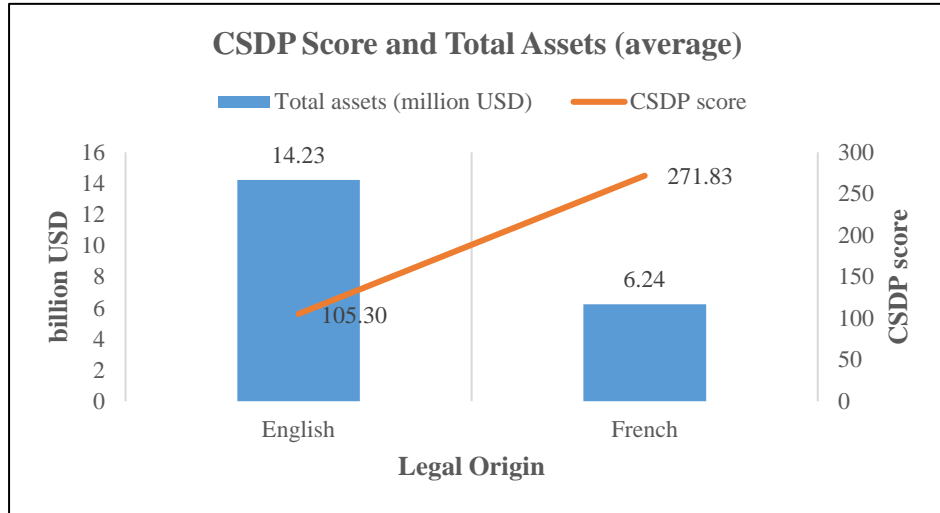


Figure 9. 3 CSDP score and Total Assets of Islamic banks (2016-2019), mean by country, region, GCC/non-GCC, legal origin, and ownership





9.3 Univariate Results

The efficient conduct of a regression analysis requires the absence of multicollinearity; therefore, in this study, Pearson's Correlation was utilised to explore the presence of multicollinearity in the relationship between dependent, independent and control variables. According to Gujarati (2003), the pair-wise correlation between explanatory variables more than 0.8 creates a serious multicollinearity problem.

As presented in Table 9.2, a significant pair-wise correlation can be found between Equity/Total Assets Ratio and Deposits and Short-Term Funding/Total Assets Ratio (0.8190). In addition, GCC is also significantly related to the MENA (0.8353) as this is intuitively appropriate since all GCC countries are in the MENA region. Moreover, the highest correlation value reported is 0.8993 between the Number of Branches and the Number of Employees variable. The correlation between these two variables is relevant since the higher the number of branches generally require more employees. All other pair-wise correlations between variables are found to be less than 0.7, which helps to conclude that multicollinearity is not an issue for the pooled regression, FEM, REM models presented in this paper.

Table 9. 2 Pearson correlation coefficients (CSDP, financial performance and other factors)

Variable	1	2	3	4	5	6	7
1 CSDP score (<i>ln</i>)	1						
2 Total assets (<i>ln</i>)	-0.0556	1					
3 Deposits and short-term funding-to-total assets	0.0374	0.1923***	1				
4 Loan loss reserves	-0.0812*	-0.0973**	-0.0872**	1			
5 Total capital ratio	0.0623	-0.0074	-0.4041***	0.0491	1		
6 ROAE	0.0528	-0.0479	-0.0168	0.0019	0.0757*	1	
7 Net loans-to-deposits and short-term funding	0.3317***	0.2301***	0.2154***	-0.1043**	-0.0221	-0.0101	1
8 Total branches (<i>ln</i>)	0.1275***	0.4487***	0.3069***	-0.1008**	-0.1263***	-0.0741*	0.0656
9 Total employees (<i>ln</i>)	0.2391***	0.5539***	0.3296***	-0.1210***	-0.0949**	-0.0543	0.1546***
10 BoD size	-0.0471	0.2013***	0.0287	0.0443	-0.0832*	0.0601	0.0898**
11 SSB size	0.0871**	0.0961**	0.1347***	-0.0175	-0.0888**	0.0854	0.2305***
12 Publicly listed	-0.1394***	0.3933***	0.1739***	-0.0140	-0.1346***	-0.0324	0.1850***
13 Private	0.1394***	-0.3933***	-0.1739***	0.0140	0.1346***	0.0324	-0.1850***
14 English	-0.4076***	0.2225***	0.0579	0.0710	-0.0646	0.0528	-0.1542***
15 French	0.4076***	-0.2225***	-0.0579	-0.0710	0.0646	-0.0528	0.1542***
16 East Asia (EA)	0.5582***	-0.1768***	0.0195	-0.0644	0.1400***	0.0290	0.2108***
17 Europe and Central Asia (ECA)	0.0144	0.0591	-0.0961**	-0.0181	-0.0095	0.0114	0.0878**
18 Middle east and North Africa (MENA)	-0.4692***	0.2229***	-0.2107***	0.1003**	0.0514	-0.0571	-0.0852**
19 South Asia (SA)	-0.0786*	-0.0873**	0.2603***	-0.0361	-0.2058***	0.0284	-0.1704***
20 GCC	-0.3946***	0.2590***	-0.2940***	0.0371	0.1155***	0.0233	-0.0462

	8	9	10	11	12	13	14
8 No of branches (<i>ln</i>)	1						
9 No of employees (<i>ln</i>)	0.8993***	1					
10 No of board member	0.1473***	0.1182***	1				
11 No of <i>Shari'ah</i> board	0.0468	0.0831**	0.5967***	1			
12 Public	0.3212***	0.3604***	0.4667***	0.1696***	1		
13 Private	-0.3212***	-0.3604***	-0.4667***	-0.1696***	-1	1	
14 English	-0.0289	-0.0671	0.4310***	0.4954***	0.1993***	-0.1993***	1
15 French	0.0289	0.0671	-0.4310***	-0.4954***	-0.1993***	0.1993***	-1
16 East Asia (EA)	-0.0562	0.0911**	-0.5236***	-0.1644***	-0.4756***	0.4756***	-0.3921***
17 Europe and Central Asia (ECA)	0.1058**	0.0307	-0.0102	-0.0370	-0.1492***	0.1492***	-0.2434***
18 Middle east and North Africa (MENA)	-0.3756***	-0.3896***	0.0990***	-0.2046***	0.2329***	-0.2329***	0.0925**
19 South Asia (SA)	0.4406***	0.3300***	0.4594***	0.4266***	0.3166***	-0.3166***	0.4269***
20 GCC	-0.3771***	-0.3788***	0.1184***	-0.0578	0.2234***	-0.2234***	0.2833***

	15	16	17	18	19	20
15 French	1					
16 East Asia (EA)	0.3921***	1				
17 Europe and Central Asia (ECA)	0.2434***	-0.1353***	1			
18 Middle east and North Africa (MENA)	-0.0925**	-0.5560***	-0.1593***	1		
19 South Asia (SA)	-0.4269***	-0.3929***	-0.1125***	-0.4624***	1	
20 GCC	-0.2833***	-0.4645***	-0.1330***	0.8353***	-0.3862***	1

The correlations are based on 536 firm-year observations (i.e., 134 Islamic banks with year observations from 2016 to 2019). The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. *Total assets (billion USD)* are the sum of all current and noncurrent assets, and it is equal to the sum of total liabilities and stockholders' equity combined. *Deposits and short-term funding/assets (%)* is the amount of deposits and short-term funding divided by total assets. *Loan loss reserve/gross loans (%)* indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. *Total capital ratio (%)* is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. *Equity/total assets (%)* is the equity-to-asset ratio that specifically measures the amount of equity the business or farm has when compared to the total assets owned by the business or farm. *ROAE (%)* is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. *Net loans/total assets (%)* is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. *Full pledged* is a full-fledged Islamic bank which runs on *Shari'ah* approved policies, and all the products are free of interest paid or received. *Islamic window* is an Islamic subsidiary within a conventional bank. The subsidiary also runs on *Shari'ah* approved policies but offers a limited range of products. *Publicly quoted company* is a public company that has sold all or a portion of itself to the public via an initial public offering (IPO), meaning shareholders have a claim to part of the company's assets and profits. *Private company* is a privately held company. In most cases, the company is owned by its founders, management, or a group of private investors. *English and French* are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). *East Asia, Europe and Central Asia, Middle East & North Africa*, and *South Asia* are the classification of geographic regions based on the World Bank. *GCC (Gulf Cooperation Council)* is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. *Number of branches* is the total number of branches operated by the bank. *Employees (total)* is the total number of workers recorded. *Board of directors (total)* is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. *Shari'ah supervisory board (total)* is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles.

9.4 Multivariate Results

The multivariate results of analysis in this section divided into two categories: region-based and GCC-based analyses. The rationale behind these two classifications is that the GCC countries are the global leaders in Islamic banking and finance (Wilson 2009). Indeed, the GCC Islamic banking industry controls 45.4 % of the assets of the entire region's banking sector (IFSB, 2019).

Table 9.3 presents the analysis of OLS results and panel data (i.e., fixed effects, random effects, and between effects) of the investigation of the relationship between corporate sustainability disclosure practices and financial performance within the Islamic banks of OIC member countries. Since there are arguments that OLS results may be biased due to the failure to control time-invariant heterogeneity [see, for example, Bevan & Danbolt (2004)], the results of panel data analysis are therefore conducted for the present study.

For the region-based analysis, this argument is confirmed where, based on the fixed effects estimate, it is showed that one can reject the null hypothesis of no unobservable time-invariant country-specific effects (i.e., $\mu_i = -0.3272$) in the sample, at less than 1% level [F-statistic=0.70]. To test for endogeneity, the Hausman Specification Test was used. The results are given in Table 9.3. As can be seen, the P value is significant at 1%, enabling the acceptance of the null hypothesis implying no threat of endogeneity and signifying that the difference in coefficients is systematic and hence suggesting that using fixed effects is most appropriate for the data examined. Although 9 out of 14 variables are noted statistically significant at the OLS, in the panel data analysis results, however, it is noted that the P value of all variables are greater than 10% level. In other words, as the results suggest, there is no significant association between all independent variables (financial performance and other factors associated) and dependent variable (CSDP). Hence, it remains difficult to observe what kind of variables that exactly affect the dependent variable. Accordingly, the between effects (BE) regression is performed and adopted to remedy poor finding in FE.

Table 9. 3 Multivariate results of the determinants of Islamic banks' sustainability disclosure practices

No.	Independent variable	Exp. Sign	OLS		FE		RE		BE
			(1) All region	(2) GCC	(3) All region	(4) GCC	(5) All region	(6) GCC	(7) All region
1	Total assets	+	0.1120*** 3.52	0.1113*** 3.80	0.1341 1.48	0.1341 1.48	0.1347* 2.61	0.1222** 2.33	0.1144* 1.68
2	Deposits and short-term funding-to-total assets	-	-0.2293 -1.38	-0.1303 -0.83	-0.3746 -10	-0.3746 -10	-0.2893 -1.16	-0.2368 -0.86	-0.3545 -0.79
3	Loan loss reserves	+	0.0004 0.05	-0.0222 -1.11	0.0008 0.04	0.0008 0.04	0.0025 0.15	-0.0009 -0.05	-0.0074 -0.10
4	Total capital ratio	+	-0.0164 -0.07	0.4761** 2.08	0.1353 0.76	0.1353 0.76	0.0898 0.52	0.1298 0.76	-0.5106 -0.54
5	ROAE	+	0.0100*** 4.38	0.0229*** 8.98	0.0012 0.14	0.0012 0.14	0.0023 0.29	0.0034 0.42	0.0448 0.91
6	Net loans-to-deposits and short-term funding	-	0.0085 1.57	0.0213*** 2.90	-0.0117 -0.79	-0.0117 -0.79	-0.0020 -0.17	-0.0009 -0.07	0.0188 0.55
7	Total branches	+	-0.0425 -1.37	-0.0297 -1.08	0.1691 1.29	0.1691 1.29	-0.0293 -0.56	-0.0007 -0.01	-0.0381 -0.64
8	BoD size	+	0.0820*** 5.49	0.0132 0.88	0.0043 0.26	0.0043 0.26	0.0359** 2.51	0.0132 0.91	0.0987*** 3.43
9	SSB size	+	0.0790*** 3.76	0.1534*** 6.11	-0.0036 -0.08	-0.0036 -0.08	0.0808*** 2.66	0.0947*** 2.89	0.0661 1.50
10	French		1.0156*** 11.67	1.0672*** 11.10			0.9773*** 5.94	0.9420*** 5.67	1.0208*** 5.74
11	Publicly listed		0.0263 0.30	-0.1565 -1.47			-0.0487 -0.36	-0.2766* -1.90	0.0077 0.05
12	East Asia and Pacific		1.3808*** 13.58				1.2934*** 3.99		1.4579*** 4.33
13	Middle East and North Africa		-0.1121 -0.95				-0.0513 -0.15		-0.0754 -0.21
14	South Asia		0.4887*** 2.70				0.6578* 1.71		0.4878 1.19
15	GCC			-0.6613*** -6.52				-0.6604*** -3.35	
	Constant		0.5623	1.4656	1.1894	1.1894	0.4451	1.6009	0.5415
	R ²		0.5324	0.3563	0.60	0.60	0.39	1.49	0.39
	Joint test statistic (regression)		128.64	63.02	0.70	0.70	168.63	78.68	13.27
	Corr (μ_i, x)				-0.3272	-0.3272	0.0000	0.0000	0.650579
	F-statistic (all $\mu_i = 0$)				22.32	22.32			
	Hausman test FE vs RE (χ^2)				22.35***	14.89			

No.	Independent variable	Exp. Sign	OLS		FE		RE		BE
			(1)	(2)	(3)	(4)	(5)	(6)	(7)
			All region	GCC	All region	GCC	All region	GCC	All region
	R^2 within				0.0158	0.0158	0.0046	0.0103	0.0008
	R^2 between				0.0021	0.0021	0.5790	0.3725	0.6095
	R^2 overall				0.0023	0.0023	0.5148	0.3326	0.5218

The full sample consists of 536 firm-year observations (i.e., 134 Islamic banks with year observations from 2016 to 2019) which denoted as n_i . The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. **Total assets (billion USD)** are the sum of all current and noncurrent assets, and it is equal to the sum of total liabilities and stockholders' equity combined. **Deposits and short-term funding/assets (%)** is the amount of deposits and short-term funding divided by total assets. **Loan loss reserve/gross loans (%)** indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. **Total capital ratio (%)** is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. **Equity/total assets (%)** is the equity-to-asset ratio that specifically measures the amount of equity the business or farm has when compared to the total assets owned by the business or farm. **ROAE (%)** is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. **Net loans/total assets (%)** is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. **Full pledged** is a full-fledged Islamic bank which runs on *Shari'ah* approved policies, and all the products are free of interest paid or received. **Islamic window** is an Islamic subsidiary within a conventional bank. The subsidiary also runs on *Shari'ah* approved policies but offers a limited range of products. **Publicly quoted company** is a public company that has sold all or a portion of itself to the public via an initial public offering (IPO), meaning shareholders have a claim to part of the company's assets and profits. **Private company** is a privately held company. In most cases, the company is owned by its founders, management, or a group of private investors. **English and French** are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). **East Asia, Europe and Central Asia, Middle East & North Africa, and South Asia** are the classification of geographic regions based on the World Bank. **GCC (Gulf Cooperation Council)** is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. **Number of branches** is the total number of branches operated by the bank. **Employees (total)** is the total number of workers recorded. **Board of directors (total)** is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. **Shari'ah supervisory board (total)** is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles.

According to the between effects of all region-based analysis, the results demonstrate that the corporate sustainability disclosure practices are significantly higher for larger banks (proxied by Total assets), for those that have larger BoD size, located in the countries with French as their legal origin and those banks based in the East Asia and Pacific region. Consequently, corporate sustainable disclosure practices and financial performance as well as other factors associated are correlated in this present study.

With regards to the GCC-based analysis, although the results of OLS are almost similar to those region-based, for the panel data analysis, however, the results are different. Accordingly, the rationale for using random effects, based on the *P* value of the Hausman test (0.0939; not significant, at more than 5%) shown in Table 9.3, failing to reject the null hypothesis, signifying that the difference in coefficients is not systematic (random) and hence suggesting that using random effects is most appropriate for the data examined. According to the random effects of GCC-based analysis, the results suggest that the corporate sustainability disclosure practices is significantly higher for larger banks, for those that have larger SSB size, not publicly quoted (private) company, and those located in the countries outside GCC. Consequently, corporate sustainability disclosure practices and financial performance as well as other factors associated are also correlated.

This is a clear indicator that bias and inefficacy may appear in the concurrently reported OLS estimates, which indicate its estimation is no longer the best linear unbiased estimator (BLUE). Hence, the results of panel data analysis are adopted for the present study.

The relationship between CSDP score and the Total asset of Islamic banks variable for both, region and GCC based analysis, is in the predicted direction, which is found to be significant, although marginal, at the 10% level (0.1144) and 5% level (0.1222), respectively. This indicates that the size of Islamic banks in the OIC member countries as well as in the GCC region, is a significant factor in determining the level of corporate sustainability disclosure practices. The result of this study is in-line with the results of (Fischer & Sawczyn, 2013) and (Jaccard, Turrisi, & Jaccard, 2003) in which they found that the size of firm's financial indicators including total assets are significantly correlated with sustainability disclosure practices although they suggest a bi-directional causality. Furthermore, O. Weber (2014) found a correlation between the size of financial institutions —assessed by their total assets— and the quality of their sustainability reporting in his empirical study of Chinese banks. In addition,

Xun (2013) demonstrates that the integration of environmental and social issues into business strategies, products and services of Chinese banks correlates with increased total assets and net profits and is not a trade-off.

With regards to the corporate governance variable, it is noted that the member size of Board of Directors (BoD) has a significantly positive effect on sustainability disclosure practices of Islamic banks at the 1% level for region-based analysis. This result points out that the bigger size of BoD generally affects the performance of sustainability disclosure. This finding is consistent with previous studies (i.e., Abeysekera, 2010; Akhtaruddin, Hossain, Hossain, & Yao, 2009; Allegrini & Greco, 2013; Samaha, Khelif, & Hussainey, 2015), explaining that the size of the board of directors has a positive effect on disclosure. Although highlighting only for social dimension—as one of three sustainability pillars—several studies (i.e., Alotaibi & Hussainey, 2016; Kiliç, Kuzey, & Uyar, 2015; Siregar & Bachtiar, 2010) also show that the large number of board of directors has a positive effect on the social disclosure, particularly related to the CSR activities.

Although the relationship between sustainability disclosure and another indicator of Islamic bank corporate governance, the size of SSB, is positively not significant in the all-region-based analysis, it is noted as highly significant at the 1% level (0.9420) for GCC-based analysis. The results suggest that Islamic banks show relatively stronger commitment to disclose sustainability issues with a larger size of SSB member. This finding of the study is in correlation with previous research on the *Shari'ah* aspect of Islamic corporate governance which is discovered to have a positive effect in the correlation between sustainable business practises and firm performance. Hashim et al. (2015) found that the presence of *Shari'ah* governance in Islamic banks has a positive effect on disclosures on sustainability (Farook et al., 2011).

