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MANCHESTER

Emerging digital banking service quality dimensions and their impact on elderly customer satisfaction and engagement: a study in Sri Lankan context.

Pasan Gunaratne

Supervised by:

Dr. Tahir Rashid

Dr. Ambarin Khan

**University of Salford**

**Salford Business School**

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## Abstract

This research is based on the impact of emerging digital banking service quality dimensions on elderly customer satisfaction and engagement in Sri Lankan context. Security and privacy, perceived usefulness, perceived ease of use, perceived personalization and web aesthetics have been identified as the emerging service qualities in this new age of digital banking. Research on emerging service quality dimensions has become very crucial to both academics and practitioners; however, very little scholarly research has directed service marketers as to how they can influence on elderly customer satisfaction and engagement. In recognition of these current gaps of knowledge, this thesis investigates three research gaps that are addressed through three research questions. First, the research explores how security and privacy, perceived usefulness, perceived ease of use, perceived personalization and web aesthetics influence the elderly customer satisfaction (RQ1). Second, the research investigates the influence of perceived personalization on elderly customer engagement (RQ2). Third, it investigates the impact of in-person engagement and digital engagement on elderly customer satisfaction (RQ3).

To address the three research questions, research in this thesis employed a theory building study, followed by a theory-testing study, using a mixed-method approach. Study one used convergent interview method to collect data from 30 elderly customers who are engaged with a digital banking service provider for more than 6 months. The study qualitatively explored the interviewees' perceptions of the security and privacy, perceived usefulness, perceived ease of use, perceived personalization, web aesthetics, in-person engagement and digital engagement. Study two collected data from digital banking customers (above the age of 60) of two leading retail banks in Sri Lanka, resulting in a sample of n=275. The data was collected using a web-based survey that contained 28 items. The factors contained in the conceptual model were drawn from both the literature and the theory-building study. The measurement items were drawn from prior research and thematic findings. Five-point Likert scale was used to measure the items. Structural equation modelling (SEM) was then used to analyse the hypothesized relationships in the model. Four out of nine hypothesized relationships were supported by the results of this theory-testing study

The results of the study confirm that, all the five service quality dimensions identified (security and privacy, perceived usefulness, perceived ease of use, web aesthetics and

perceived personalisation) are distinct constructs. The results also indicate that all five service quality dimensions have appropriate reliability and each dimension has a significant correlation with other dimensions and make a significant influence on digital banking habits of elderly customers on digital platform. Findings suggest that the perceived usefulness is the key driver of elderly customer satisfaction on digital banking, followed by in-person engagement, perceived personalization, security and privacy, perceived ease of use and web aesthetics respectively. It means that elderly customers are more satisfied and engaged if the digital banking service provider augment the value proposition of digital banking with a clear understanding of the special needs they have. In other words, elderly customers are willing to engage and learn more on digital banking and have a much better and fully fledged customer experience on digital platform.

Key words: Service quality dimensions, digital banking, perceived - personalization, engagement and usefulness, customer satisfaction, in-person and digital engagement.

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# Chapter 1

## Introduction to the Thesis

### 1.1 Introduction

The research contained in this thesis is based on the impact of emerging service quality dimensions on elderly customer satisfaction and engagement in this new age of digital banking in Sri Lankan context. Security and privacy, perceived usefulness, perceived ease of use, perceived personalization and web aesthetics have been identified as the emerging service qualities in this new age of digital banking (Ghosh, 2019; Hoehle et al., 2012). Research on emerging service quality dimensions has become very crucial to both academics and practitioners; however, very little scholarly researches have been directed service marketers as to how they can influence on elderly customer satisfaction and engagement (Ghosh 2019; Bostrom et al., 2013). In recognition of these current gaps of knowledge, this thesis investigates three research gaps that are addressed through three research questions. First, the research explores how security and privacy, perceived usefulness, perceived ease of use, perceived personalisation and web aesthetics correlate with the elderly customer satisfaction? (RQ1). Second, the research investigates the correlation of perceived personalisation on elderly customer engagement (RQ2). Third, it investigates the correlation of in-person engagement and digital engagement on elderly customer satisfaction (RQ3).

To address the three research questions the program of research in this thesis employed a theory building study, followed by a theory-testing study, using a mixed-method approach. Study one used convergent interview method to collect data from 30 elderly customers who have been engaged with a digital banking service provider for more than 06 months. The study qualitatively explored the interviewees' perceptions of the security and privacy, perceived usefulness, perceived ease of use, perceived personalisation, web aesthetics, in-person engagement and digital engagement. Study two collected data from digital banking customers (above the age of 60) of two leading retail banks in Sri Lanka, resulting in a sample of n=275. The data were collected using a web-based survey that contained 28 items. The factors contained in the conceptual model were drawn from both the literature and the theory-building study. The measurement items were drawn from prior research and thematic findings. Five-point Likert scale was used to measure the items. Structural equation

modelling (SEM) was then used to analyse the hypothesised relationships in the model. Four out of nine hypothesised relationships were supported by the results of this theory-testing study.

## **1.2 Background and Research Justification**

This section discusses the importance and justifies the necessity of the research conducted in this thesis. First, it highlights the importance of understanding the global digital revolution and its' impact on the financial market. Then the importance of understanding the global population aging phenomenon (change in the composition of population). Finally the importance of analysing the impact of emerging service quality dimensions on elderly customer segment on digital platform.

### **1.2.1 Industry 4.0 (Digital Transformation) and Its' Impact on Businesses**

The digital transformation of society is not a recent topic. Technology is everywhere, via connected watches, in our pockets with our smartphones and at home with connected objects (Mahraz, et al., 2019).It connects us to a world that makes our lives easier and creates interconnections between people and businesses (Mahraz, et al., 2019). The emergence of new tools based on Artificial Intelligence, and some technological transformations based on Big Data, as well as the development of the use of Internet of Objects, push for a profound change impacting all the business processes of the enterprise (Mahraz, et al., 2019; Arribas and Alfaro, 2018).

In this digital age organisations are changing due to new information and communication technologies, but few have understood how to reap the benefits of this phenomenon (Arribas and Alfaro, 2018). The digital transformation is fundamental for every business, regardless of their size and sector of activity. Beyond the dematerialization of work processes, this approach allows companies to optimize their operations, and to gain in performance, efficiency, and competitiveness through the adoption of a new management mode, new tools, new methods of work but also new reflections and organisations (Mahraz, et al., 2019;Black, 2015; Hoehle et al., 2012). The industry 4.0 has become a significant topic of concern and a strategic issue for all organisations. It offers new opportunities for companies, beyond their traditional activities, by accelerating their growth and creating sustainable competitive advantages and security of operations (Mahraz, et al., 2019; Arribas and Alfaro, 2018).

The digital transformation increases the profitability of the company by simplifying processes and interactions within the company. The technologies linked to the digital transformation such as Big Data, Artificial Intelligence, Cloud Computing, Social Networks and the Internet of Things, offer new uses based on innovation and focused on the needs of the consumer (Mahraz, et al., 2019; Arribas and Alfaro, 2018). The use of these tools has become a vital issue for companies of all types of activities, sizes, and nationalities. However, the implementation of new technologies is not sufficient to make the digital enterprise, it is a broader phenomenon, which supposes not only the use of new digital tools but also the changes of the critical business elements, including strategy, business model, business processes, organisational structures and organisational culture (Arribas and Alfaro, 2018). It is a way of culture to appropriate, not only within companies but also in everyday life. Strategy, as well as changes to an organisation, including its structure, processes, and culture, are required to yield the capability to generate new paths for value creation (Arribas and Alfaro, 2018). It is quite evident that industries such as financial, health, education, hospitality, sports and many other sectors are being digitally transformed. But however financial sector is in the forefront of the digital transformation in terms of making use of right tools such as Big Data, AI, Cloud Computing and also dynamically changing the business model, structure and the organisational culture (Mahraz, et al., 2019; Arribas and Alfaro, 2018). Thus, this study focuses on the digital transformation of the financial sector.

### **1.2.2 Industry 4.0 (Digital Transformation) and Its' Impact on Financial Sector**

Over the past three decades, the proliferation of new information and communication technologies within the financial industry has impacted the way banks service their customers. In particular, self-service technologies have enabled banks to pursue an electronically mediated multi-channel strategy (Black, 2015; Hoehle et al., 2012). From the consumer's perspective these new technologies provide new modes of data access, analysis and decision-making regarding one's financial management (Hoehle and Huff, 2009; Chi Lee, 2009). The first self-service technologies in the finance sector emerged in the 1970s when banks installed the first automated teller machines (ATMs) (Pratibha, 1996). This was followed by telephone banking services in the 1980s (Ahmad and Buttle, 2002), and in the 1990s, with the emergence of the Internet, banks further extended their existing distribution channels by offering web-based banking applications (Bhattacharjee, 2000; Suh and Han, 2002). Over the past decade, the proliferation of mobile technologies such as mobile phones, PDAs, and smart phones have encouraged banks to provide mobile banking applications

(Hoehle et al., 2012; Scornavacca et al., 2004; Barnes and Corbitt 2002). The increased availability of electronically mediated self-service technologies in the banking industry has changed the way banks service their customers (Ghosh, 2019; Hoehle et al., 2012). Banking customers today can access, through a variety of different channels, sets of powerful tools which allow them to conduct analyses, make decisions and enact financial transactions via working from their home, office or elsewhere (Ghosh, 2019). Following practice, research into the adoption and use of electronic banking channels has grown substantially over the last three decades (Hoehle et al., 2012; Lichtenstein and Williamson, 2006).

A study conducted by the Financial Brand, covering the banking sector tell us that bank branch traffic has dropped by more than 60% over the last several years and that the contingent of consumers requiring a physical location continues to go down. (Financial Brand 2019). With the dawn of industry 4.0, now we are on the cusp of a second inflection point in modern banking (Financial Brand, 2019; Forbes 2019; Harvard Business Review, 2018). The first wave was marked by fintech disruption, in the form of customer-centric experiences for a narrow set of financial services (Financial Brand, 2019). The second inflection point comes as the financial needs of a generation of digital natives mature and those same fintech disruptors are now forced to add depth and breadth to their offering, focus on customer retention, and manage an expanded product line. (Forbes, 2019: Harvard Business Review 2018).

### **1.2.3 Global Ageing Phenomenon and Digital Customer Experiences of Elderly**

Elderly customer segment, called by the demographic cohort- baby boomers (people who were born during the era, after the second-world war and the mid 1960's) is under researched in terms of digital customer experiences (Morschis, 2016) .Understanding the Baby Boomers perception on digital banking and going online in this predominantly digitalised era is of utmost importance for today's bank marketers (Ghosh, 2019; Hoehle et al., 2012).

Moreover the fact that we need to take in to serious consideration is, the world is ageing. Globally, the number of people over the age of 60 will more than double to 2 billion by 2050, according to the UN (The Banker London, 2015). People are tending to live longer across most parts of the world, something that by most measures is a cause for celebration. But plummeting birth rates in both developed and emerging countries are bringing with them a problem (The Banker London, 2015). The UN expects that, for the first time ever in human

history, people over 65 will outnumber children under the age of five by 2047 and the sales of adult nappies already surpass those of baby nappies in Japan, according to estimates by research firm Euromonitor International (The Banker London, 2015).

In this new age of digital banking it is of utmost important to examine what makes elderly customers to go online and what are the new dimensions of service qualities which can influence their satisfaction and the engagement (Ghosh, 2019; Albashrawi and Motiwalla, 2019; Johnson, et al., 2018). As the new technologies evolve and advance new service qualities are emerging and their dimensions are changing (Tyrvaainen, et al., 2020).

Personalisation is a service quality that is changing with the advancement of new technologies (Tyrvaainen, et al., 2020; Blom et al., 2017; Yurova et al 2017). Personalised customer service, more precisely, recommending products and services, customizing offers, showing relevant content and adverts to the user are widely used to increase the customer satisfaction and engagement (Albashrawi and Motiwalla, 2019; Verhoef et al 2015).

In this new domain of digital banking, many studies have been conducted to examine the impact of emerging service quality dimensions of digital banking on customer satisfaction, engagement and business performance (Ghosh, 2019). But however the emerging dimensions of personalisation and the impact of same on the elderly customer satisfaction and engagement have not been significantly examined (Ghosh, 2019; Morschis, 2016). Elderly segment has been neglected and their satisfaction and engagement on digital banking in this new age have not been taken into serious consideration by many researchers (Ghosh, 2019). Hence there is a need for a more dynamic study to examine the emerging service quality dimensions and their impact on elderly customer satisfaction and engagement, especially the impact of personalisation on elderly customers in this new age of digital banking. Theories, concepts and conceptual models employed in the existing studies in the areas of personalisation, cyber security-privacy risk and the technological compatibility of consumers (acceptance and diffusion of technology) are discussed in the chapter of literature review.

This study develops a more comprehensive understanding of the impact of emerging service quality dimensions of digital banking on elderly customer satisfaction by building a model including security and privacy, perceived personalisation, perceived usefulness, perceived ease of use and web aesthetics. Study also aims at identifying the impact of perceived

personalisation on elderly customer engagement on digital banking and in turn the impact of engagement on elderly customer satisfaction in this new age of digital banking.

### 1.2.4 Elderly Population in Sri Lanka

Population ageing is the inevitable result of rising life expectancy and declining fertility (Manike, 2019; Vodopivec and Arunatilake, 2008). Sri Lanka's population is also ageing, which indicates that the percentage of the population who is elderly is increasing (Manike, 2019). This process will continue rapidly in future decades (Manike, 2019; De Silva, 2015). It implies that both the number of elderly and the percentage of elderly will increase, even though the size of the population will stabilize by 2030 (Manike, 2019).

The ageing of Sri Lanka's population was primarily motivated by a fertility decline beginning in the 1960s (Department of Census and Statistics, 2021). Currently Sri Lanka is going through a demographic transition and as a result of same, the ageing population in the country is increasing rapidly (Department of Census and Statistics, 2021). After the 2nd world war as a result of the steady decrease of the fertility rate in the population, and an increase in the life expectation, there had been a continuous increase in the ageing population. A striking feature here is the ratio of the increase of ageing population has been more than the annual increase of population in the country (Department of Census and Statistics, 2021).

Year	Population( '000)		Percentage as a total population	Annual growth rate	
	Total	Aged 60+		Total population	Aged 60+
1948	6657	360	5.4	-	-
1953	8098	437	5.4	2.80	2.81
1963	10582	621	5.9	2.63	3.41
1971	12690	807	6.3	2.22	3.20
1981	14847	986	6.6	1.67	2.10
1991	17015	1393	8.1	1.36	3.45
2001	19186	1916	9.9	1.20	3.10
2011	21114	2765	13.1	0.96	3.67
2021	22375	3997	17.8	0.58	3.69
*2031	22778	5103	22.4	0.18	2.44
*2041	22697	6305	27.8	0.03	2.12

Table 1 – Growth of elderly and the total population of Sri Lanka. (\* Projected)

Source – Department of Census and Statistics – Sri Lanka.

### 1.3 Research Gaps and Guiding Research Questions

There are three gaps noted in the literature. First, previous studies of service quality dimensions of digital banking have not specifically focused on elderly customer segment (Albashrawi and Motiwalla, 2019; Choi, 2019; Amin, 2016). It is evident from the literature that some studies have taken into consideration the service quality dimensions such as cyber security, privacy risk, perceived usefulness, perceived ease of use and web aesthetics in different contexts but however they have examined the impact of these service quality dimensions generally on all customer segments and more towards tech savvy, gen Z and millennials (Ghosh, 2019). To address this gap in the literature the purpose of study one of this thesis is to identify and conceptualise the emerging service quality dimensions through the attitudes, perceptions, conscientious and experiences of elderly customers in this new age of digital banking, while the purpose of study two is to identify the extent of relationships among these service quality dimensions and their degree of impact on elderly customer satisfaction and engagement in this new age of digital banking. Thus, in the first place this research addresses the following research question:

**RQ1:** How service quality dimensions ; security and privacy, perceived usefulness, perceived ease of use, web aesthetics, perceived personalisation correlate with elderly customer satisfaction in this new age of digital banking?

Second, some studies have looked at the impact of perceived personalisation on customer satisfaction and intention to use online and mobile banking but however impact of perceived personalisation on customer engagement has not been tested, especially on elderly customer segment (Tyrvaainen et al., 2020; Ghosh 2019). This current limitation in the literature is addressed through the following research question:

**RQ2:** How perceived personalisation correlates with the elderly customer digital engagement and in-person engagement in this new age of digital banking?

Third, many studies on service quality dimensions of digital banking have focused on a single delivery channel such as online banking or mobile banking (Choi, 2019; Albashwari and Motiwala, 2019; Hoehle et al., 2012). They haven't focused on total digital customer experience in this new age of digital banking. Apart from the login to the online banking application or the mobile banking application, customers also use other digital touch points

such as telephone banking, visiting the main webpage of their digital service provider on product and service information search etc. This study address this gap by considering the total digital experience of the customer in a holistic approach. This limitation is addressed by the following research question;

**RQ3:** How in-person engagement and digital engagement correlate with elderly customer satisfaction on digital banking?

## **1.4 Research Methodology**

These three research questions are addressed through the two planned studies that are outlined in more detail in Chapter Three. What follows is a summary of the research methodology and research design. The research of this thesis follows ‘realism’ in terms of philosophical orientation. This orientation assumes that “reality is real but only imperfectly and probabilistically apprehensible and so triangulation from many sources is required to try to know it” (Sobh and Perry, 2006, p. 1195). In terms of methodological issues, this orientation includes both theory building and theory testing (Healy and Perry, 2000), which this research will undertake.

### **1.4.1 Study One (Qualitative)**

Study one is a theory-building qualitative study. This study uses in-depth interviews with elderly customers who are above the age of 60 and have been engaged with their digital banking service provider for more than 06 months. The study undertaken seeks to understand how security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation are conceptualised when people speak about their experiences with their digital banking service provider. Additionally, the study helps to understand these significant service quality dimensions interrelationships with each other and with customer satisfaction and engagement.

Study participants were recruited from two different retail banks. For the qualitative analysis a total of 30 semi-structured, in-depth interviews were taken. Analysis of the transcripts from the interviews involved the following process. Corbin and Strauss (2008), and Marshall and Rossman (2010) identify a step-by-step process for data analysis coming from interviews: (1) organizing data; (2) immersion in the data; (3) coding the data; (4) generating categories and themes; (5) offering interpretation; (6) searching for alternative understandings; and (7)

writing the report, where the researcher brings meaning and insights to the participants' responses. These steps were followed to analyse the interview data in this study. The outcomes from this theory-building study provide a conceptual framework to guide theory development, which is examined in study two. Additionally, a conceptual model is proposed that is informed by the findings in this study and from the literature.

#### **1.4.2 Study Two (Quantitative)**

Study two builds on the findings from study one. It is a quantitative study in which the conceptual model is operationalized and tested in the digital banking service context. Following the 'realism' orientation, this quantitative study tests the theory built in the first study and addresses the research questions identified for this study. This study investigates theoretical assumptions and hypothesised relationships between the constructs in the model. Study two involved an online survey. The participants were recruited through two leading retail banks in the country. A total of 275 responses were collected. The survey instrument contained 28 items using a Likert scale of 1–5. The data were examined using SPSS and Amos 26 for structural equation modeling (SEM).

### **1.5 Thesis Structure**

In this comprehensive thesis there are six chapters that provide an in-depth exploration of the emerging service quality dimensions in this new age of digital banking. The following chapters are summarized as follows.

#### **1.5.1 Chapter Two**

Chapter Two describes the literature review of emerging service quality dimensions and their impact on customer satisfaction and engagement in this new age of digital banking. Background, theoretical and conceptual definitions and variables related to each dimension are given. Interrelationships among the dimensions are also described.

#### **1.5.2 Chapter Three**

This chapter describes the research design, methodology and the results of the qualitative study (study one). First, it describes the conceptual dimensions of emerging service qualities. It then identifies the interrelationships among these variables and the proposed hypotheses.

### **1.5.3 Chapter Four**

This chapter describes the research design, methodology and the results of the quantitative study (study two). This study builds on the findings from study one. It is a quantitative study in which the conceptual model is operationalized and tested in the financial services sector in the Sri Lankan context. This study investigates theoretical assumptions and hypothesised relationships between the constructs in the model.

### **1.5.4 Chapter Five**

This chapter provides the broader discussion on findings of both studies and their implications. This chapter discusses the results and their contribution to the literature and practice. It also describes the conceptual dimensions of variables and interrelationships among significant variables.

### **1.5.5 Chapter Six**

This chapter discusses the managerial implications of the findings of both studies and it also describes the limitations of the study. Finally it provides concluding remarks.

## **1.5 Summary**

This chapter has introduced the emerging service quality dimensions and described the importance of understanding their correlation with elderly customer satisfaction and engagement in this new age of digital banking. It has provided the background of global digital revolution and the changing landscape of the global population composition. It then identified the research gaps and introduced the research questions. A brief overview of research methodologies for qualitative theory building and quantitative theory testing were provided.

# Chapter 2

## Literature Review

### 2.1 Introduction

Chapter One introduced the program of research in this thesis. The chapter provided the background to the research being undertaken, together with identifying the research questions and potential contributions. Chapter Two provides an extensive review of the literature relating to key emerging service quality dimensions in this new age of digital banking, namely, perceived personalisation, security and privacy, perceived usefulness and perceived ease of use. Both the theoretical and empirical perspectives of these key service quality dimensions are discussed extensively in this chapter as the study in thesis makes a significant contribution to both theory and practice. The chapter begins with a discussion on theories and conceptual models on acceptance and use of innovations and technology, followed by an in-depth discussion on theoretical perspective of personalisation and discuss the theories and concepts of perceived personalisation and its' impact on customer satisfaction and engagement. The subsequent section, 2.3 discusses empirical dimensions of personalisation and how organisations make use of personalisation and how consumers perceive and experience personalisation. Section 2.4 describes both theoretical properties and empirical aspects of security and privacy from the customers' perspective. Section 2.5 describes both theoretical and empirical variables related to perceived usefulness and ease of use form the elderly customers' perspective. Section 2.6 discusses the proposed conceptual frame work to be tested in the qualitative study, supported by the literature review. Finally, section 2.7 provides concluding remarks.

### 2.2 Theories and Conceptual Models on Acceptance and Use of Innovations and Technology

This sub segment of the literature review sheds light to the theories and concepts used to study the adoption, utilisation, and resistance of electronic banking channels by the customers. Identifying the key lenses used and constructs used in the existing literature on technology acceptance and diffusion models will pave the way to develop the most appropriate conceptual model for this study. It is quite evident that DOI, TRA, TPB, TAM and UTAUT have been adopted and extended in most of the studies focused on adoption and

use of innovation and technology. These conceptual models are discussed in the later part of in this section and subsequently the proposed conceptual model for the study.

### **2.2.1 Diffusion of Innovations (DOI)**

Having its' origins in sociology, the Diffusion of Innovations (DOI) theory has been used since the 1960s to explore the adoption of technologies, ranging from agricultural tools to organisational innovation (Rogers, 1995). DOI theory states that innovations are communicated through various channels over time and within a particular social system (Rogers, 1995). Since consumers possess different degrees of willingness to adopt innovations, Rogers (1995) segregated consumers into five categories of individual innovativeness starting from early to late adopters: innovators, early adopters, early majority, late majority and laggards. Rogers (1995) identified five factors determining the rate of adoption of innovations: relative advantage, compatibility, trialability, observability, and complexity. While the first four factors would generally positively correlate with rate of adoption, complexity would commonly negatively affect the diffusion rate (Rogers, 1995). Moore and Benbasat (1991) drew upon DOI theory to develop an instrument to measure the adoption of information technology. Support was found for the following factors impacting on the adoption of IT: relative advantage, ease of use, image, visibility, compatibility, results demonstrability and voluntariness of use. Much literature on the adoption and utilisation of electronic banking channels has been based on diffusion of innovations theory (Ozdermir and Trott, 2009; Ravi et al., 2006; Zolait, 2010). For example, Polatoglu and Ekin (2001) examined the factors associated with adoption initially identified by Rogers (1995), namely relative advantage, observability, triability and complexity in relation to Internet banking services. This study confirmed that younger and better educated bank customers perceived Internet banking as very useful and easy to use (Polatoglu and Ekin (2001). Further, they believed that Internet banking provides a relative advantage over traditional bank branches.

### **2.2.2 Theory of Reasoned Action (TRA)**

TRA is rooted in psychology and was originally developed by Fishbein and Ajzen (1975). TRA argues that individual behaviour is driven by behavioural intentions which can be viewed as a function of individuals' attitudes towards behaviour and their subjective norms. Fishbein and Ajzen (1975) defined attitude towards behaviour as the individual's feelings about performing a behaviour. On the other hand, subjective norm was explained as an individual's perception of whether the behaviour should be performed Fishbein and Ajzen

(1975). This would be driven by the motivation that an individual has to comply with opinions from people who are important to the individual (Tan and Thompson, 2000). Although not focusing on Information Systems specifically, the theory of reasoned action has been frequently used to explain the user intentions for deploying information systems (Tan and Thompson, 2000). Subsequent to the original TRA theory, Ajzen (1991) extended the TRA theory establishing theory of planned behaviour (TPB).

### **2.2.3 Theory of Planned Behaviour (TPB)**

TPB added a perceived behavioural control construct to the TRA (Ajzen, 1991). Ajzen (1991) argued that behavioural intention can find expression in behaviour only if the behaviour in question is under volitional control, (If the person can decide whether to perform or not to perform the behaviour). In many instances behaviour would be influenced by non-motivational factors such as availability of resources (Ajzen, 1991). A number of other studies applied either the theory of reasoned action or the theory of planned behaviour to research consumer behaviour towards electronic banking channels (Abushanab et al., 2010; Lee, 2009; Puschel et al., 2010; Zolait, 2010). Some studies combined these models with specific theoretical constructs from the electronic banking literature — for example, trust in Internet banking solutions (Somali et al., 2009). Tan et al. (2000), explored the factors influencing the adoption of internet banking and extended Rogers's DOI framework by combining it with TRA and TPB. Their study provided a comprehensive way to understand how an individual's attitude and perceived behavioural control influence their intention to use banking services on the Internet (Tan and Thompson, 2001).

### **2.2.4 Technology Acceptance Model (TAM)**

One of the most significant adaptations of TRA theory is the technology acceptance model (TAM) originally developed by Davis (1989). This theory aims to predict how users accept and use a technology and suggests that perceived usefulness and perceived ease of use are of primary relevance for computer acceptance behaviours (Ghosh, 2019; Qualter et al., 2015). Perceived usefulness can be defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis et al., 1989). Perceived ease of use refers to the degree to which a person believes that using a particular system would be free from effort (Davis et al, 1989). Both, perceived usefulness and perceived ease of use would determine an individual's intention to use a system (Davis, 1989). Perceived usefulness was also seen as being directly impacted by perceived ease of use (Davis, 1989).

TAM is often referred to as one of the most influential and most often used theories in information systems (Benbasat et al., 2007; Venkatseh et al., 2003). Several research studies investigated consumers' acceptance of various electronic banking channels using the technology acceptance model or various modifications of it (Lai and Li, 2005; Lee, 2009; Ozdemir and Trott, 2009). Suh and Han (2002), for instance, argued that trust would be one of the most significant determinants of customer acceptance of Internet banking. Integrating this concept into the TAM model, the authors reasoned that trust had a more direct effect on a customers' attitude than perceived ease of use in the Internet banking context. However they found that perceived ease of use had a greater total effect on a customers' actual use (Suh and Han (2002).

### **2.2.5 Unified Theory of Acceptance and Use of Technology (UTAUT)**

UTAUT has been developed in the organisational context where acceptance and use of a technology can be mandatory Venkatesh et al. (2012). Nevertheless, for consumers, there is not an organisational mandate and thus most consumer behaviours are completely voluntary (Venkatesh et al., 2012). Chen and Holsapple (2013), indicate that research topics for e-business can follow different approaches for organisations and consumers. Accordingly, UTAUT2 is proposed as a useful model to understand consumer use of technologies in general (Chen and Holsapple 2013). A key difference between UTAUT and UTAUT2 is that the behaviour intention and the use relationship are moderated by the experience with technology (Chen and Holsapple 2013). Moreover, individual characteristics moderate the effect of habit on the behavioural intention (Chen and Holsapple 2013). Venkatesh et al. (2012), identified three key constructs which explain the consumers' behaviour in the use of technology: hedonic motivation, price value and habit, and they propose gender, age and experience as moderator variables. UTAUT2 models how habit directly affects use behaviour and indirectly through behavioural intention (Benbasat et al., 2007; Venkatseh et al., 2003). Comparing results from UTAUT2 and UTAUT, Venkatesh et al. (2012), found out how the variance explained in both behavioural intention (74 %) and technology use (52%) are substantial, compared to the baseline UTAUT that explained 56% and 40% of the variance in intention and use respectively (Venkatesh et al., 2012).

### **2.2.6 Technology Resistance Theory**

The traditional adoption and acceptance theories have particularly focused on the enabling factors leading to technology adoption (Ghosh, 2019). These studies primarily researched the

benefits individuals gain when using technologies to perform their tasks (Ghosh, 2019). More recently, IS researchers have started to shed light on the influential role of inhibiting factors that prevent individuals from using a given technology (Cenfetelli, 2014; Cenfetelli and Schwarz, 2016; Lapointe and Revard, 2015). Cenfetelli and Schwarz (2016) tested the inhibitors of technology usage model (ITU) and defined technology inhibitors as perceptions held by a user about a system's attributes with consequent effects on a decision to use a system. The important aspect of use inhibitors, in contrast to enablers, is that they act solely to discourage use (Cenfetelli and Schwarz 2016). Durkin et al. (2008), investigated both enabling and inhibiting factors influencing consumer online banking use behaviour. The authors suggested lack of face-to-face contact, lack of trust, and lack of security reassurance would negatively influence consumer's usage with Internet banking portals.

**Theoretical Construct****Definition****Associated  
adoption  
theories**

Relative advantage	“The degree to which an innovation is perceived as being better than its precursor”. Many authors found that the perceived relative advantage of each electronic banking channel is a major factor for individuals to use and adopt a given banking channel.	DOI
Compatibility with consumer values	“The degree to which an innovation is perceived as being consistent with the existing values, needs and past experiences of potential adopters”. Compatibility with consumer values was frequently found to be an important factor for electronic banking use at the individual level. Unless consumers viewed e-banking channels as compatible with their personal values, they would reject e-banking.	DOI
Complexity	“The degree to which an innovation is perceived as being difficult to use”. Much literature suggested that perceived complexity of e-banking would deter consumers from using e-banking channels. The more consumers would view e-banking as complex, the less interested they would be.	DOI

Trialability	<p>“The degree to which an innovation may be experimented with before adoption”. Grounded in DOI theory, various studies found that consumers wish to trial e-banking channels before adopting them in the long-term.</p>	DOI
Observability	<p>“The degree to which the results of an innovation are observable to others”. Observability was an important factor for consumers to adopt and use e-banking channels. Particularly m-banking found that many individuals did not recognize the potential of mobile technologies for banking activities.</p>	DOI
Attitude towards e-banking	<p>“An individual's positive or negative feelings about performing the target behaviour”. Many studies found that consumers' attitudes towards e-banking would be highly important for their intentions to use e-banking services. Particularly studies using TRA and TAM as underlying theories argued that attitude towards e-banking is one of the most important factors for e-banking adoption.</p>	TRA
Subjective norm	<p>“The person's perception that most people who are important to him think he should or should not perform the behaviour in question”. Subjective norms were an important factor for consumers use intentions to use e-banking services. Peers, family members and partners were most often identified as people who were important to research subjects.</p>	TRA

Perceived usefulness	<p>“The degree to which a person believes that using a particular system would enhance his or her performance”. Perceived usefulness was frequently mentioned by authors studying consumers' use behaviour related to e-banking services. A large proportion of these studies used TAM as a theoretical lens to study e-banking adoption at the individual level.</p>	TAM
Ease of use	<p>“The degree to which a person believes that using a particular system would be free of effort”. Ease of use was the most frequently cited determinant for consumers to use e-banking services. Unless e-banking would be easy to use, consumers would reject managing their personal finances via electronic banking channels.</p>	TAM
Behavioral control	<p>“Behavioural control is defined as one's perception of the difficulty of performing a behaviour”. Behavioural control was seen as an important factor for e-banking adoption by studies using TPB as a theoretical foundation. It is important to note that behavioural control had a conceptual overlapping with complexity commonly used by studies employing DOI as a theoretical framework.</p>	TPB
Awareness	<p>“The degree to which consumers' are aware of electronic banking channel”. Awareness was an important factor for consumers to use e-banking and authors argued that consumers were occasionally unaware of e-banking services. This was particularly the</p>	

	<p>case for some m-banking services because consumers were not aware of the fact that most banks offer those services via mobile banking applications.</p>
Accessibility & Convenience	<p>“Allowing customers to access their bank accounts from any location, at any time of the day”. Many authors argued that the accessibility of e-banking is an important factor for consumers. Accessibility was often researched related to ATM machines (e.g., how easy it is to access them) and to mobile banking applications (e.g., if the mobile network is accessible and available). Convenience was also found to be influential for consumers' intentions to use e-banking services and many authors argued that Internet banking offered customers access to bank accounts conveniently from home.</p>
Habit	<p>“The extent to which people tend to perform behaviours (use of electronic banking channel) automatically because of learning”. Habit was often found to be an important factor for consumers use behaviour of e-banking services and authors found that routine behaviour positively influenced consumers' use behaviour.</p>
Consumer and bank loyalty	<p>“The degree to which consumers constantly support an institution”. Particularly studies drawing from marketing literature used consumer' loyalty intentions towards e-banking services as part of their theories and research models.</p>

Confirmation	<p>“Users' perception of the congruence between expectation of e-banking use and its actual performance”. Confirmation was often found to be an important factor for consumers use behaviour related to e-banking services by studies drawing on IS continuance theory.</p>
Costs associated with use	<p>“The associated cost with using e-banking services”. Costs associated with e-banking services usage were frequently found to be inhibiting factors for consumers' use behaviour. Particularly studies focusing on mobile banking argued that costs associated with m-banking usage were a major reason for the slow uptake of these applications.</p>
Fun	<p>“Users enjoyment from using the technology-based self-service banking channel”. Some authors argued that fun would be an important factor for consumers' intentions to use e-banking services. Unless users would enjoy using e-banking services, banking customers would choose traditional means (e.g., branch banking) to manage their finances.</p>
Privacy	<p>“The claim of individuals, groups, or institutions to determine when, and to what extent, information about them is communicated to others”. Privacy was often mentioned as an important prerequisite for consumers' use behaviour related to e-banking services. Individuals would request that banks treat financial information confidentially and do not pass on personal information to others.</p>

Reliability	<p>“Consumers concerns about the reliability of the electronic banking channel”. Multiple authors suggested that e-banking channels must be reliable. The concept of reliability was also frequently mentioned in combination with consumers' trust beliefs and reliability would be a preceding concept of consumer trust.</p>
Satisfaction	<p>“Users' affect for (feelings about) after electronic banking use”. Satisfaction with e-banking channels was often found to be an important factor for consumers' continued intentions to use e-banking services.</p>
Security	<p>“Consumer's perceptions of the uncertainty and adverse consequences of buying a product (or service)”. Security was found to be a major factor influencing consumers' intentions to use e-banking services. If individuals would view e-banking as secure, they would more likely to use them.</p>
Self-efficacy	<p>“An individual's assessment of his or her ability to perform a behaviour”. Multiple authors reported that self-efficacy is an important factor for consumers' intentions to use e-banking services. Particularly elder individuals would often lack self-efficacy and reject using e-banking for managing their personal finances.</p>

Service Quality	<p>“Users' perceptions of the quality of the electronic banking service”. Multiple studies suggested that service quality is essential and individuals who believe that e-banking does not provide a high service quality would not further continue using e-channels.</p>
Trust	<p>“The willingness to make oneself vulnerable to actions taken by the trusted party based on the feeling of confidence or assurance”. Trust was often found to be an influential factor for e-banking adoption and usage. Consumers would need to trust banks and their e-banking platforms in order to electronically manage their finances.</p>
Resistance	<p>“Factors negatively influencing consumer’s resistance to use e-banking services”. Several authors found that consumer resistance explains the relatively low uptake of some e-banking initiatives. Consumers would particularly resist to adopt and use m-banking services for reasons elaborated upon earlier.</p>

*Table 2-1 Constructs used to explain the adoption and utilization of digital banking*

## **2.3 Perceived Personalisation**

Advances in technology have allowed websites to capture users' browsing histories and produce personalised recommendations that match each user's needs (Tran, et al., 2020; Tyrvaainen, et al., 2020; Zanker et al., 2010). Personalisation—developing individualised communication to a particular consumer based on the consumer's implied or stated preferences—has the objective of delivering the right content to the right person at the right time to maximise immediate and future business opportunities (Tran, et al., 2020; Abdel-Hafez et al., 2014). Often used alongside targeting and segmentation to increase the appeal of an ad, through personalisation, companies identify a user, collect their navigation patterns, analyse known preferences of similar users, and estimate their specific preferences to tailor content (Tran, et al., 2020; Roberts and Zahay, 2012; Vesanen, 2007).

### **2.3.1 Personalised Recommendation Service and Accuracy Diversity Dilemma**

Although a great many new products are launched every year, customers have difficulty finding products that they like (Tran, et al., 2020; Choi, et al., 2019; Abdel-Hafez et al., 2014). For example, there are approximate 34 million books available on Amazon (Choi, et al., 2019). So, personalised recommendation service is considered as a solution for helping its customers navigate this volume (Choi, et al., 2019). Internet leaders such as Amazon, Google and Netflix offer personalised recommendation services as an important method of maintaining a sustainable competitive advantage (Choi, et al., 2019). In general, personalised recommendation services provide customers with recommendation lists based on their preferences to broaden their purchasing patterns (Tran et al., 2020; Choi, et al., 2019; Abdel-Hafez et al., 2014). However, recommendations that do not meet customer expectations may lead to rejection of the recommendation and even contempt for the recommendation service (Choi, et al., 2019; Kaminskas and Bridge, 2017; Kim et al., 2010). Most studies on personalised recommendation services have focused on improving the accuracy of the recommendations, which typically generate top-N recommendation lists based on similarities among customer preferences (Choi, et al., 2019; Jiang et al., 2010). However, highly accurate recommendation lists may not help extend customers' purchase patterns because more accurate recommendations indicate narrower recommendation lists (Choi, et al., 2019; Kaminskas and Bridge, 2017). In other words, there is an accuracy-diversity dilemma with

personalised recommendation services (Choi et al., 2019; Kaminskas and Bridge, 2017; Javari and Jalili, 2015). Nonetheless, good personalised recommendation services satisfy customers (Tran et al., 2020; Kaminskas and Bridge, 2017; Hijikata et al., 2009).

Although it has been assumed that personalised recommendation services satisfy customers by recommending products that suit their preferences, there is an argument about the relationship between the accuracy of recommendations and customer satisfaction (Choi et al., 2019; Liang et al., 2007). Some authors believe that accurate recommendation might reinforce customer satisfaction (Choi et al, 2019; Kim et al., 2010; Liang, et al.,2007). However, others claim that highly accurate recommendations and customer satisfaction are not always correlated (Lee and Lee, 2015; Gan and Jiang, 2013; Willemsen, et al., 2011). Furthermore, they claim that diverse recommendations can also influence customer satisfaction (Lee and Lee, 2015; Gan and Jiang, 2013; Willemsen, et al., 2011, Adomavicius and Kwon, 2008).

Choi, et al.(2019), believe it is critical to address this issue because the adoption of recommender systems in enterprises continues to increase, which serves as a driver for increasing sales (Choi, et al, 2019). Thus, they have conducted a study to establish the causal factors that determine customer satisfaction with personalised recommendation services to reconcile these incompatible views (Choi, et al, 2019). To explore this question, they employed the expectancy disconfirmation theory (EDT). According to EDT, customer satisfaction is decided by the difference between the quality level expected by customers and the actual quality of the purchased products, in other words customers are satisfied if the quality of the recommended products is higher than or equal to the quality level they expect (Tran, et al., 2020; Choi, et al., 2019; Oliver, 1980). Then they have measured accuracy, diversity, and customer satisfaction using simulation experiments that are common in research on personalised recommendation services (Choi et al, 2019). Notably, previous studies have measured accuracy and diversity using simulation methods by asking a customer how satisfied he or she is with the recommendation list directly. (Lee and Lee, 2015; Gan and Jiang, 2013; Willemsen, et al., 2011). Finally, they have statistically analysed the simulation output data to determine which factors affect customer satisfaction (Choi et al, 2019). Their research results indicate that accuracy positively affects customer satisfaction, whereas diversity negatively affects customer satisfaction. Thus, they claim that accurate

recommendations are important for improving customer satisfaction. (Choi et al, 2019, Tran, et al., 2020; Abdel-Hafeez et al, 2014).

Thus, these results offer insights into personalising recommendation service providers. The providers must identify customers' preferences correctly and suggest more accurate recommendations (Choi et al, 2019, Tran, et al., 2020; Abdel-Hafeez et al, 2014; Adomavicius and Kwon, 2008). Furthermore, accuracy is not always improved as the number of product recommendation increases (Choi, et al, 2019). Accordingly, providers must propose adequate number of product recommendation (Choi et al, 2019, Tran, et al., 2020).

In the meanwhile, Liang, et al. (2006) finds that content recommendation would be more useful for knowledge management systems, where users are often looking for specific knowledge, rather than for general purpose web sites, whose customers often come for scanning (Liang et al., 2006). Explicit user involvement in the personalisation process may affect a user's perception of customisation, but has no significant effect on overall satisfaction (Liang et al., 2006). They have conducted a study to analyse different theories related to the use of personalised content services and their effect on user satisfaction. Three major theories they have identified are information overload, uses and gratifications, and user involvement (Liang et al., 2006; Adomavicius et al., 2005). The information overload theory implies that user satisfaction increases when the recommended content fits user interests (i.e., the recommendation accuracy increases). The uses and gratifications theory indicates that motivations for information access affect user satisfaction (Liang et al., 2006; Chung et al., 2005). The user involvement theory implies that users prefer content recommended by a process in which they have explicit involvement (Liang et al., 2006). Their findings indicate that information overload and uses and gratifications are two major theories for explaining user satisfaction with personalised services (Liang et al., 2006). Personalised services can reduce information overload and, hence, increase user satisfaction, but their effects may be moderated by the motivation for information access (Liang et al., 2006). The effect is stronger for users whose motivation is in searching for a specific target (Liang et al., 2006; Chung et al., 2005).

### **2.3.2 Personalisation and Privacy Paradox**

A study conducted on continued usage of mobile banking by Albashrawi and Motiwala (2019), finds that customers are willing to trade off privacy for personalisation. In other

words customers are willing to compromise on their privacy concerns in order to get a personalised user experience on mobile banking (Albashrawi and Motiwala, 2019).

Personalisation considers providing tailored services to users based on their behaviours and preferences (Albashrawi and Motiwala, 2019; Yuan et al., 2016; Xu et al. 2011). Since personalised services help to conduct financial transactions in a quicker manner and easier fashion, they can make digital banking users more efficient and effective in their interaction with their digital banking service providers; therefore, they could lead to higher satisfaction among those users. (Yuan et al., 2016; Tong et al., 2012). This suggests that personalisation can influence the level of satisfaction among digital banking users positively (Thongpapanl and Ashraf, 2011; Wang and Groth, 2014). For example, through personalisation a bank can improve on the usefulness and ease of use of mobile banking app and online banking application by conveniently placing the services frequently used by the customers at the primary user interface, which enhances their usability, thereby increasing user satisfaction (Wang and Groth, 2014; Yuan et al., 2016).

However, Albashrawi and Motiwalla (2019), finds that, although privacy is very crucial aspect in mobile banking app, some customers have a high confidence in the bank that their information will not be accessed or shared with a third party, hence, they don't show a high concern about privacy (Albashwari and Motiwala, 2019). Also they find that participants focus on efficient and flexible performance of their banking interactions without giving much thought to the aspects of privacy and personalisation (Albashwari and Motiwala, 2019; Yuan et al., 2016) However, they find that personalisation has a direct significant impact on continued usage intention of mobile banking. Privacy, in contrast, is not significantly related to continued usage of mobile banking (Albashwari and Motiwala, 2019; Yuan et al., 2016). This finding supports the paradox exists between these two factors; when customers are looking for more personalised services, they overlook their privacy concerns (Albashwari and Motiwala, 2019).