Furthermore, it is also noted that a larger number of SSB has a positive effect on Islamic financial institutions' sustainability practises. This finding is consistent with the research of Mergaliyev et al. (2021) which found that *Shari'ah* governance influences the disclosure of Islamic banks' *Maqasid* performance favourably. Thus, the existence and size of *Shari'ah* governance in Islamic banks are significant in integrating faith or the religiosity of leadership in realising IME in the operations of Islamic banks. The significance of ethical or religious leadership in ensuring that the vision and mission, as well as other aspects of the operations of

Islamic banks, remain within ethically acceptable parameters and produce the outcomes and consequences outlined by *Maqasid al-Shari'ah* is of the utmost importance.

It is noted that the relationship between sustainability disclosure practices and publicly listed companies is negatively significant at the 10% level (-0.2766) in GCC-based analysis while it is positively insignificant in region-based analysis. As far as concerned, there was no particular study has been undertaken to see the sustainability disclosure practices with a reference in the comparison between publicly listed and private Islamic banks. With only highlighting the social dimension of sustainability disclosure, for instance, a study was conducted by B. Andrew, Gul, Guthrie, and Teoh (1989) on 119 annual reports of publicly listed companies in Malaysia and Singapore for the year ending December 1983. The authors admitted that the reports were obtained on an ad hoc basis. The study showed that the number of companies that disclosed CSR information was only 31 (26%). In terms of the industrial sector, the banking and finance industry had the highest proportion of social di disclosing companies. Earlier studies in the context of Bangladesh witnessed modest social disclosures and provided mostly employee related descriptive information that raised the question of data integrity (Rashid, De Zoysa, Lodh, & Rudkin, 2010). Moreover, Azim et al. (2009) also reported that only one-sixth of the publicly listed companies in Bangladesh disclosed social issues voluntarily. Another study by Belal and Cooper (2011) reported that the publicly listed companies in Bangladesh stayed away from the most compelling social disclosure.

The GCC-based results shown in Table 9.3 indicate a negative and significant relationship between sustainability disclosure practices and GCC countries at 1% significance level. These findings indicate that, despite their larger asset base, Islamic banks in the GCC countries continue to struggle with sustainability disclosure practices. This finding is relevant with a study conducted by Aksak, Asutay, Mehmet, and Turkistani (2015) that found that despite Islamic bank's impact on economic growth in GCC countries, their performance has not promoted the economic and social development of the communities they serve. Aksak et al. (2015) also pointed out that the GCC countries, which themselves have a dynamic economic growth and a high level of wealth per capita in general, have failed in their human development. In the context of environmental issues within country-level, the GCC countries, as studied by Zaidan et al. (2019), are also encountering complicated problems as many financial institutions supported the fossil fuels-based businesses —as fundamental economic activities— that

produced for roughly half of Arab countries' total carbon dioxide emissions and have some of the highest per capita ecological footprints.

9.5 Robustness Check: Sub-sample Analysis Using Publicly Listed Islamic Banks

In this section, another test is conducted to examine the robustness of the results obtained in this chapter. For robustness purposes, this study also employs sub-sample analyses. In the main analysis, we pooled all the combined publicly listed and private Islamic banks in one single regression to identify the effect of explanatory variables on sustainability disclosure practices.

This section included only publicly listed Islamic banks in measuring to what extent the relationship between corporate sustainability disclosure practices and financial performance as well as other factors associated. In general, previous research (i.e., Dilling, 2010; Eljido-Ten, 2011; Kolk, 2005; K. Reddy & Gordon, 2010) indicates that large publicly listed companies are more likely to face public scrutiny and thus disclose on sustainability practices indicators as a result of their market position. These studies establish size by using market capitalisation as a significant profile characteristic associated with the extent to which sustainability reporting is conducted. Accordingly, instead of using the total assets as variable of size, the total market capitalisation is included. Market capitalisation is a term that refers to the total market value of a company's outstanding stock and often abbreviated as 'market cap', it is calculated by multiplying the total number of outstanding shares of a company by the current market price of one share.

In this sub-sample analysis, only 74 Islamic banks are classified as publicly listed companies out of the 134 combined public and private Islamic banks examined in the main analysis as described in Table 9.4. As such, this study employs content analysis to examine the annual reports of those public companies from 2016 to 2019 to measure the relationship between corporate sustainability disclosure practices and financial performance, as well as other factors associated among OIC Islamic banks.

Table 9.5 presents the descriptive statistics of the variables as part of the model examined, covering both the dependent and independent variables across the 296 observations collected. As can be seen, the mean of the CSDP score is approximately 153.74 while the range of this

score is from a minimum 1.00 to a maximum of 981. Such wide dispersion in the CSDP score of publicly listed Islamic banks indicates that some Islamic banks overperformed in sustainability disclosure practices, while others did not undertake any actions in these sustainability issues during the 2016-2019 period. To deal with the distant variant of sustainability disclosure score for the regression later, similar to those in full sample analysis, this sub-sample analysis also uses natural logs (that is, logarithms base e).

In terms of the dependent variables, the Market capitalisation of Islamic banks ranges between USD 0.67 billion and USD 43.60 billion with a mean value around USD 2.82 billion. The data demonstrates that the total assets of Islamic banks are varied within the OIC member countries.

Table 9. 4 List of publicly listed Islamic banks included in the sub-sample analysis

<i>No</i>	<i>Country</i>	<i>Bank</i>	<i>CSDP score</i>	<i>Market capital (in USD billion)</i>
1	Bahrain	Ahli United Bank (Al-Hilal Islamic)	71.00	6.09
2	Bahrain	Al Salam bank	52.50	0.62
3	Bahrain	Bahrain Islamic Bank	56.25	0.36
4	Bahrain	GFH Investment Bank	32.00	1.13
5	Bahrain	Khaleeji Commercial Bank	47.00	0.22
6	Bangladesh	AB Bank Ltd.	103.75	0.13
7	Bangladesh	Al-Arafah Islami Bank Ltd.	130.75	0.23
8	Bangladesh	Bank Asia Ltd.	325.00	0.23
9	Bangladesh	Dhaka Bank Ltd.	191.00	0.15
10	Bangladesh	First Security Islami Bank Ltd.	83.50	0.11
11	Bangladesh	ICB Islamic Bank Ltd.	54.50	0.04
12	Bangladesh	Islami Bank Bangladesh Ltd.	187.25	0.52
13	Bangladesh	Jamuna Bank Ltd.	296.50	0.15
14	Bangladesh	Premier Bank Ltd.	181.75	0.11
15	Bangladesh	Prime Bank Ltd	352.25	0.26
16	Bangladesh	Shahjalal Islami Bank Ltd.	234.25	0.24
17	Bangladesh	Social Islami Bank Ltd.	624.00	0.17
18	Bangladesh	Southeast Bank Ltd.	321.25	0.21
19	Bangladesh	Standard Bank Ltd.	188.25	0.12
20	Bangladesh	Trust Bank Ltd	95.00	0.21
21	Indonesia	Bank CIMB Niaga	853.75	1.76
22	Indonesia	Bank Danamon Indonesia, Tbk	552.75	3.67
23	Indonesia	Bank Maybank Indonesia, Tbk	722.00	1.24
24	Indonesia	Bank OCBC NISP	312.75	1.45
25	Indonesia	Bank Permata	603.50	1.43
26	Indonesia	Bank Sinarmas	539.50	0.77
27	Indonesia	Bank Tabungan Negara	648.50	1.81
28	Indonesia	BPD Jawa Timur	183.00	0.68
29	Iran	Karafarin Bank	70.25	0.44
30	Iran	Parsian Bank	15.75	0.56
31	Iran	Tejarat Bank	35.50	1.12
32	Jordan	Jordan Islamic Bank	81.00	0.82
33	Jordan	Safwa Islamic Bank (Jordan Dubai Islamic Bank)	99.00	0.18
34	Kuwait	Ahli United Bank Kuwait	91.50	1.98
35	Kuwait	Boubyan Bank	58.00	4.16
36	Kuwait	Kuwait Finance House	90.25	12.85
37	Kuwait	Kuwait International Bank	86.25	0.76
38	Kuwait	Warba Bank	54.00	0.98
39	Oman	Ahli Islamic Bank (Ahli Bank)	113.00	0.62
40	Oman	Al-Izz Bank (Oman Arab Bank)	75.75	0.19
41	Oman	Bank Nizwa	70.25	0.35
42	Oman	Bank Sohar International	128.25	0.66
43	Oman	HSBC Oman	75.50	0.63
44	Oman	Meethaq Bank (Bank Muscat)	164.25	3.12
45	Oman	National Bank of Oman (Muzn Islamic Banking)	102.50	0.82
46	Pakistan	Allied Bank	146.75	0.75
47	Pakistan	Askari Bank	41.25	0.18
48	Pakistan	Bank Al Habib Ltd.	29.25	0.47
49	Pakistan	Bank Alfalah Ltd.	117.75	0.45
50	Pakistan	Bank Islami Pakistan Ltd.	61.75	0.08
51	Pakistan	Faysal Bank Ltd. (Ithmaar Bank Bahrain)	54.00	0.19
52	Pakistan	Habib Bank Ltd.	66.75	1.69
53	Pakistan	Meezan Bank Ltd.	130.25	0.59
54	Pakistan	Soneri Bank Ltd.	43.50	0.09
55	Pakistan	Standard Chartered Bank (Pakistan) Ltd.	19.50	0.60
56	Pakistan	The Bank of Khyber	33.25	0.09
57	Pakistan	The Bank of Punjab	42.50	0.18
58	Pakistan	United Bank Ltd.	43.75	1.40
59	Palestine	Palestine Islamic Bank	34.75	0.13
60	Qatar	Masraf Al Rayan	63.00	8.07
61	Qatar	Qatar International Islamic Bank	38.25	2.91
62	Qatar	Qatar Islamic Bank	68.00	8.22
63	Saudi Arabia	Al Bilad Bank	50.00	4.08
64	Saudi Arabia	AL Inma Bank	38.50	8.25
65	Saudi Arabia	Al Rajhi Bank	83.00	34.21
66	Saudi Arabia	Arab National Bank	52.25	7.99
67	Saudi Arabia	Banque Saudi Fransi	69.00	9.96
68	Saudi Arabia	The National Commercial Bank	68.00	28.10

69	Saudi Arabia	The Saudi British Bank (SABB)	69.75	13.22
70	Saudi Arabia	The Saudi Investment Bank	156.25	3.17
71	Turkey	Al Baraka Turk Participation Bank	202.75	0.19
72	United Arab Emirates	Abu Dhabi Islamic Bank	69.00	3.93
73	United Arab Emirates	Emirates Islamic Bank	12.50	11.41
74	United Arab Emirates	Mashreq Al Islami (MashreqBank)	16.75	3.39

Table 9. 5 Overall descriptive statistic

<i>Variable</i>	<i>Indicator</i>	<i>n</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skewness</i>	<i>Kurtosis</i>
Corporate sustainability disclosure practices	CSDP score	296	153.74	80.00	187.33	1.00	981.00	2.3386	8.0998
	CSDP score (<i>ln</i>)	296	4.4964	4.3820	1.0601	0.0000	6.8886	-0.3239	4.9396
Size	Market capitalisation (billion USD)	296	2.82	0.67	5.96	0.02	43.60	4.1794	23.6386
Liability ratio	Deposits and short-term funding-to-assets ratio (%)	296	82.5447	82.6379	17.4954	23.8202	223.1429	4.4126	38.8780
Asset's quality ratio	Loan loss reserve-to-gross loans ratio (%)	296	13.4203	3.6522	74.1509	0.0746	700.0000	8.4372	72.9197
Capital ratio	Total capital ratio (%)	296	15.3782	16.8800	15.7689	-125.0800	133.1100	-4.5865	61.2336
Profit/Earning	ROAE (%)	296	-9.4648	10.2795	331.5286	-5692.7330	29.6727	-17.1056	293.7355
Liquidity	Net loans-to-total assets ratio (%)	296	61.9685	65.0935	13.6986	15.3313	83.5430	-1.0119	3.5069
Organisational size	Total branches	296	241.3209	113.5000	345.4814	5.0000	1717.0000	2.7008	10.4356
	Total employees	296	4917.0570	2877.5000	5889.3040	106.0000	44019.0000	2.6737	13.4058
Corporate governance	Board of directors (BoD) size	296	10.0710	9.0000	3.4717	4.0000	22.0000	1.4429	5.0314
	<i>Shari'ah</i> supervisory board (SSB) size	296	4.1318	3.0000	2.3157	0.0000	12.0000	1.2227	5.1175
Legal origin	English	296	0.7162	1.0000	0.4516	0.0000	1.0000	-0.9592	1.9200
	French	296	0.2838	0.0000	0.4516	0.0000	1.0000	0.9592	1.9200
Region	East Asia (EA)	296	0.1081	0.0000	0.3110	0.0000	1.0000	2.5241	7.3712
	Europe and Central Asia (ECA)	296	0.0135	0.0000	0.1157	0.0000	1.0000	8.4270	72.0137
	Middle east and North Africa (MENA)	296	0.5000	0.5000	0.5008	0.0000	1.0000	0.0000	1.0000
	South Asia (SA)	296	0.3784	0.0000	0.4858	0.0000	1.0000	0.5016	1.2516
GCC	GCC	296	0.4189	0.0000	0.4942	0.0000	1.0000	0.3287	1.1080

The sub-sample consists of 296 firm-year observations (74 Islamic banks with year observations from 2016 to 2019) which denoted as *n*. The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. *Market capitalisation* refers to the total market value of a company's outstanding shares of stock. Commonly referred to as 'market cap,' it is calculated by multiplying the total number of a company's outstanding shares by the current market price of one share. *Deposits and short-term funding/assets (%)* is the amount of deposits and short-term funding divided by total assets. *Loan loss reserve/gross loans (%)* indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. *Total capital ratio (%)* is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. *ROAE (%)* is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. *Net loans/total assets (%)* is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. *Number of branches* is the total number of branches operated by the bank. *Employees (total)* is the total number of workers recorded. *Board of directors (total)* is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. *Shari'ah supervisory board (total)* is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles. *English and French* are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). *East Asia, Europe and Central Asia, Middle East & North Africa, and South Asia* are the classification of geographic regions based on the World Bank. *GCC (Gulf Cooperation Council)* is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

9.5.1 Univariate Results

Similar to the full sample (publicly listed and private Islamic banks), the efficient conduct of a regression analysis in this sub-sample analysis also requires the absence of multicollinearity; therefore, Pearson's Correlation was utilised to explore the presence of multicollinearity in the relationship between dependent, independent and control variables. According to Gujarati (2003), the pair-wise correlation between explanatory variables more than 0.8 creates a serious multicollinearity problem. As presented in Table 9.6, the highest significant pair-wise correlation can be found between Number of employees and Number of branches (0.9109) as this is reasonable because, in general, the more branches the more employees. In addition, GCC is also significantly related to the MENA (0.8491) as this is intuitively appropriate since all GCC countries are in the MENA region. All other pair-wise correlations between variables are found to be less than 0.7, which helps to conclude that multicollinearity is not an issue for the pooled regression, FEM, REM models presented in this paper.

Table 9. 6 Pearson correlation coefficients for key variables of CSDP, financial performance and other factors (sub-sample, publicly listed Islamic banks)

Variable	1	2	3	4	5	6	7	
1 CSDP score (<i>ln</i>)	1							
2 Total Market capital (<i>ln</i>)	-0.1021*	1						
3 Deposits and short-term funding/assets ratio	-0.1053*	-0.2436***	1					
4 Loan loss reserve/gross loans ratio	-0.1218**	-0.1531*	0.0868	1				
5 Total capital ratio	0.0647	0.2192***	-0.4248***	-0.1325**	1			
6 ROAE ratio	0.0561	0.0107	-0.0309	0.0064	0.0802	1		
7 Net loans/total assets ratio	0.4291***	0.0025	-0.0401	-0.0177	-0.0192	-0.019	1	
8 Total branches (<i>ln</i>)	0.1558***	0.0464	0.0755	-0.1391**	-0.0175	-0.1145**	-0.3305***	
9 Total employees (<i>ln</i>)	0.2371***	0.2208***	-0.0072	-0.1394***	0.0447	-0.0879	-0.2167***	
10 BoD size	0.3174***	-0.2474***	-0.0138	0.0122	0.0015	0.1055**	0.2875***	
11 SSB size	0.2313***	-0.2669***	0.0792	-0.0214	-0.0484	0.1084*	0.2996***	
12 English	-0.3430***	0.0102	0.2078***	0.0782	-0.0728	0.0997*	-0.3159***	
13 French	0.3430***	-0.0102	-0.2078***	-0.0782	0.0728	-0.0997*	0.3159***	
14 East Asia (EA)	0.5602***	0.1259**	-0.1322**	-0.0463	0.0937	0.0183	0.1134*	
15 Europe and Central Asia (ECA)	0.0899	-0.1096*	-0.0759	-0.0155	0.0016	0.0059	0.0226	
16 Middle east and North Africa (MENA)	-0.4162***	0.5487***	-0.1743***	0.1043*	0.1157**	-0.0612	0.1842***	
17 South Asia (SA)	0.0490	-0.6202***	0.2824***	-0.0742	-0.1797***	0.0500	-0.2679***	
18 GCC	-0.3195***	0.6250***	-0.2209***	-0.1154**	0.1588***	0.0492	0.1576***	
		8	9	10	11	12	13	14
8 No of branches (<i>ln</i>)	1							
9 No of employees (<i>ln</i>)	0.9109***	1						
10 No of board member	0.0470	0.0526	1					
11 No of <i>Shari'ah</i> board	-0.0393	-0.0392	0.6739***	1				
12 English	0.0148	-0.0535	0.3156***	0.4281***	-1.0000***			
13 French	-0.0148	0.0535	-0.3156***	-0.4281***	-0.5531***	1		
14 East Asia (EA)	0.1569***	0.3391***	-0.1829***	-0.2457***	-0.1859***	0.5531***	1	
15 Europe and Central Asia (ECA)	0.0640	0.0381	0.0820	-0.1079***	-0.0899	0.1859***	-0.0407	1
16 Middle east and North Africa (MENA)	-0.5467***	-0.4842***	-0.3090***	-0.2996***	0.4911***	0.0899	-0.3482***	-0.2716***
17 South Asia (SA)	0.4479***	0.2730***	0.4162***	0.4919***	0.1092*	-0.4911***	-0.2716***	-0.2956***
18 GCC	-0.5637***	-0.4699***	-0.2387***	-0.1491***	-1.0000***	-0.1092*	-0.2956***	
		15	16	17	18			
15 Europe and Central Asia (ECA)	1							
16 Middle east and North Africa (MENA)	-0.1170**	1						
17 South Asia (SA)	-0.0913	-0.6901***	1.0000					
18 GCC	-0.0994*	0.8491***	-0.6624***	1				

The correlations are based on 296 firm-year observations (i.e., 74 Islamic banks with year observations from 2016 to 2019). The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. *Market capitalisation* refers to the total market value of a company's outstanding shares of stock. Commonly referred to as 'market cap,' it is calculated by multiplying the total

number of a company's outstanding shares by the current market price of one share. **Deposits and short-term funding/assets (%)** is the amount of deposits and short-term funding divided by total assets. **Loan loss reserve/gross loans (%)** indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. **Total capital ratio (%)** is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. **ROAE (%)** is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. **Net loans/total assets (%)** is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. **Number of branches** is the total number of branches operated by the bank. **Employees (total)** is the total number of workers recorded. **Board of directors (total)** is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. **Shari'ah supervisory board (total)** is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles. **English and French** are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). **East Asia, Europe and Central Asia, Middle East & North Africa**, and **South Asia** are the classification of geographic regions based on the World Bank. **GCC (Gulf Cooperation Council)** is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

9.5.2 Multivariate Results

For robustness purpose in this section, market capitalisation as a proxy for the size of Islamic banks is employed. The regression models similar to those in Table 9.3 are rerun with sustainability reporting score as the independent variables. These indicators regression specifications, which focus on the publicly listed Islamic banks are useful since the former was designed to measure the relationship between CSDP and financial performance from size perspective on how much ‘stuff’ a company has (book value) while the latter was outlined for evaluating the relationship between CSDP and financial performance from value perspective, as determined by the market, that is, how much a company is actually worth (market value). Accordingly, elucidating the impact of financial performance factors on sustainability disclosure practices requires highlighting each method of measuring a company’s size.