Aguirre, et al. (2016), also finds the existance of personalisation and privacy paradox. They indicate that personalisation can both enhance and diminish the engagement with the firm (Aguirre, et al., 2016). Historically, companies reached out to customers at aggregate levels, using media such as flyers, newspapers, magazines or television; today, digital communications are increasingly popular. Digital advertising accounts for over \$145 billion

in spending worldwide (eMarketer, 2015). However, digital communication does not ensure a connection with consumers; consumers rarely look at digital ads (Simola et al., 2011), and click-through rates are often low (Chatterjee et al., 2003; Goldfarb and Tucker, 2011a). In response, firms personalise their communication content and attempt to connect with consumers at the individual level, by providing information that is relevant to each individual consumer in a timely manner (Aguirre et al., 2016). To personalise their messages, firms rely on detailed consumer data (Murthi and Sarkar, 2003), which they collect from various channels to gain an aggregate, 360-degree view of each consumer. Such consumer data are collected during each moment of engagement between a firm and a consumer (Aguirre et al., 2019). In this setting, engagement refers to any consumer–firm interaction that features consumer behavioural responses, such as clicking on an ad message or making a purchase (Aguirre et al., 2019). These data can be stored for each consumer, revealing the type of interaction and the consumer’s response to it (Aguirre et al., 2019). By leveraging these data to define their personalised communications, firms may gain opportunities to create deep connections with customers (Aguirre et al., 2019; Urban et al., 2014), increase the attention consumers pay to an ad (Köster et al., 2015) or enhance response rates (Köster et al., 2015). Yet consumers also may grow concerned about how firms collect and use their data (Aguirre et al., 2015; Bulgurcu et al., 2010). In this sense, consumers might react either positively or negatively to personalised messages (White et al., 2008).

The result is a personalisation-privacy paradox, such that personalisation can both enhance and diminish consumer engagement with the firm (Aguirre et al., 2019). If personalised communications trigger consumers’ privacy concerns about how the firm is collecting and using their personal information, it likely results in decreased engagement (Aguirre et al., 2019). If personalised communications appeal to the consumer, they might create greater desire for the consumer to engage with the firm (Aguirre et al., 2019). This paradox, in turn, defines the outcomes of personalised communications, which have pertinent influences on firm outcomes (Aguirre et al., 2019).

### **2.3.3 Personalised Communications and Privacy Concerns**

Technological developments make it increasingly feasible to collect a variety of information to help firms personalise communications with customers across new media (Aguirre, et al., 2016). Digital technologies are increasingly woven into consumers’ lives, and firms seek to leverage these innovative opportunities to reach each customer on a personal level by

providing more relevant, engaging advertising messages (Aguirre , et al.2016; Trucker et al., 2014). However, as personalisation increases, it may also trigger privacy concerns related to how firms potentially collect and use the information (Trucker et al., 2014; Bacile et al., 2014). There are ways that firms can mitigate these concerns. One way is to grant consumers some control over their privacy rights (Aguirre et al.,2016). Doing so decreases negative reactance, though in reality, such control is difficult for consumers exert and is time-intensive (Aguirre et al., 2016; Trucker et al., 2014; Bacile et al., 2014). Many consumers claim to prefer to exert their own privacy controls though, rather than relying on industry self-regulation or government legislation (Trucker et al., 2014; Bacile et al., 2014).

The growing sophistication of Internet technology, data storage and analytics provides tremendous opportunities to personalise communications in display, search, social and mobile advertising (Aguirre et al., 2019). Display advertising accounts for more than \$27 billion in the US market alone (Aguirre et al., 2016). It includes advertisements that appear in various sections of a Web page (e.g. banner ads), and it often incorporates rich visual and audio elements to capture consumers' attention and garner the majority of organic clicks (Chan et al., 2011), thereby increasing site visits and sales (Fulgoni and Morn, 2009). Search advertising, making up more than \$25 billion in US spending (Aguirre et al., 2016), entails advertisements displayed after a consumer enters a query into a search engine (e.g. Yahoo, Google, Bing). The responses to these queries take the form of sponsored search ads and organic listings (Aguirre et al., 2016). Sponsored search ads typically are textual, and a selected number of them appear above the organic listings and on the right of the search results page. Social media advertising appears on social networking sites (e.g. Facebook, LinkedIn, Twitter, Instagram and Pinterest), (Aguirre et al., 2016). Firms will spend an estimated \$24 billion on social media advertising worldwide in 2015, and more than 65 per cent of this amount will go to Facebook-specific advertising (Aguirre et al., 2016). In addition to advertising, many firms host dedicated pages on social networks, enabling consumers to engage directly with them (Aguirre et al., 2016). Finally, mobile advertising appears on mobile devices, accounting for an estimated \$69 billion in spending worldwide in 2015 (Aguirre et al., 2016), with predictions that it will surpass computer-based advertising by 2016 (Aguirre et al., 2016). As consumers grow more comfortable using mobile devices to shop, investments in mobile couponing are likely to increase too (Aguirre et al., 2016).

Thus, there are a multitude of ways firms can develop personalised communications with consumers. For firms to develop strategic, effective and personalised communication strategies, they must first understand whether and how their communications might prompt privacy concerns, so that they can avoid such barriers (Aguirre , et al.(2019).

To personalise their communications to consumers, firms need to know some information about those consumers. They can collect customer information in either overt or covert manners (Sundar and Marathe, 2010). Overt data collection occurs when the customer knows that his or her information is being collected at that moment (e.g. because he or she provides an email address). However, the boundaries of explicit consent might start to blur if firms also discreetly record customer engagements. For display and search ads, consumers might consent to collections of information about the Web site they are currently visiting or their search query; however, firms might also be gathering information about the consumers' click stream history or the location of the device where the ad is being shown. When consumers view their social media advertising, firms collect data about who the customers and the members of their networks are; when they read mobile ads, the firms might be accessing information about their location, the type of device they are using and their mobile browsing and purchasing behaviours. Thus, a plethora of data available to the firm can help it understand its' consumers and personalise their communications.

When the firm leverages these collected customer data to define and provide relevant, personalised content, it might heighten customers' sense that the firm has some manipulative intent, which could spur privacy concerns. Such concerns are often costly for firms because they heighten customers' risk perceptions and decrease their trust, which reduces their willingness to engage (Van Slyke et al., 2006). Privacy concerns also increase scepticism toward and avoidance of advertising (Baek and Morimoto, 2012) and can prompt negative consumer actions, from providing false information to spreading negative word-of-mouth or seeking stricter regulatory controls (Okazaki et al., 2009; Son and Kim, 2008). All of these reactions reduce the overall effectiveness of advertising (Goldfarb and Tucker, 2011).

Although consumers are clearly concerned about their privacy, they share abundant information in practice. Different explanations are available for such behaviours. For example, the privacy calculus suggests that consumers weigh the risks associated with a loss of privacy against the benefits accrued, such as more personalized offers and discounts

(Sultan et al., 2009). From this perspective, privacy is a commodity, whose value can be quantified (Hann et al., 2007). However, conflicting evidence describes the value of privacy. In one study, consumers were more likely to purchase products from Web sites that offered more privacy, even if the sites charged higher prices (Tsai et al., 2011). In another study, respondents who could choose between two gift cards (\$10 with an assurance of anonymity or \$12 for permission to track their behaviour), had preferences that were dictated largely by which card appeared first (Acquisti et al., 2009). Furthermore, modern data collection tactics make it difficult for consumers to undertake accurate cost–benefit trade-offs, particularly when firms collect information about customers covertly (Chau and Clemons, 2011).

A context-based perspective instead suggests that privacy concerns are situational (Acquisti et al., 2015; Peltier et al., 2009), which makes them weak predictors of behaviour (Acquisti and Gross, 2006). Some consumers disclose more information if they perceive that other people have shared similar information (Acquisti et al., 2011). A Web site’s appearance also can influence the amount of information shared. Alarmingly, people share sensitive information more on unprofessional-looking Web sites, unless they are previously primed to think about privacy (John et al., 2011). Contextual factors also can influence consumers’ reactions to how firms collect information (Bulgurcu et al., 2010). For example, Milne et al. (2008) find that consumers express fewer negative reactions when a well-known firm collects information and that consumers are more permissive for data collection about products rather than services. The manner in which the information is collected may also be influential. Covert data collection causes customers to feel as if they have lost control over their information (Milne et al., 2008). Yet this method also benefits customers, in that they are not subject to constant interruptions or disruptions (DutchNews, 2013; Interactive Advertising Bureaux Europe, 2011). However, covert data collection strategies can also quickly ignite customer wrath (Aguirre et al., 2015).

Perhaps the way the firm handles the information is more pertinent for triggering consumers to consider privacy issues. When a targeted ad combines with obtrusive advertisements (e.g. popup ads), the former ad’s effectiveness decreases (Goldfarb and Tucker, 2011a), likely because customers assume that the firm is being manipulative. Similarly, customers are less likely to accept personalised offers if the firm fails to provide justification for why the use of their personal information is relevant to the offer (White et al., 2008). For example, including a customer’s home address in an email communication might be justified because the

customer lives in an area in which the firm is just starting to offer a specific service. With such a justification, the benefits to the consumer become clearer, which may increase their engagement. That is, if customers recognise the benefits of personalised communications, their privacy concerns may be attenuated. However, if customers are sceptical of personalised communications, and no justification is forthcoming, the value of the ads likely diminishes (Liu et al., 2012).

Each individual firm might not only use collected information about consumers in its own personalised communications but also share that information with third parties. Consumers often have little control over which companies collect their information and with whom they share it (Angwin, 2010). Firms defend such practices on the grounds that information provided to third parties are anonymous, yet evidence suggests that seemingly harmless, anonymous data, when combined with other information, can paint a fairly accurate picture of any individual's identity (Solove, 2004). Combining data from different sources, such as offline credit card purchases and online social network information, can be especially off-putting for consumers, particularly if they were not aware of ever interacting with the firms.

#### **2.3.4 Mitigating factors of privacy risk on personalised communications**

There are ways that firms can mitigate these concerns. One way is to grant consumers some control over their privacy rights. Doing so decreases negative reactance (Tucker, 2014), though in reality, such control is difficult for consumers exert and is time-intensive (Milne et al., 2008). Many consumers claim to prefer to exert their own privacy controls though, rather than relying on industry self-regulation or government legislation (Xu and Teo, 2004). In addition, when Facebook introduced privacy controls, the personalized ads on the social networking site became more effective (Tucker, 2014). When mobile marketing firms ask consumers for permission (Gao et al., 2013) or give consumers an opportunity to indicate their preferred categories (Unni and Harmon, 2007), consumers tend to express more positive attitudes and find more value in the advertising. Even response rates to mobile coupons increase when consumers can indicate their preferences (Bacile et al., 2014).

To reduce privacy concerns, firms also might work to increase consumer trust strategically (Urban et al., 2009). One method to increase consumer trust and mitigate privacy concerns is to provide explicit privacy policies (Miyazaki, 2008; Pan and Zinkhan, 2006). Such policies are effective, even if the privacy policy statements are difficult for consumers to understand

(Milne and Culnan, 2004), and even can prompt people to disclose additional information (Hui et al., 2007; Xie et al., 2006). Contrary to expectations, when government regulations required online Web sites to inform consumers about their cookie practices, customer click-through behaviours actually increased (Aguirre et al., 2015). In this sense, the presence of privacy policy statements seems more important than their comprehensiveness because the wording of various statements does not differentially influence consumer trust (Pan and Zinkhan, 2006).

Another method to build trust is to offer third-party privacy seals. Web sites with weaker reputations, as well as those that sell more expensive products, typically feature privacy seals, such as eTrust, to offer some guarantee to consumers (Karimov and Brengman, 2011). The seals are particularly effective for increasing consumer trust when the consumers' disposition to trust and product involvement both are low (Kim and Kim, 2011). They are also more effective among prevention-focused (as against promotion-focused) consumers (Noort et al., 2008).

Rather than building trust, another fairly new method that a firm can adopt to tackle privacy concerns involves transforming the firm into a social entity. When social cues of intimacy (e.g. friendly tone) appear in personalised messages, privacy concerns wane (Song et al., 2014). Thus, if firms can incorporate social cues into their Web sites, they might decrease privacy concerns. For example, to encourage people to share data, companies can use reciprocity appeals (Schumann et al., 2014), which highlight the free services or value that customers receive in exchange for sharing their personalised information. These appeals are particularly effective on professional-looking Web sites that provide quality content.

These strategies may work for current connections with customers, but firms also must be forward thinking in terms of emerging technologies. Smart sensors and the Internet-of-things allow various devices to collect up-to-the-second information about consumers' daily activities; they also open the possibility for firms to communicate in even more personal manners with consumers, with a resulting increase in the likelihood of privacy concerns. These devices move beyond simple data collection; they are equipped with algorithms that enable them to learn from their interactions with the customer, in support of even greater personalisation and optimisation opportunities (Porter and Heppelmann, 2014). Smart, connected devices will soon be ubiquitous and available in most devices and appliances.

Already on the market, Google's Nest is a smart thermostat that learns user preferences (Kasperkevic, 2013), can interact with other devices to understand how a user behaves and adjusts temperatures accordingly. Mercedes-Benz cars will be able to connect with Nest when the driver is expected to be home and set the temperature ahead of time (Olson, 2014). If Nest can recognize when a driver will be home, marketers similarly could identify when consumers experience a need, such as a carton of milk, and create personalised offers accordingly. Some Samsung refrigerators already connect to the Internet, allowing users to shop directly from their kitchen appliance (Mcnerney, 2012). However, wariness about privacy issues related to these connected devices – including questions about what information will be collected and how it might be used against them (eMarketer, 2015g) – may hinder people from adopting such technologies. Thus, firms must remain cognizant of the privacy concerns on personalised communications when developing future strategies (Aguirre et al., 2017). The goal of personalisation should be to enhance engagement with the firm and not to heighten privacy concerns and prompt disengagement (Aguirre et al., 2017).

### **2.3.5 Impact of personalisation on usage intention of digital banking**

Personalisation considers providing tailored services to mobile banking users based on their behaviours and preferences (Xu et al. 2011). Since personalised services help to conduct financial transactions in a quicker manner and easier fashion, they can make mobile banking users more efficient and effective in their interaction with mobile banking services; therefore, they could lead to higher satisfaction among those users. Personalised services predict satisfaction among Internet banking users (Tong et al. 2012). This suggests that personalisation can influence the level of satisfaction among mobile banking users positively. Empirical studies have validated the moderating role of personalisation on the level of satisfaction (Thongpapanl and Ashraf 2011; Wang and Groth 2014). For example, through personalisation a bank can improve on the usefulness and ease of use of mobile banking app by conveniently placing the services frequently used by the customers at the primary user interface, which enhances their usability, thereby increasing user satisfaction. Thus, when customers are provided with a personalised experience, their satisfaction level will shift up (Albashwari and Motiwala, 2017).

Wang and Cho (2017), finds that customers are capable of recognising the existence of personalised banking services delivered via the internet, for instance, customised financial offers, personalised design of the user web interface, and salutations (Wang and Cho (2017).

This personalisation is found to significantly affect both performance expectancy and effort expectancy in positive ways (Wang and Cho, 2017; Ahmad, et al., 2011; Aderonke, et al., 2010). Personalisation increases perceptions of utility and ease of use, making the delivery of e-banking services more efficient and effective (Wang and Cho, 2017). In turn, ease of use leads to increases in perceived utility and increases in perceived utility leads to increase in intent to use e-banking services (Wang and Cho, 2017; Dahlstrom and Nygaard, 2014). This relationship is enhanced when compatibility with past e-banking experiences are low (Wang and Cho, 2017; Ho and Bodoff, 2014). Personalisation is especially good for all customers but particularly for those inexperienced with the system and that banks may need to make a special effort to personalise services for those customers new to e-banking (Wang and Cho, 2017; Ho and Bodoff, 2014). Wang and Cho, 2017 find that it is worthwhile to invest into a personalised service to facilitate the usage of e-banking for inexperienced users.

### **2.3.6 Personalisation and use of cookies policy in web sites**

#### **2.2.6.1 Cookies**

The most common method of identifying and tracking online consumer activity involves the placement of small text files on a consumer's hard drive that are then offered back to the Web site during subsequent visits by the consumer (Bayan 2001; Gralla 2007; Linn 2005; Millett, Friedman, and Felten 2001). These text files, or "cookies" as they are commonly called, can be designed to persist on the user's hard drive for only the current online session; they can be configured to last for days, months, or years; or they essentially can be designated to last indefinitely. Although they have continually been a concern with respect to online privacy (Jackson et al. 2006; Milne, et al., 2004; Palmer, 2007; Reagle and Cranor 1999), cookies in and of themselves do not constitute violation of an online user's privacy. Indeed, many Web sites require cookies to operate effectively (Chapman and Dhillon 2002). For example, online shopping sites that store items in a virtual shopping cart require the placement of cookies on the shopper's hard drive to identify the shopper as the individual who stored those particular items (Chapman and Dhillon 2002).

Most of the websites use cookies and similar technologies to provide, protect, and improve their products and services, such as by personalising content, offering and measuring advertisements, understanding user behaviour, and providing a safer experience (Miyazaki, 2008; Award, et al., 2006). There are different types of cookie files and they do a number of different jobs such as remembering your preferences and chosen items, assisting you to

improve your site experience as well as trying to ensure that the adverts or offers you see online are more relevant to you (Miyazaki, 2008; Award, et al., 2006). These cookies can be divided mainly into 4 types as strictly necessary cookies, performance cookies, functionality cookies, advertising cookies and social networking cookies (Miyazaki, 2008; Marilyn, 2006).

Strictly necessary cookies provide you with fundamental services of the website such as visit the website or make a purchase, these cookies are essential (Miyazaki, 2008; Marilyn, 2006). Performance cookies collect anonymous information on how people use the site and the data is merged with other users in order to improve how the site operates (Miyazaki, 2008; Marilyn, 2006). For example, utilise, Google Analytics cookies to help the company understand how customers arrive at their site, browse or use the site and highlight areas where they can improve such as navigation, shopping experience and marketing campaigns (Miyazaki, 2008; Marilyn, 2006). The data stored by these cookies never shows personal details from which the visitors' individual identity can be established (Miyazaki, 2008; Marilyn, 2006). Functionality cookies may remember the operations such as your preference so that company can provide you with better services and improve their operation models (Miyazaki, 2008; Marilyn, 2006). Targeting or advertising cookies collect information about your browsing habits in order to make advertising more personalise to you (Miyazaki, 2008; Marilyn, 2006). These cookies may remember the websites you have visited and share them with the third parties such as advertisers (Miyazaki, 2008; Marilyn, 2006). Social networking cookies are used to enable you to share pages and content on the website and services through third-party social networking and other websites (Miyazaki, 2008; Marilyn, 2006). These cookies may also be used for advertising purposes (Miyazaki, 2008; Marilyn, 2006).

However, cookies can constitute an invasion of privacy from several perspectives—namely, their ability to track user information and behaviour; their use by third parties; their covertness; their duration and ubiquity; and consumers' lack of information regarding their usage, degree of threat, and control (Miyazaki, 2008; Marilyn, 2006; Carlos et al, 2005).

#### 2.2.6.2 Tracking User Information and Behaviour

The placement of cookies on an Internet user's hard drive can be accomplished in several ways—for example, by using Web bugs (also referred to as Web beacons, pixel tags, and clear graphic interchange formats [GIFs]) to set the cookie from either the visited Web site or a third-party site (Bayan 2001; Martin, et al., 2003). Regardless of the initial method of

placement, the purpose of a cookie is to record some aspect of online user information—from relatively innocuous data, such as the user moving from a particular Web page, to more private personally identifiable information or passwords—for later retrieval (Chapman and Dhillon 2002; Reagle and Cranor 1999). The information recorded can be explicit information provided by the Internet user (e.g., gender, age, zip code, account numbers), behavioural information regarding user movement from one Web page to the next (including time, duration, and sequence of Web movement), or the tracking of how many times a particular banner ad has appeared during an online session (Martin, et al., 2003; Raghu, et al., 2001).

This information has been of great value to marketers in helping create user profiles to assist in targeting advertisements and product offerings (Caudill and Murphy 2000; Martin, et al., 2003; Raghu et al., 2001). Although much information acquired through cookie use is not directly personally identifiable information, the ability to aggregate various profiles creates the opportunity for such information to become personally identifiable and, as such, has been shown to be a cause of concern to online consumers (Chellappa and Sin 2005).

Unfortunately, recording of such information may constitute an invasion of privacy, depending on the degree of disclosure that accompanies this activity (Caudill and Murphy 2000; Miyazaki and Fernandez 2000; Sheehan 2005). Concerns about this type of information tracking have been raised by technology experts (Berghel 2002; Cranor 1999, 2002), privacy advocates (Dixon and Givens 2004; King 2001), researchers (Caudill and Murphy 2000; Milne 2000; Miyazaki and Fernandez 2001; Sheehan 2005).

### 2.2.6.3 Third-Party Cookie Use

Although the general use of cookies by visited Web sites is a concern of consumers and policy makers alike, perhaps a deeper concern involves the use of cookies placed on the Internet user's hard drive by a party not directly visited by the online consumer. Such "third-party cookies" are often sanctioned by the visited Web site to build consumer profiles by the third-party organisation for targeted marketing purposes (Lavin 2006; Raghu et al., 2001). Concerns about third-party cookies have been reiterated over the years in terms of how they are implemented (Martin, et al., 2003), their lack of control by the consumer (Berghel, 2002), and the possible circumvention of modern browser privacy settings by cooperative actions of offending Web sites (Jackson et al. 2006).

#### 2.2.6.4 Covertness of Cookie Use

Another concern regarding cookie placements is the covert nature of their usage (Miyazaki, 2008; Marilyn, 2006). The placement of third-party cookies is often facilitated by the use of “clear GIFs” that are only one pixel by one pixel in size, which essentially makes them invisible to the consumer (Hoofnagle 2005; Martin, et al., 2003). The Federal Trade Commission of USA has described cookies as a “nonobvious” means of information collection and their undisclosed use as a clear violation of the notice aspect of fair information practices (Miyazaki, 2008). Indeed, even when Web sites disclose the general use of cookies (whether for Web site effectiveness, targeted offers, and so forth), the lack of explicit disclosure of any cookies placed by third parties is still considered a privacy violation (Antón, et al., 2004).

Modern Web browsers are now equipped to provide consumers with the ability to reject or delete cookies in accordance with their privacy preferences (Linn 2005). However, several studies have shown that many consumers do not take advantage of these capabilities (Ha et al. 2006; Jensen, et al., 2005; Milne et al., 2004). Moreover, browsers do not allow users to understand when the cookies that persist on their hard drives are actually used (in essence, retrieved rather than set) by visited Web sites and how the retrieving Web sites use them (Lederer et al. 2004; Millett, et al., 2001).

#### 2.2.6.5 Cookie Prevalence and Persistence

Cookies are the most common method of identifying and compiling information regarding Web users (Bayan 2001; Gralla 2007; Ha et al. 2006; Linn 2005; Martin, et al., 2003). Estimates of cookie use by Web sites vary, but they are often high (particularly among commercial Web sites), with field studies reporting cookie use from 36% to 100% of sites examined (Hoy and Phelps 2003; Jamal, Maier, and Sunder 2005; Martin, et al., 2003). Cookies can also be present on a consumer’s hard drive for a significant duration of time. (Miyazaki, 2008). Although some “session cookies” are designed to last only for the duration of the current online session, other “persistent cookies” are set to last for months or years, some clearly far beyond the life cycle of the computer on which they reside (Hoofnagle 2005; Linn 2005). Although informed users now have the capability of removing cookies, there are complaints that expiration dates cannot be easily altered (Millett, et al., 2001). In addition, Sit and Fu (2001) complain that even when the cookie-setting server specifies an expiration date, there is no guarantee that the Web browser being used to access the Internet will delete the

cookie. Finally, the encoded nature of many cookies prohibits consumers from knowing which cookies to delete to enhance privacy protection and which to save to aid in online functional efficiency (Miyazaki, 2008; Marilyn, 2006).

#### **2.2.6.6 Lack of Consumer Knowledge**

The final perspective from which cookies serve as a problematic concern with respect to online consumer privacy is the general lack of consumer knowledge regarding cookie functions, their degree of threat to privacy, and how to manage them (Miyazaki, 2008). For example, prior research has reported not only that online consumers are often confused about the advantages and disadvantages of cookies but also that most cannot properly identify what a cookie is (Ha et al. 2006; Hoofnagle 2005). Indeed, Jensen, et al., (2005) report that though a vast majority (90.3%) of their experienced Internet user sample claimed to have knowledge of cookies, further probes indicated that only 15.5% of those making that claim demonstrated even simple cookie knowledge. This apparent overconfidence suggests that consumers may have limited capability to deal effectively with the potential for cookie-related invasions of privacy (Miyazaki, 2008). Indeed, evidence suggests that most consumers do not use available technology to prohibit cookies from being placed on their hard drives (Ha et al. 2006; Jensen, et al., 2005; Milne, et al., 2004).

## **2.4 Security and Privacy**

### **2.4.1 Cyber-Security**

Economics puts the challenges facing cyber-security into perspective better than a purely technical approach does (Moore, 2010). Systems often fail because the organisations that defend them do not bear the full costs of failure (Moore, 2010). For instance, companies operating critical infrastructures have integrated control systems with the Internet to reduce near-term, measurable costs while raising the risk of catastrophic failures, whose losses will be primarily borne by society (Moor and Clayton, 2008). As long as anti-virus software is left to individuals to purchase and install, there may be a less than optimal level of protection when infected machines cause trouble for other machines rather than their owners (Moor, 2010; Nagaraja and Anderson, 2009). In order to solve the problems of growing vulnerability and increasing crime, policy and legislation must coherently allocate responsibilities and

liabilities so that the parties in a position to fix problems have an incentive to do so (Nagaraja and Anderson, 2009; Moore and Clayton, 2007).

One key way in which malicious parties capitalise on Internet insecurity is by committing online identity theft (Moore, 2010; Nagaraja and Anderson, 2009). Banks have made a strong push for customers to adopt online services due to the massive cost savings compared to performing transactions at physical branches (Aguirre, 2019; Moore, 2010). But the means of authentication have not kept pace (Sharma and Lenka, 2015). Banks have primarily relied on passwords to identify customers, which miscreants can obtain by simple guessing or by installing ‘keystroke loggers’ that record a password as it is entered on a computer (Moore, 2010; Nagaraja and Anderson, 2009; Edelman, 2009). Another way to steal passwords takes advantage of the difficulties in authenticating a bank to a consumer (Sharma and Lenka, 2015). Using a ‘phishing’ attack, miscreants masquerade as the bank and ask the customer for credentials (Sharma and Lenka, 2015; Moore, 2010). Phishing sites are typically advertised via spam email purporting to come from the bank (Sharma and Lenka, 2015). Malware is frequently used to steal passwords and compromise online banking, cloud, and corporate services (Sharma and Lenka, 2015; Moore, 2010). It is also used to organise infected computers into a ‘botnet’: a network of thousands or even millions of computers under the control of an attacker that is used to carry out a wide range of services (Moore, 2010). The services include sending spam, committing online-advertising fraud, launching denial-of-service attacks, hosting phishing attacks (Sharma and Lenka, 2015; Moore, 2010; Nagaraja and Anderson, 2009).

As well as the system complexity in digital banking, there has been a parallel rise in the variety and complexity of cyber-attacks (Aguirre et al., 2019; Moore, 2010; Sharma et al, 2010). Banking security experts must now be familiar with a bewildering array of techniques and terminology: phishing, pharming, spear phishing, session hijack, man-in-the-middle, man in-the-browser, Trojans, rock phish are some of them (Sharma and Lenka, 2015; Moore, 2010). Sharma and Lenka (2015), have outlined and defined various types of attacks which have been identified by the cyber-security experts –User fraud attacks; where the user deliberately compromises his or her authentication key or computing environment to enable them to deny subsequent authentication events (Sharma and Lenka, 2015; Moore, 2010; Nagaraja and Anderson, 2009). Eavesdropper attacks; where an attacker obtains information from an authentication exchange and recovers data, such as authentication key values, which

then may be used to authenticate (Sharma and Lenka, 2015; Moore, 2010). Insider attacks; where verifiers or systems managers deliberately compromise the authentication system or steal authentication keys or related data (Moore, 2010; Stebila, et al, 2010; Osho, 2008). Key logger attacks; malicious code or hardware attacks that capture keystrokes of a customer with the intention of obtaining any password typed in by the customer or other manually entered authentication key data (Sharma and Lenka, 2015; Sharma, et al., 2010). Malicious code attacks; attacks that are generally aimed at the user's computing environment (Sharma and Lenka, 2015). They vary in their sophistication from simple key loggers to advanced Trojan programs that can gain control of the user's device (Moore, 2010). Malicious code attacks may also be aimed at verifier systems (Moore, 2010). Man-in-the-middle attacks; where an attacker inserts himself between the customer and the verifier in an authentication exchange (Sharma and Lenka, 2015). The attacker attempts to authenticate by posing as the customer to the verifier and the verifier to the customer (Moore and Clayton, 2009). Password discovery attacks; this covers a variety of attacks, such as brute force, common password and dictionary attacks, which aim to determine a password (Moore, 2010). The attacker may try to guess a specific customer's password, try a few commonly used passwords against all customers, or use a pre-composed list of passwords to match against the password file, in their attempt to discover a legitimate password (Eeten and Bauer, 2008). Phishing attacks; social engineering attacks that use forged web pages, emails, or other electronic communications to convince the customer to reveal their password or other sensitive information to the attacker (Sharma and Lenka, 2015). Replay attacks; where the attacker records the data of a successful authentication and replays this information to attempt to falsely authenticate to the verifier (Stebila, et al, 2010). Session hijacking attacks; where the attacker takes over (hijacks) a session following successful authentication (Moore, 2010). Shoulder-surfing attacks; social engineering attacks specific to password systems where the attacker covertly observes the password when the customer enters it (Nagaraja and Anderson, 2009). Social engineering attacks; attacks that are aimed at obtaining authentication keys or data by misleading the customer into using an insecure authentication protocol, or into loading malicious code onto the customer's computer (Sharma and Lenka, 2015). Attacks may also be aimed at the verification process, for example by trying to trick help desk staff into accepting a false story (Moore, 2010). Verifier impersonation attacks; where the attacker impersonates the verifier to the customer to obtain authentication keys or data, which then may be used to authenticate falsely to the verifier (Eeten and Bauer; 2008; Moore and Clayton, 2008).

One of the classic example for the man-in-the-middle attack is “StrandHogg” a malware found in Android software (Aguirre, et al, 2019; BBC news, 2019). The bug lets attackers create fake login screens that can be inserted into legitimate apps to harvest data (Aguirre, et al, 2019). Thirty six apps have been found to have exploited the vulnerability, dating back to 2017 (Aguirre, et al, 2019). “StrandHogg” can be used to trick users into thinking they are using a legitimate app but are actually clicking on an overlay created by the attackers (Aguirre, et al, 2019). And it has the potential to copy user login data for bank accounts and other personal services-allowing criminals’ access to your savings (Aguirre, et al, 2019). The worst part of the bug is it will still direct users to the legitimate app once they’ve inputted their details (Aguirre, et al, 2019). So, from your perspective, all you’ve done is log into your banking app – unaware that hackers have just been handed over all the details they need to do the same (Aguirre, et al, 2019).

#### **2.4.2 Mitigating factors of cyber-security risk**

Digital banking in this new age is enormously complex and it faces different kinds of risks that are specific to conduct sensitive business over the Internet (Aguirre, et al, 2019; Sharma and Lenka, 2015, p.10). The online banking system addresses several emerging trends: customers’ demand for anytime, anywhere service, product time-to-market imperatives and increasingly complex back-office integration challenges (Aguirre, et al, 2019; Sharma and Lenka, 2015). The basic architecture of online banking system consists of three major components user, application server and database, which stores user and bank data (Sharma and Lenka, 2015). Since online banking is a technology that has many capabilities and also many potential problems, privacy and security of users have become a prime concern (Moore, 2010). The use of online banking systems has brought many concerns from different perspectives – government, businesses, banks, individuals and technology (Aguirre, et al, 2019). By strengthening the privacy technology, this ensures the privacy of user’s personal information and further enhance the security of the transactions (Aguirre, et al, 2019; Sharma and Lenka, 2015).

Presently, online banking users only need a device with access to the Internet to use online banking services. Users can access their banking accounts from anywhere in the world (Sharma and Lenka, 2015, p.13). Each user is provided a login ID and a password to access the service and it is indeed easy and convenient for users (Sharma and Lenka, 2015). But

however the problem with password is that when it has been compromised, the fraudsters can easily take full control of online transactions (Sharma and Lenka, 2015). In such cases, the password no longer works as an authentication token because we cannot be sure who is behind the keyboard typing that password in (Sharma and Lenka, 2015). Authentication aims to prevent fraudsters from accessing online banking accounts that do not belong to them, and subsequently viewing confidential information, causing malicious damage and stealing funds. In general, the solutions to the online banking authentication issues require the use of multifactor authentication mechanism (Sharma and Lenka, 2015).

#### 2.4.2.1 Multi-factor Authentication

Multi-factor authentication is a process by which a user proves his/her association with an electronic identity to a computing system is called authentication (Aguirre, et al, 2019; Moore and Clayton, 2010). An authentication factor is used to produce some evidence that an entity at the end of the communication channel is the one which it claims to be (Moore, 2010). Authentication factors are grouped into classes according to how they are linked to their owners (Sharma and Lenka, 2015). Authentication keys are called multi-factor when they use more than one of the factors of authentication (Sharma and Lenka, 2015). Traditionally, all authentication mechanisms can be placed into three categories; something you know – a secret, such as user id, password and memorable word. (Sharma and Lenka, 2015). Something you are – a biometric, such as a fingerprint or face recognition (Sharma and Lenka, 2015). Something you have – a device or object or some kind, such as a credit card, secure key (Sharma and Lenka, 2015).

Multi-factor authentication is either two-factor or three factor (Aguirre, et al, 2019; Sharma and Lenka, 2015). Using two types of the same factor is not multi-factor authentication (Sharma and Lenka, 2015). For example, a password and personal information are both what you know, so using them together would still be single-factor authentication (Sharma and Lenka, 2015). In a multifactor authentication, multiple authentication secrets of complementary natures, such as a long-term password and a one-time response value, are combined securely to provide mutual authentication (Aguirre, et al., 2019). Multi-Factor Authentication provides very strong protection for secure communication and has been recommended by many banking systems for use in highly sensitive banking services (Aguirre, et al, 2019). The authentication secrets must be combined so that the user can convince the bank-server that he knows all the authentication secrets and that the bank server

can convince the user that it knows all the authentication secrets: this provides mutual authentication (Aguirre, et al, 2019; Sharma and Lenka, 2015). Multi-factor authentication can strengthen security (Aguirre, et al, 2019).

According to Jyoti (2017), banks are delivering a growing number of digital services. In doing so, they are also subject to more sophisticated cyber-attacks (Jyoti, 2017; Sharma and Lenka, 2015; Sharma et al, 2010). Banks need to distinguish genuine users from potentially fraudulent ones, thereby giving legitimate customers a hassle-free service and blocking unauthorised users (Jyoti, 2017). In this context the biggest challenge that they face is to how to integrate fraud detection technologies without interrupting the smooth flow of online transactions (Jyoti, 2017; Sharma and Lenka, 2015). AI and machine learning can play a major role in fraud prevention in online banking systems (Aguirre, et al, 2019; Jyoti, 2017). AI can analyse the profile and the behaviour of customers in real time (Jyoti, 2017). The system only activates additional authentication measures when required, providing a smooth user experience (Jyoti, 2017; Sharma and Lenka, 2015). AI is capable of processing millions of transactions built from thousands of attributes such as, device profiling, location, user behaviour and biometric data or keypad style to analyse behaviour in real time and trigger appropriate authentication checks when needed (Aguirre, et al, 2019; Jyoti, 2017). For example, if someone makes a high-value transfer from an unusual location, then additional biometric authentication will be requested to validate the transaction, such as fingerprint or facial recognition (Jyoti, 2017). Users benefit from non-intrusive security within a trusted environment (Jyoti, 2017). They further notes that 44% of consumers would leave their bank in the event of a security breach, and 38% would switch to a competitor offering a better service (Jyoti, 2017). At the same time, consumers suffer from both unjustified rejection and excessive authentication steps when banking online or on mobile (Jyoti, 2017). The challenge is to minimise and simplify security procedures, without compromising the security and privacy (Aguirre, et al., 2019; Jyoti, 2017; Sharma and Lenka, 2015).

### **2.4.3 Cyber-fraud victimhood**

Victims of cyber-frauds are more likely to be older, score high on impulsivity measures of urgency and sensation seeking, score high on addictive measures and engage in more frequent routine activities that place them at great risk of becoming scammed (Whitty, 2019). There was little distinction between one-off and repeat victims of cyber-frauds (Whitty, 2019).

Cyber-frauds (also referred to as cyber-scams) are any type of fraud that exploits mass communication technologies (e.g. email, instant messenger, social networking sites) to trick people out of money (Whitty, 2015). Examples include: foreign lotteries and sweepstakes (in which the victim believes they have won money from a lottery and are told to pay a fee to release the funds), scams (advance fee fraud, in which victims believe that for a small amount of money they will make a large fortune) and romance scams, taken in by a fake online dating persona, in which the victim sends the 'fake persona' money (Whitty, 2019).

There has been some speculation about the distinctive psychological characteristics of fraud victims, in general (Whitty and Buchanan, 2016). Whitty (2019), Socio demographics and psychological characteristics and routine activities predict victimhood (Whitty, 2019; Fischer, et al., 2013). Victims of fraud are more likely to be: co-operative, greedy, gullible/uncritical, careless, easily intimidated, risk takers, generous, hold respect for authority and are good citizens (Whitty, 2019; Fischer, et al., 2013). They further note that scam victims or near scam victims were more affected by the high values offered in scams and displayed a high degree of trust in the scammers (Whitty, 2019; Fischer, et al., 2013; Titus and Gover, 2001). Holtfreter, et al. (2008), find that self-control is a significant predictor of victimisation.

Online routine activities are important to investigate when examining cyber-fraud victimisation (Whitty, 2019). Engaging in online activities such as: instant messaging, posting pictures/ messages, streaming media, online shopping and online banking might increase the likelihood that a user is likely to encounter a scam or provide personal information for scammers to use against that user, thereby increasing a person's chances of being scammed (Whitty, 2019; Fischer, et al., 2013).

The premise of routine activity theory, first proposed by Cohen and Felson (1979), is that crime is unaffected by social causes, such as poverty and inequality. Proponents of this theory argue that individuals become victims of crime because they participate in 'high-risk' activities or behaviours in the absence of capable guardianship and in the company of motivated offenders (Bolímas and Choo, 2017; Oliver, et al., 2015). According to this theory, opportunity is the root cause of victimisation (Bolímas and Choo, 2017; Oliver, et al., 2015). Victims of burglary, for instance, are encouraged to change their locks and add alarm systems to decrease their chances of becoming burgled a second time (Buchanan and Whitty, 2014).

Witty (2019), notes that cyber-fraud is a crime that is on the increase, and one that affects digital technology users across the globe. All participants in their sample had been exposed to a cyber-fraud at some point in their lives and 7 percent of the sample had lost money to a cyber-fraud (Whitty, 2019). Most of the psychological characteristics predicted online routine activities – both risky activities and online guardianship activities (Whitty, 2019; Bolimas and Choo, 2017; Oliver, et al., 2015). Interestingly educated people are more likely to be scammed (Whitty, 2019; Estacio, 2017; Deursen and Dijk, 2014). These authors argue that there are other online routine activities that educated people engage in that place them at risk (Whitty, 2019; Estacio, 2017; Deursen and Dijk, 2014). An alternative explanation also can be offered by drawing from the work of Lea, et al., 2009. Lea and colleagues theorised that overconfidence in the ability to recognise scams places people at greater risk of becoming scammed as they hold a belief of invulnerability (Lea, et al., 2009). Educated people might be more likely to hold the view that they can spot a scam, and therefore spend less effort seeking out persuasion and deception cues (Sasse and Smith, 2016; Lea, et al., 2009). Those who were more likely to be premeditative and have a high internal locus of control were more likely to be scammed (Sasse and Smith, 2016; Lea, et al., 2009). This finding indicates that cyber-fraud victims do not recognise the control others might have over them and as a consequence are pulled into a scam – with the false belief that they are in control (Sasse and Smith, 2016; Lea, et al., 2009). These findings might also suggest that spending time considering one's actions online is not, in itself, protective (Whitty, 2019; Sasse and Smith, 2016; Lea, et al., 2009).

Perhaps the most interesting and important finding of Witty (2019), is that online guardianship behaviours did not protect individuals from becoming scammed. They have found that, one-off victims are more likely to engage in online guardianship behaviours compared with non-victims and repeat victims are more likely to engage in guardianship behaviours compared with one-off victims (Whitty, 2019; Estacio, 2017; Junger, 2017). This finding might be interpreted in a number of ways. Engaging in online guardianship behaviours might be exposing individuals more to scams/scammers and/or the sites that present information on how to protect individuals from scams do not communicate this information effectively.

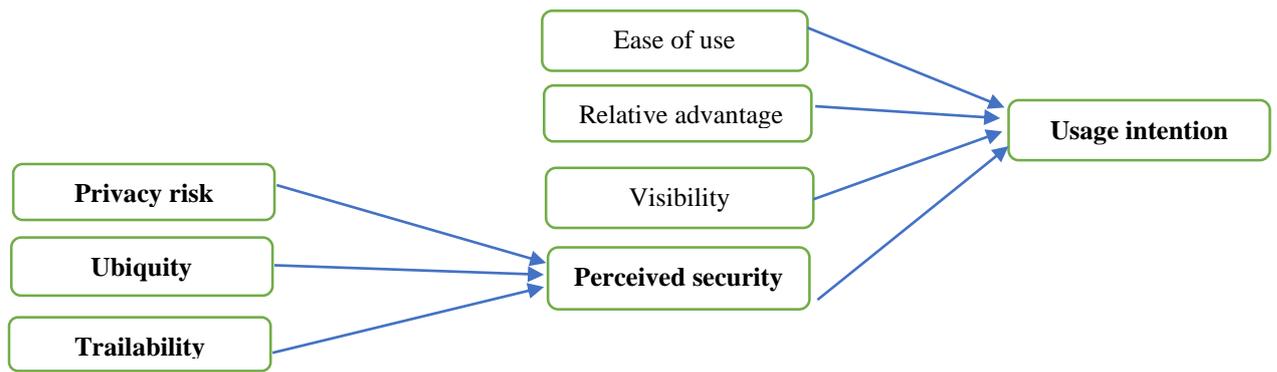
This point is not trivial, given the criticisms that are often made of fraud information sites (Whitty, 2019). As Sasse and Smith (2016) contend, useful cyber security advice needs to be both correct and actionable. Moreover, victims are typically impulsive, information might need

to be written succinctly so that users can easily and quickly digest the details needed to change their behaviours (Whitty, 2019; Estacio, 2017; Deursen and Dijk, 2014). It might be useful to provide more engaging and interactive advice to capture and hold users' attention Sasse and Smith (2016). As per Witty (2019), repeat victimisation is noteworthy as there were no significant distinguishing psychological or socio-demographic characteristics between one-off victims and repeat victims. In their sample, 45 per cent of cyber-fraud victims were repeat victims and their findings highlight an urgent need to develop effective preventative strategies for this group (Whitty, 2019). Alarming, the only variable that predicted whether someone was a repeat or a one off victim was their likelihood to read e-safety websites (Whitty, 2019). However they claim that, e-safety websites need to improve on the content and possibly presenting of information placed on these sites (Whitty, 2019; Sasse and Smith, 2016).

#### **2.4.4 Impact of perceived security on usage intention**

Perceived security is defined as the perception that the vendor/provider will take the appropriate action to ensure that using the technology is risk free (Johnson et al, 2017). Also they note that one of the largest barriers to adoption of mobile banking service is the concern over security and perceived security can have a positive impact over both trust and adoption (Johnson et al, 2017; Shin, 2010; Slade, et al., 2013). Further they note that any factors that positively impact perceived security would also increase likelihood of adoption (Johnson et al, 2017; Schierz et al, 2013; Zhou, 2011).

Johnson, et al. (2017), indicates that perceived security positively influence the individual's intention to use mobile banking services. And also ubiquity and trialability positively influence the individual's perception of security while concerns over privacy risk negatively influences perceptions over security (Johnson et al, 2017; Shin, 2010; Slade, et al., 2013). In their study they have deployed the extended model of diffusion of innovation theory (DOI – Rogers 1995) and they have extended it by using perceived security, privacy risk, perceived ubiquity and trailability (Johnson, 2017).



*Figure 2-2 Conceptual model tested by Johnson.et.al (2017), on Perceived security*

One of the promising goals of mobile banking services that, it is available for the consumer to use in a variety of transactions at any time and any place. In other words, it's ubiquitous. Trialability is the extent to which potential adopters perceive that they have the opportunity to experiment with a technology prior to making a usage commitment (Johnson et al., 2017). The ability to try an innovation prior to making a commitment can serve to help the user become more comfortable with that service/technology and overcome concerns related to usability, performance and security (Schierz et al, 2013; Zhou, 2011). Adoption is a learning experience and the more the user can learn about the technology, the more comfortable they will become and more likely they are to adopt (Johnson et al, 2017; Schierz et al, 2013; Zhou, 2011). Importantly, the ability of a user to interact with a system on a trial basis is anticipated to influence the perceived security of that information system (Shin, 2010; Slade, et al., 2013).The security of electronic payment system is based on array of complex technologies such as authentication measures and encryption, as well as protective procedures utilized by the provider in conjunction with the system developer/vendor (Johnson, et al., 2017). While users likely have preconceived notions about the security of a system prior to trial, perceived security is influenced by observations made by users during system use". (Johnson, et al., 2017; Schierz et al, 2013).