With regards to the region-based analysis, it is worth noting that the rationale for using random effects is based on the fact that the Hausman test (15.31; not significant, at more than 5%) fails to reject the null hypothesis, indicating that the difference in coefficients is not systematic (random), and thus that using random effects is the most appropriate method. According to the random effects of region-based analysis, the results indicate that Islamic banks with a higher Net loans-to-deposit and short-term funding (Loan-to-deposit ratio), a larger size of BoD and SSB, as well as those located in the countries with French legal origin, perform significantly better in terms of sustainability. As a result, sustainability disclosure practices and financial performance, as well as other factors associated, are correlated.

Table 9. 7 Multivariate results of the determinants of corporate sustainability disclosure practices (sub-sample)

No	Independent variable	Exp. Sign	OLS		FE		RE	
			all region (1)	GCC (2)	all region (3)	GCC (4)	all region (5)	GCC (6)
1	Market capital	+	0.0279 0.33	0.1980*** 4.16	0.2148* 1.91	0.2148* 1.91	0.0960 1.22	0.1790** 2.48
2	Deposits and short-term funding/assets		0.5421* 1.82	0.4087 1.46	0.7319 0.63	0.7319 0.63	0.5034 1.07	0.3949 0.72
3	Loan loss reserves/gross loans	+	-0.0713 -1.57	-0.1321*** -3.97	-0.1743 -0.39	-0.1743 -0.39	-0.0383 -0.37	-0.1366 -1.14
4	Total capital ratio	+	0.2084 1.10	0.2814* 1.80	0.0688 0.32	0.0688 0.32	0.0857 0.44	0.1129 0.58
5	ROAE	+	0.0040 0.90	0.0183* 6.18	0.0008 0.09	0.0008 0.09	0.0017 0.19	0.0027 0.3
6	Net loans/deposits and short-term funding	+/-	0.5687** 2.45	0.5739** 2.30	0.4168 0.7	0.4168 0.7	0.6087** 2.23	0.6264* 2
7	No of branches	+	0.0419 0.47	-0.0427 -0.64	0.2158 1.2	0.2158 1.2	0.0041 0.05	-0.0162 -0.18
8	Board of directors	+	0.0877*** 4.49	0.0770*** 3.75	0.0079 0.37	0.0079 0.37	0.0424** 2.33	0.0335* 1.77
9	Shari'ah supervisory board	+	0.0934*** 3.13	0.1028*** 3.42	-0.0107 -0.17	-0.0107 -0.17	0.0965* 2.58	0.0948** 2.37
10	French		0.4837** 2.29	0.9809*** 7.66			0.5424* 1.92	0.8345*** 3.51
11	MENA		-0.7602*** -3.02				-1.0966 -1.62	
12	East Asia		1.1446*** 4.70				0.8146 1.18	
13	South Asia		-0.5008* -1.96				-0.4821 -0.69	
14	GCC			-0.9455*** -4.07				-0.9565** -3.05
	CONSTANT		1.8498* 1.65	-1.2528 -1.56	-1.8668 -0.65	-1.8668 -0.65	1.2729 0.74	-0.4769 -0.31
	R2		0.5841	0.4335				
	Joint test statistic (regression)		1070.28	68.53	0.6700	0.6700	118.0300	58.4300

No	Independent variable	Exp. Sign	OLS		FE		RE	
			all region (1)	GCC (2)	all region (3)	GCC (4)	all region (5)	GCC (6)
	<i>Corr</i> (μ_i, x)				-0.3388	-0.3388	0.0000	0.0000
	<i>F-statistic</i> (all $\mu_i = 0$)				15.6900	15.6900		
	<i>Hausman test FE vs RE</i> (χ^2)				15.31*	16.54*		
	<i>R2 within</i>				0.0276	0.0276	0.0062	0.0103
	<i>R2 between</i>				0.0121	0.0121	0.6508	0.4733
	<i>R2 overall</i>				0.0120	0.0120	0.5681	0.4132

The sub-sample consists of 296 firm-year observations (i.e., 74 Islamic banks with year observations from 2016 to 2019). The dependent variable is the *Corporate Sustainability Disclosure Practices (CSDP)* score, calculated based on content analysis technique of frequency distribution of words, by following the methodology of previous studies (i.e., Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001). Islamic banks sustainability disclosure practices are measured from their annual reports with the highlight of three essential pillars and keywords of sustainability conception: social, economic and environment. *Market capitalisation* refers to the total market value of a company's outstanding shares of stock. Commonly referred to as 'market cap,' it is calculated by multiplying the total number of a company's outstanding shares by the current market price of one share. *Deposits and short-term funding/assets (%)* is the amount of deposits and short-term funding divided by total assets. *Loan loss reserve/gross loans (%)* indicates the reserve that the company makes in percentage to cover the estimated losses that it may suffer due to default loans. *Total capital ratio (%)* is ratio of total capital to risk weighted assets (RWAs). (RWAs) Risk Weighted Assets provide a measure of the total scale and risk of a regulated bank's activities, against which the bank is required to hold minimum levels of regulatory capital. *ROAE (%)* is considered a measure of the profitability of a corporation in relation to stockholders' equity. The ROAE calculated by dividing net income by shareholders' equity. *Net loans/total assets (%)* is the ratio of net loans to Total Assets which indicates how much of the total assets of the company are tied up in loans is used as proxy for measuring liquidity. *Number of branches* is the total number of branches operated by the bank. *Employees (total)* is the total number of workers recorded. *Board of directors (total)* is the total number of board member which is an elected participant on the board of directors of a corporation or the supervisory committee of an organisation. The board of directors of a company is the governing body that is tasked with decisions pertaining to the company's heading. *Shari'ah supervisory board (total)* is the total number of the board that is entrusted with the duty of directing, reviewing and supervising the activities of the Islamic financial institution to ensure that they are in compliance with Islamic *Shari'ah* rules and principles. *English and French* are two legal origins classification based on the study of La Porta et al. (1997, 1998) where the OIC member countries only classified only either English (where a country legal system is of British Common Law origin) or French where a country legal system is of French Civil Law origin). *East Asia, Europe and Central Asia, Middle East & North Africa*, and *South Asia* are the classification of geographic regions based on the World Bank. *GCC (Gulf Cooperation Council)* is a regional, intergovernmental political and economic union that consist of six Arab states which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

For the region-based analysis, the results of the sub-sample reported in Table 9.7 are consistent with the main findings for only two variables: corporate governance (i.e., BoD size) and legal origin (i.e., French), both of which have a significant level of 5% and 10%, respectively. This result suggests that the larger number of BoD the better performance of sustainability disclosure practices reported by publicly listed Islamic banks. The finding of this study is consistent with numerous studies that have discovered a positive correlation between the size of BoD and the level of environmental dimension of sustainability disclosure (i.e., Andrikopoulos & Kriklani, 2013; Bukair & Rahman, 2015; Htay, Rashid, Adnan, & Meera, 2012; Jizi et al., 2014; Osazuwa, Ahmad, & Che-Adam, 2016; K. K. Rao et al., 2012; Samaha et al., 2015; Shamil, Shaikh, Ho, & Krishnan, 2014; Siregar & Bachtiar, 2010; Trireksani & Djajadikerta, 2016). Additionally, numerous studies (i.e., Alotaibi & Hussainey, 2016; Kiliç et al., 2015; Siregar & Bachtiar, 2010) also indicate that having a large number of board members has a beneficial effect on social dimension of sustainability disclosure, particularly related to CSR activities.

In terms of legal origin, the findings of this study corroborate the main analysis in that French civil law is a significant predictor of Islamic bank sustainability disclosure practices at 1% level. This finding is consistent with previous research (Crespi & Migliavacca, 2020; Liang & Renneboog, 2020), and emphasizes the critical role of a country's legal origin in promoting sustainability policies and investments in the financial industry.

Moreover, a study conducted by Castillo-Merino and Rodríguez-Pérez (2021) discovered that financial firms based in civil-law countries perform better in terms of sustainability disclosure practices than those based in common-law countries, with the difference being particularly pronounced for French-civil-law countries. According to Castillo-Merino and Rodríguez-Pérez (2021), these findings are due to the fact that French civil-law countries have the highest level of regulations aimed at protecting the interests of customers, workers, and other stakeholders, as opposed to English common law, which favours shareholder protection. As a result, accommodating stakeholders, such as community or environmental groups that may have an impact on public perceptions (Henriques & Sadorsky, 1999), has been shown to be a conduit for increasing sustainability practices (Berry & Rondinelli, 1998; Kassinis & Vafeas, 2006). At the managerial level, particularly when confronted with such pressures via a more stakeholder-focused governance system, managers will almost certainly attempt to enhance or protect their

own or their organisation's legitimacy by conforming to such stakeholders' expectations, and thus invest in improved sustainability disclosure practices (Aldrich & Fiol, 1994; Carter & Deephouse, 1999; DiMaggio & Powell, 1983; McCahery, Picciotto, & Scott, 1995; J. W. Meyer, Rowan, & Meyer, 1978).

Additionally, two variables, Net loans-to-deposit and short-term funding or Loan-to-deposit ratio (LDR) and SSB size, are significant at the 5% and 10% levels, respectively, but are not significant in the main analysis. LDR is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period. If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, the bank may not be earning as much as it could be. Accordingly, LDR has crucial role as indicator reflecting credit expansion level performed by bank so that LDR could also be utilized to measure bank function as intermediary institution (Simpson & Kohers, 2002). The finding of this study indicates that Islamic bank's liquidity (typically, the ideal LDR is 80%-90%) affects their sustainability disclosure practices. In explaining this, the findings of Platonova et al. (2018), who tested the relationship between corporate social performance and financial performance of GCC Islamic banks from 2000 to 2014, showed statistically significant relationship between an aggregate measure of corporate social performance and loan ratio. Furthermore, the LDR variable is one of the bank-specific covariates that may have an effect on bank profitability (Chronopoulos et al., 2015) as loans itself are the main sources of revenue (Demirgüç-Kunt & Huizinga, 2000) that positively affect bank profitability.

Regarding the significant relationship between CSDP and SSB size variable, it suggests that Islamic banks show relatively stronger commitment to disclose sustainability issues with a larger size of SSB member. Earlier research on the *Shari'ah* aspect of Islamic corporate governance discovered a positive correlation between sustainable business practices and firm performance. Hashim et al. (2015) discovered that the SSB has a positive effect on Islamic financial institutions' sustainability practices as the SSB was found to have a positive effect on sustainability disclosures (Farook et al., 2011). Even when it comes to financial performance, numerous studies (Hashim et al., 2015; Mallin et al., 2014; Mollah & Zaman, 2015) have found a positive correlation between the SSB size and the financial performance of Islamic banks.

With regards to the GCC-based analysis, the panel data analysis is also conducted where the rationale for using random effects, based on the *P* value of the Hausman test (16.54; not

significant, at more than 5%) shown in Table 9.7, failing to reject the null hypothesis, signifying that the difference in coefficients is not systematic (random) and hence suggesting that using random effects is most appropriate for the data examined. According to the random effects of GCC-based analysis, the results suggest that the sustainability disclosure practices of Islamic banks is significantly higher for banks with bigger market capitalisation (total market capital), higher LDR, a larger size of BoD and SSB, and those banks located in the countries with French legal origin perform significantly better in terms of sustainability disclosure practices. On the contrary, Islamic banks located in GCC countries found to have negatively significant association with sustainability disclosure practices. As a result, sustainability and financial performance are correlated.

From this vantage point, it is clear that the majority of explanatory variables in the GCC-based analysis, such as LDR, BoD and SSB size, as well as French legal origin, have similar results to the region-based analysis, being positive significant at 10%, 10%, and 5%, respectively.

With regards to the market capitalisation, it is noted that its relationship with sustainability disclosure practices is positively significant at 5% level. This indicates that Islamic banks in the OIC countries with higher equity value tend to reach better sustainability disclosure practices. This study's findings are consistent with those of several other studies that have discovered a positive correlation between sustainability reporting and financial performance, including market capitalization (Das, 2015; Dissanayake et al., 2019; Dissanayake et al., 2016; Gallo & Christensen, 2011; Janggu et al., 2007; Schreck & Raithel, 2018). According to these authors, the positive relationship can be explained by large attention and pressure from the public towards publicly listed companies (Estenssoro, 2015; A. Fernando & Pandey, 2012; Fortanier et al., 2011). Henri and Journeault (2008) also discovered a correlation between market capital and the extent to which companies report on environmental issues. They suggest that this could be because of public scrutiny and the availability of resources for larger established companies, implying a legitimacy motive.

At the 1% level of significance, the GCC-based results in Table 9.7 indicate a negative and significant relationship between sustainability disclosure practices and GCC countries. These findings indicate that, despite their larger capital base, Islamic banks in the GCC countries continue to struggle with sustainability disclosure practices. According to Aksak et al. (2015), this finding is likely motivated by the fact that, despite Islamic banks' contribution to economic

growth in GCC countries, their performance has not benefited the social dimension of the communities they serve. Additionally, Aksak et al. (2015) noted that the GCC countries, which enjoy rapid economic growth and a high level of wealth per capita in general, have failed to develop their human capital. In terms of environmental issues at the country level, the GCC countries, as Zaidan et al. (2019) documented, are also confronted with complex issues due to the fact that many financial institutions backed fossil fuel-based businesses—as fundamental economic activities—that accounted for roughly half of Arab countries' total carbon dioxide emissions and had some of the highest per capita ecological footprints. As a result of these findings, it highlights the ironic situation in which, despite the benefits of high economic development among OIC member countries, Islamic banks located in the GCC countries are unable to provide more comprehensive sustainability disclosure.

9.6 Chapter Summary

This chapter has presented an empirical analysis of the predictions of slack resources theory from management perspective in explaining the link between corporate sustainability and financial performance to measure the relationship between corporate sustainability disclosure practices and the financial performance, as well as other factors associated, among Islamic banks in the OIC member countries from 2016 to 2019.

To conclude, the chapter draws the following findings:

- i. Corporate financial performance of Islamic banks is significant in determining the level of corporate sustainability disclosure practices in the OIC member countries
- ii. Regardless the ownership structure of Islamic banks which either publicly listed or private, the relationships between the level of corporate sustainability disclosure practices of Islamic banks and their size, corporate and *Shari'ah* governance, and legal origin are consistent with previous studies, which indicate the importance of these factors in shaping corporate sustainability.
- iii. For the publicly listed Islamic banks, it is noted that the relationships between the level of corporate sustainability disclosure practices and the level of liquidity ratio is considered as a significant factor in determining sustainability disclosure.

- iv. Despite the advantages of having a high-income level among OIC member countries, Islamic banks geographically located and economically integrated in the GCC region are unable to deliver superior sustainability disclosure practices, as previously discussed in many studies.

As previously discussed, the study's findings indicate that there is a significant correlation between sustainable business practises and a firm's financial performance, indicating management performance and the shareholders' performance is significant measured from the slack resource theory perspective. In general, these findings are in line with several studies which drawn a positive association between corporate's financial performance and social dimension as part of sustainability practices (Perez-Batres, Doh, Miller, & Pisani, 2012; Seifert, Morris, & Bartkus, 2004; Waddock & Graves, 1997) as well as sustainability practices as an integrated measurement (Jan, Marimuthu, Hassan, et al., 2019).

CHAPTER 10

DISCUSSION, SUMMARY AND CONCLUSIONS

10.1 Introduction

This chapter summarises the entire thesis to provide a complete picture of the entire study. It begins with a discussion of numerous key points, including the contradictory outcome between the theory and practice of Islamic finance and Islamic banks, previous relevant research, and the effect of the Islamic principles examined in this study on the findings. Section 10.3 also discusses the broad summary of the study that provides context for the thesis and explains why this investigation is required. Section 10.4 summarises contributions to the body of knowledge. Section 10.5 recognises the study's limitations and makes recommendations for future research.

10.2 Discussion

This research examines the influence of Islamic finance in OIC member countries at both the national and corporate levels of analysis. In this sense, IME proposes an axiomatic approach based on the norms, values, and principles of Islamic ontology in order to establish a process of sustainable development. Several key points are emphasised in this section's discussion:

10.2.1 A Missing Link between Theoretical Foundation of Islamic Moral Economy and Its Reality: Evidence from OIC Member Countries

Some OIC countries have an abundance of crude oil and natural gas that have contributed to the prosperity of their countries, and the majority of them, including Qatar, Kuwait, Brunei, the United Arab Emirates, Saudi Arabia, Bahrain, and Oman, have become high-income economies. These countries are regarded as having effectively implemented their national

economic agendas. However, low-income OIC countries like Togo, Afghanistan, and Mozambique are still a long way from adequate economic development.

According to the findings of this study, however, in general, OIC member countries performed poorly in terms of sustainable development. OIC member countries confront great obstacles in their pursuit of sustainable development, an area in which they fared badly and below the world average, as mentioned in Section 1.2.1.3. The current reality of OIC countries regarding sustainable development obviously contradicts the belief that ‘Islam’ —as the distinctive key word in the abbreviation ‘OIC’— promotes sustainable development based on its vision of social justice (*‘adalah*) and welfare (*falah*), which can be articulated as a framework of values and principles conducive to growth and sustainability (Chapra, 2008b; Kamali, 2008).

Using Ibn Khaldun’s socio-economic-political dynamic framework outlined in the *Muqaddimah*, which has been extended by Chapra (2008), this contradict situation is caused by a variety of factors, such as political illegitimacy, hereditary monarchy, absolute power of government, insufficient accountability, and political violation. The failure of governments of OIC member countries has therefore resulted in policies that were not in the best interests of Muslim societies, causing them to become undeveloped with poor levels of social, economic, and environmental sustainability.

The rhetoric of Islam and the reality of OIC member countries, however, demand a deeper reading, a more in-depth discussion, and more study from the perspectives of civilisation and political economy.

In addition, the fact that the country-level analysis of Islamic finance variable is rather empirically weak and ambiguous in affecting the sustainable development of OIC member countries, as found in this study (see Section 8.4.1), and the evidence of firm-level investigation indicating that the majority of Islamic banks are concentrated in the low level of CSDP, must be emphasised. These empirical results also contradict the conceptual framework of IME that advocates beyond financial contracts, as it represents an all-encompassing strategy to funding a society in which Islamic axioms such as *tawhid*, *‘adalah*, *rububiyah*, and *tazkiyah* directly refer to sustainable development.

Consequently, the empirical result of this research seems to confirm the idea of a missing connection between Islamic finance —as an institutional instrument of IME— and sustainable development, as several studies have investigated (see, for example, H. Ahmed, 2011; Asutay, 2007; Asutay, 2012; El-Gamal, 2006; Z. Iqbal & Mirakhor, 2013).

This evidence, as discussed by numerous scholars such as Asutay (2007) and Miah and Suzuki (2020), may be attributable to a variety of factors, such as the fact that IFIs prefer debt-based financing over profit and loss sharing (PLS) mode of financing, poor corporate governance performance, failures in social responsibility, and so on. In addition, Asutay (2007) and El-Gamal (2006) criticise that because the Islamic moral economy serves as the moral foundation for Islamic finance, it is anticipated that Islamic finance would operate within the moral framework established by the Islamic moral economy. The contemporary practice of Islamic finance, however, suggests a departure from the aspirations of the IME. This phenomenon, according to Asutay (2007), is considered as a proof that social responsibility and development aims of IFIs have been widely disregarded.

10.2.2 Other Area-based Studies Support the Sustainable Development Condition of OIC Countries

Regarding the geographical foundations of the study, the results of this thesis are consistent with earlier research indicating that OIC member countries are confronted with a variety of concerns and obstacles in attaining sustainable development. Vaghefi, Siwar, and Aziz (2015), among others, analyse how several characteristics of OIC member countries render them exceptionally susceptible to natural and human made hazards that have a significant impact on their sustainable development performance.

For instance, certain OIC countries, such as African countries, are among the most disaster-prone regions in the world, while others, such as Pakistan and Iraq, are experiencing enormous human casualties and economic losses. Moreover, Muslim countries are at various stages of economic growth and development. Among the 48 Least Developed Nations (LDCs), for instance, 21 are Muslim-majority countries whose growth relies on the sale of non-oil exports such as agricultural products. However, the growth and development of around 17 Muslim-majority countries that are classified as high-income or upper-middle-income nations is mostly

dependent on oil and gas exports (IMF, 2015). As a consequence, the development gap between low-income and high-income countries has continued to widen, posing a challenge for OIC members' sustainable development. Consequently, various OIC member countries may pursue policies and methods for sustainable development differently, depending on their social, economic, and environmental circumstances. The geographical location of underdeveloped nations may also play a significant role in postponing their progress.

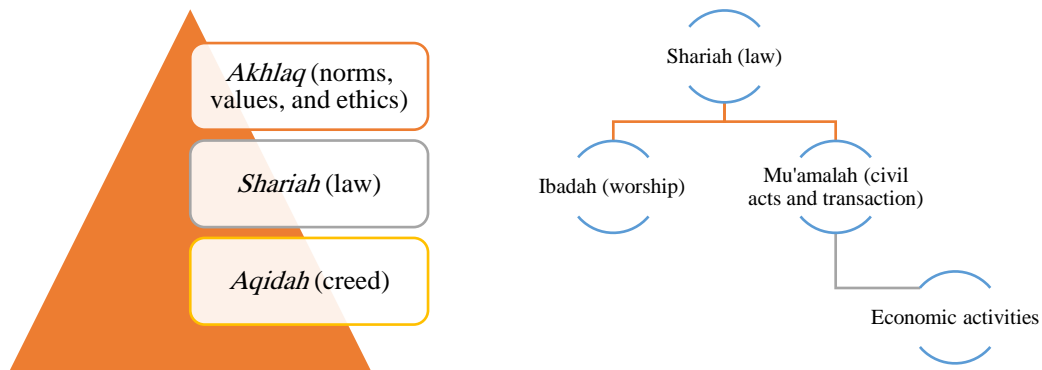
The poor level of SDI performance among OIC member countries might also be reflected on a regional basis, notably Africa, since this appears pertinent given that the majority of OIC members are predominantly situated on the African continent (North Africa and Sub-Saharan Africa).

According to this, D. Li, He, Jin, and Tsai (2021) have recently conducted a geographically based study of sustainable development that investigates the sustainable development performance of 51 African countries in order to assist policymakers in better monitoring the status of sustainable development and formulating development policies for the region. They discovered a positive correlation between income level and sustainable development performance across African countries; the majority of sustainable development leading countries were in South and North Africa, while the majority of low SD countries were in the middle; and North African and Sub-Saharan African countries had different sustainable development characteristics. Moreover, many factors affecting the development challenges in African countries, including political stability; judicial, economic, and fiscal institutional systems; economic and trade cooperation with more developed countries such as Europe and the United States; and government's attention to public life (i.e., health, education, water access). To some extent, the research of D. Li et al. (2021) is relevant to this study since the OIC current members are located primarily in the continent of Africa (North Africa and Sub-Saharan Africa).

10.2.3 Impact of Islamic Principles on the Results

As discussed by As-Shatibi in his work '*Al-Muwafaqat fi Ushul as-Shari'ah*' or 'The Reconciliation of the Fundamentals of Islamic Law,' the goals of Islamic teachings outlined in the Qur'an and Sunnah are to ensure that *Maqasid al-Shari'ah* is achieved through

multidimensional approaches that also known as the five basic needs in Islam (*ad-dharurat al-khamsah*) which are the protection of religion (*hifdz al-din*), the protection of life (*hifdz an-nafs*); the protection of intellect (*hifdz al-'aql*); the protection of lineage (*hifdz an-nasab*); and the protection of wealth (*hifdz al-mal*).



It is acknowledged that Islam is a religion with three pillars as an indivisible unity in its teachings. This Islamic trilogy consists of *Aqidah* (Islamic creed), *Shari'ah* (Islamic law), and *Akhlaq* (Islamic norms, values, and ethics), which are often known as the three pillars of Islam. In this regard, the implementation of Islamic economics and finance within the Muslim community is theoretically a component of *Shari'ah's* commercial and civil law (*mu'amalah*), which attempts to realize the protection of wealth (*hifdz al-mal*) as one of Islamic law's objectives (*Maqasid al-Shari'ah*). Due to the fact that the Islamic financial services industry has achieved unprecedented success in their financial transformation in the form of asset accumulation, financial performance, and institutional and geographic diffusion, it might be said that the protection of wealth (*hifdz al-mal*) has been realized to a certain extent.

Nevertheless, the realisation of remaining Islamic law objectives is far from complete and is thus seen as an unfinished agenda, since the primary purpose of Islamic finance, which is to contribute to social good in the building of a '*ihsani*' society, has yet to be attained (Asutay, 2020). This perspective is crucial since the ultimate purpose of Islamic finance is not just to improve financial performance, but also to promote individual and societal well-being.

In other words, the realisation of the sustainable development agenda through the comprehensive foundational axioms of IME, including *al'adl wa al-ihsan* (justice and equilibrium), *al-adalah al-ijtima'iyah* (social justice), and *falah* (well-being), extends beyond a *fiqhi* (Islamic legal and form-based in a way of understanding the *Shari'ah*) approach; rather,

it is an unrelenting endeavour to ground the teachings of *Akhlaq* or truly actualising ‘Islamic morality and ethics.’

The ultimate goal of God’s message through Prophet Muhammad (PBUH) is believed to be the implementation of *Akhlaq*, which is regarded as the centre of ethics in Islam. The prophet called on Muslim society to rid themselves of all forms of vice and adorn themselves instead with gracious morals and ethics. Morality and ethics were consistently addressed by the Prophet in a wide range of texts and traditions (*hadith*).

In this call to ethics, it is made crystal apparent that the finest way to show one’s devotion to the Prophet and to God is to uphold the highest standards of morality and ethics in all one’s interactions with others. “*I was sent in order to develop excellent morals and ethics,*” the Prophet said, emphasizing the importance of morality and ethics to his mission (Ahmad, 8952).

By highlighting the significance of morality and ethics as well as rewarding those who live by them, the Prophet has pushed people to behave in a virtuous morality. He has also praised those who do so, underlining the respect that is shown to them in this life and the hereafter, stating, “*The Muslims whose religion is most complete are those whose morals and ethics are finest.*”

In Islam, *Akhlaq* refers to the rules and tenets mandated for human behaviour and described by revelation (*Qur’an* and *Sunnah*) in order to arrange a person’s life and Muslim society in a way that permits him to achieve the purpose of creation in this world and the hereafter. In addition, *Akhlaq* is not a fully formed system until both theory and practice come together. It’s more than just another component of Islam as a whole. It is the very spirit of Islam, its core, that governs all other aspects of life. That is to say, at its core, the Islamic system is built on a moral and ethical philosophy. Rather, ethics and morality are at the heart of all heavenly revelations.

The Qur’an also provides several instances of spiritual and ethical guidance for Muslims. Among these is the following verse: *Say: “Not equal are things that are bad and things that are good, even though the abundance of the bad may dazzle thee; so fear Allah, O ye that understand; that (so) ye may prosper.”* (Qur’an, 5: 100), and “*But the raiment of righteousness, - that is the best.*” (Qur’an, 7: 26); and “*he to whom wisdom is granted receiveth indeed a benefit overflowing*” (Qur’an, 2: 269). Indeed, the basis upon which the *Shari’ah* is

built is “*Allah never commands what is shameful*” (Qur’an, 7: 28); and “*Allah commands justice and the doing of good*” (Qur’an, 16: 90).

The accomplishment of Islamic norms, morality, and ethics is the greatest and most thorough degree of becoming a Muslim society, after the practice of the correct Islamic belief and the implementation of Islamic law. Accordingly, the Qur’anic term ‘*kaffah*,’ which means ‘complete, totality, and wholeheartedly,’ refers to a state of being that Muslim society as a whole is bound to acquire since Allah says, “*O ye who believe! Enter into Islam wholeheartedly; and follow not the footsteps of the evil one...*” (Qur’an, 2: 208).

Therefore, establishing Islamic financial institutions with IME is a necessary step towards realizing the substance of *Akhlaq* and is the obligation of the Muslim community as a means to actualize ‘*kaffah*’ in the economic sector for a more sustainable development among OIC member countries.

Theoretically speaking, it is critical to recognise that the Islamic perspective on sustainable development is derived from its vision of an ethical economy, society, and environment, which can be derived from the structure of values and principles depicted in the Qur’an and Sunnah (see Chapter 3), and is thus conducive to growth, social justice, and well-being (Chapra, 1979, 2008a, 2008b; Kamali, 1989b, 2008).

As a framework for achieving this development, the principles of *Maqasid al-Shari’ah* (Islamic law’s objectives) are then adopted from a number of prominent Muslim scholars (i.e., Al-Ghazali, As-Shatibi, Ibn Taimiyah, Ibn Qayyim al-Jauziyah) as the wisdom (*hikmah*) that God emphasises in His rulings (Al-Yubi, 1998), a guidance and the core of human life (Abu Seman & Dzolkarnaini, 2019), fundamental elements for the benefit of human being (Jalil, 2006), a significant technique and intellectual apparatus for Islamic reform (Auda, 2008), and thus viewed as an implementation of ‘*falah*’ which literally translates as ‘victory’, ‘glory’, or ‘well-being’ regardless of their race, colour, age, sex, or nationality, as represented in the Qur’an (Chapra, 2008b).

Although, from a ‘Western perspective,’ the inclusion of religious teachings in development agendas is somewhat underestimated, since religion is frequently considered as a ‘stumbling

block' to development (Ter Haar & Ellis, 2006a), irrelevant Leys (1996), and tends to result in 'disenchantment' (M. Weber & Kalberg, 2013).

Due to the critical role of the financial sector in a country's development (Diener & Suh, 1997), Islamic finance emerged as a concept of an ethical and equitable mode of financing based on Islamic law (*Shari'ah*), by promoting financial transactions with distinct characteristics such as profit-risk sharing, prohibition of *riba* or interest, and avoidance of *maysir* (gambling) and *gharar* (uncertainty or speculation) as well as prohibiting *haram*-related activities. Accordingly, the growth of Islamic finance aims to shift the focus away from neo-classical economics and toward an ethical model that incorporates Islamic morality (Askari et al., 2014; Chapra, 2008b; Z. Iqbal & Mirakhor, 2013). Furthermore, Islamic finance aspires to accomplish actual moral and fair resource distribution by emphasising social justice, equity, and economic redistribution. In order to achieve *falah* (salvation) in this world and the hereafter, efforts to accomplish this objective must include the essentialization of *ihsani* (benevolent) process and the expansion of *ihsani* social capital. *Ihsan*-oriented behaviour promotes the well-being of each member of society, which, in return, leads to social welfare (Asutay and Yilmaz, 2021)

As a result, numerous academics illustrate the crucial importance of a stable Islamic economic and financial system for achieving development in accordance with *Maqasid al-Shari'ah* (Abu Seman & Dzolkarnaini, 2019; Akram Laldin & Furqani, 2013; Kasri & Ahmed, 2019). Further, Islamic finance's principles are believed to contribute to sustainable development by promoting social inclusion and development, financial resilience, social sustainability (financial inclusion and vulnerability reduction), environmental and social goals, and facilitating the development of sustainable infrastructure (H. Ahmed et al., 2015).

Empirically speaking, regardless of the other factors influencing sustainable development, the findings in Chapters 8 and 9 are critical for comprehending the impact of Islamic finance on sustainability and sustainable development. As addressed in Chapter 8, the evidence does not appear to support the effect of Islamic finance on sustainable development as evaluated by the SDI. To some extent, this conclusion is unsurprising in view of the existing evidence offered in multiple past investigations.

Among other reasons, the OIC member countries' unsatisfactory performance on such sustainable development indices is assumed to be due to the Islamic finance practises that have been argued to have abandoned their original purpose of enhancing social function and community development (H. Ahmed, 2011). Additionally, Islamic financial institutions are attempting to mimic conventional products, are market-oriented, and are focusing exclusively on economic growth rather than encouraging a more comprehensive development (Asutay, 2012). These circumstances are almost certainly a reference to what several scholars have identified as deviant Islamic finance practises, such as a simple substitution of conventional banking terminology (Feisal Khan, 2010; Nomani, 2006), the *Murabahah* syndrome (Miah & Suzuki, 2020), and even a camouflage of *riba*-based financing activities (Minhat & Dzolkarnaini, 2016). As a result, Islamic finance, which is intended to boost economic growth and holistic development (M. Iqbal et al., 2006), appears to have become disconnected from the objectives for sustainable development (Z. Iqbal & Mirakhor, 2013).

When analysing such Islamic finance phenomena, it is possible to deduce that their nurture (practice) is inversely proportional to their nature (theory), at the very least based on Islamic finance's current development. To be clear, practically, Islamic corporate financing is unlikely to promote profit-sharing/risk-sharing transactions (such as *mudarabah* and *musharakah* types of financing), which is one of the most distinguishing characteristics of Islamic finance (Minhat & Dzolkarnaini, 2016). Rather than that, the usage of *murabahah* (sales contract) as a mode of investing has become prevalent, resulting in a '*murabahah* syndrome' among Islamic financial institutions (Miah & Suzuki, 2020; Suzuki & Miah, 2015).

In a harsher style of criticism, the Islamic finance practices have also been discussed by Feisal Khan (2010), questioning on how 'Islamic' is actually Islamic finance? This was an expression of Feisal Khan (2010)'s dissatisfaction in responding that *murabaha*, *ijara*, and other non-profit loss sharing transactions are massively dominant in Islamic finance, despite the fact that, according to Feisal Khan (2010), non-profit loss sharing transactions are considered 'weakly Islamic' due to their obvious similarities to a standard bank debt-finance contract, and thus unable to promote its social objectives. Furthermore, Feisal Khan (2010) asserted that Islamic finance merely substitutes classical Arabic phrases for traditional banking terminology and provides nearly equivalent services to its clientele.

According to El-Hawary and Grais (2004), this type of pragmatic practises has resulted in Islamic finance abandoning the risk-sharing principle in any meaningful sense, closely matching conventional, and collateralized loan arrangements. Minhat and Dzolkarnaini (2016) expressed similar concerns, arguing that if the *murabaha* is ‘widely abused’ by imposing a fixed cost on financially weak firms, it will not only be incapable of promoting socioeconomic development, but will also fuel ‘credit bubbles’ in the same way that conventional finance fuels recurring financial crises.

The findings of this study and the aforementioned studies could be an alarming for Islamic finance practices, as they indicate that *Maqasid al-Shari’ah*, widely regarded as the ultimate framework for Islamic finance in achieving ethical economic, social, and environmental sustainability, has likely been ‘ignored,’ resulting in a ‘missing-link’ between theory and practise of Islamic finance (Badr El Din, 2006).

Throughout this contentious academic debate, it is worth noting that despite the notion of *Maqasid al-Shari’ah* is not a terminology that explicitly mentioned in the Qur’an or Sunnah, and in fact, it is a concept that emerged as a result of in-depth reading and reflection on the works of prominent Muslim scholars such as As-Shatibi and Al-Ghazali, the inadequacy of current Islamic finance practises in achieving sustainable development does not necessitate blaming *Maqasid al-Shari’ah* as a theoretical framework of Islamic finance. Further, such conditions do not imply that ‘*Maqasid al-Shari’ah*’ or even ‘Islam’ as a basis for Islamic finance are viewed as a stumbling block to development, irrelevant, or even the source of ‘disenchantment,’ similarly to what M. Weber and Kalberg (2013) previously noted in criticising ‘catholic rules’ as ‘obsolete’ framework for economic development.

Rather than that, it could be an opportunity for all stakeholders, including Muslim scholars, governmental institutions, legislators, and practitioners, to self-correct Islamic finance practises from within, beginning with the thought of Muhammad Abduh (d. 1905), an Islamic scholar of Al-Azhar Cairo, who famously stated in his *Al-Urwah al-Wuthqa* journal¹ “*I went*

¹ Muhammad Abduh and Jamaluddin al-Afghani founded *Al-Urwah al-Wuthqa* (العروة الوثقى or The Firmest Bond), as an Islamic revolutionary journal. Despite its brief existence from 13 March to October 1884, it was one of the first and most significant publications of *Nahda* (the Arab Renaissance or Enlightenment). It was addressed to the Islamic Ummah and

to the West and saw Islam, but no Muslims; I got back to the East and saw Muslims, but not Islam.” Abduh’s writings were basically a way of his criticism of various kinds of deviations against Islamic law principles that occurred in the Arab world at that time and the thoughts of Abduh were intended to demonstrate that there was a disconnect between the Islamic values described in the Qur’an or Sunnah and actual Muslim practises in a variety of areas, including social, political, and economic (A. Hasan, 2011).

Thus, using Abduh’s logic, although it is promised that Islam is a complete and comprehensive religion to be a Muslim’s way of life and Muslims are referred to as humanity’s best nation, it should be highlighted that all difficulties relating to sustainable development, including poverty, political and economic instability, and environmental degradation, must be remedied entirely through the use of such tools (i.e., Islamic finance) and adhering to God’s principles and rules, as described by Allah:

الْيَوْمَ أَكْمَلْتُ لَكُمْ دِينَكُمْ وَأَتَمَمْتُ عَلَيْكُمْ نِعْمَتِي وَرَضِيْتُ لَكُمُ الْإِسْلَامَ دِينًا

“...Today I have perfected your faith for you, completed My favour upon you, and chosen Islam as your way...” (Qur’an, 5:3).