#### **2.4.5 Privacy Concerns**

Information privacy refers to the ability of individuals to maintain control of their personal information (Johnson et al., 2018). Perceived privacy risk refers to the concern an individual would have regarding the potential compromise of their personal information (Johnson et al., 2018). Several studies have explored the concept of information privacy and the impact of a perceived lack of control over sensitive personal information (Schierz et al., 2013; Zhou, 2011; Dewan and Chen, 2005; Dinev and Hart, 2006; Goodwin, 1991). In a study by Schierz

et al., 2013, about half of respondents felt that mobile banking services were not secure and believed that using mobile banking services put their personal information at risk.

There are some key dimensions that are most commonly utilised and defined in conceptualisations of online privacy concerns. They are collection, secondary usage, errors, improper access, control and awareness (Hong and Thong, 2013). Collection is the degree to which a person is concerned about the amount of individual-specific data possessed by websites (Malhotra et al., 2004). Secondary usage is the degree to which a person is concerned that personal information is collected by websites for one purpose but is used for another, secondary purpose without authorisation from the individual (Smith et al. 1996). Errors is the degree to which a person is concerned that protections against deliberate and accidental errors in personal data collected by websites are inadequate (Smith et al. 1996). Improper access is the degree to which a person is concerned that personal information held by web- sites is readily available to people not properly authorised to view or work with the data (Smith et al. 1996). Control is the degree to which a person is concerned that he/she does not have adequate control over his/her personal information held by websites (Malhotra et al. 2004). Finally, awareness is degree to which a person is concerned about his/her awareness of information privacy practices by websites (Malhotra et al. 2004).

As information privacy has implications for human well-being in addition to financial security, it can be conceptualised both as a personal right (Keith, et al, 2013), making it subject to law enforcement, and as a commodity (Davies, 1997), which can be traded and marketed (Keith, et al, 2013). This latter view has increased in popularity (Jentzsch et al., 2012; Smith et al., 2011) and is the underlying assumption in many studies and theories (e.g., Culnan and Armstrong, 1999; Dinev and Hart, 2006; Laufer and Wolfe, 1977). If information privacy is a commodity, then an individual's decision to disclose versus retain information privacy can be framed as a rational choice (Becker and Murphy, 1988) made by weighing the costs and benefits of disclosure (Keith et al., 2013). As a result, the decision to disclose personal information should vary along a linear relationship where changes in the probability and severity of risks should lead to relative changes in an individual's disclosure of personal information (Keth et al, 2013; Peter and Tarpey, 1975).

Although consumers are clearly concerned about their privacy, they share abundant information in practice (Aguirre et al., 2016). Different explanations are available for such

behaviours. For example, the privacy calculus suggests that consumers weigh the risks associated with a loss of privacy against the benefits accrued, such as more personalised offers and discounts (Sultan et al., 2009). From this perspective, privacy is a commodity, whose value can be quantified (Hann et al., 2007). However, conflicting evidence describes the value of privacy. In one study, consumers were more likely to purchase products from Web sites that offered more privacy, even if the sites charged higher prices (Tsai et al., 2011). In another study, respondents who could choose between two gift cards (\$10 with an assurance of anonymity or \$12 for permission to track their behaviour), had preferences that were dictated largely by which card appeared first (Acquisti et al., 2009). Furthermore, modern data collection tactics make it difficult for consumers to undertake accurate cost–benefit trade-offs, particularly when firms collect information about customers covertly (Chau and Clemons, 2011).

A context-based perspective instead suggests that privacy concerns are situational (Acquisti et al., 2015; Peltier et al., 2009), which makes them weak predictors of behaviour (Acquisti and Gross, 2006). Some consumers disclose more information if they perceive that other people have shared similar information (Acquisti et al., 2011). A Web site’s appearance also can influence the amount of information shared. Alarmingly, people share sensitive information more on unprofessional-looking Web sites, unless they are previously primed to think about privacy (John et al., 2011). Contextual factors also can influence consumers’ reactions to how firms collect information (Bulgurcu et al., 2010). For example, Milne et al. (2008) find that consumers express fewer negative reactions when a well-known firm collects information and that consumers are more permissive for data collection about products rather than services. The manner in which the information is collected may also be influential (Aguirre et al., 2016). Covert data collection causes customers to feel as if they have lost control over their information (Milne et al., 2008). Yet this method also benefits customers, in that they are not subject to constant interruptions or disruptions (Aguirre et al., 2015; Milne et al., 2008). However, covert data collection strategies can also quickly ignite customer wrath (Aguirre et al., 2015). Perhaps the way the firm handles the information is more pertinent for triggering consumers to consider privacy issues (Aguirre et al., 2016); Liu et al., 2012). When a targeted ad combines with obtrusive advertisements (e.g. popup ads), the former ad’s effectiveness decreases (Goldfarb and Tucker, 2011), likely because customers assume that the firm is being manipulative (Liu et al., 2012). Similarly, customers are less likely to accept personalised offers if the firm fails to provide justification for why the use of

their personal information is relevant to the offer (White et al., 2008). For example, including a customer's home address in an email communication might be justified because the customer lives in an area in which the firm is just starting to offer a specific service (Aguirre et al., 2016). With such a justification, the benefits to the consumer become clearer, which may increase their engagement (Aguirre et al., 2016). That is, if customers recognise the benefits of personalised communications, their privacy concerns may be attenuated (Aguirre et al., 2016). However, if customers are sceptical of personalised communications, and no justification is forthcoming, the value of the communications likely diminishes (Aguirre et al., 2016; Liu et al., 2012).

Each individual firm might not only use collected information about consumers in its own personalised communications but also share that information with third parties (Aguirre et al., 2015). Consumers often have little control over which companies collect their information and with whom they share it (Angwin, 2010). Firms defend such practices on the grounds that information provided to third parties are anonymous, yet evidence suggests that seemingly harmless, anonymous data, when combined with other information, can paint a fairly accurate picture of any individual's identity (Solove, 2004). Combining data from different sources, such as offline credit card purchases and online social network information, can be especially off-putting for consumers, particularly if they were not aware of ever interacting with the firms (Aguirre et al., 2016).

Albashrawi and Motiwala (2019), in their study on impact of privacy on usage intention on mobile banking finds that, privacy reflects the extent an individual has control over his/her personal information when interacting with mobile banking.( Albashrawi and Motiwala, 2019; Hong and Thong, 2013). Not having the control over personal information may result in an elevated level of privacy concerns (Albashrawi and Motiwala, 2019). Mobile users usually show their privacy concerns when interacting with online products or services (Sutanto et al. 2013). Accordingly when the level of privacy concerns is getting high in mobile banking, trust and satisfaction become low among customers, which in turn may lead to decrease continued usage intention of mobile banking (Albashrawi and Motiwala, 2019; Wang et al., 2006; Zhou, 2012). This suggests that privacy concerns can influence the level of satisfaction among mobile banking users negatively (Albashrawi and Motiwala, 2019). On the other hand, mobile banking users most likely find themselves less productive and comfortable when their privacy concerns are highly elevated (Xu et al. 2011; Chang et al.,

2011). The moderating effect of privacy has been evidenced in a number of different milieus, including but not limited to the usage of e-commerce and health systems (Bansal et al. 2008; Xu et al. 2011).

## **2.5 Acceptance and Diffusion of Innovation and Technology**

What causes people to accept or reject information technology? Among the many variables that may influence system use, some authors suggest two determinants that are especially important (Ghosh, 2019; Qualter et al., 2015; Davis, 1989). First, people tend to use or not use an application to the extent they believe it will help them perform their job better or in other words perceived usefulness impacts the usage intention of technology (Ghosh, 2019; Quarter et al., 2015; Davis, 1989). Second, even if potential users believe that a given application is useful, they may, at the same time, believe that the systems is too hard to use and that the performance benefits of usage are outweighed by the effort of using the application (Quarter et al, 2015; Davis, 1989). That is, in addition to usefulness, usage is theorised to be influenced by perceived ease of use (Qualter et al, 2015; Davis, 1989).

### **2.5.1 Perceived Usefulness**

Perceived usefulness is defined here as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). This follows from the definition of the word useful: capable of being used advantageously (Davis, 1989). Within an organisational context, people are generally reinforced for good performance by raises, promotions, bonuses, and other rewards (Davis, 1989; Pfeffer, 1982; Schein, 1980; Vroom, 1964). A system high in perceived usefulness, in turn, is one for which a user believes in the existence of a positive use-performance relationship (Qualter et al, 2015; Davis, 1989).

There are several past researchers who have emphasised the use of web-based platforms and how elderly consumers are using web based platforms as leisure, fun and for day-to-day activity (Chen and Wellman, 2005; Dimaggio et.al., 2004; Van Deursen and Van Dijk, 2014). It was discussed in pieces of research, how the elderly consumer uses the Internet as a substitute for spending more time with it and exploring it (Chen and Wellman, 2005; Dimaggio et.al., 2004; Van Deursen and Van Dijk, 2014). Since at older age people have limited mobility out-of-home due to deteriorating physical condition, this allows them to explore more time on the Internet which also concludes that older people were keen to use the

Internet replacing out-of-home activities (Qualter et al., 2015). To increase their awareness of the digital and web-based platforms classes are also introduced to teach older people how to use computers and the Internet (Frisch et. al., 2012). The most widely done activity on the Internet among the elderly people aged between 55 and 64 is email (Pastore, 2001). The second activity that elderly do online is search on health-related topics (Hesse et. al., 2010). They also use the Internet to use search engines to research particular issues of their interests (Gerver, 2000). Reading news and current events, searching for travel information and weather information are also some other ways of engaging with the Internet (Blit-Cohen and Litwin, 2004). Some of the researchers also suggest that seniors also visit gaming websites for fun (Helsper, 2012; Looker and Naylor, 2010; Witte and Mannon, 2010). Majority of them initiated the use of Internet-based platforms at the urging of relatives or friends who were staying away far and wanted to keep in touch with them (Polyak, 2000). Researchers also supported the fact that seniors who have a more optimistic outlook towards Internet (concerning convenient to use and proficient) find the Internet to be very worthwhile to buy online and also to do comparison-shopping online (Iyer and Eastman, 2006).

### **2.5.2 Perceived Ease of Use**

Perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). This follows from the definition of "ease": freedom from difficulty or great effort (Davis, 1989). Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible (Qualter et al, 2015; Davis, 1989; Radner and Rothschild, 1975). All else being equal, it is apparent that an application perceived to be easier to use than another is more likely to be accepted by users (Davis, 1989).

According to Wagner and Head (2010), elderly people who do not use the Internet avoid it owing to an aversion towards technology which is due to misperceptions thinking that the Internet is difficult to use. Iyer and Eastman (2006) supported with fact that the elderly are more willing to use the Internet once they find it easy to use and access. Nayak and White (2010) specified that the ease of accessing the web-based platforms indirectly influences the attitude toward the intention to use the web-based platforms. It was also evident from varied experiences in the past that people become increasingly comfortable with technologies the more they use them (Ghosh, 2019). This tendency also holds true in the case of elderly consumers' usage of the Internet as well (Ghosh, 2019). It is conceivable that the more the

elderly use the Internet, the more they will get familiar with it (Ghosh, 2019). Furthermore, it was also cited that convenience while accessing even impact the use of the Internet as most of the websites are not designed keeping older people in mind (Qualter et al, 2015; Saranow, 2004). Thus, perceived ease of use is identified as a key element in the emergence of Internet use by elderly (McCloskey, 2006; Pan and Jordan-Marsh, 2010)

### **2.5.3 Theoretical Foundations of Perceived Usefulness and Ease of Use**

The importance of perceived ease of use is supported by Bandura's (1982) extensive research on self-efficacy, defined as judgments of how well one can execute courses of action required to deal with prospective situations. Self-efficacy is similar to perceived ease of use as defined above (Davis, 1989). Self-efficacy beliefs are theorised to function as proximal determinants of behaviour (Davis, 1989). Bandura's (1982) theory distinguishes self-efficacy judgments from outcome judgments, the latter being concerned with the extent to which a behaviour, once successfully executed, is believed to be linked to valued outcomes. Bandura's (1982) outcome judgment variable is similar to perceived usefulness. Bandura argues that self-efficacy and outcome beliefs have differing antecedents and that, in any given instance, behaviour would be best predicted by considering both self-efficacy and outcome beliefs.

Hill, et al. (1987) find that both self-efficacy and outcome beliefs exert an influence on decisions to learn a computer language. The self-efficacy paradigm does not offer a general measure applicable to our purposes since efficacy beliefs are theorised to be situational-specific, with measures tailored to the domain under study (Davis, 1989; Bandura, 1982). Self-efficacy research does, however, provide one of several theoretical perspectives suggesting that perceived ease of use and perceived usefulness function as basic determinants of user behaviour (Ghosh, 2019; Qualter et al., 2015; Davis, 1989).

The cost-benefit paradigm from behavioural decision theory (Beach and Mitchell, 1978; Johnson and Payne, 1985; Payne, 1982) is also relevant to perceived usefulness and ease of use. This research explains people's choice among various decision-making strategies in terms of a cognitive trade-off between the effort required to employ the strategy and the quality (accuracy) of the resulting decision. This approach has been effective for explaining why decision makers alter their choice strategies in response to changes in task complexity (Davis, 1989; Johnson and Payne, 1985; Payne, 1982). Although the cost-benefit approach has mainly concerned itself with unaided decision making, recent work has begun to apply the

same form of analysis to the effectiveness of information display formats (Jarvenpaa, 1989; Kleinmuntz and Schkade, 1988).

Cost-benefit research has primarily used objective measures of accuracy and effort in research studies, downplaying the distinction between objective and subjective accuracy and effort (Davis, 1989; Payne, 1985). Increased emphasis on subjective constructs is warranted, however, since (1) a decision maker's choice of strategy is theorised to be based on subjective as opposed to objective accuracy and effort (Beach and Mitchell, 1978), and (2) other research suggests that subjective measures are often in disagreement with their objective counterparts (Abelson and Levi, 1985; Adelbratt and Montgomery, 1980; Wright, 1975). Introducing measures of the decision maker's own perceived costs and benefits, independent of the decision actually made, has been suggested as a way of mitigating criticisms that the cost/benefit frame work is tautological (Davis, 1989; Abelson and Levi, 1985). The distinction made herein between perceived usefulness and perceived ease of use is similar to the distinction between subjective decision making performance and effort (Davis, 1989; Abelson and Levi, 1985).

#### **2.5.4 Customer Satisfaction**

Amin (2015) explained that customer satisfaction refers to meeting the customer's expectation on the products and services. If the perceived performance matches or even exceeds the customers' expectations of services, they are satisfied. If it does not, the customers are dissatisfied (Fullerton and Taylor, 2015; Oliver, 1993; Rust and Zahorik, 1993; Sharifi and Esfidani, 2014). Under this theory, consumers obviously will prefer positive disconfirmation than negative disconfirmation. This conclusion is relative because the assessment is a comparative process between the subjective experience and an initial reference or standard of comparison (Bressolles et al., 2014). In particular, there is no consensus in marketing literature in defining customer satisfaction, whether it is transactional or cumulative (Boulding et al., 1993; Cronin and Taylor, 1994; Liébana-Cabanillas et al., 2013; Mittal et al., 1999). In this definition, the cumulative satisfaction is determined by satisfying and dissatisfying the customer with a product or service over time (Brun et al., 2014; Parasuraman et al., 1994; Sharma et al., 1999; Zeithaml et al., 1993), and the transactional is defined with a product or service in a single transaction (Boshoff, 1999, 2005; Cronin and Taylor, 1994; Homburg et al., 2006; Høst and Knie-Andersen, 2004; Oliver, 1993). In the online context, Szymanski and Henard (2001) conceptualised satisfaction as the

consumers' judgment on their online experience as compared to their experiences with traditional way of dealing with customers. Similarly, Anderson and Srinivasan (2003) explained satisfaction as the contentment of the customer with respect to his or her prior purchasing experience with a given digital platform. Previous research has identified various factors that determine customer satisfaction in the online banking sector. Some authors suggests that customer satisfaction is driven by website characteristics (Anderson and Swaminathan, 2011; Bansal et al., 2004; Liébana-Cabanillas et al., 2013), and quality attributes (Collier and Bienstock, 2006; Cristobal et al., 2007; Moon et al., 2011; Wolfenbarger and Gilly, 2003). In this perspective, Jeong and Lee (2010) explained that product diversity, tangibles, responsiveness, interaction, and stability have significant impact on online customer satisfaction. This means, the way in which the service is delivered through a website plays a critical role in driving consumer satisfaction. In this context, Liébana-Cabanillas et al. (2013) emphasised that digital banking customers are mostly satisfied with the internet accessibility, ease of use, usefulness, and trust. Consequently, positive (or negative) consumer perceptions of the quality on the various e-service attributes will result in satisfaction (or dissatisfaction) with the e-service provided through the website (Carlson and O'Cass, 2011). For this reason, meeting or exceeding customer satisfaction expectations is important for digital banking as customers are more demanding to determine their expectations.

Many studies have provided empirical evidence to support the statement that customer satisfaction has positive relationship on repurchase intention and customer loyalty (Aksoy, 2014; Amin et al., 2013; Baumann et al., 2011, 2012; Bloemer et al., 1998; Cronin et al., 2000; Kashif et al., 2015; Kassim and Abdullah, 2010; Nguyen and Leblanc, 2002; Sharifi and Esfidani, 2014; Thaichon et al., 2014; Zeithaml et al., 1996). For example, Ramseook-Munhurrin and Naidoo (2011) found that there is a significant relationship between customer satisfaction and customer loyalty in internet banking. Accessibility is the foremost important aspect in determining customer satisfaction, while security is also important determinant of behavioural intentions. Similarly, Gera (2011) found that customer satisfaction is a direct antecedent of positive recommendation intentions, and leads to positive WOM (Baumann et al., 2011; Kaura et al., 2015; Levy, 2014; Sotiriadis and van Zyl, 2013), and behavioural intention (Baumann et al., 2012; Cronin et al., 2000; Szymanski and Henard, 2001; Zeithaml et al., 1996). It seems that consumers who are satisfied with digital banking are more likely to engage in a consistent relationship with digital banking in future and demonstrate a more

loyal behaviour (Al-alak, 2014; Gounaris et al., 2010; Levy, 2014; Consuegra et al., 2007; Wong and Zhou, 2006). However, when dissatisfaction is felt, customers are likely to complain about the service and engage in negative WOM (Caruana, 2002; Kandampully et al., 2015; Ryngelblum et al., 2013), and they will react negatively and switch to other service providers (Amin et al., 2011; Athanassopoulos et al., 2001; Laksamana et al., 2013; Wirtz et al., 2007). In this sense, if the digital banking service providers fail to provide channels which the customers need, they will find more difficulty in developing a relationship with their customers (Amin et al., 2013; Bloemer et al., 1998; Levy, 2014). As a result, customer who satisfied with digital banking will exhibit high loyalty toward their bank.

### **2.5.5 Customer Engagement - Online**

Customer engagement is the connection between a customer and the brand/company, where a company interacts with their customers and build relationships (Kallie and Rissa 2021). Greenberg (2014) claims that customer engagement is defined as the ongoing interactions between company and customer, offered by the company, chosen by the customer. This effectively describes the point behind customer engagement, the company simply gives customers the opportunities for engagement and customers have the choice to engage or not. Customers engage with companies in four different ways – by buying a company’s products or services, by referring the company to other prospects, by influencing other customers online or by providing feedback to the company (Kumar 2013). In this case, the customer can be someone, who has not purchased from the company, but someone who has engaged with the company. With customer engagement, companies need to look into the larger scale, engaging with potential customer who can become customers in the future, in the early stages of the relationship (Kumar 2013). Customer engagement has a possibility of shortening a customer’s buying cycle. When customer engagement is done successfully, customers can be informed and the company has a chance to cater to various audience segments, therefore standing out from competitors (Kallie and Rissa, 2021). Customer engagement can be done online on the company’s website, as well as on various other digital channels such as social media platforms, email, text etc. Basically anything, where a customer can reply or interact with the company itself. With increased customer engagement, companies get more people on their digital channels, people talking about their brand and further increase the number of potential customers (Kallie and Rissa, 2021).

Through customer engagement, companies can gather information about their current and potential customers. Customer engagement relies on having communication with marketing to increase traffic. The content from marketing should be aimed at the customers and their needs and desires. This gives increases the possible opportunities for them to engage with the company's content, being aware of the company and heightens the possibility of them being a loyal customer in the future (Rissa, 2021). With the success of customer engagement, customers can talk about their own experiences and recommend companies, increasing potential customers through communication (Rissa, 2021).

To better customer engagement, companies need to listen to customers. This means that there should be contact with them, feedback, and a follow up with the service the customer received (Kumar 2013). A part of customer engagement is building a brand identity. With a distinguishable brand identity, future potential customers will gravitate towards the brand once they know that they want to purchase their products (Kallie and Rissa, 2021). The company's potential customers become aware of your brand and usually follow the company on social media and have engaged with their webpage. This is when a company needs to use different channels to provide contents for their interests and the base for customer relationships in the future (Kallie and Rissa, 2021).

Getting a customer's attention on the website can be difficult. The process of getting the customer to engage with the content on your website and getting the customer to react is the challenge for most companies (Taylor 2019). The chat opening to customers can be compared to pop-up advertising. The chat being available for the customer should offer value to the customer (Taylor 2019). Value is defined in this context as the perception of what a product or service is worth to a customer versus the possible alternatives (Merriam-Webster 2021.) The importance is in what kind of value you can provide to the customer. Chat pop-ups are effective because they cannot be ignored by customers. This means that the customer has a choice to either engage or close the opened chat window (Taylor 2019). When the chat pops up, there should be something that a customer gains value from, so they are more likely to engage. Ultimately, the reason why that a pop-up is effective, because it delivers relevant value when the website visitor wants it. (Wordsteam 2021).

There are ways to make the chat an easily accessible and attractable channel for customers. Using colours is a way to capture the attention of a customers, having something that stands

out can draw their eyes to it (Lorincz 2021). For example, contrasting from the lightness of the page with something more vibrant or a little darker to stand out. Although you want to engage with customers, the chat should not be interruptive to the user experience that the customer is having on the website and balance is key (Lorincz 2021). If the chat pops up too many times, it can disrupt the customers buying process. When customers use mobile devices, the chat should be tap-friendly. There should be defined buttons for entering and exiting the chat as well as a clear message with the pop-up (Lorincz 2021).

To engage customers on the company's website several efforts can be taken. These are some ways customers can increase customer engagement: 1. Increase the clarity of your offer 2. Increase the relevancy of your offer to your audience 3. Improve your value proposition 4. Reduce anxiety 5. Add urgency to your offer (Taylor 2019).