كُنْتُمْ خَيْرَ أُمَّةٍ أُخْرِجَتْ لِلنَّاسِ تَأْمُرُونَ بِالْمَعْرُوفِ وَتَنْهَوْنَ عَنِ الْمُنْكَرِ وَتُؤْمِنُونَ بِاللَّهِ

“You are the best nation produced [as an example] for mankind —you encourage good, forbid evil, and believe in Allah...” (Qur’an, 3:110).

وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِّنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِّنَ الْأَمْوَالِ وَالْأَنْفُسِ وَالتَّمْرَاتِ وَبَشِيرِ الصَّابِرِينَ (١٥٥) الَّذِينَ إِذَا أَصَابَتْهُمُ مُصِيبَةٌ قَالُوا إِنَّا لِلَّهِ وَإِنَّا إِلَيْهِ رَاجِعُونَ (١٥٦)

“We will certainly test you with a touch of fear and famine and loss of property, life, and crops. Give good news to those who patiently endure (155). Who, when

pleaded with them to unite. It also took a strong stance against European colonialism and was banned in Egypt and India by British authorities.

disaster strikes them, say, "Indeed we belong to Allah, and indeed to Him we will return (156)." (Qur'an, 2:155-156).

To address such sustainability challenges, however, requires not only adhering to Islamic norms and values, but also a self-correction and gigantic change through comprehensive and enormous attempts involving all stakeholders (*qawm*), as Allah stated,

إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

"Indeed, Allah will not change the condition of a people until they change what is in themselves." (Qur'an, 13:11).

Furthermore, *Maqasid al-Shari'ah* implementation in the context of Islamic finance and sustainable development is not as straightforward as turning the palm of the hand. As a result, a strong political will based on *Shari'ah* principles (*Siyasah Syar'iyah*) from either an OIC member country or the OIC as a huge organisation —the world's second largest intergovernmental organisation after the United Nations— is required to advance Islamic finance development and keep it on track for the ummah's benefit (*Maslahah*). Accordingly, with this theoretical settings, Ibn Qayyim Al-Jawziyah (d. 1350) suggested in his book *At-Thuruq al-Hukmiyyah fi as-Siyasah Syar'iyah* that the function and principles of *Maqasid al-Shari'ah* must be applied in conjunction with the integration of two additional legal theories, namely *Siyasah Shar'iyah* (*Shari'ah*-oriented public policy) and *Maslahah* (Al-Jawziyah, 2007). Thus, in the context of the OIC member countries' sustainable development strategy and its implementation, governments of OIC countries may use *Siyasah Shar'iyah* to design a set of rules and regulations that comply to the *Maqasid al-Shari'ah* norm while also taking *Maslahah* into account for the benefit of the *ummah*. Additionally, the government may design a plan, guideline, regulations, disposition, and arrangement to hasten the sustainable development agenda in ways consistent with the five dimensions of *Maqasid al-Shari'ah*.

In keeping with Ibn Qayyim's spirit, T. Khan (2019) highlights the absence of Islamic finance for sustainable development and thus suggests that revolutionary changes must be made by Muslim countries to strengthen sustainable development by facilitating a paradigm shift from economic to ecological economy, thereby transforming global financial architecture, developing synchrony between *Maqasid al-Shari'ah*, national goals and SDGs, reforming

Shari'ah governance, and enhancing control and management system of the Islamic finance industry.

10.3 Overall Summary

This study examines the role of Islamic finance in OIC member countries at two levels of analysis: country-level and firm-level analysis. The thesis examines the role of Islamic finance in the performance of OIC member countries' sustainable development on a country-by-country basis. Additionally, this thesis examines other factors associated that could contribute to sustainable development. With regards to the firm-level analysis, this thesis examines the determinants of Islamic banks' sustainability disclosure practices, ascertaining the characteristics of Islamic banks that influence the extent of the disclosure.

To summarise, this thesis responds to the following research questions raised in Chapter 1:

1. Does Islamic finance have a significant impact on the performance of OIC member countries' sustainable development?

The empirical relationship between Islamic finance and sustainable development in OIC member countries revealed a mixed and relatively weak relationship between sustainable development and the Islamic financial system. More precisely, it is evident from two types of statistical analysis (OLS and panel data) that Islamic finance is somewhat ambiguous in its ability to affect the attainment of sustainable development as measured by the SDI.

2. Do the empirical findings regarding Islamic finance and sustainable development support the theoretical presumption (i.e., Islamic finance is positively related to sustainable development)?

As demonstrated in this study, the empirical relationship between Islamic finance and sustainable development deviates from the theoretical presumption. This finding implies that the Islamic financial sector is not necessarily strengthening the OIC member countries to achieve sustainable development.

3. Do the sustainable development determinants that have been tested in prior studies remain significant in explaining factors associated with sustainable development in OIC member countries?

There is evidence that only a few sustainable development determinants remain consistently significant across all statistical samples when it comes to explaining sustainable development factors. More precisely, countries with stronger economic performance (higher FDI and trade growth rates), are not located in tropical regions, and have a higher level of education are more likely to achieve stronger performance in sustainable development.

On the other hand, other variables used to assess the performance of OIC member countries' sustainable development are ambiguous or imprecise. Among other things, it is noted that OIC countries with a higher level of sustainable development have a higher GDP, stronger democratic institutions, host fewer refugees, and perform better on the environment. However, these variables are captured as having mixed or tentative results in the two statistical samples all regions- and GCC-based analysis.

Additionally, this study demonstrates that membership in the GCC, which is frequently cited as an advantage for being the only high-income group among OIC member countries, does not necessarily correlate with a higher level of sustainable development performance; in fact, the results indicate the opposite. El-Zein et al. (2016) argue that the GCC countries are incapable of implementing social and environmental sustainability. Additionally, this evidence could be explained by Zaidan et al. (2019), who argue that the GCC's low level of sustainable development performance is due to the GCC's high level of total carbon dioxide emissions and some of the highest per capita ecological footprints in the Arab region.

4. Does the financial performance of individual Islamic banks in OIC member countries have a significant impact on their corporate sustainability disclosure practices?

The empirical relationship between corporate sustainability disclosure practices and financial performance of Islamic banks in OIC member countries reveals a tentative, mixed, and relatively weak relationship between financial performance variables and sustainability disclosure practices score, which is reflected in the quality of sustainability reporting.

More precisely, it is evident that the size of Islamic banks, as measured by total assets, has an effect on both private and publicly traded companies' corporate sustainability disclosure practices. On the other hand, the influence of another proxy for Islamic bank size, market capitalisation, on publicly traded Islamic banks is somewhat unclear.

Additionally, it is noted that Islamic banks with higher asset quality (lower loan loss reserve ratio) and profitability (higher ROAE) exhibit positive corporate sustainability disclosure practices, even though the relationship is relatively weak in this study.

5. Are the empirical findings regarding the relationship between financial performance and corporate sustainability disclosure practices consistent with the theoretical premise (i.e., financial performance is positively related to corporate sustainability disclosure practices)?

As demonstrated in this study, the empirical relationship between the financial performance of Islamic banks and their corporate sustainability disclosure practices score is less consistent with the theoretical presumption. This finding implies that financial performance indicators alone are unlikely to eliminate the significant barriers to achieving high-quality sustainability disclosure among Islamic banks in OIC member countries.

6. Do other determinants of corporate sustainability disclosure practices that have been tested in prior studies remain significant in explaining factors associated with the corporate sustainability disclosure practices of Islamic banks in OIC member countries?

There is evidence that several determinants of corporate sustainability disclosure practices remain consistently significant across all statistical samples when it comes to explaining corporate sustainability disclosure factors. More precisely, Islamic banks with a larger *Shari'ah* supervisory board and those located in countries with French as the legal origin are more likely to achieve a higher level of corporate sustainability disclosure practices, as reflected in their sustainability reporting. On the other hand, there is substantial evidence that Islamic banks located in the MENA region or the GCC countries are unlikely to achieve an adequate level of corporate sustainability disclosure.

In terms of the effect of geographical region on the quality of corporate sustainability reporting, the evidence generally supports Adams (2002) argument that the differences between countries

and regions in terms of their national culture and moral principles can influence an organisation's ethical behaviour and, as a result, the issues prioritised for corporate sustainability reporting. Simultaneously, if Islamic banks in MENA or the GCC region exhibit a negative correlation with corporate sustainability disclosure practices, this could support El-Zein et al. (2016)'s argument that the GCC countries are, unfortunately, incapable of implementing social and environmental sustainability.

10.4 Contribution to Knowledge

Prior research on sustainable development has attempted to construct indices or benchmark scores for assessing sustainability and sustainable development at both the country and firm level. While there are numerous approaches and methodologies for measuring the MDGs at the country level (i.e., Fukuda-Parr et al., 2013; Hailu & Tsukada, 2011; Leo, 2010; Leo & Barmeier, 2010; Leo & Thuotte, 2011; Vandemoortele et al., 2014), the SDGs measurement has tended to be very limited and more centralised to a study conducted by J. Sachs et al. (2016) and Schmidt-Traub et al. (2017a) in the form of the SDGs Index and Dashboard-Sustainable Development Report. Both the MDGs and SDGs indices are built around a set of characteristics and indicators that can be used to quantify and describe the country level of sustainable development.

However, the indexes are not adequately supported and remain incomplete to some extent. For example, this present study varies from a study by Fukuda-Parr et al. (2013) that it does not only require data from the MDGs period (1990-2015), but also data indicators from countries prior to the introduction of the MDGs (before to 1990). This, in the case of OIC countries, is relatively unavailable due to the lack of data as this has also been the main concern of many scholars (i.e., Dar & Khan, 2011; Easterly, 2009; J. Sachs, 2012). Additionally, this study differs from one conducted by Hailu and Tsukada (2011), which focused exclusively on decision makers' commitment (MDG Goal 8) rather than on changes in the levels of the majority of variables.

Accordingly, Hailu and Tsukada's (2011) work may have been obscured or misinterpreted in relation to MDGs progress measurement, as Fukuda-Parr et al. (2013) and Leo and Thuotte (2011) have both criticised. Thus, this study replicates the work of the Centre for Global

Development as presented by Leo (2010), Leo and Barmeier (2010), and Leo and Thuotte (2011) for MDGs index measurement, as well as the work of J. Sachs et al. (2016) and Schmidt-Traub et al. (2017a) for SDGs index measurement. Both indices' results are merged to provide a more updated and comprehensive indicator of SDI.

With such replication in place, it is possible to conduct empirical research on the causes of sustainable development. Despite significant notes on the role of the financial system in shaping sustainable development (Horner, 2017) and, more specifically, the role of Islamic-based financial systems (H. Ahmed et al., 2015) in shaping sustainable development, there are relatively few studies on the subject. To some extent, those studies are far from exhaustive, country-specific, or narrative in form. Apart from evaluating the main factors of sustainable development, the current study therefore examines the role of Islamic finance in shaping sustainable development, as an Islamic-based financial system does.

Regarding the firm-level analysis of sustainability, only a few studies have examined corporate sustainability disclosure from the standpoint of sustainability theory, which includes three dimensions: social, economic, and environmental. Indeed, many studies use the phrase 'business sustainability practices' while in fact they refer solely to social activities (Christmann, 2000; Pelozo, 2009; Platonova et al., 2018). Additionally, the majority of prior research on corporate sustainability disclosure has used content analysis of annual reports or other publicly available data to determine a company's sustainability (i.e., Jan, Marimuthu, Hassan, et al., 2019; Nikolaou, 2019; Nikolaou et al., 2019). Furthermore, few studies examined the substance of corporate sustainability practices using corporate disclosures as the basis for index construction (i.e., Nikolaou et al., 2019; Platonova et al., 2018) and scoring system (Jan, Marimuthu, Hassan, et al., 2019; Jan, Marimuthu, & Mohd, 2019) or ESG (environmental, social and governance) score-based measurement (i.e., Friede et al., 2015; Taliento et al., 2019). The index or scoring system was built primarily on the basis of content analysis of annual reports or other publicly available data that could quantify and explain the level of sustainability disclosure practises (i.e., Jan, Marimuthu, Hassan, et al., 2019; Nikolaou, 2019; Nikolaou et al., 2019), whereas ESG scores are typically based on data provided on-demand by rating agencies.

However, content analysis techniques that rely on topic-based individual item or phrase recognition are ineffective and inefficient to a certain extent. As a result, our study differs from

Jan, Marimuthu, and Mohd (2019) work in two ways. To begin, this study varies from Jan, Marimuthu, and Mohd (2019) in that it takes a stakeholder theory approach to managing sustainability disclosure practices as a component that promotes financial performance. On the other side, this study applies the slack resource theory, claiming that firms with slack resources can invest more in sustainability sustainability (Waddock & Graves, 1997). Second, this study also varies from Jan, Marimuthu, and Mohd (2019) in that they employ a modified GRI framework in their content analysis technique by specifying parameters for measuring particular items. The current study, on the other hand, used a content analysis technique of frequency distribution of words (social, economic, and environmental). This method of content analysis is quite reliable and reproducible, whereas other methods such as sentence counting, phrase recognition, and topic-based individual item analysis are inefficient, only feasible for a very small sample size, require a great deal of time and effort, are prohibitively expensive (Dicle & Dicle, 2018; Forgas et al., 2013; Grimmer & Stewart, 2013; Hopkins & King, 2010; Pennebaker et al., 2001), subjective, and even quite problematic when the sample (i.e., annual report) is provided in foreign languages other than English (Laver et al., 2003).

Additionally, this study differs in keyways from the study of Mergaliyev et al. (2021). To begin, from a theoretical perspective, Mergaliyev et al. (2021) assess Islamic banks' sustainability disclosure practises by utilising the *Maqasid al-Shari'ah* corollaries to construct the *Maqasid al-Shari'ah* Index and utilising the term 'ethical, social, environmental, and financial,' which is largely similar to the pillars of 'sustainability' used in this study. Second, while Mergaliyev et al. (2021) use content analysis by analysing the content units of documents and texts, this present study uses the content analysis technique of frequency distribution of words with its advantages discussed above which has the advantages described above. Third, Mergaliyev et al. (2021) included financial performance of Islamic banks as a dimension of the *Maqasid al-Shari'ah* index, making it a dependent variable in their study, whereas in the current study, financial performance of Islamic banks (i.e., size, profit, liability ratio, capital ratio, and liquidity ratio) is used as an explanatory variable based on the slack resource theory, which states that financial performance affects the sustainability disclosure practices (Waddock & Graves, 1997). At this stage, although Mergaliyev et al. (2021) stated that the scoring system is 'dichotomous' or binary (an item is scored as a '1' if it appears in the annual report and as a '0' if it does not appear in the annual report), and financial performance of Islamic banks (i.e., ROA, ROE) is included as part of content units, it is unclear how this financial performance is

assessed; is it a simple '1' or '0' if Islamic banks disclose or do not disclose their ROA/ROE in their annual reports, or is it based on their actual quantitative performance (i.e., high/low percentage, profit/loss)?

While it is widely acknowledged that the concept of sustainability is a necessary component of the '*Buen Vivir*' development philosophy, the discussion over the framework for sustainable development persists. As a result of the growth of Islamic finance and the growing interest in sustainable development, this study develops a systematic method for measuring sustainable development performance in OIC member countries at two levels: country-level analysis and firm-level analysis, which are viewed from a macro and micro perspective, respectively. While a combined latest sustainable development agenda (MDGs and SDGs) is produced in the form of the SDI for country-level sustainable development assessment, a corporate sustainability disclosure practises score for Islamic banks in OIC member countries is constructed for firm-level measurement. To my knowledge, this is the first study of its kind to propose a structural classification and measurement technique for OIC countries.

Additionally, empirical evidence from earlier studies on the variables of sustainable development that are likely to have a role in determining countries' degree of sustainable development appears to be incomplete, incomprehensible, and far from definitive. In this study, empirical analysis was undertaken on Islamic financial aspects believed to contribute to social, economic, and environmental sustainability at the country level in OIC member countries (H. Ahmed et al., 2015), as well as other associated factors based on sustainable development theory (Horner & Hulme, 2019; J. Sachs, 2012). Additionally, empirical examination of Islamic banks has been undertaken at the firm level, analysing financial performance determinants as well as general and internal contextual factors (Adams & Kuasirikun, 2000; Waddock & Graves, 1997). Notably, the significance level of factors linked with sustainable development is frequently found at two levels of study.

Additionally, it is worth noting that the concept of development disparities across OIC member countries must be considered. It is noted that significant disparities exist between the 57 OIC member countries in a variety of areas, including Muslim population, economic growth and development, infrastructure development, and ease of doing business (Bashir, Ali, Asrar, & Babar, 2015), financial inclusion, financial structure and regulation, accounting standards, and knowledge gaps regarding *Shari'ah* rules (Mohieldin, Iqbal, Rostom, & Fu, 2015).

Additionally, the OIC member countries include oil-rich countries, newly industrialised states, service-based economies, and least developing countries. As a result, the overall development issue confronting the majority of OIC members has been a source of great concern, not to mention the fact that numerous domestic and regional factors work against these countries achieving sustainable development (Sajilan, Ali, Umar Islam, & Anwar, 2019).

Above all, this study has made a number of significant contributions to the literature on sustainable development and Islamic finance, notably in terms of the role of the Islamic financial system at two perspectives: country- and firm-level of analysis. Firstly, it advances our understanding of the extent to which sustainable development and the Islamic finance coexist in OIC member countries. Although the issue has been discussed in a number of previous studies, this current study provides extensive empirical evidence on the influence of the Islamic finance on the level of sustainable development in OIC member countries, which was previously considered to be narrative and inconclusive. The use of content analysis technique by employing frequency distribution of words method to investigate the Islamic banks' sustainability disclosure practices is considered as making a novel contribution to the body of knowledge.

10.5 Limitations of the Study and Suggestions for Further Research

This study is subject to some limitations. For country-level analysis of sustainable development, the results of the study are based on a relatively small sample of countries (329 country-year observations), where data on both sustainable development indicators — particularly those related to the MDGs— and Islamic finance development indicators are required. The absence of data on the MDGs was also a major criticism levelled at several studies (i.e., Dar & Khan, 2011; Easterly, 2009; J. Sachs, 2012). While data on sustainable development indicators are readily available from a variety of standard databases, comprehensive data coverage is largely lacking, limiting the present study's ability to compute a more comprehensive sustainable development index (i.e., to include more dimensions of MDGs). Similarly, data on the development of Islamic finance are scarce in standard databases.

Although data were available, it was not possible to investigate Islamic financial development prior to 2013, and not all OIC countries were included in the observed period.

In addition, for firm-level analysis of sustainability, the results of the study are also based on a relatively small sample of Islamic banks (529 firm-year observations), where the annual reports and financial performance data of Islamic banks are required to be available. However, it is concerning that not all OIC Islamic banks publish annual reports on their websites, and even if it is available, not all of them are in English or readable pdf documents (i.e., in Arabic, the type of document is images/pictures or scanned pdf). To address these issues, for annual reports presented in Arabic, for example, certain keywords used for content analysis technique must be translated into English, and documents in the form of images/pictures or scanned pdf documents must be converted to readable pdf documents.