Firstly, increasing the clarity of your offer can be a relevant way in the steps of getting a customer engage. This is a process of getting feedback from your customers, to be able to make changes for the future (Taylor 2019; Wordsteam 2021). This way the wording behind approaches can be made more specific. For example, changing a few words to make the line more approachable. Secondly increasing the relevancy of your offer to the audience is important (Taylor 2019). This can be done by using analytics to specify from where the traffic is coming to the company's website (Taylor 2019). Thirdly, is to improve your value proposition. Value proposition is defined as the value a company promises to deliver to customers should they choose to purchase their product or service (Investopedia 2021). It can be a strong headline and should communicate to the customer the benefits of the product. It does not necessarily mean that more products should be added to the offer, but that the customer gets the most from the product or service provided (Investopedia 2021). If the value of products exceeds a certain point, there is an increased amount of associated effort for each customer to be able to extract the value. For example, this means not giving the customer an offer that they think they need with lots of unnecessary products but providing them the ones that are useful (Investopedia 2021; Taylor 2019). This also mean that it should be specified the relevance of an offer, the specific benefits (value) and why they should purchase from you and not a competitor (differentiation). Fourthly, reducing customers' anxiety, in a way increasing their trust in the company. For digital sales, it is important to have a website be secure, easily approachable and have all the necessary information (Taylor 2019).

The final element of this list is increased urgency. All the four points that have been listed before are precursors to make urgency an effective means to increase customer engagement (Taylor 2019; Merriam-Webster 2021). Here is either real or implied urgency. Real urgency is for example having an offer which, expires after a specific time and usually more effective for customers. Implied urgency on the other hand is using words like “now” or “today” to try and make the customer engage and act now (Merriam-Webster 2021.) Urgency can be divided into quantity limitations, time limitations and contextual limitations (Taylor 2019; Merriam-Webster 2021).

### **2.5.6 Customer Engagement – In-person**

Managers are increasingly concerned with how to best engage customers in order to develop favourable customer experiences. These experiences are essential in building sustainable differentiation (Vivek, Beatty, & Morgan, 2012) and create a long-term relationship between the brand and the customers (Rose, Hair, & Clark, 2010). Customer engagement goes further than satisfaction and loyalty and therefore provides a real competitive advantage that drives successful businesses (Kumar, Petersen, & Leone, 2010; Prahalad and Ramaswamy, 2004).

In-person customer engagement may be defined as a multidimensional concept, reflecting a psychological state occurring by virtue of interactive customer experiences with focal objects within service relationships (Brodie et al., 2011). The customer engagement literature has its foundations within relationship marketing theory and draws on the theory of interactive experiences (Brodie et al., 2011). These theories were first explored by the Nordic school (Grönroos, 2000; Gummesson, 1994) and as part of service dominant logic (Vargo and Lusch, 2008).

In addition to these three dimensions, customer engagement might also have a motivational basis (Hollebeek, 2011). Nevertheless, the dominant stance in the literature regards engagement as a behavioural manifestation, on the basis that taking action is what really differentiates individuals who engage from those who do not (Kumar, Petersen, et al., 2010; Sawhney, Verona and Prandelli, 2005). However, some studies see the concept as emotional (Catteuw, Flynn and Vonderhorst, 2007; Roberts and Davenport, 2002) or cognitive in nature (Guthrie and Cox, 2001), whereas others justify all three dimensions (Brodie et al., 2013; Calder, Malthouse, and Schaedel, 2009; Mollen and Wilson, 2010). This three-dimensional conceptualisation has also been adopted by other engagement research areas,

namely employee engagement (Macy and Schneider, 2008; May, Gilson, and Harter, 2004), job and organisation engagement (Koyuncu, Burke and Fiksenbaum, 2006; Saks, 2006; Schaufeli, Salanova).

To understand the concept of customer engagement, it is also necessary to distinguish between the concept of participation and the concept of involvement. While involvement is defined as an individual's level of interest and personal relevance in relation to an object in terms of his or her own values, self-concept or goals (Mittal, 1995; Zaichkowsky, 1985), participation is the degree to which customers produce as well as deliver services (Bolton & Saxena-Iyer, 2009). The main difference between customer engagement and these two concepts is that involvement and participation do not reflect interactive, co-creative experiences. Mollen and Wilson (2010) highlight that customer engagement goes beyond mere involvement. First, engagement encompasses an interactive relationship with the engaged object; second, the emergence of an individual's perceived experiential value is required, in addition to the instrumental value obtained from specific brand interactions (Mollen and Wilson, 2010) usually associated with involvement. Moreover, customer engagement refers to voluntary and discretionary customer behaviours towards a company (Verleye and Rangarajan, 2013), and these customers are driven by their own unique purposes or intentions that can either be beneficial or unbeneficial for a company (Brodie et al., 2013; Jaakkola and Alexander, 2014). Accordingly, in line with Brodie et al. (2013), customer engagement is a psychological state comprised of cognitive, emotional and behavioural dimensions.

### **2.5.7 Web Aesthetics**

Website aesthetics is "the degree to which a person believes that a website is aesthetically appealing to the eyes" (Wang et al., 2010). Schultz (2005) opines that an appropriate display of elements like fonts, colours, images, graphical buttons, shapes, language, animation and music can influence consumers in having a positive impression of the website. Visual aesthetics require websites to reflect a positive message that it intends to convey to the visitors. Therefore, companies rely densely on the website display to attract possible customers and to communicate with them (Li and Yeh, 2010). Furthermore, Lavie and Tractinsky (2004) demonstrate that website aesthetics should be infused with website's usability, customisation and interactivity to create an aesthetic experience. Website aesthetics including the readability of the display, and the richness of information impacts customers

trust and belief in vendors (Li and Yeh, 2010; Kuo and Yen, 2009). Aesthetically designed websites can also affect visitor's loyalty (Cyr et al., 2006). In the context of banks, apart from concentrating on system security, banking websites that are highly user-friendly as well as aesthetically appealing create a positive perception of usability amidst the visitors (Koufaris and Hampton-Sosa, 2004; Tractinsky et al., 2000). Therefore, as an artistically designed website that gratifies the eyes assists in attracting customers' attention, it also helps in capturing overall customer experience and engagement (Wang et al., 2011).

On average, digital marketing websites have more than 4.5 million visitors per minute (Jha, et al., 2018) However, these websites face low conversion and return rates. Industry experts believe website design (both aesthetics and navigation) and trust are key reasons for these low rates (Jha, et al., 2018).

Research on e-marketing has demonstrated that consumers evaluate online retailers based on the number of cues present in the online environment and often engage in online transactions if those cues provide credible signals (Zhang, et al., 2011). In particular, the website quality of an online retailer acts as a significant cue in consumer online decision making (Jha, et al., 2018). However, despite the recognition that website quality consists of both intrinsic and extrinsic cues, and consumers vary in their reliance on cues as well as in their ability to assess them accurately (Jha, et al., 2018). The relative efficacies of intrinsic and extrinsic cues in facilitating online transactions are under-researched. Moreover, researchers have not closely examined potential interactions between extrinsic and intrinsic cues in online decision making (Wells & Valacich, 2011).

Jha, et al., 2018 argues that website trust is largely shaped through consumers' interpretations of extrinsic (website aesthetics) and intrinsic (website information quality) cues and because customers' perceptions of an offering are commonly shaped by multiple cues. Hence, it is critical to consider context-relevant cues such as website aesthetics and website information quality together to determine synergistic effects as well as to identify the specific conditions where one cue may be more critical than another (Jha, et al., 2018).

Within the framework of signalling theory, information asymmetry is thought to exist between sellers and buyers due to differences in information availability (Jha, et al., 2018). Signalling theory stipulates that buyers make their purchase decisions based on a seller's

signals (Boulding & Kirmani, 1993). These signals may be broadly classified as intrinsic and extrinsic cues of the offering. Intrinsic cues are generally considered the physical characteristics of a product, such as ingredients or components that actually comprise the product. Extrinsic cues are related to the product but are not part of the physical product itself (Boulding & Kirmani, 1993). Extending this to the online environment, extrinsic cues can be classified as those that are related directly to the website itself, while the intrinsic cues are the physical aspects of the website (Jha, et al., 2018). Thus, website aesthetics such as visual appeal, design, background and colour would be extrinsic cues, while the accuracy, completeness, relevance and reliability of information available on the website would be intrinsic cues. This classification is consistent with existing online marketing literature (Jha, et al., 2018). In a website context, website aesthetics include two key dimensions: visual appeal and emotional appeal. While the visual appeal includes the colour, design, text style, etc used on the website, the emotional appeal reflects the psychological involvement of the visitor with the website aesthetic (Loiacono, et al., 2007).

#### **2.5.4 Perceived Risk**

Trust is a crucial factor that plays an important role in people's mind (Ghosh, 2019). The degree of comfort on Internet-based purchases or transactions is fully reliant on trust (Qualter et al., 2015; McCloskey, 2006). Trust governs the relationships and as consumers get familiar with the Internet-based platforms, the trust tends to increase (Ghosh, 2019; Hill et al., 2008). It is not at all surprising that lack of trust actually has been one of the most prevalent reasons for not accessing the Internet (Ghosh, 2019). It is well-documented by past researchers that, unfortunately, elderly consumers have been an easy victim of financial fraud (Leppel and McCloskey, 2011; Hill et al., 2008). The notion of trust is straight away connected with perceived risk (McCloskey, 2006). The Internet is affected by the apprehensions of the perceived risk involved (Rock et al., 2010). Perceived risk is well defined as a feeling of uncertainty and possible adverse consequences about some future event (Ghosh, 2019). Miskelly (2010) acknowledged the loss of purchaser information over the Internet as an important type of risk. It is also studied that if a consumer is familiar and feels comfortable with a given stimulus; they are less likely to associate the risk with that stimulus (Nayak et al., 2010). Thus familiarity helps in reducing the anxiety and risk that consumers perceive about digital platforms (Caine et al, 2006; Petersson and Borell, 2012). It is quite logical to gain a clear understanding of the fact that older people actually find Internet or digital platforms risky because of lack of experience and familiarity with these platforms (Nayak et al, 2010).

Subsequently, the elderly can be reasonably concerned for the security of their personal and financial information when using new and unfamiliar technology, on the digital platforms (Nayak et al, 2010). Other thing that also affects the perceived risk is their inability to physically examine the product they are looking for, inability to monitor the safety and security of their personal and financial information and concerns regarding receiving wrong products, service or information (Caine et. al., 2006; Magnusson and Hanson, 2003; Miskelly, 2001; Petersson and Borell, 2012). Shim and Warrington (2001) found that satisfactory outcomes of Internet browsing experience are because the past experience of the consumers is satisfactory which actually reduced the risk. Weber and Roehl (1999) determined that negative or disappointing experiences online actually leads to reluctance in engaging in the future, presumably because of increased risk perception.

### **2.5.5 Anxiety**

With growing age, the elderly do face difficulty in accessing the new technology which creates anxiety and hindrance in their mind for the same (Ghosh, 2019). Joseph (2005) discussed broadly on the root-cause behind lack of usage of Internet among the elderly. They clearly emphasised on facts as why do computers remain alien for the elderly. An online phobia is one such thing which eventually creates a hindrance in their mind and a perception that the Internet will be difficult to use (Joseph, 2005). The idea behind such perception is because they cannot relate to computers and Internet as it was not present at that time when they grew up, so there is no familiarity and hence result in a mental blockage (Zillien and Hargittai, 2009, Ghosh, 2019). They did not have the chance to get familiarised with that in their school or workplace thus they are more cautious and sceptical on the use of the same. As a result, older people are more cautious while handling the Internet (Allardice, 2001). They try to read all the information given on the web very carefully and do a lot of network pondering even before clicking on a link (Daulerio, 2001). Pop-ups, online advertisements and messages make elder people more nervous and anxious (Saranow, 2004). For older people who had initiated to learn about computers and also deal with various age-related problems such as eye-sight problem, memory and movement problem, their difficulty and anxiousness increases with the complexity in the websites (Saranow, 2004). The seniors find it difficult in those cases when the sites feature small font texts, hyperlinks, multiple overlapping windows and also layers of information which is difficult to navigate (Pepper, 2002). With growing age, these issues further aggravate the computer experience to bitter experience (Pepper, 2002). The problematic experience while browsing and accessing the

Internet creates a lot of anxiety and builds a pessimistic approach and attitude towards the technology (Beckers et al., 2008; Czaja et al., 2006).

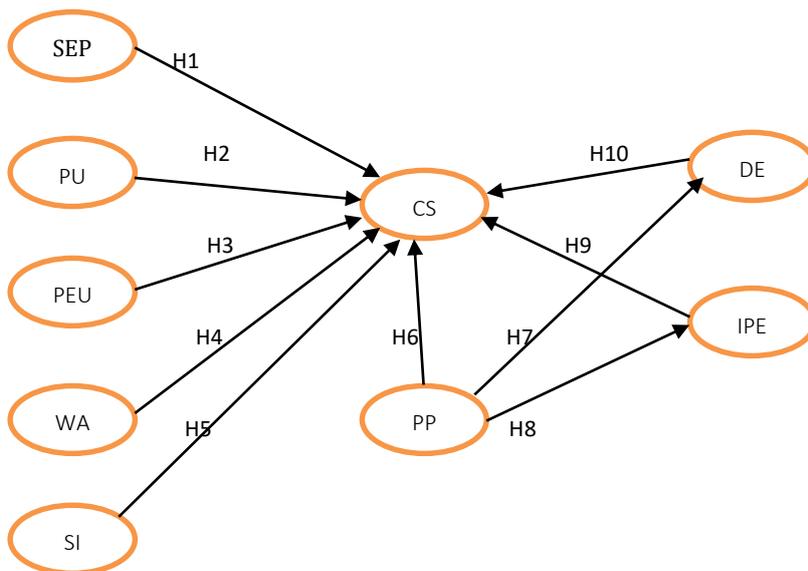
### **2.5.6 Adoption of Web-based Platforms**

Elderly are not very keen on adopting or using new technologies because primarily they are not in a position to handle technologies and also are not willing to ask for help if something did not work as planned (Brown, 2008). Eckhardt and Weitzel (2009) investigated the social influence on the adoption of technology and the social influences impact the person who refuses to adopt a technology. Laumer and Eckhardt (2010) worked on the constructs of Theory of Reasoned Action (TRA) and disclosed a significant negative correlation between an individual's personality and the TRA constructs. They further explained that people who are not keen on the use or adoption of these technology-based platforms are losing touch with the social contacts thus creating a digital divide in the first level. The phenomena of the digital divide are not only restricted to access to the Internet, in fact in recent time the focus has shifted to age, income, gender, residence, education and the influence of all of these on the non-usage or adoption (Laumer and Eckhardt, 2010; Hargittai, 2002). Apart from these reasons that strongly influence the non-adoption, the researchers also investigated the ability to handle the web-based platforms effectively and efficiently which is identified as the second level of digital divide or digital Inequality. The difficulties faced by elderly with respect to the adoption of Internet-based platform and technologies are discussed by several researchers where privacy issues, interface issues and complex technological issues are the primary concerns (Ghosh, 2019). For elderly another important hindrance towards the adoption of technology is also the reluctance to change their habitual daily routine with some new thing (Venkatesh, 2008). In the present scenario, the adoption of web-based platform is also trending a bit among the elderly people because they now try to maintain their status quo through welcoming new innovation and technology which is changing the day-to-day life significantly (Ghosh, 2019; Kim and Kankanhalli, 2009).

## **2.6 Preliminary Conceptual Model**

Despite the numerous attempts at theorising the role of digital banking service quality dimensions within the context of customer satisfaction, researchers have shown the concurrent viewpoints of the correlation among the digital banking service quality dimensions and customer satisfaction, and engagement. I proposed principal model for

correlation among security and privacy, perceived usefulness, perceived ease of use, personalisation, web aesthetics and social influence as primary constructs. In addition to the basic underlying theoretical framework, I added in-person and digital customer engagement constructs as primary constructs in a chain of this correlation. The main focus of this research is the examination of correlation of emerging digital banking service quality dimensions towards elderly customer satisfaction. Thus, I propose the below conceptual model, as a frame work to build the theoretical properties of the study one.



**Figure 2-1 Conceptual Model**

Acronyms;

SEP – Security and Privacy

PU – Perceived Usefulness

PEU – Perceived Ease of Use

WA – Web Aesthetics

SI – Social Influence

PP – Perceived Personalisation

CS – Customer Satisfaction

IPE – In-person Engagement

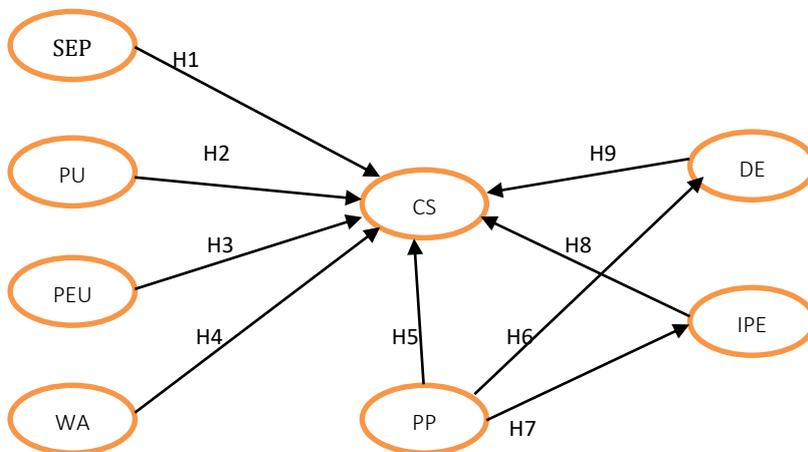
DE – Digital Engagement

## 2.7 Refined Conceptual Model and Proposed Frame Work

Within the landscape of digital banking, customer satisfaction and engagement, many studies have already examined the impact of service quality dimensions through different theoretical lenses such as TAM, DOI, TRA, TPB, UTAUT etc. They have looked at e-service quality dimensions such as accuracy, format, user friendliness, timeliness, speed, interactivity,

privacy, security, trust, web content and design, navigation, aesthetics etc. (Table 2.2 illustrates previous research that has looked at e-service quality dimensions).

However the technology is evolving and changing and so do the service quality dimensions (Ghosh, 2019; Black, 2015). As now we are approaching a second inflection point in modern banking, dynamics of the e-service quality dimensions are rapidly changing (Ghosh, 2019). Personalisation is one such e-service quality dimension which has many facets and not been adequately examined by the existing theoretical concepts and models. And also on the other hand the findings of the qualitative study indicate that the cyber security, privacy risk, perceived usefulness and ease of use have a significant impact on customer satisfaction and the overall customer experience of elderly on digital platform. In order to develop a conceptual model to analyse the above service quality dimensions, technology acceptance model (TAM) can be identified as a base model for this study as perceived usefulness, ease of use and trust are fundamental theoretical constructs of the same. Hence, by adopting and extending the TAM, below conceptual model has been developed and will be used as the theoretical lens for this study.



*Figure 2-3 Conceptual Model*

## 2.6 Hypothesis Development

### 2.6.1 Perceived Security, Privacy (SEP) and Customer Satisfaction;

In the digital banking literature, the casual relationship between SEP and customer satisfaction is the subject of great academic debate. Johnson, et al. (2017), indicates that

perceived security positively influence the individual's intention to use mobile banking services. And also ubiquity and trialability positively influence the individual's perception of security while concerns over privacy risk negatively influences perceptions over security. Also they have highlighted that one of the largest barriers to adoption of mobile banking service is the concern over security and perceived security can have a positive impact over both trust and adoption and customer satisfaction.

Albashrawi and Motiwala (2019) have indicated that, privacy reflects the extent an individual has control over his/her personal information when interacting with mobile banking and not having the control over personal information may result in an elevated level of privacy concerns and customer satisfaction. Also they have highlighted that the mobile users usually show their privacy concerns when interacting with online products or services. Accordingly when the level of privacy concerns is getting high in mobile banking, trust and satisfaction become low among customers, which in turn may lead to decrease continued usage intention of mobile banking. This suggests that privacy concerns can influence the level of customer satisfaction among digital banking users negatively. Hence the following research hypothesis is proposed;

**H1:** Security and Privacy (SEP) has a significant correlation with the customer satisfaction of the elderly on digital banking.

### **2.6.2 Perceived Usefulness (PU) and Customer Satisfaction;**

Ghosh (2019) and Qualter (2015) have indicated that there are mainly two determinants which cause people to accept or reject information technology. First, people tend to use or not use an application to the extent they believe it will help them perform their job better or in other words perceived usefulness impacts the usage intention of technology. Second, even if potential users believe that a given application is useful, they may, at the same time, believe that the systems is too hard to use and that the performance benefits of usage are outweighed by the effort of using the application.

Davis (1989) has outlined that self-efficacy and outcome beliefs have differing antecedents and that, in any given instance, behaviour would be best predicted by considering both self-efficacy and outcome beliefs. Hence the following research hypothesis is proposed;

**H2:** Perceived Usefulness (PU) has a significant correlation with the customer satisfaction of the elderly on digital banking

### **2.6.3 Perceived Ease of Use (PEU) and Customer Satisfaction**

Davis (1989) has indicated that the degree to which a person believes that using a particular system would be free of effort will impact intention to use the system and the customer satisfaction. Accordingly effort is a finite resource that a person may allocate to the various activities for which he or she is responsible. All else being equal, it is apparent that an application perceived to be easier to use than another is more likely to be accepted by users (Qualter et al, 2015). Wagner and Head (2010) highlighted that the elderly people who do not use the Internet avoid it owing to an aversion towards technology which is due to misperceptions thinking that the Internet is difficult to use. Iyer and Eastman (2006) supported with fact that the elderly are more willing to use the Internet once they find it easy to use and access. Nayak and White (2010) specified that the ease of accessing the web-based platforms indirectly influences the attitude toward the intention to use the web-based platforms and the customer satisfaction. Hence the following research hypothesis is proposed;

**H3:** Perceived Ease of Use (PEU) has a significant correlation with the customer satisfaction of the elderly on digital banking

### **2.6.4 Web Aesthetics and Customer Satisfaction;**

Wang and Schultz (2010) opine that an appropriate display of elements like fonts, colours, images, graphical buttons, shapes, language, animation and music can influence consumers in having a positive impression of the website. Li and Yeh, (2010) have highlighted that the visual aesthetics require websites to reflect a positive message that it intends to convey to the visitors. Therefore, companies rely densely on the website display to attract possible customers and to communicate with them. As, Cyr et al. (2006), indicated, aesthetically designed websites can also affect visitor's loyalty. In the context of banks, apart from concentrating on system security, banking websites that are highly user-friendly as well as aesthetically appealing create a positive perception of usability amidst the visitor. Therefore, as an artistically designed website that gratifies the eyes assists in attracting customers' attention, it also helps in capturing overall customer experience, engagement and satisfaction. (Wang et al., 2011). Hence the following research hypothesis is proposed;

**H4:** Web Aesthetics (WA) has a significant correlation with the customer satisfaction of the elderly on digital banking.

### **2.6.5 Perceived Personalisation and Customer Satisfaction;**

In the digital banking service literature, the causal relationship between perceived personalisation and customer satisfaction is the subject of great academic debate. Some researchers and academicians describe personalisation has a significant correlation with customer satisfaction while some authors find a paradox between privacy and personalisation. Aguirre, et al. (2016), finds the existence of personalisation and privacy paradox. They indicate that personalisation can both enhance and diminish the engagement with the firm. Yuan et al. (2016) and Tong et al. (2012) have indicated that the personalised services help to conduct financial transactions in a quicker manner and easier fashion, they can make digital banking users more efficient and effective in their interaction with their digital banking service providers; therefore, they could lead to higher satisfaction among those users. This suggests that personalisation can influence the level of satisfaction among digital banking users positively (Thongpapanl and Ashraf, 2011; Wang and Groth, 2014). Hence the following research hypothesis is proposed;

**H5:** Perceived Personalisation (PP) has a significant correlation with the customer satisfaction of the elderly on digital banking.

### **2.6.6 Perceived Personalisation and Online Engagement;**

Kallie and Risa (2021) have highlighted that the customer engagement can be done online on the company's website, as well as on various other digital channels such as social media platforms, email, text etc. Basically anything, where a customer can reply or interact with the company itself. With increased customer engagement, companies get more people on their digital channels, people talking about their brand and further increase the number of potential customers. Risa (2021), has indicated that, through customer engagement, companies can gather information about their current and potential customers. Customer engagement relies on having communication with marketing and personalised recommendations to increase traffic. The content from marketing and the personalisation should be aimed at the customers and their needs and desires. This gives increases the possible opportunities for them to engage with the company's content, being aware of the company and heightens the possibility of them being a loyal customer in the future (Rissa, 2021). With the success of

customer engagement, customers can talk about their own experiences and recommend companies, increasing potential customers through communication (Rissa, 2021). Hence the following research hypothesis is proposed;

**H6:** Perceived Personalisation (PP) has a significant correlation with the online engagement of the elderly on digital banking.

### **2.6.7 Perceived Personalisation and In-person Engagement;**

Vivek and Morgan (2012) have indicated that customer experiences are essential in building sustainable differentiation and create a long-term relationship between the brand and the customers. Kumar and Leone (2010) have highlighted that the customer engagement goes further than satisfaction and loyalty and therefore provides a real competitive advantage that drives successful businesses. In addition to these dimensions, Hollebeek (2011) argue that the customer engagement might also have a motivational basis. Nevertheless, the dominant stance in the literature regards engagement as a behavioural manifestation, on the basis that taking action is what really differentiates individuals who engage from those who do not (Kumar et al., 2010).

Mollen and Wilson (2010) also have highlighted that customer engagement goes beyond mere involvement. First, engagement encompasses an interactive relationship with the engaged object; second, the emergence of an individual's perceived experiential value is required, in addition to the instrumental value obtained from specific brand interactions and usually associated with involvement. Moreover, customer engagement refers to voluntary and discretionary customer behaviours towards a company and these customers are driven by their own unique purposes or intentions that can either be beneficial or unbeneficial for a company (Mollen and Wilson, 2010). Hence the following research hypothesis is proposed;

**H7:** Perceived Personalisation (PP) has a significant correlation with the in-person engagement of the elderly on digital banking.

### **2.6.8 In-person Customer Engagement and Satisfaction;**

Aksoy (2014), Amin (2013) and Baumann (2011), have provided empirical evidence to support the statement that customer satisfaction has positive relationship on repurchase intention and customer engagement. Ramseook-Munhurrin and Naidoo (2011) have

indicated that there is a significant relationship between customer satisfaction and customer engagement in internet banking. Similarly, Gera (2011) found that customer satisfaction is a direct antecedent of positive recommendation intentions, and leads to positive WOM (Kaura et al., 2015; Levy, 2014; Sotiriadis and van Zyl, 2013), and behavioural intention (Baumann et al., 2012; Cronin et al., 2000; Szymanski and Henard, 2001; Zeithaml et al., 1996). It seems that consumers who are satisfied with digital banking are more likely to engage in a consistent relationship with digital banking in future and demonstrate a more loyal behaviour. However, when dissatisfaction is felt, customers are likely to complain about the service and engage in negative WOM (Caruana, 2002; Kandampully et al., 2015; Ryngeblum et al., 2013), and they will react negatively and switch to other service providers (Amin et al., 2011; Laksamana et al., 2013; Wirtz et al., 2007). In this sense, if the digital banking service providers fail to provide channels which the customers need, they will find more difficulty in developing a relationship and engage with their customers (Amin et al., 2013; Levy, 2014). As a result, customer who satisfied with digital banking will exhibit high engagement and loyalty toward their bank. Hence the following research hypothesis is proposed;

**H8:** In-person engagement (IPE) has a significant correlation with the customer satisfaction of the elderly on digital banking.

### **2.6.9 Digital Customer Engagement and Satisfaction;**

Risa (2021), has indicated that, through digital customer engagement, companies can gather information about their current and potential customers. Digital customer engagement relies on having communication with marketing to increase traffic. The content from marketing should be aimed at the customers and their needs and desires. This gives increases the possible opportunities for them to engage with the company's content, being aware of the company and heightens the possibility of them being a loyal customer in the future (Rissa, 2021). With the success of customer engagement, customers can talk about their own experiences and recommend companies, increasing potential customers through communication (Rissa, 2021).

To better digital customer engagement, companies need to listen to customers. This means that there should be contact with them, feedback, and a follow up with the service the customer received (Kumar 2013). A part of customer engagement is building a brand identity. With a distinguishable brand identity, future potential customers will gravitate

towards the brand once they know that they want to purchase their products (Kallie and Rissa, 2021). The company's potential customers become aware of you brand and usually follow the company on social media and have engaged with their webpage. This is when a company needs to use different channels to provide contents for their interests and the base for customer relationships in the future (Kallie and Rissa, 2021). Hence the following research hypothesis is proposed;

**H9:** Digital Engagement (DE) has a significant correlation with the customer satisfaction of the elderly on digital banking.

Authors	Key dimensions discussed
Albashrawi & Motiwala (2019)	Personalisation, privacy, perceived usefulness and perceived ease of use
Choi (2019)	Personalization, accuracy and diversity of recommendation services.
Aguirre (2016)	Personalisation, trust and privacy paradox
Yaiser (2017)	Personalisation, customer satisfaction and engagement
Ameen (2016)	Personal need, site organisation, user friendliness and efficiency of web site
Saleem (2016)	Social influence, market orientation and service quality
Dootson (2016)	Reduction of cost in face to face transactions and sending statements
Kandampully (2015)	Behavioural and attitudinal loyalty
Sharma & Malviya (2014)	Convenience, security, reliability, responsiveness, website aesthetics and easy to recover.
Martins (2014)	Good customer service via e-banking

Authors	Key dimensions discussed
Liebana-Cabanillas (2013)	Accessibility, ease of use, usefulness, and trust.
Gera (2011)	Interaction experience with the website
Jeong & Lee (2010)	Product diversity, tangibles, responsiveness, interaction, and stability
Prem Shamdasani (2008)	Perceived control, speed of delivery, reliability and enjoyment
Johnson (2008)	Improving the speed of processing information and reliability of equipment
Pikkarainen (2006)	Content, ease of use and accuracy
Sundarraaj and Wu (2005)	Convenience, and anytime, anywhere service access
Parasuraman (2005)	Privacy/security; information content and availability; web site design or graphic style; ease of use; and reliability/fulfilment
Jun (2004)	Reliable/prompt responses, attentiveness, and ease of use
Yang and Fang (2004)	Ease of use and usefulness

Authors	Key dimensions discussed
Han and Baek (2004)	Relationships between online banking service, customer satisfaction and customer retention
Chanaka Jayawardena (2004)	Speed, web site content and design, navigation, interactivity and security
Wolfinbarger and Gilly (2003)	Web site design, reliability, privacy/security, customer service
Vachirapronpuk & Broderick (2002)	Level and nature of customer participation
Zeithaml (2001)	Access; ease of navigation; efficiency; flexibility; reliability; personalisation; security/privacy; responsiveness; assurance/trust; site aesthetics; price knowledge
Liu and Arnett (2000)	System use, system design quality, information quality, playfulness

*Table 2-2 previous research that has looked at e-service quality dimensions*

## 2.7 Summary

The extensive review of the literature suggests that technology is evolving and changing and so do the service quality dimensions on digital space. Personalisation is one such e-service quality dimension which has many facets and not been adequately examined by the existing theoretical concepts and models. Many studies have been conducted on e-service quality dimensions and their correlation on adoption and use of technology but however the correlation of emerging service quality dimensions with elderly customer satisfaction and engagement in this new age of digital banking has not been given adequate emphasis by many authors.

Different dimensions of security and privacy, perceived usefulness, perceived ease of use, perceived personalisation and web aesthetics were evidenced in the literature review. As noted in Section 1.3, the program of research in this thesis addresses three gaps that were identified in the extant literature. There have only been a small number of empirical studies conducted on elderly customer satisfaction and engagement especially in this new age of digital banking. As the literature review shows, while there is much interest in the research area there is limited quantitative research that extends conceptual work or operationalizes qualitative findings in the area of interest of this thesis. The two studies planned combine qualitative theory building with quantitative theory testing to address the research questions shown in the discussion above. Many studies have looked at the correlation of emerging service quality dimensions on customer satisfaction, usage intention and engagement but most prominently they have been focused on tech savvy, millennials and genZ. And also on the other hand the examining the impact of perceived personalisation on elderly customer engagement is not evident in the literature. Many studies that have been conducted on e-service qualities and customer experience on digital banking have focused on a single digital service delivery channel such as online banking or mobile banking. Considering this gaps in the literature, the study in this thesis have taken a holistic approach by considering the customer experience on all the digital service delivery channels. In addition, research hypotheses were proposed to assist in addressing the research gaps identified in the early stages of the research.

The research gaps led to the following three research questions: RQ1: How service quality dimensions; security and privacy, perceived usefulness, perceived ease of use, web aesthetics,

perceived personalisation correlate with elderly customer satisfaction in this new age of digital banking? RQ2: How perceived personalisation correlates with the elderly customer digital and in-person engagement in this new age of digital banking? RQ3: How in-person engagement and digital engagement correlate with elderly customer satisfaction on digital banking?

This chapter also introduced the following hypotheses based on the findings of the literature review and the conceptual model proposed in the end of the review; H1: Security and privacy has a significant correlation with the customer satisfaction of the elderly on digital banking. H2: Perceived usefulness has a significant correlation with the customer satisfaction of the elderly on digital banking. H3: Perceived ease of use has a significant correlation with the customer satisfaction of the elderly on digital banking. H4: Web aesthetics has a significant correlation with the customer satisfaction of the elderly on digital banking. H5: Perceived Personalisation has a significant correlation with the customer satisfaction of the elderly on digital banking. H6: Perceived Personalisation has a significant correlation with the online engagement of the elderly on digital banking. H7: Perceived Personalisation has a significant correlation with the in-person engagement of the elderly on digital banking. H8: In-person engagement has a significant correlation with the customer satisfaction of the elderly on digital banking. H9: Digital engagement has a significant correlation with the customer satisfaction of the elderly on digital banking.

Research design, methodology of the research, as well as the methods used in two qualitative and quantitative studies, theoretical properties and philosophical orientations of both studies are discussed in the next chapter.

# Chapter 3

## Study One - Research Design, Methodology & Findings

### 3.1 Introduction

Chapter Two focused on synthesising the literature regarding emerging service quality dimensions and their correlation with elderly customer satisfaction and engagement in this new age of digital banking. The chapter also identified the relevant gaps evident in the research and proposed the research questions that are to be examined in this thesis. The current chapter discusses the methodologies used in each of the two studies. The research questions (RQ 1-3) guiding this program of research require both qualitative and quantitative approaches. The qualitative study explores emerging service quality dimensions which could have a significant correlation with elderly customer satisfaction and engagement in this new age of digital banking and also elderly customers' perceptions on personalisation efforts of digital banking service providers. These findings then inform a quantitative study that examines the intensity of identified service quality dimensions on elderly customer satisfaction and the intensity of perceived personalisation on elderly customer engagement on digital space. For this reason the research in this thesis adopts a mixed-method approach to answer the research questions and explore the research hypotheses. Such an approach has received attention and extension over recent decades (Johnson and Turner, 2007; Tashakkori and Teddlie, 2010). This particular approach helps to remove the debate between qualitative versus quantitative research, and makes the research findings stronger by adopting the strengths of both approaches (Johnson and Onwuegbuzie, 2004).

The chapter is structured as follows: section 3.2 outlines the philosophical orientation underpinning the research; section 3.3 discusses the justification on the chosen methodology of the study in this thesis; section 3.4 discusses the methodology for study one, which uses a qualitative approach; and section 3.5 discusses the methodology for study two, which uses a quantitative approach. Section 3.6 then concludes the chapter.

## **3.2 Research Philosophy**

The research in this thesis is guided by a ‘realism’ philosophy which generalises the results for the theoretical propositions, not the populations (Yin, 1989). Following the ‘realism’ paradigm, the studies in this thesis follow an ontological assumption that “Reality is real but only imperfectly and probabilistically apprehensible and so triangulation from many sources is required to try to know it”, and an epistemological assumption that “findings are probably true – researcher is value-aware and needs to triangulate any perceptions he or she is collecting” (Sobh and Perry, 2006, p. 1195). Therefore, realism “consists of abstract things that are born of people’s mind but exists independently of any person”, which represents a range of methodologies from theory building to theory testing (Healy and Perry, 2000, p. 120).

In the methodological issues, theory building can start from a case study or convergent interviewing, and theory testing can be done using quantitative methods, such as SEM (Healy and Perry, 2000). Following guidelines in Healy and Perry (2000) for a realism approach, the research of this thesis contains two studies. The first study takes a qualitative approach for theory building (Sobh and Perry, 2006), and the second study takes a quantitative approach for theory testing, leading to triangulation and validation of the findings of the first study (Healy and Perry, 2000).

## **3.3 Justification of the chosen methodology**

Mixed methods research has usually been compared with mono method research. Teddlie and Tashakkori (2003), pointed out two main areas in which mixed methods studies may be superior to mono method approaches. First, mixed methods research can answer research questions that the other methodologies cannot. Although there is no necessary and perfect connection between purpose and approach, quantitative research has typically been more directed at theory testing or verification, whereas qualitative research has typically been more concerned with theory building or generation (Punch, 2005). A major advantage of mixed methods research is that it enables the researcher to simultaneously generate and verify theory in the same study. Second, mixed methods research provides stronger inferences. Several authors have postulated that using mixed methods can offset the disadvantages that certain of the methods have by themselves. Johnson and Turner (2003), refer to this as the fundamental principle of mixed methods research: Methods should be mixed in a way that

has complementary strengths and no overlapping weaknesses. Moreover, there are potential benefits of mixed methods research: more comprehensive findings, increased confidence in results, increased conclusion validity, and more insightful understanding of the underlying phenomenon (Johnson and Christensen, 2004). In fact, mixed methods studies have several purposes that can be considered as advantages of this approach (Bryman and Bell, 2003; Creswell and Plano Clark, 2007; Greene et al., 1989; Tashakkori and Teddlie, 1998): triangulation (seeking convergence and corroboration of findings from different methods that examine the same phenomenon), development (using the results from one method to help develop or inform the other method), expansion (using different methods to assess different facets of a phenomenon, yielding an enriched, elaborated understanding of that phenomenon), and complementarity (clarifying, enhancing, or illustrating the results from one method with the results from the other method). In addition, mixed methods can be used to understand the extent to which a study's results are significant in practice by including practitioners' own discourses (Aguinis et al., 2010). In summary, the overall purpose and central premise of mixed methods studies is that the use of quantitative and qualitative approaches in combination may provide a better understanding of research problems and complex phenomena than either approach alone provides (Creswell and Clark, 2007; Johnson and Onwuegbuzie, 2004), incorporating the strengths of both methodologies and reducing some of the problems associated with singular methods.

### **3.4 Study 1 - Theory building qualitative approach**

This study uses convergent interviews with elderly customers who have experienced online banking in this new age in Sri Lankan context. The study undertaken seeks to understand how emerging service quality dimensions are conceptualised by elderly customers when they speak about their experiences with a digital banking service provider. Additionally, the study helps to understand the emerging and influential service quality dimensions and their interrelationships with each other and with satisfaction and engagement.

Respondents were recruited from two leading retail banks in Sri Lanka. For the qualitative analysis a total of 30 semi-structured, convergent interviews were conducted. Analysis of the transcripts from the interviews involved the following process. Corbin and Strauss (2008), and Marshall and Rossman (2010), identify a step-by-step process for data analysis coming from interviews: (1) organizing data; (2) immersion in the data; (3) coding the data; (4)

generating categories and themes; (5) offering interpretation; (6) searching for alternative understandings; and (7) writing the report, where the researcher brings meaning and insights to the participants' responses. These steps were followed to analyse the interview data in this study. The outcome of this theory-building study provide a conceptual framework to guide theory development, which is examined in study two. Additionally, a conceptual model is proposed that is informed by the findings in this study and from the literature.

The first phase of this study provides an understanding of the emerging service quality dimensions which could influence the elderly customer satisfaction and engagement in this new age of digital banking. For exploratory analysis as such, a qualitative research method is appropriate (Malhotra, 2008). The methodology underpinning this study follows the thematic analysis approach, which allows the researcher to explore the consciousness and experience of elderly customers.

Braun and Clarke (2006, p.88), described the thematic analysis as 'a poorly demarcated and rarely acknowledged, yet widely used qualitative analytic method'. Since the publication of what became a landmark paper, TA as a 'named and claimed' method has gained hugely in popularity and has entered the qualitative canon as a recognisable and reputable method of analysis (Braun and Clarke, 2006).

One debate that continues among some psychologists is whether TA is a fully-fledged method in its own right, or whether it is simply a tool that underpins many different qualitative approaches (Willig, 2013). Some argue that TA is not a specific analytic approach, but rather a meta-analytic technique, and that most qualitative approaches involve themes in some way (Gibson and Brown, 2009); others maintain that TA is a specific analytic approach, but even if they do, it's usually presented as a singular approach (Aronson, 1994). For instance: In a thematic analysis three levels of codes are usually recognised. These are 1st, 2nd and 3rd level (or order) codes (Langridge, 2004). Most people begin with a very basic descriptive level of coding and work upwards in a systematic manner towards a more interpretative level (Langridge, 2004). These types of claims imply that qualitative researchers agree on what TA is, and how TA gets done (Attride-Stirling, 2001). Few authors identify different versions of TA and when they do it is usually different versions of one underlying approach (for example, inductive and deductive versions, Fereday and Muir-Cochrane, 2006). In addition, many texts present more or less idiosyncratic TA procedures as

definitive, or reduce the diversity of approaches – and, there are many different versions and varieties of TA – down to a singular method (Fereday and Muir-Cochrane, 2006). Hence authors of methodological texts thus often fail to acknowledge diversity within TA (Braun and Clarke, 2006). This is potentially confusing for qualitative beginners seeking clear guidance, but much more importantly, it obscures important theoretical and conceptual differences between different TA approaches (Braun and Clarke, 2006). This diversity covers the overall conceptualisation of what TA is or offers, where it sits theoretically, and processes and procedures for (best practice) analysis (Braun and Clarke, 2006). There are two broad categorisations as, ‘experiential’ and ‘critical’ orientations to qualitative research useful (Braun and Clarke, 2013; Reicher, 2000). Experiential orientations focus on what participants think, feel and do, and are underpinned by the theoretical assumption that language reflects reality, either a singular universal reality, or the perspectival reality of a particular participant (Braun and Clarke, 2013). Critical orientations seek to interrogate dominant patterns of meaning and theoretically understand language as creating, rather than reflecting, reality (Braun and Clarke, 2013; Reicher, 2000). Some writers situate TA as only and always an experiential approach (Aronson, 1994; Attride-Stirling, 2001; Boyatzis; 1998). Others describe TA as a theoretically independent – and thus flexible – approach, but still see it as particularly compatible with certain theoretical orientations, such a particular kind of phenomenology or phenomenology in general (Guest et al., 2012; Joffe, 2012). It is rarely explained why TA is seen as particularly compatible with these approaches – and the claimed compatibility seems to rely on the assumption that TA is an experiential orientation (Braun and Clarke, 2013).

Thus, this approach deals with peoples’ consciousness and experiences, and explains how people perceive some phenomenon. The unique characteristics of this approach are: (1) open discussion, which refers to the unstructured discussion by the respondent depending on their own perception and meaning; (2) investigation of essence, which refers to common themes raised from different kinds of situations or phenomena; and (3) primacy of the world, which refers to the potential for description of the everyday world (Boyatzis, 1998; Kvale, 1996).

### **3.4.1 Research Method**

In adopting a phenomenological methodology this study searches for rich understandings of the perceptions and attitudes of elderly customers on emerging service quality dimensions of

digital banking, the interrelationships between them, and how these relationships influence the satisfaction and engagement of elderly customers in this new age of digital banking.

Qualitative researchers depend on conducting different types of interviews and each one has its strengths for the research being done (Rao and Perry, 2003), as shown in table 3-1. Focus groups are not regarded as useful for the qualitative component of this study as there is a need for a rich understanding, where people feel free to speak of their own experiences and perceptions, rather than be influenced by others in a group (Marshall and Rossman (2010).

Characteristic	Convergent interviews	Case study	Focus groups
Main objective	To obtain rich and detail information	Mainly theory building/confirming	Group interaction
Process	Flexible-unstructured to structured	Structured and standard procedures	Flexible-unstructured to structured
Strength	Replication	Progressive	Synergistic effect in a group setting
Weakness	Results may be biased/subjective	Require sufficient prior theory	Confirming effects in a group setting

**Table 3-1 Differences between qualitative methods for conducting research (Source: Rao and Perry, 2003).**

As a specific service setting is not evident for the research in this thesis, trying to use a case study approach would also be restrictive. This study used in-depth interview approach, which is a structured methodological approach for collecting, analysing and interpreting qualitative information about people’s attitude, beliefs, knowledge, and perception through using limited number of interviews converge the most important issues within a topic area (Azhar et al., 2012). The seven benefits of this semi-structured interview approach identified by Marshall and Rossman (2010) and Mason (2002) are: (1) data can be extracted quickly compared to in a case study; (2) provides greater breadth and depth of information compared to focus group

discussion; (3) enables immediate follow-up and clarification of information; (4) allows some benefits of observation to understand the meaning; (5) provides texture of everyday life; (6) explores participants' understanding, experiences, and imaginations; and (7) brings significance of meaning that data generate.