The ability of the Islamic finance to achieve sustainable development is somewhat debatable and inconclusive. As stated in numerous prior studies on the role of Islamic finance in promoting sustainable development, Islamic finance has the potential to contribute to greater sustainability in several ways: (i) by promoting resilience; (ii) by increasing social sustainability through financial inclusion and vulnerability reduction; (iii) by achieving environmental and social goals; and (iv) by facilitating sustainable infrastructure development. To examine the financial system's influence on the level of sustainable development in the OIC countries in greater detail, a comparative study of the differences between Islamic and conventional finance systems in promoting sustainable development is clearly required to ascertain their distinct effects and contributions. This comparison will broaden our horizons and enlighten our perspectives in order to address the following question: to what extent and in what capacity does Islamic finance contribute to sustainable development in OIC member countries when compared to its conventional counterpart? Additionally, when analysing and examining this perspective, it is possible to conduct analyses at both the country and firm level. This presents an excellent opportunity for additional research that will make a significant contribution to the research method.

Additionally, while this study concentrated on the impact of Islamic finance development as an overall picture of Islamic financial system (financial and non-financial institutions) on sustainable development performance, the role of Islamic social finance, such as *zakat* and *waqf*, in shaping sustainable development might also be discussed specifically in light of the

latest development agenda, MDGs and SDGs. In the context of *waqf*, for instance, it is noted that there is a growing body of literature on the subject of *waqf*'s potential for land forest conservation, as it is widely believed that forests are the most critical ecosystems for sustainability, as they not only provide food, medicine, and fresh water, but also help maintain the earth's temperature and protect sources of biodiversity (K. M. Ali & Kassim, 2020; Jannah, Ali, Fatria, Sarkawi, & Othman, 2021). However, while numerous studies have been conducted on the concept of *zakat* or *waqf* in the context of sustainable development, the majority of these studies are narrative in nature rather than empirical. As a result, empirical evidence demonstrating the role of Islamic social finance in shaping the MDGs and SDGs is conspicuously absent.

In recent years, research on Environmental, Social, and Governance (ESG) aspects has arisen and been recognised vital for measuring sustainability at the corporate level to capture firm-level sustainability performance. Investors put a premium on the protection of their assets, while those interested in ESG want to contribute to social change by investing in companies with sound ESG policies. In both developed and developing economies, the incorporation of nonfinancial characteristics, such as ethical and ESG factors, into investment decisions has become a prominent trend (Paltrinieri, Dreassi, Migliavacca, & Piserà, 2020; Qoyum, Sakti, Thaker, & AlHashfi, 2022). As stated by Bloomberg and the OECD, around \$40 trillion was invested and managed for ESG purposes in 2021, with this amount predicted to rise to \$53 trillion in 2022, representing a third of all assets under management (AUM).

It is also observed that the trend of incorporating ESG factors has evolved from being only a benchmarking study for creating scores and ratings to becoming a significant factor in investors' investment choices (OECD, 2022). To integrate Islamic banks in a comprehensive ESG analysis is nonetheless still insufficient owing to the fact that only a few of Islamic banks are included in the ESG database and there is a dearth of time series data for Islamic banks. Therefore, exploring and analysing ESG performance of Islamic banks as an alternative to CSDP might also be investigated as part of future research.

To conclude this study, we can state that Islamic finance does not always contribute to the attainment of sustainable development of OIC member countries. It seems that the notion of 'unfinished agenda' as purported by El-Gamal (2011) remains to be valid for many years to come. *Wallahu a'la wa a'lam.*

Appendices

Appendix 1. Supplementary results of MDGs Index calculation

<i>MDGs</i>		<i>Data</i>	
1	Eradicate extreme poverty and hunger	1	Poverty headcount ratio at \$1.25 a day (2011 PPP) (% of the population)
		2	Poverty gap ratio (%)
		3	Prevalence of undernourishment (% of the population)
2	Achieve universal primary education	4	Primary completion rate, total (% of relevant age group)
3	Promote gender equality and empower women	5	School enrolment, primary (gross), gender parity index (GPI)
		6	School enrolment, secondary (gross), gender parity index (GPI)
		7	Seats held by women in national parliament (%)
4	Reduce child mortality	8	Mortality rate, under-5 (per 1,000 live births)
		9	Mortality rate, infant (per 1000 live birth)
		10	Proportion of 1 year-old children immunised against measles
5	Improve maternal health	11	Maternal mortality ratio (modelled estimate, per 100,000 live births)
6	Combat HIV/AIDS, malaria, and other diseases	12	Prevalence of HIV, total (% of population ages 15-49)
		13	Incidence of tuberculosis (per 100,000 people)
7	Ensure environmental sustainability	14	Improved water source (% of the population with access)
		15	Improved sanitation facilities (% of population with access)

<i>No.</i>	<i>Country</i>	<i>Year</i>	<i>Individual score MDG (data)</i>															<i>Data availability (out of 15)</i>	<i>Data availability (%)</i>	<i>Total score</i>	<i>Adjusted score (index)</i>
			<i>1(1)</i>	<i>1(2)</i>	<i>1(3)</i>	<i>2(4)</i>	<i>3(5)</i>	<i>3(6)</i>	<i>3(7)</i>	<i>4(8)</i>	<i>4(9)</i>	<i>4(10)</i>	<i>5(11)</i>	<i>6(12)</i>	<i>6(13)</i>	<i>7(14)</i>	<i>7(15)</i>				
1	Afghanistan	2013	n/a	n/a	1	n/a	0	0	0.5	0.5	1	0.5	0.5	n/a	1	1	1	11	73.33	7.00	63.64
2	Afghanistan	2014	n/a	n/a	1	n/a	0	0	0.5	0.5	1	0.5	0.5	n/a	1	1	1	11	73.33	7.00	63.64
3	Afghanistan	2015	n/a	n/a	1	n/a	0	0	0.5	0.5	1	0	0.5	n/a	1	1	1	11	73.33	6.50	59.09
4	Albania	2013	0	1	0.5	0	0	0	0	1	0.5	0.5	0.5	0	1	0	0	15	100.00	5.00	33.33
5	Albania	2014	1	1	1	1	0	0	0	1	0.5	0.5	0.5	0	1	0	0	15	100.00	7.50	50.00
6	Albania	2015	1	1	1	1	0	0	0	1	0.5	0.5	0.5	0	1	0	0	15	100.00	7.50	50.00
7	Algeria	2013	1	0.5	1	1	n/a	n/a	0.5	0.5	0.5	0.5	0	0	1	0	0	13	86.67	6.50	50.00
8	Algeria	2014	1	0.5	1	1	n/a	n/a	0.5	0.5	0.5	0.5	0	0	1	0	0	13	86.67	6.50	50.00
9	Algeria	2015	1	0.5	1	1	n/a	n/a	0.5	0.5	0.5	0.5	0	0	0	0	0	13	86.67	5.50	42.31
10	Azerbaijan	2013	1	1	1	0	n/a	n/a	0	1	0.5	1	0.5	0	1	0.5	0.5	13	86.67	8.00	61.54
11	Azerbaijan	2014	1	1	1	0	n/a	n/a	0	1	0.5	1	0.5	0	1	0.5	1	13	86.67	8.50	65.38
12	Azerbaijan	2015	1	1	1	1	n/a	n/a	0	1	0.5	1	0.5	0	1	0.5	1	13	86.67	9.50	73.08
13	Bahrain	2013	n/a	1	n/a	0	1	1	0	1	0.5	1	0.5	0	1	0	0	13	86.67	7.00	53.85
14	Bahrain	2014	n/a	1	n/a	0	1	1	0	1	0.5	0.5	0.5	0	1	0	0	13	86.67	6.50	50.00
15	Bahrain	2015	n/a	1	n/a	0	1	1	0	1	0.5	0.5	0.5	0	1	0	0	13	86.67	6.50	50.00
16	Bangladesh	2013	1	1	0.5	1	1	1	0	1	1	0.5	0.5	0	0	0.5	1	15	100.00	10.00	66.67

No.	Country	Year	Individual score MDG (data)														Data availability (out of 15)	Data availability (%)	Total score	Adjusted score (index)	
			1(1)	1(2)	1(3)	2(4)	3(5)	3(6)	3(7)	4(8)	4(9)	4(10)	5(11)	6(12)	6(13)	7(14)					7(15)
17	Bangladesh	2014	1	1	0.5	n/a	n/a	n/a	0	1	1	0.5	0.5	0	0	0.5	1	12	80.00	7.00	58.33
18	Bangladesh	2015	1	1	0.5	1	1	1	0	1	1	0.5	0.5	0	0	0.5	1	15	100.00	10.00	66.67
19	Benin	2013	0	0	1	0.5	1	0.5	0	0.5	0	0	0	0	1	0.5	1	15	100.00	6.00	40.00
20	Benin	2014	0	0	1	0.5	1	0.5	0	0.5	0	0	0	0	1	0.5	1	15	100.00	6.00	40.00
21	Benin	2015	0	0	1	0.5	0.5	0.5	0	0.5	0	0	0	0	1	0.5	1	15	100.00	5.50	36.67
22	Burkina Faso	2013	1	1	0.5	0.5	1	0.5	0	0.5	0.5	0	0.5	1	1	1	1	15	100.00	10.00	66.67
23	Burkina Faso	2014	1	1	0.5	0.5	1	0.5	0	0.5	0.5	0	0.5	1	1	1	1	15	100.00	10.00	66.67
24	Burkina Faso	2015	1	1	0.5	0.5	1	0.5	0	0.5	0.5	0	0.5	1	1	1	1	15	100.00	10.00	66.67
25	Cameroon	2013	0	0	1	n/a	n/a	n/a	0.5	0	0	0.5	0	0	1	1	0	12	80.00	4.00	33.33
26	Cameroon	2014	0	0	1	0	0	0	0	0.5	0	0.5	0	0	1	0.5	0	15	100.00	3.50	23.33
27	Cameroon	2015	0	0	1	0	0	0	0	0.5	0	0.5	0	0	1	0.5	0	15	100.00	3.50	23.33
28	Chad	2013	1	1	0	0	0.5	0.5	0	0.5	0.5	0	0.5	0	0	0.5	1	15	100.00	6.00	40.00
29	Chad	2014	1	1	0	n/a	0.5	0	0	0.5	0.5	0	0.5	0	0	0.5	1	14	93.33	5.50	39.29
30	Chad	2015	1	1	0.5	n/a	0	0	0	0.5	0.5	0	0.5	0	0	0.5	1	14	93.33	5.50	39.29
31	Cote d'Ivoire	2013	0	0	0.5	0	n/a	n/a	0	0.5	0	0	0	1	1	0	1	13	86.67	4.00	30.77
32	Cote d'Ivoire	2014	0	0	0.5	0	0.5	0	0	0.5	0	0	0	1	1	0	1	15	100.00	4.50	30.00
33	Cote d'Ivoire	2015	0	0	0	0	0.5	0	0	0.5	0	0	0	1	1	0	1	15	100.00	4.00	26.67
34	Egypt	2013	1	1	0.5	1	1	0.5	0	1	1	0	0.5	0	1	0	0.5	15	100.00	9.00	60.00
35	Egypt	2014	1	1	0.5	n/a	1	1	0	1	1	0.5	0.5	0	1	0	0.5	14	93.33	9.00	64.29
36	Egypt	2015	1	1	0.5	n/a	n/a	n/a	0	1	1	0.5	0.5	0	1	0	0.5	12	80.00	7.00	58.33
37	Gabon	2013	0	0	0.5	n/a	n/a	n/a	0	0.5	0	0	0	0	1	0	0	12	80.00	2.00	16.67
38	Gabon	2014	0	0	0.5	n/a	n/a	n/a	0	0.5	0	0	0	0	1	0	0	12	80.00	2.00	16.67
39	Gabon	2015	0	0	0.5	n/a	n/a	n/a	0	0.5	0	0	0	0	1	0	0	12	80.00	2.00	16.67
40	Gambia	2013	1	1	0.5	0.5	n/a	n/a	0	0.5	0	0.5	0	0	1	0	0	13	86.67	5.00	38.46
41	Gambia	2014	1	1	0.5	0.5	n/a	n/a	0	0.5	0	0.5	0	0	1	0	0	13	86.67	5.00	38.46
42	Gambia	2015	1	1	0.5	0.5	n/a	n/a	0	0.5	0	0.5	0	0	1	0	0	13	86.67	5.00	38.46
43	Guinea	2013	1	1	1	0.5	n/a	n/a	0.5	0.5	0.5	0	0	0	1	0.5	1	13	86.67	7.50	57.69
44	Guinea	2014	1	1	1	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	1	0.5	1	15	100.00	8.50	56.67
45	Guinea	2015	1	1	1	n/a	n/a	n/a	0	0.5	0.5	0	0	0	1	0.5	1	12	80.00	6.50	54.17
46	Guyana	2013	1	1	0	n/a	n/a	n/a	0	0.5	0	1	0	0	0	0	0	12	80.00	3.50	29.17
47	Guyana	2014	1	1	0	n/a	n/a	n/a	0	0.5	0	1	0	0	0	0	0	12	80.00	3.50	29.17
48	Guyana	2015	1	1	0	n/a	n/a	n/a	0	0.5	0	0.5	0	0	0	0	0	12	80.00	3.00	25.00
49	Indonesia	2013	1	1	1	1	0.5	0.5	0	1	1	0	0.5	0	1	0.5	1	15	100.00	10.00	66.67
50	Indonesia	2014	1	1	1	1	0.5	0.5	0	1	1	0	0.5	0	1	0.5	1	15	100.00	10.00	66.67
51	Indonesia	2015	1	1	1	1	0.5	0.5	0	1	1	0.5	0.5	0	1	0.5	1	15	100.00	10.50	70.00
52	Iran	2013	1	1	0	n/a	1	1	0	1	1	1	1	0	1	0	0.5	14	93.33	9.50	67.86
53	Iran	2014	1	1	0	n/a	1	1	0	1	1	0.5	1	0	1	0	0.5	14	93.33	9.00	64.29
54	Iran	2015	1	1	0	1	1	1	0	1	1	0.5	1	0	1	0	0.5	15	100.00	10.00	66.67
55	Iraq	2013	0	0	0	n/a	n/a	n/a	0	0.5	0.5	0	0.5	n/a	1	0	0	11	73.33	2.50	22.73
56	Iraq	2014	0	0	0	n/a	n/a	n/a	0	0.5	0.5	0	0.5	n/a	1	0	0	11	73.33	2.50	22.73
57	Iraq	2015	0	0	0	n/a	n/a	n/a	0	0.5	0.5	0	0.5	n/a	1	0	0	11	73.33	2.50	22.73
58	Jordan	2013	1	1	1	n/a	n/a	n/a	0	0.5	0.5	0.5	0.5	n/a	1	0	0	11	73.33	6.00	54.55
59	Jordan	2014	1	1	1	n/a	n/a	n/a	0	0.5	0.5	0.5	0.5	n/a	1	0	0	11	73.33	6.00	54.55
60	Jordan	2015	1	1	1	n/a	n/a	n/a	0	0.5	0.5	0.5	0.5	n/a	1	0	0	11	73.33	6.00	54.55
61	Kazakhstan	2013	1	1	1	1	1	1	0.5	1	1	1	1	0	1	0	0	15	100.00	11.50	76.67
62	Kazakhstan	2014	1	1	1	1	1	1	0	1	1	1	1	0	1	0	0	15	100.00	11.00	73.33
63	Kazakhstan	2015	1	1	1	1	1	1	0	1	1	0.5	1	0	1	0	0	15	100.00	10.50	70.00
64	Kuwait	2013	n/a	n/a	0	1	1	1	0	0.5	0.5	0.5	0.5	0	1	0	0	13	86.67	6.00	46.15
65	Kuwait	2014	n/a	n/a	0	n/a	1	1	0	0.5	0.5	0.5	0.5	0	1	0	0	12	80.00	5.00	41.67
66	Kuwait	2015	n/a	n/a	0	n/a	1	1	0	0.5	0.5	0.5	0.5	0	1	0	0	12	80.00	5.00	41.67
67	Kyrgyzstan	2013	1	1	1	1	1	1	0.5	1	0	0.5	0	0	1	0	0	15	100.00	9.00	60.00

No.	Country	Year	Individual score MDG (data)															Data availability (out of 15)	Data availability (%)	Total score	Adjusted score (index)
			1(1)	1(2)	1(3)	2(4)	3(5)	3(6)	3(7)	4(8)	4(9)	4(10)	5(11)	6(12)	6(13)	7(14)	7(15)				
68	Kyrgyzstan	2014	1	1	1	1	1	1	0.5	1	0	0	0	0	1	0	0	15	100.00	8.50	56.67
69	Kyrgyzstan	2015	1	1	1	1	1	1	0.5	0.5	0	0.5	0	0	1	0	0	15	100.00	8.50	56.67
70	Lebanon	2013	1	1	0	0	0	0	0	1	1	0.5	1	0	1	0	0	15	100.00	6.50	43.33
71	Lebanon	2014	1	1	0	0	0	0	0	1	1	0	1	0	1	0	0	15	100.00	6.00	40.00
72	Lebanon	2015	1	1	0	0	0	0	0	1	1	0	1	0	1	0	0	15	100.00	6.00	40.00
73	Malaysia	2013	1	1	0	1	n/a	n/a	0	0.5	0.5	0.5	0.5	0	0	0	0	13	86.67	5.00	38.46
74	Malaysia	2014	1	1	0	1	1	1	0	0.5	0.5	0.5	0.5	0	0	0	0	15	100.00	7.00	46.67
75	Malaysia	2015	1	1	0	1	1	1	0	0.5	0.5	0.5	0.5	0	0	0	0	15	100.00	7.00	46.67
76	Mali	2013	1	1	1	0.5	n/a	n/a	0	0.5	0.5	0	0.5	0	1	1	1	13	86.67	8.00	61.54
77	Mali	2014	1	1	1	0.5	0.5	0.5	0	0.5	0.5	0	0.5	0	1	1	1	15	100.00	9.00	60.00
78	Mali	2015	1	1	1	0	0.5	0.5	0	0.5	0.5	0	0.5	0	1	1	1	15	100.00	8.50	56.67
79	Mauritania	2013	1	1	1	0.5	1	1	0.5	0	0	0.5	0	0	1	1	1	15	100.00	9.50	63.33
80	Mauritania	2014	1	1	1	0.5	1	1	0.5	0	0	0.5	0	0	1	1	1	15	100.00	9.50	63.33
81	Mauritania	2015	1	1	1	0.5	1	1	0.5	0	0	0.5	0	0	1	1	1	15	100.00	9.50	63.33
82	Morocco	2013	1	1	1	0.5	n/a	n/a	0	1	0.5	1	0.5	0	1	0	0.5	13	86.67	8.00	61.54
83	Morocco	2014	1	1	1	0.5	n/a	n/a	0	1	0.5	0.5	0.5	0	1	0	0.5	13	86.67	7.50	57.69
84	Morocco	2015	1	1	1	0.5	n/a	n/a	0	1	0.5	0.5	0.5	0	1	0	0.5	13	86.67	7.50	57.69
85	Mozambique	2013	0.5	1	1	0	0.5	0.5	0.5	1	1	0.5	0.5	0	0	0.5	1	15	100.00	8.50	56.67
86	Mozambique	2014	0.5	1	1	0	0.5	0.5	0	1	0.5	0.5	0.5	0	0	0.5	1	15	100.00	7.50	50.00
87	Mozambique	2015	0.5	1	1	0	0.5	0.5	0.5	1	0.5	0.5	0.5	0	0	0.5	1	15	100.00	8.00	53.33
88	Niger	2013	1	1	1	0	0.5	0.5	0	1	0.5	0.5	0	0	1	1	1	15	100.00	9.00	60.00
89	Niger	2014	1	1	1	0.5	0.5	0.5	0	1	0.5	0.5	0	0	1	1	1	15	100.00	9.50	63.33
90	Niger	2015	1	1	1	n/a	0.5	0.5	0	1	0.5	0.5	0	0	1	1	1	14	93.33	9.00	64.29
91	Nigeria	2013	1	1	1	n/a	0.5	0.5	0	0.5	0.5	0	0.5	0	0	1	0	14	93.33	6.50	46.43
92	Nigeria	2014	1	1	0.5	n/a	n/a	n/a	0	0.5	0.5	0	0.5	0	0	1	0	12	80.00	5.00	41.67
93	Nigeria	2015	1	1	0.5	n/a	n/a	n/a	0	0.5	0.5	0	0.5	0	0	1	0	12	80.00	5.00	41.67
94	Oman	2013	n/a	n/a	1	0.5	1	1	0	1	0.5	0.5	0.5	n/a	1	0	0	12	80.00	7.00	58.33
95	Oman	2014	n/a	n/a	1	1	n/a	n/a	0	1	0.5	0.5	0.5	n/a	1	0	0	10	66.67	5.50	55.00
96	Oman	2015	n/a	n/a	1	1	1	0	1	0.5	0.5	0.5	0.5	n/a	1	0	0	12	80.00	7.50	62.50
97	Pakistan	2013	1	1	0	0.5	0.5	0.5	0	0.5	0.5	0.5	0.5	0	0	0	1	15	100.00	6.50	43.33
98	Pakistan	2014	1	1	0	0.5	0.5	0.5	0	0.5	0.5	0	0.5	0	1	0	1	15	100.00	7.00	46.67
99	Pakistan	2015	1	1	0	0.5	0.5	0.5	0	0.5	0.5	0	0.5	0	1	0	1	15	100.00	7.00	46.67
100	Qatar	2013	n/a	n/a	n/a	0.5	1	1	0	1	0.5	1	0.5	0	1	0	0	12	80.00	6.50	54.17
101	Qatar	2014	n/a	n/a	n/a	0.5	1	1	0	1	0.5	0.5	0.5	0	1	0	0	12	80.00	6.00	50.00
102	Qatar	2015	n/a	n/a	n/a	0.5	1	1	0	1	0.5	0.5	0.5	0	1	0	0	12	80.00	6.00	50.00
103	Saudi Arabia	2013	n/a	n/a	0.5	1	0	0	0.5	0.5	1	0.5	0	n/a	1	1	0	12	80.00	6.00	50.00
104	Saudi Arabia	2014	n/a	n/a	0.5	1	0	0	0.5	0.5	1	0.5	0	n/a	1	1	0	12	80.00	6.00	50.00
105	Saudi Arabia	2015	n/a	n/a	0.5	1	n/a	n/a	0.5	0.5	1	0.5	0	n/a	1	1	0	10	66.67	6.00	60.00
106	Senegal	2013	1	1	1	0	1	1	0.5	0.5	0.5	0.5	0	0	1	1	0.5	15	100.00	9.50	63.33
107	Senegal	2014	1	1	1	0	1	1	0.5	0.5	0.5	0.5	0	0	1	1	0.5	15	100.00	9.50	63.33
108	Senegal	2015	1	1	1	0	1	1	0.5	0.5	0.5	0.5	0	0	1	1	0.5	15	100.00	9.50	63.33
109	Sierra Leone	2013	1	1	1	0	0.5	0.5	0	0	0.5	0.5	1	0	0	1	0.5	15	100.00	7.50	50.00
110	Sierra Leone	2014	1	1	1	n/a	n/a	n/a	0	0	0.5	0.5	0.5	0	0	1	0.5	12	80.00	6.00	50.00
111	Sierra Leone	2015	0.5	1	0.5	0	0.5	0.5	0	0	0.5	0.5	0.5	0	0	1	0.5	15	100.00	6.00	40.00
112	Sudan	2013	1	1	0	0	0.5	0.5	0.5	0.5	0.5	0.5	1	0	1	0	0	15	100.00	7.00	46.67
113	Sudan	2014	1	1	0	n/a	n/a	n/a	0.5	0.5	0.5	0.5	1	0	1	0	0	12	80.00	6.00	50.00
114	Sudan	2015	1	1	0	0	1	1	0.5	0.5	0.5	0.5	1	0	1	n/a	n/a	13	86.67	8.00	61.54
115	Suriname	2013	0	0	1	1	1	1	0	0.5	0	0.5	0.5	0	0	0	0	15	100.00	5.50	36.67
116	Suriname	2014	0	0	1	1	1	1	0	0.5	0	0.5	0.5	0	0	0	0	15	100.00	5.50	36.67
117	Suriname	2015	0	0	1	1	1	1	0	0.5	0	0.5	0.5	0	0	0	0	15	100.00	5.50	36.67
118	Tajikistan	2013	0	0	0.5	n/a	0.5	0	0.5	0.5	1	1	0	0	1	1	0	14	93.33	6.00	42.86

No.	Country	Year	Individual score MDG (data)															Data availability (out of 15)	Data availability (%)	Total score	Adjusted score (index)
			1(1)	1(2)	1(3)	2(4)	3(5)	3(6)	3(7)	4(8)	4(9)	4(10)	5(11)	6(12)	6(13)	7(14)	7(15)				
119	Tajikistan	2014	0	0	1	0	n/a	n/a	0	0.5	1	1	0	0	1	1	0	13	86.67	5.50	42.31
120	Tajikistan	2015	0	0	0.5	0	n/a	n/a	0	0.5	1	0.5	0	0	1	1	0	13	86.67	4.50	34.62
121	Togo	2013	0	0	1	0.5	n/a	n/a	0	1	0.5	0	1	0	0	0	0	13	86.67	4.00	30.77
122	Togo	2014	0	0	1	0.5	n/a	n/a	0	1	0.5	0	1	0	0	0	0	13	86.67	4.00	30.77
123	Togo	2015	0	0	1	0.5	n/a	n/a	0	1	0.5	0	1	0	0	0	0	13	86.67	4.00	30.77
124	Tunisia	2013	1	1	0	0.5	n/a	n/a	0.5	1	0.5	0.5	1	0	0	0	0.5	13	86.67	6.50	50.00
125	Tunisia	2014	1	1	0	1	n/a	n/a	0.5	1	0.5	0.5	1	0	0	0	0.5	13	86.67	7.00	53.85
126	Tunisia	2015	1	1	0	1	n/a	n/a	0	1	0.5	0	1	0	0	0	0.5	13	86.67	6.00	46.15
127	Turkey	2013	1	1	0	n/a	0.5	0.5	0	0.5	1	0.5	0.5	n/a	1	1	0	13	86.67	7.50	57.69
128	Turkey	2014	1	1	0	0	0.5	0.5	0	0.5	1	0.5	0.5	n/a	1	1	0	14	93.33	7.50	53.57
129	Turkey	2015	1	1	0	0	0.5	0.5	0	0.5	1	0.5	0.5	n/a	1	1	0	14	93.33	7.50	53.57
130	Uganda	2013	1	1	0	0	n/a	n/a	0.5	0.5	0.5	0.5	1	1	1	0	0.5	13	86.67	7.50	57.69
131	Uganda	2014	1	1	0	0	n/a	n/a	0.5	0.5	0.5	0.5	1	1	1	0	0.5	13	86.67	7.50	57.69
132	Uganda	2015	1	1	0	n/a	n/a	n/a	0.5	0.5	0.5	0.5	1	1	1	0	0.5	12	80.00	7.50	62.50
133	United Arab Emirates	2013	1	1	0	0.5	n/a	n/a	0	0.5	1	1	0	n/a	1	0	0	12	80.00	6.00	50.00
134	United Arab Emirates	2014	1	1	0	1	n/a	n/a	0	0.5	1	0.5	0	n/a	1	0	0	12	80.00	6.00	50.00
135	United Arab Emirates	2015	1	1	0	1	n/a	n/a	0	0.5	0.5	0.5	0	n/a	1	0	0	12	80.00	5.50	45.83
136	Uzbekistan	2013	1	1	1	0	0	0	0	0.5	0.5	1	0	0	1	n/a	n/a	13	86.67	6.00	46.15
137	Uzbekistan	2014	1	1	1	0	0	0	0.5	0.5	0	1	0	0	1	n/a	n/a	13	86.67	6.00	46.15
138	Uzbekistan	2015	1	1	1	0	0	0	0.5	0.5	0.5	0.5	0	0	1	n/a	n/a	13	86.67	6.00	46.15
139	Yemen	2013	0	0	0.5	0.5	1	0.5	0	0.5	0	0	0	n/a	1	n/a	n/a	12	80.00	4.00	33.33
140	Yemen	2014	0	0	0.5	n/a	n/a	n/a	0	0.5	0	0	0	n/a	1	n/a	n/a	9	60.00	2.00	22.22
141	Yemen	2015	0	0	0	n/a	n/a	n/a	0	0.5	0	0	0	n/a	1	n/a	n/a	9	60.00	1.50	16.67

Appendix 2. Supplementary results of CSDP score calculation

No.	Country	Bank	2016				2017				2018				2019				Overall score	Mean
			Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total		
1	Afghanistan	Afghanistan International Bank	7	48	18	73	1	32	8	41	1	24	5	30	1	23	6	30	174	43.50
2	Bahrain	ABC Islamic Bank	7	30	8	45	7	35	9	51	7	23	13	43	7	15	16	38	177	44.25
3	Bahrain	Ahli United Bank (Al-Hilal Islamic)	23	44	13	80	21	39	14	74	22	32	14	68	20	30	12	62	284	71.00
4	Bahrain	Al Baraka Islamic Bank Bahrain	31	28	13	72	24	31	16	71	26	27	19	72	31	24	23	78	293	73.25
5	Bahrain	Al Salam bank	19	33	10	62	22	26	13	61	9	29	12	50	14	14	9	37	210	52.50
6	Bahrain	Bahrain Islamic Bank	21	30	2	53	25	38	5	68	18	26	5	49	19	29	7	55	225	56.25
7	Bahrain	Bank Al Khair	4	19	4	27	4	17	5	26	4	25	8	37	5	28	10	43	133	33.25
8	Bahrain	First Energy Bank	11	31	5	47	11	32	6	49	10	33	6	49	8	29	6	43	188	47.00
9	Bahrain	GFH Investment Bank	2	19	5	26	2	14	2	18	6	32	5	43	6	27	8	41	128	32.00
10	Bahrain	Gulf International Bank	8	55	23	86	11	74	20	105	6	91	15	112	9	94	20	123	426	106.50
11	Bahrain	International Investment Bank	6	18	6	30	7	18	6	31	8	17	7	32	8	15	6	29	122	30.50
12	Bahrain	Khaleeji Commercial Bank	12	28	7	47	7	31	9	47	8	32	10	50	8	27	9	44	188	47.00
13	Bahrain	Kuwait Finance House Bahrain	18	23	7	48	13	22	7	42	15	19	6	40	14	16	3	33	163	40.75
14	Bahrain	Liquidity Management Centre	5	26	8	39	5	27	9	41	5	24	11	40	5	24	12	41	161	40.25
15	Bahrain	Venture Capital Bank	5	35	11	51	1	11	6	18	2	12	3	17	3	9	6	18	104	26.00
16	Bangladesh	AB Bank Ltd.	24	66	27	117	22	60	23	105	20	49	16	85	25	64	19	108	415	103.75
17	Bangladesh	Agrani Bank Ltd.	79	98	47	224	76	102	41	219	88	64	49	201	33	49	26	108	752	188.00
18	Bangladesh	Al-Arafah Islami Bank Ltd.	35	80	33	148	41	79	29	149	45	70	16	131	22	51	22	95	523	130.75
19	Bangladesh	Bank Asia Ltd.	125	132	92	349	118	121	100	339	106	116	85	307	101	109	95	305	1300	325.00
20	Bangladesh	Dhaka Bank Ltd.	84	91	62	237	54	82	40	176	53	82	22	157	81	79	34	194	764	191.00
21	Bangladesh	First Security Islami Bank Ltd.	17	33	18	68	28	33	26	87	29	53	29	111	17	33	18	68	334	83.50
22	Bangladesh	ICB Islamic Bank Ltd.	12	30	22	64	16	29	18	63	11	20	16	47	11	19	14	44	218	54.50
23	Bangladesh	Islami Bank Bangladesh Ltd.	71	127	56	254	7	16	7	30	65	115	62	242	58	109	56	223	749	187.25
24	Bangladesh	Jamuna Bank Ltd.	117	129	126	372	77	137	108	322	101	109	84	294	70	77	51	198	1186	296.50
25	Bangladesh	Premier Bank Ltd.	56	106	55	217	56	95	56	207	53	73	47	173	56	47	27	130	727	181.75
26	Bangladesh	Prime Bank Ltd	41	59	46	146	140	135	110	385	143	139	123	405	120	136	217	473	1409	352.25
27	Bangladesh	Shahjalal Islami Bank Ltd.	141	134	86	361	96	74	63	233	76	56	42	174	74	53	42	169	937	234.25
28	Bangladesh	Social Islami Bank Ltd.	535	73	70	678	308	49	60	417	627	64	56	747	536	71	47	654	2496	624.00
29	Bangladesh	Southeast Bank Ltd.	100	154	98	352	106	128	125	359	94	108	102	304	82	91	97	270	1285	321.25
30	Bangladesh	Standard Bank Ltd.	71	94	69	234	80	103	69	252	5	3	66	74	90	101	2	193	753	188.25

No.	Country	Bank	2016				2017				2018				2019				Overall score	Mean
			Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total		
31	Bangladesh	Trust Bank Ltd	24	74	41	139	20	54	29	103	11	41	17	69	21	29	19	69	380	95.00
32	Brunei	Bank Islam Brunei Darussalam	12	42	14	68	13	52	9	74	9	49	10	68	6	47	21	74	284	71.00
33	Egypt	Al Baraka Egypt	36	33	12	81	31	24	8	63	27	20	10	57	28	24	10	62	263	65.75
34	Indonesia	Bank Aceh Syariah	202	193	51	446	270	149	51	470	131	113	26	270	89	68	14	171	1357	339.25
35	Indonesia	Bank BCA Syariah	515	134	65	714	463	133	47	643	427	159	48	634	135	79	40	254	2245	561.25
36	Indonesia	Bank BNI Syariah	141	84	30	255	292	134	39	465	23	23	1	47	19	34	2	55	822	205.50
37	Indonesia	Bank BRI Syariah	89	97	23	209	170	113	41	324	327	134	37	498	313	120	46	479	1510	377.50
38	Indonesia	Bank CIMB Niaga	614	242	88	944	580	228	88	896	550	218	90	858	453	199	65	717	3415	853.75
39	Indonesia	Bank Danamon Indonesia, Tbk	540	133	25	698	296	88	28	412	465	126	35	626	330	109	36	475	2211	552.75
40	Indonesia	Bank Jawa Barat Banten Syariah	195	65	17	277	158	65	11	234	170	56	9	235	139	37	15	191	937	234.25
41	Indonesia	Bank Maybank Indonesia, Tbk	287	66	127	480	465	215	95	775	366	206	80	652	705	213	63	981	2888	722.00
42	Indonesia	Bank Mega Syariah	152	76	40	268	144	65	33	242	176	69	43	288	115	92	25	232	1030	257.50
43	Indonesia	Bank Muamalat Indonesia	425	123	37	585	170	126	39	335	137	122	42	301	106	134	17	257	1478	369.50
44	Indonesia	Bank OCBC NISP	91	154	34	279	120	158	22	300	90	108	42	240	289	104	39	432	1251	312.75
45	Indonesia	Bank Panin Dubai Syariah	189	82	18	289	148	62	17	227	148	55	14	217	43	81	18	142	875	218.75
46	Indonesia	Bank Permata	470	124	44	638	448	104	28	580	429	89	58	576	483	109	28	620	2414	603.50
47	Indonesia	Bank Sinarmas	468	137	42	647	198	99	45	342	186	140	40	366	529	228	46	803	2158	539.50
48	Indonesia	Bank Syariah Bukopin	196	59	13	268	181	59	11	251	160	55	8	223	73	60	14	147	889	222.25
49	Indonesia	Bank Syariah Mandiri	26	25	6	57	25	18	6	49	19	15	3	37	26	14	4	44	187	46.75
50	Indonesia	Bank Tabungan Negara	423	149	71	643	477	193	77	747	524	153	71	748	163	218	75	456	2594	648.50
51	Indonesia	Bank Tabungan Pensiunan Nasional Syariah	64	71	58	193	63	33	17	113	27	31	14	72	25	35	17	77	455	113.75
52	Indonesia	Bank Victoria Syariah	10	54	14	78	13	61	12	86	11	59	11	81	9	67	8	84	329	82.25
53	Indonesia	BPD Bank Sumut	307	147	84	538	242	138	76	456	475	131	63	669	347	132	49	528	2191	547.75
54	Indonesia	BPD Daerah Istimewa Yogyakarta	320	177	33	530	323	174	21	518	281	131	30	442	117	66	19	202	1692	423.00
55	Indonesia	BPD DKI	187	89	44	320	634	128	404	1166	697	169	53	919	430	212	27	669	3074	768.50
56	Indonesia	BPD Jawa Tengah	168	221	54	443	180	196	45	421	698	156	52	906	617	125	65	807	2577	644.25
57	Indonesia	BPD Jawa Timur	92	64	35	191	78	82	45	205	88	71	20	179	78	33	46	157	732	183.00
58	Indonesia	BPD Kalimantan Barat	258	58	18	334	210	60	21	291	243	59	27	329	66	48	17	131	1085	271.25
59	Indonesia	BPD Kalimantan Selatan	480	192	44	716	41	85	29	155	455	82	38	575	425	101	20	546	1992	498.00
60	Indonesia	BPD Nusa Tenggara Barat Syariah	174	155	22	351	117	126	30	273	412	123	32	567	76	82	8	166	1357	339.25
61	Indonesia	BPD Sulawesi Selatan dan Sulawesi Barat	434	182	75	691	270	120	70	460	512	167	55	734	429	103	27	559	2444	611.00
62	Indonesia	BPD Sumatera Selatan dan Bangka Belitung	278	175	47	500	571	133	47	751	528	146	42	716	496	169	44	709	2676	669.00
63	Iran	Karafarin Bank	24	40	4	68	26	53	4	83	18	44	5	67	9	47	7	63	281	70.25

No.	Country	Bank	2016				2017				2018				2019				Overall score	Mean
			Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total		
64	Iran	Khavarmianeh (Middle East) Bank	13	96	56	165	13	138	47	198	7	134	43	184	9	86	15	110	657	164.25
65	Iran	Parsian Bank	5	11	1	17	3	14	0	17	2	13	0	15	2	12	0	14	63	15.75
66	Iran	Saman Bank	7	29	6	42	9	33	4	46	9	19	4	32	13	61	10	84	204	51.00
67	Iran	Tejarat Bank	5	20	4	29	2	27	3	32	8	31	1	40	5	33	3	41	142	35.50
68	Jordan	Islamic International Arab Bank	3	8	8	19	4	16	16	36	4	13	13	30	6	17	17	40	125	31.25
69	Jordan	Jordan Islamic Bank	36	35	45	116	29	26	26	81	32	19	19	70	29	14	14	57	324	81.00
70	Jordan	Safwa Islamic Bank (Jordan Dubai Islamic Bank)	17	49	49	115	13	47	47	107	17	31	31	79	25	35	35	95	396	99.00
71	Kuwait	Ahli United Bank Kuwait	18	57	16	91	18	59	19	96	22	44	16	82	36	45	16	97	366	91.50
72	Kuwait	Boubyan Bank	16	41	12	69	16	39	8	63	14	31	7	52	12	29	7	48	232	58.00
73	Kuwait	Kuwait Finance House	12	89	12	113	14	70	10	94	12	56	12	80	7	56	11	74	361	90.25
74	Kuwait	Kuwait International Bank	10	66	14	90	8	63	18	89	14	54	18	86	12	56	12	80	345	86.25
75	Kuwait	Warba Bank	15	55	20	90	10	42	10	62	8	23	12	43	10	6	5	21	216	54.00
76	Lebanon	Blom Development Bank	33	118	38	189	25	83	23	131	25	67	17	109	17	69	17	103	532	133.00
77	Malaysia	Affin Islamic Bank Berhad	9	286	11	306	6	269	12	287	12	233	9	254	6	223	6	235	1082	270.50
78	Malaysia	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	43	90	20	153	13	66	26	105	11	67	26	104	7	55	20	82	444	111.00
79	Malaysia	Alliance Islamic Bank Berhad	91	60	50	201	67	42	35	144	61	54	23	138	26	86	44	156	639	159.75
80	Malaysia	AmBank Islamic	91	60	50	201	67	42	35	144	61	54	23	138	26	86	44	156	639	159.75
81	Malaysia	Bank Islam Malaysia Berhad	77	45	31	153	45	39	44	128	29	37	30	96	7	46	37	90	467	116.75
82	Malaysia	Bank Muamalat Malaysia Berhad	50	129	48	227	55	124	47	226	26	41	33	100	15	90	23	128	681	170.25
83	Malaysia	CIMB Islamic Bank Berhad	62	82	59	203	46	81	57	184	49	77	49	175	28	85	62	175	737	184.25
84	Malaysia	Hong Leong Islamic Bank Berhad	39	55	35	129	22	35	27	84	12	35	20	67	18	30	16	64	344	86.00
85	Malaysia	Kuwait Finance House (Malaysia) Berhad	4	34	9	47	3	36	8	47	4	24	8	36	2	23	6	31	161	40.25
86	Malaysia	Maybank Islamic Berhad	113	83	79	275	112	66	61	239	125	80	56	261	80	136	84	300	1075	268.75
87	Malaysia	MBSB Bank Berhad	5	53	19	77	3	35	15	53	20	43	30	93	12	62	29	103	326	81.50
88	Malaysia	OCBC Al-Amin Bank Berhad	9	38	8	55	10	34	10	54	10	24	11	45	6	23	7	36	190	47.50
89	Malaysia	Public Islamic Bank Berhad	41	91	89	221	36	64	66	166	34	72	77	183	35	95	92	222	792	198.00
90	Oman	Ahli Islamic Bank (Ahli Bank)	31	76	21	128	27	67	19	113	24	73	17	114	25	55	17	97	452	113.00
91	Oman	Allzz Bank (Oman Arab Bank)	21	50	11	82	25	42	10	77	22	46	18	86	21	27	10	58	303	75.75
92	Oman	Bank Nizwa	8	52	19	79	8	45	24	77	11	36	22	69	6	31	19	56	281	70.25
93	Oman	Bank Sohar International	16	95	23	134	15	111	18	144	21	90	23	134	18	63	20	101	513	128.25
94	Oman	HSBC Oman	8	47	18	73	6	71	15	92	6	73	14	93	7	19	18	44	302	75.50
95	Oman	Maisarah Bank (Dhofar Bank)	24	51	20	95	14	51	9	74	13	46	16	75	16	47	10	73	317	79.25
96	Oman	Meethaq Bank (Bank Muscat)	51	94	36	181	50	89	33	172	41	77	34	152	43	75	34	152	657	164.25

No.	Country	Bank	2016				2017				2018				2019				Overall score	Mean
			Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total		
97	Oman	National Bank of Oman (Muzn Islamic Banking)	22	90	9	121	26	78	9	113	18	50	16	84	21	57	14	92	410	102.50
98	Pakistan	Allied Bank	39	81	76	196	41	55	56	152	31	50	45	126	22	48	43	113	587	146.75
99	Pakistan	Askari Bank	3	30	15	48	4	19	12	35	5	20	10	35	10	19	18	47	165	41.25
100	Pakistan	Bank Al Habib Ltd.	10	28	16	54	9	11	9	29	5	5	8	18	5	4	7	16	117	29.25
101	Pakistan	Bank Alfalah Ltd.	55	73	84	212	16	40	13	69	29	40	31	100	30	30	30	90	471	117.75
102	Pakistan	Bank Islami Pakistan Ltd.	10	31	18	59	12	42	18	72	10	41	8	59	4	42	11	57	247	61.75
103	Pakistan	Faysal Bank Ltd. (Ithmaar Bank Bahrain)	5	12	11	28	20	39	21	80	11	28	17	56	9	29	14	52	216	54.00
104	Pakistan	Habib Bank Ltd.	10	42	22	74	10	38	29	77	6	32	12	50	12	37	17	66	267	66.75
105	Pakistan	MCB Islamic Bank Ltd.	7	30	13	50	6	15	9	30	1	4	2	7	4	24	9	37	124	31.00
106	Pakistan	Meezan Bank Ltd.	66	52	51	169	39	45	46	130	34	43	32	109	38	51	24	113	521	130.25
107	Pakistan	National Bank of Pakistan	27	67	49	143	25	55	28	108	25	63	28	116	21	44	28	93	460	115.00
108	Pakistan	Sindh Bank	3	21	9	33	6	16	4	26	6	16	5	27	4	12	7	23	109	27.25
109	Pakistan	Soneri Bank Ltd.	11	32	18	61	6	35	12	53	10	23	12	45	4	5	6	15	174	43.50
110	Pakistan	Standard Chartered Bank Pakistan Ltd.	11	20	15	46	8	13	9	30	0	1	0	1	0	1	0	1	78	19.50
111	Pakistan	The Bank of Khyber	10	18	18	46	10	14	12	36	4	11	10	25	4	17	5	26	133	33.25
112	Pakistan	The Bank of Punjab	6	27	8	41	8	26	11	45	8	17	13	38	11	20	15	46	170	42.50
113	Pakistan	United Bank Ltd.	6	41	25	72	3	16	6	25	6	29	16	51	3	18	6	27	175	43.75
114	Palestine	Palestine Islamic Bank	5	20	22	47	5	17	12	34	3	14	7	24	9	18	7	34	139	34.75
115	Qatar	Barwa Bank (Dukhan Bank)	23	35	19	77	6	5	9	20	7	7	9	23	10	2	5	17	137	34.25
116	Qatar	Masraf AL Rayan	18	35	9	62	20	32	15	67	26	26	12	64	23	25	11	59	252	63.00
117	Qatar	Qatar International Islamic Bank	6	35	5	46	8	38	14	60	5	17	1	23	5	18	1	24	153	38.25
118	Qatar	Qatar Islamic Bank	31	37	17	85	21	37	16	74	19	23	19	61	18	24	10	52	272	68.00
119	Saudi Arabia	Al Bilad Bank	22	26	10	58	18	23	10	51	14	17	9	40	18	27	6	51	200	50.00
120	Saudi Arabia	Al Inma Bank	17	21	7	45	20	21	8	49	17	16	4	37	12	6	5	23	154	38.50
121	Saudi Arabia	Al Rajhi Bank	23	29	23	75	63	15	52	130	30	40	18	88	13	22	4	39	332	83.00
122	Saudi Arabia	Arab National Bank	11	28	7	46	13	29	9	51	16	35	16	67	7	23	15	45	209	52.25
123	Saudi Arabia	Banque Saudi Fransi	29	51	28	108	28	44	12	84	12	14	12	38	26	11	9	46	276	69.00
124	Saudi Arabia	The National Commercial Bank	19	48	17	84	20	56	14	90	12	35	10	57	5	27	9	41	272	68.00
125	Saudi Arabia	The Saudi British Bank (SABB)	22	55	22	99	12	49	11	72	13	41	11	65	4	32	7	43	279	69.75
126	Saudi Arabia	The Saudi Investment Bank	37	44	88	169	36	47	84	167	98	72	63	233	15	35	6	56	625	156.25
127	Turkey	Albaraka Turk Participation Bank	77	84	22	183	96	74	25	195	92	85	46	223	96	89	25	210	811	202.75
128	Turkey	Kuwait Turk Participation Bank - KFH	71	62	18	151	46	48	19	113	58	30	16	104	57	55	17	129	497	124.25
129	Turkey	Turkey Finance Participation Bank	34	61	11	106	48	57	11	116	29	55	10	94	29	58	11	98	414	103.50
130	Turkey	Vakıf Katılım Bankası A.Ş.	35	40	1	76	34	44	0	78	35	24	2	61	28	32	1	61	276	69.00

No.	Country	Bank	2016				2017				2018				2019				Overall score	Mean
			Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total	Social	Economic	Environment	Total		
131	Turkey	Ziraat Katilim Bankası A.Ş.	51	43	4	98	47	50	4	101	45	38	4	87	41	40	2	83	369	92.25
132	United Arab Emirates	Abu Dhabi Islamic Bank	19	39	23	81	16	38	21	75	16	28	20	64	12	25	19	56	276	69.00
133	United Arab Emirates	Emirates Islamic Bank	10	7	5	22	5	3	1	9	6	1	1	8	7	4	0	11	50	12.50
134	United Arab Emirates	Mashreq Al Islami (Mashreq Bank)	0	4	1	5	0	2	0	2	2	20	2	24	2	29	5	36	67	16.75

Appendix 3. Supplementary information on Islamic finance principles

No	Pillar	Definition/conception	Implication	Scripture reference
1	Prohibition of <i>Riba</i> (interest)	<p>i. Etymologically, <i>Riba</i> means ‘increase’, ‘surplus’ or ‘excess’ in Arabic, as this word cited in the Qur’an as ‘<i>rabat</i>’ (Qur’an, 22:5) and ‘<i>arba</i>’ (Qur’an, 92:16).</p> <p>ii. W. Az-Zuhaili (2006) defines <i>riba</i> epistemologically by citing Hanbali and Hanafi definitions as “a commodity surplus without a counter-value in a commutative transaction of property for property.” (W. Az-Zuhaili, 2006, p. 25)</p>	<p>i. According to Islamic law, the only valid loan is a <i>qard hasan</i>, which means ‘a good loan,’ or occasionally referred to as an interest-free benevolent loan (El Diwany, 2010; Nyazee, 2009).</p> <p>ii. Islamic law prohibits charging rent for money because, according to Islam, money lacks intrinsic utility; it does not represent a commodity and is viewed solely as a medium of exchange. Money is fundamentally a store of value that represents its owner’s monetised claim to property rights. When money is lent, these rights are transferred. As no surplus is generated through the act of lending, the lender has no claim on any additional property. Interest repayments are therefore viewed as an infringement on the borrowers’ existing property rights and are deemed unjust (Presley & Sessions, 1994).</p> <p>iii. In business transaction, the prohibition of <i>riba</i> necessitates risk sharing between the financier and the recipient of funds. This condition is satisfied in equity financing, where the contracting parties share profits and losses. Profits are determined ex-post, which means they reflect the added value created by the funded venture and are subject to real economic risks. All parties share these risks in a profit-and-loss sharing arrangement, resulting in more equitable returns during both good and bad times (Zaher & Kabir Hassan, 2001).</p>	<p>The revelation of certain Qur’anic verses on the prohibition of <i>riba</i> comprises of four phases of law in the Qur’an:</p> <p>i. <i>Riba</i> was not prohibited in the first phase; rather, the Qur’an conveys a subtle message that <i>riba</i> is disliked by Allah SWT., whereas charity is amply rewarded (Qur’an, 30:39).</p> <p>ii. The prohibition of <i>riba</i> on Jews (Qur’an, 4:161).</p> <p>iii. <i>Riba</i> is forbidden for Muslims since it is doubled and multiplied, which indicates a high degree of interest is intended (Qur’an, 3:130).</p> <p>iv. The occurrence referred to as <i>riba al nasi’a</i> or debt <i>riba</i>. Along with a clear prohibition of <i>riba</i>, this revelation makes a critical distinction between <i>riba</i> and commerce (Qur’an, 2:275).</p>

No	Pillar	Definition/conception	Implication	Scripture reference
2	Prohibition of <i>Gharar</i> (uncertainty)	<p>i. Etymologically, the term <i>gharar</i> is derived from the Arabic word that means ‘danger’, ‘deceptive’, ‘uncertainty’, and ‘exposure to destruction’.</p> <p>ii. In Islamic law, <i>gharar</i> is defined as “a transaction that deals with cheating, deception, ignorance of what is contracted for, and the inability to deliver.” (W. Az-Zuhaili, 2006, p. 3409).</p>	<p>i. The prohibition of <i>gharar</i> entails a prohibition on transactions and contracts that involve an abnormal amount of risk, speculation, and uncertainty. Any financial product or transaction that lacks material finality, such as that has no direct or indirect connection to a real economic transaction and is used solely for the purpose of earning a return through speculation, is also prohibited.</p> <p>ii. In terms of banking, the prohibition of <i>gharar</i> entails a prohibition on short sales, derivatives, futures, forward contracts, bill discounting, and any other form of speculation that resembles gambling (Ayub, 2012; Usmani, 2002; Visser, 2019).</p>	<p>i. The Qur’an makes no explicit mention of <i>gharar</i>. The Prophet (PBUH) condemned unnecessary <i>gharar</i> (Hadith, Abu Dawud:3376; At-Turmudzi:1230; An-Nasa’i:4518; Ibn Majah:2194; Ahmad:7411).</p> <p>ii. Although there is no specific mention to <i>gharar</i> in the Qur’an, Allah (SWT) said that wrongfully devouring the wealth of others is severely forbidden in Islam (Qur’an, 2:188). Allah further mentioned that commerce is a means of generating profit without unfairly taking the wealth of others (Qur’an, 4:29).</p>
3	Prohibition of <i>Maysir</i> (gambling)	<p>i. <i>Maysir</i>, the Arabic word for ‘gambling’, is derived from the words ‘<i>yasira</i>’, which means simple, and ‘<i>yassara</i>’, which means lucky chance or easy success at obtaining something valuable without working for (W. Az-Zuhaili, 2006).</p> <p>ii. <i>Maysir</i> is translated as ‘gambling’ by the majority of Islamic scholars, or all games of chance that share a desire for profit through deliberate risk-taking (W. Az-Zuhaili, 2006)</p>	<p>Gambling and uncertainty exist in financial terms when one party to a transaction’s liability is uncertain or contingent on an uncertain event; for example, when the price is unknown, or the outcome of the transaction is uncertain to one of the parties. In this regard, the prohibition of uncertainty is analogous to the protection of consumers provided by modern securities laws. The prohibition is intended to avert a zero-sum exchange, which frequently occurs in the case of an uncertain outcome (Venardos & Rashid, 2010).</p>	<p>i. Gambling (<i>maysir</i>) is expressly prohibited in the Qur’an as it contains great sin (Qur’an, 2:219).</p> <p>ii. Further, the Holy Qur’an describes <i>maysir</i> as Satan’s work that must be avoided (Qur’an, 5:90).</p>

No	Pillar	Definition/conception	Implication	Scripture reference
4	Prohibition of <i>Haram</i> (impermissible) activities	<i>Haram</i> (religiously impermissible) activities are those that are explicitly prohibited by the Qur'an and Sunnah, are deemed incompatible with the <i>Shari'ah</i> 's ethical values and objectives or are identified as harmful to society (Dusuki & Abdullah, 2007).	Engaging in <i>haram</i> industries, whether through production, distribution, financing, or investment, does not constitute a lawful source of income, as one cannot profit from an immoral act within the confines of <i>Shari'ah</i> (Shabbir, 2010). As a result, Islamic banks are not permitted to invest in or finance haram industries (i.e., The industries that include alcohol, pork-related products, gambling, pornography, tobacco, and narcotics). Rather than that, Islamic banks are required to conduct a <i>Shari'ah</i> screening process when developing their asset portfolios, a practise that is similar to that of socially responsible investment and ethical funds (M. Iqbal & Molyneux, 2016).	<ul style="list-style-type: none"> i. Many verses in the Qur'an condemned impermissible activities in Muslim transactions. Allah (SWT) clearly said that wrongfully devouring the wealth of others is severely forbidden in Islam (Qur'an, 2:188). ii. Furthermore, Allah condemned those haram foods/drinks and transactions (i.e., intoxicants, gambling, stone alters) are but defilement from the work of Satan, so must be avoided at all costs (Qur'an, 5:90).
5	Promoting the sharing of risks and earnings	Due to the prohibition of <i>riba</i> , <i>gharar</i> , <i>maysir</i> and <i>haram</i> activities, the Islamic financial system incorporates a profit and lost sharing (PLS) component.	The purpose of this principle is to ensure that both parties to a transaction (the capital holder and the capital user) accept their responsibilities in the event of success as well as in the event of risk. Individuals who provide capital will receive a return proportional to the investment's effective goodness, not a fixed amount. As a result, the primary distinction between Western and Islamic banks is the substitution of profit sharing for interest (Muda & Ismail, 2010; Warde, 2000)	A profit-sharing agreement (i.e., <i>mudharabah</i> , <i>musharakah</i>) is an excellent method of wealth distribution (Qur'an, 59:7).
6	Ensuring real economic activities	Along with the prohibition of <i>riba</i> , <i>gharar</i> , and <i>maysir</i> and the adoption of the PLS principle, which are required in the Islamic financial and economic system, Islam defines the intrinsic characteristics of the activities that may be the subject of financial investments and transactions in real economic activities.	All financial transactions must be supported by real activities and not simply be exchanges of money or the buying and selling of financial debts (as it is in the case of swaps and derivatives in general). According to the analysis of the principles outlined, the prohibition on <i>riba</i> is closely related to monetary and financial activity, whereas the other four prohibitions concern the real economy, specifically the socially responsible behaviour of businesses and investors.	The ban of <i>riba</i> implies that all commercial and financial transactions in Islam must be based on actual economic transactions (Qur'an, 30:39; 4:161; 3:130; 2:275).

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