### **3.4.2 Sampling Technique**

As this study explores an under-researched area, it follows a 'purposive sampling' technique. This sampling method is suitable for new or uncharted areas, because it allows discovery of new categories or themes to be investigated that emerge from the data (Corbin and Strauss, 2008). This study investigates digital experiences of customers in the banking sector. Hence it will target customers who have signed up and used online or mobile banking for more than 6 months in any commercial bank in Sri Lanka as the sample population. According to Corbin and Strauss (2008), purposive sampling deals with concepts rather than populations, and is defined as "a method of data collection based on concepts derived from data" (p.144). Therefore, rather than using an established set of questions before starting the data collection purposive sampling is responsive to the data. Another characteristic of this sampling method is the nature of analysis. The analysis starts just after the first interview and therefore "data collection and analysis go hand in hand" (Corbin and Strauss, 2008, p.145), because questions in later interviews come from the analysis of previous interviews.

### **3.4.3 Sample Size**

There are disagreements between authors about the number of interviews required. Malhotra (2008) suggests that at least 12 interviews are required for data saturation, where ideally the total number of interviews should be 1% of the total population. As the total number of elderly customers who engage in online or mobile banking is not exactly known, 12 interviews should be the minimum for this study. However, others argue that sample size should depend on stability; that is, when agreement among interviewees is achieved, and disagreements are explained from different industry perspectives (Rao and Perry, 2003). Nair and Riege (1995) suggest that six interviews are sufficient for stability, whereas Woodward (1996) found stability after only five interviews. Moreover, Rao and Perry (2003) achieved data stability after 10 interviews. Considering all of these suggestions and findings, this study conducted 30 interviews, depending on data saturation. Usually saturation is explained as a situation when new data fail to emerge (Corbin and Strauss, 2008).

#### **3.4.4 Data Collection**

Researcher initially approached a selected 10 prospective respondents through leveraging the contacts in two leading private banks in Sri Lanka. These respondents were above the age of 60 and have experienced digital banking channels of those two banks for more than 06 months. These initial interviewees were asked to refer other people that they thought could provide insights into the research area and who might be using digital banking channels of the same service provider or any other service provider in the country. Such a sampling technique is called 'snowball sampling' (Malhotra, 2008). Therefore, this study initially started with purposefully selected respondents, followed by the snowball sampling method to achieve more interviewees. Conversations between the interviewer and interviewee were recorded for transcription. Data was collected during the period of early April to late June 2020. Initially it was planned to collect the data through in-person interviews, but however due to Corona virus pandemic, method of data collection was changed to telephone interviews. Generally each interview was taken average of 20-30 minutes. Interviews were carried out in local language as to make the respondent more comfortable and enable them to express more complex thoughts, attitudes and conscientious much more clearly. Translations of interviews were undertaken by the researcher. But however, they were checked and verified by an independent translator in order to ensure the reliability of the transcripts.

#### **3.4.5 Interview Guide**

The interview guide was developed with a general understanding of the drivers of different service quality dimensions which could impact customer satisfaction and engagement on digital platform that are evident from the literature and was set sequentially to move between the different areas. Such an objectivist approach is not strict, and depending on the responses in the interviews these themes were able to change (Marshall and Rossman, 2010). The interview guide and information for participants are provided in Appendix 1 and Appendix 2. The following sections are provided to give an indication of how the interviews proceeded.

1. The initial set of questions were focused on putting the interviewee at ease and getting them to talk about their perceptions and experiences generally on global digital transformation: "How do you feel about the global digitalisation process and why do you think it's important

or not?.” These questions were aimed to set the focus of their frame of mind on to the digital platform and rollout with the rest of the interview. Probing questions were used.

2. The second section then started to explore the interviewee’s experiences with cyber security, privacy risk, personalisation, usefulness and ease of use of digital banking. Probing questions were used to explore concepts of these perspectives. The interviewee was also asked to provide examples.

3. The third section worked towards determining how the interviewee generally perceive the current service provider and the level of engagement with the service provider on both online and in-person banking. Probing questions and brief definitions were provided here to help the discussion when needed.

### **3.4.6 Trustworthiness and Ethics**

Due to the nature of conducting qualitative research, it is important to address issues of trustworthiness. To ensure the trustworthiness of this study, criteria given by Shenton (2004) were adopted and further supplemented by Rao and Perry (2003) in relation to using in-depth interview method in a realism paradigm:

**1. Transferability:** A detailed description of the contexts allows the readers to understand the service context where the findings of this study fit. It allows them to understand whether it is applicable to other contexts.

**2. Dependability:** In the methodology section, detailed descriptions of the research method, sampling strategy, and analysis steps are given. This helps future researchers to replicate this study in other service contexts and geographical locations. Dependability is also achieved by using the structured procedure of data analysis and structured process of recording, writing, and interpreting data.

**3. Conformability:** Although questions were designed based on the themes derived from the literature, nuanced and new themes emerging from the respondents’ responses were included in the findings. This approach helps to confirm that respondents’ views are reflected in the findings rather than the researcher’s perspective about the phenomenon. Moreover, the

flexibility of in-depth interviewing allowed the researcher to re-evaluate and re-design both the content and process of the interviews, confirming the content validity (Rao and Perry, 2003).

For ethical purposes interviewees were free to choose not to disclose information they did not wish to share. They were also given the opportunity to refuse any question which they felt uncomfortable answering. Therefore, the relationship with the respondents during the interview was professional and conformable (Marshall and Rossman, 2010). In addition, in the analysis and reporting, respondents' identities (such as real name) were anonymised (Marshall & Rossman, 2010), and only anonymous ID was mentioned at the end of each quote in the result analysis chapter (chapter 4). Salford Business School has precise and strict code of conduct for researchers and ethical clearance procedures. Researchers apply for an ethics clearance prior to starting the data collection. Approval given by the research ethics panel of Salford Business School is attached in the appendix. The ethical clearance number was provided on the participant information sheet that outlines the study's objectives and participants' rights, and was provided to each interviewee.

### **3.4.7 Data Analysis**

Corbin and Strauss (2008), and Marshall and Rossman (2010), identified a step-by-step process for data analysis coming from interviews: (1) organising data; (2) immersion in the data; (3) coding the data; (4) generating categories and themes; (5) offering interpretation; (6) searching for alternative understandings; and (7) writing the report, where the researcher brings meaning to and insights of participants' responses.

These steps were followed in this study in the following way:

1. This study organised data by recording the data and time of interview, detail of interviewee(s), and topic or themes covered in the interview.
2. To engage with the data, transcription was undertaken by the researcher. The researcher read and re-read the transcripts several times during the analysis phase.
3. For coding data, abbreviations of key words with colour codes were used. These codes came extensively from the words of respondents as noted in the transcripts, seeking the nuances of meanings in the data.

4. For generating categories and themes, this study went through a three-step procedure. First, open coding was employed by using the Nvivo 12 software to identify codes against each response. This process helped to generate theoretical properties of the responses (Corbin and Strauss, 2008). Second, axial coding was performed by grouping initial codes to establish themes according to conceptual categories that reflect commonalities (Marshall and Rossman, 2010). Lastly, clustering was used to establish relationships among the themes.
5. The interpretation stage attached significance to what was found, making meaning of the findings, offering explanations, weaving in existing literature, and drawing conclusions (Patton, 2002).
6. To offer an alternative understanding this study utilised triangulation. For this purpose, other expert researchers in the financial sector were asked to evaluate the validity of the coding process.
7. In terms of writing the report, the truthfulness, soundness, and value of the study were addressed.

## **3.5 Findings - Study 01: Qualitative Study (Convergent Interviews)**

### **3.5.1 Introduction**

The study one provides an understanding of the conscientious and experiences of elderly on service quality dimensions which could contribute to the customer satisfaction and engagement in this new age of digital banking. Study also describes the degree of their contribution to the satisfaction and engagement. Findings of this study will inform the study two to formulate a conceptual model, test the theory built in study one and answer the research questions of this thesis. For exploratory analysis such as this a qualitative research method is appropriate (Malhotra, 2008). The methodology underpinning this study follows the thematic analysis approach, which allows the researcher to explore the conscientious and experiences of elderly customers.

The research in this thesis is guided by a ‘realism’ philosophy which generalises the results for the theoretical propositions, not the populations (Yin, 1989). Following the ‘realism’

paradigm, the studies in this thesis follow an ontological assumption that “Reality is real but only imperfectly and probabilistically apprehensible and so triangulation from many sources is required to try to know it”, and an epistemological assumption that “Findings are probably true – researcher is value-aware and needs to triangulate any perceptions he or she is collecting” (Sobh and Perry, 2006, p.1195). Therefore, realism consists of abstract things that are born of people’s mind but exists independently of any person, which represents a range of methodologies from theory building to theory testing (Healy and Perry, 2000).

In the methodological issues, theory building can start from a case study or convergent interviewing, and theory testing can be done using quantitative methods, such as SEM (Healy & Perry, 2000). Following guidelines by Healy and Perry (2000) for a realism approach, the research of this thesis contains two studies. The first study takes a qualitative approach for theory building (Sobh and Perry, 2006), and the second study takes a quantitative approach for theory testing, leading to triangulation and validation of the findings of the first study (Healy and Perry, 2000).

### **3.5.2 Thematic Findings and Discussion**

This sub section presents the thematic findings of the convergent interviews by conceptualising the emerging and influential service quality dimensions; security and privacy, perceived usefulness, perceived ease of use, web aesthetics, and perceived personalisation. And also interprets the interrelationships among these prominent service quality dimensions and their influence on customer satisfaction and engagement.

Study involved with 30 convergent interviews. Of the respondents, 20 were male (66%) and 10 were female(34%) and all of them were online banking users of a licenced commercial bank in the country and have been active users for more than 06 months. Nvivo 12 software was used to collate, sort, code and analyse the data by employing the thematic approach.

For generating categories and themes, this study went through a three-step procedure. First, open coding was employed by identifying codes against each response. This process helped to generate theoretical properties of the responses (Corbin and Strauss, 2008). Second, axial coding was performed by grouping initial codes to establish themes according to conceptual categories that reflect commonalities (Marshall and Rossman, 2010). Lastly, clustering was used to establish relationships among the themes. The interpretation stage attached significance



Perceived ease of use	<i>Effort expectancy</i>	<i>User experience (UX)</i>
	<i>Performance expectancy</i>	
	<i>Responsiveness</i>	
Web aesthetics	<i>Attractiveness</i>	
	<i>Presentation</i>	
Perceived Personalisation	<i>Relevance</i>	<i>Digital engagement</i>
	<i>Customisation</i>	<i>In-person engagement</i>
	<i>Engagement</i>	
Customer Satisfaction	<i>Omni-channel</i>	
	<i>Responsiveness</i>	
	<i>Reliability</i>	

**Table 4-2 Themes and sub themes**

### **3.5.3 Security and Privacy**

Almost all the respondents acknowledged the fact that they are extremely concerned about security and privacy when they go online. Findings of the study suggests that cyber security and privacy is the most significant service quality dimension and it can make a very significant contribution on the customer engagement and satisfaction, as well as the perceived personalisation. Highest number of customer references have been reported with regard to the cyber security and privacy (Files – 24, References – 116) and also sub themes such as, “trust and confidence”, “scams and frauds”, “digital engagement”, “personal information and secrecy”, “peace of mind” were identified when analysing the elderly’s perceptions and attitudes towards this significant service quality dimension. It was quite evident that the elderly’s expect a high level of security for the money in their bank accounts. Thus, when it comes to online access, security and privacy supersedes every other service quality dimension. Below tree diagram describes the sub themes emerged over the discussion of the theme, security and privacy.

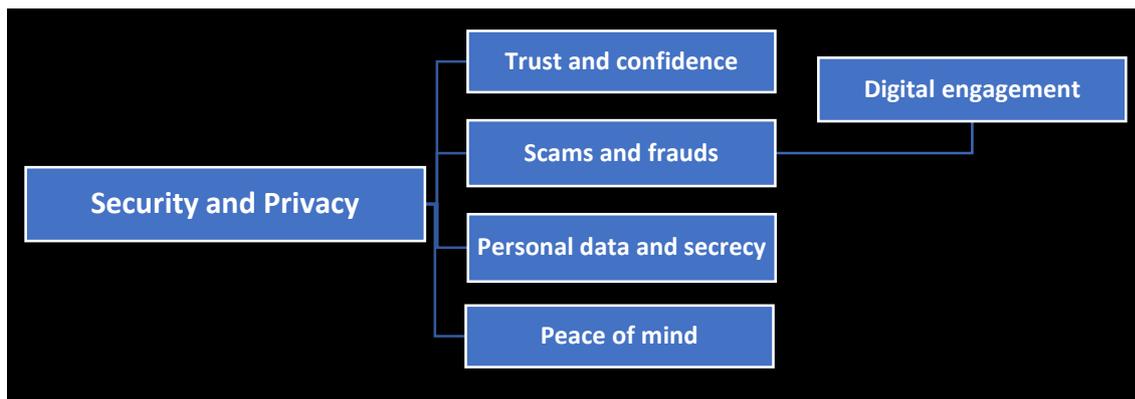


Figure 4-2 Themes and sub themes – security and privacy

### Trust and Confidence

Many of the elderly are aware of the fact that technological advancements and the fierce competition among the banks always increase the standards of security and privacy they provide for the money and transactions of their customers. They believe that, whenever some fraud or irregularity occurs, that information flows through the interconnected systems very fast and banks take immediate steps to take corrective measures. Following quotes highlight this notion of confidence they have in their minds.

*“Every financial institute take security very seriously and consider that as number one priority. So I believe that cyber frauds will not slow down the rapid development of digital banking”. (P03)*

*“I think they do. They have to. That’s quite important because they don’t just sell services they sell trust and security.”(P16)*

*“Banks won’t survive without the trust that their customers have placed in them. If they fail to protect the privacy and security, people will lose the trust and confidence on them. Eventually people will stop dealing with banks and move away from them. When it comes to digital banking, there is a risk of hacking the personal details of the customers. But however I believe that banks have really good security systems to protect their computer systems from hackers”. (P01)*

Elderly do understand that generally banks are strongly committed to protecting the funds and confidential information of their customers and they do their best to provide the most secure environment possible as customers want to be confident when accessing their financial

information online. And at same time many of them are conscience about the role they have to play as customers when they access their accounts and information online. Below quotes underpin this notion of understanding.

*“While they work to protect our banking privacy, we will also have a role to play in protecting our accounts and personal information”. (P05)*

*“Banks do everything that they can do to ensure their customers’ information is protected and there is no security breach. It ultimately provides you security from online frauds and account hacking. But however, no system is completely fool-proof and accounts can be hacked, resulting in identity theft via stolen card details and passwords etc. (P02)*

*“So while we are using online banking with general confidence, we need to be careful to deal with suspicious people and merchants and also we need to be careful to change passwords and protect our login information”.(P07)*

### **Scams and Frauds**

Online banking has grown so well that it is now an irreplaceable part of everyday lives of many of elderly customers. So much so that for most of them, it has replaced physically going to the bank branches for every little thing. But amidst all the technological development, they can’t forget how much security is important to them too. In the wake of so many data breaches that take place every now and then, online security is not just advisable but absolutely necessary, given how much is at stake for them. Although banks do everything in their hands to recover the money in case of a fraud, sometimes it comes back either partially or even nothing at all. For elderly Risk of becoming a victim of a cybercrime is increasing day by day. Banks also understand very well that elderly customers are the prime target of cybercriminals. Elderly customers expect that bankers should think about it very seriously and they constantly upgrade their security systems to protect them from scammers and criminals. Following quotes underpin the notion of becoming a victim of a cyber-fraud.

*“I had a very bad experience with my previous bank couple years back and I closed my account with that stupid bank. I became a victim of a fraud and bank put the blame on me and I never got that money back”. (P05)*

*“To my knowledge some banks are not smart enough to provide a better security systems and protect their customers’ money from scammers and fraudsters. Nowadays people should carefully choose a good bank who is smarter than scammers. I have been dealing with a new bank since last two years and I’m quite happy with their service.”(P05)*

*“I believe future is mostly digital and no turning bank. Frauds and scams also will rise as online activities increase. Vigilance between banks and customers is a must to prevent scams and frauds”. (P25)*

Findings of the study suggest that elderly users are extremely vulnerable to digital scams and frauds. The most common fraudulent practice in online financial transactions is “phishing”- an act of tricking people into giving confidential information to fraudsters. Confidential information includes passwords, credit and debit card numbers and bank account information. Almost all the respondents interviewed, have had some sort of an encounter with a scammer or a fraudster at some point in their life. But however only a very few of them have become a real victim of a cyber-fraud. Even of that few victims, most of them have got recovered as their bank had refunded the stolen money. While the discussion with respondents on cyber frauds and scams, a few probing questions were asked to identify their level of awareness on basic security measures and found that, most of them were unaware that a secure web site’s address starts with “https” where the “s” stands for secure and which shows a padlock icon on the browser. But how ever all of them were aware on the facts such as, banks would never ask for their passwords or confidential information over the phone or via emails or texts, it is unsafe to click on links that leads to banks websites, which are usually included in emails, text messages, social media posts and other online ads. Also they knew that it is always best to type the bank’s website address on the browser themselves and they should periodically check their bank accounts to be aware of any irregularities in their online transactions. Following quotes highlight the notion of vigilance and conscientious of elderly have on protective measures that they need to take in order to prevent from being a victim of a cyber-fraud.

*“While they work to protect our banking privacy, we will also have a role to play in protecting our accounts and personal information. My bank always make me aware and request us to practice some security measures such as, keep security codes confidential, to make sure our*

*debit card is never used by some other person. Not to share the security codes, to check the bank account on regular basis.”(P15)*

*“In my case, I never give personal information on websites, I always visit websites that I know and trust, I only use my own computer, I only open emails from people that I know. I know for a fact that banks also make their customers aware on these things in numerous ways. If customers also help them, together we can reduce the amount of frauds take place online”. (P04)*

Apparently most of the elderly customers believe that their bank is constantly upgrading their cyber security systems and try their level best to protect the customers from frauds and scams. As elderly customers’ mind has framed by a high level of perceived cyber protection from their digital banking service provider, the level of anxiety which could cause them due to their vulnerability has been reduced.

### **Digital Engagement**

Digital engagement is a sub theme emerged from the theme of scams and frauds. More than for the purpose of personalisation, elderly tend to engage with their digital service provider for the purpose of security as they consider digital engagement could prevent them becoming a victim of a cyber-fraud. Elderly admire the fraud prevention verification methods use by their service providers. Ex- verification codes they receive on their mobile phone, emails to confirm some transactions and text alerts they receive on debits and credits. Digital engagement increase the level of satisfaction on the overall online banking service and the confidence to perform online transactions with peace of mind. The following quotes highlight this notion of digital engagement.

*“Yes. Banks need to be very fast and smart in preventing online scams and frauds. My bank very frequently communicates with me to get a verification or cancel suspicious transactions. Also they send me scam awareness messages across and alert me whenever they feel like suspicious. I think as a precautionary measure if the bank can delay some suspicious transactions for a shorter period it’s really helpful as we can have a second thought about it”.(P01)*

*“I feel quite privileged my bank appears to be very considerate at some level it feels a little bit scary like scams when it gets to know a lot about yourself and all it scares me. For example I was just running around through the internet, I visited my bank site and here I am asked not to enter my personal information like my Id password or email account number suddenly I get an email to provide something like this it gets a little bit confusing whether I should give it or not.” (P08)*

### **Personal Data and Secrecy**

It was found that elderly customers have a great concern on the amount of their personal data handled by the banks and its’ potential adverse impact on their privacy. But however, majority of the respondents do not believe that their personal data will be misused by their digital banking service provider. It is evident that privacy risk has not become a barrier for elderly to go online and doing their transactions as they believe their personal information is protected to highest level by their service provider. The following quotes highlight this notion of personal information and secrecy.

*“Personal information is very sensitive. If a bank fails to protect your personal information bank will collapse in the long run as they compromise on their reputation and trust. If a bank think of more online transactions and customers ensuring the privacy of personal information is fundamental.” (P01)*

*“If anything goes wrong, we as customers are helpless. We cannot have a good night sleep if we don’t have the confidence that our bank will provide a protection to our money and online transactions. If our private data gets stolen, it floats seriously out of control. So privacy and security should be the number one priority in banking”. (P05)*

*“If the personal information is leaked out or abused by the bank, we may suffer financial losses, because we may become targets of scammers and fraudsters. With the amount of increasing number of online transactions and crimes, very critical than ever before for banks to take corrective measures to protect privacy and personal information of customers”. (P04)*

It is quite evident that the banks do hold enormous amount of personal data and financial transactions data of their customers. Banks know most of their customer’s monthly income as their salaries and monthly revenues are credited to their respective accounts. And on the other

hand when customers make use of online payment methods such as online banking, mobile banking, digital wallets etc. to spend their money, banks get to know their customers spending habits as well. Ex-Where they spend money? Why they spend money? How much they spend? These type of data pave the way for service providers to recommend products and services and personalise offers. That is one of the reasons why big tech giants such as Google, Apple and Amazon have stepped into the digital payment platforms via Google Pay, Apple Pay and Amazon credit card. But however elderly customers are confident that their personal and sensitive data is well protected and secured with their service provider. This is highlighted by the following quotes.

*“I don’t think that we have any other way around we have to get used to it, most of our life is on phone and internet I believe that banks and other institutions should come up with the solution for crime purpose. And I think the most important thing is banks should protect our personal information”. (P08)*

*“I understand that my bank has a significant amount of my personal data with them. But however I don’t have to worry about it. Because I trust that they will not misuse it. They may use our personal data for purposes like advertising, training and service quality improvement but I don’t think that they will share our personal data with any external parties. They are bound to protect our privacy”. (P07)*

*“Because customers do not expect their bank to share personal information with any third party. If they feel that their bank is doing so, they will lose the trust and confidence on their bank to deposit money and do any transactions. It is really important for banks to protect the privacy of their customers and protect their trust and confidence to the highest levels all the time”. (P24)*

*“Yes, it’s true that they hold enormous amount of our personal data. But as customers we don’t have a choice. And I firmly believe that banks have a great deal of responsibility to safe guard our personal data. I don’t think that they would share our personal data with any third parties without our consent. If they do that there would be serious consequences. They might get prosecuted and will have to pay financial compensation”. (P18)*

Financial and personal data held by banks are of enormous value to various kinds of retailers and service providers and they look for opportunities to work on common platforms with financial partners to share data for personalisation and advertising purposes. But however elderly customers do not believe that banks would share their personal and financial transaction information for any such purpose and if they do so, elderly customers consider that as breach of privacy.

### **Peace of mind**

Elderly customers' vulnerability on losing their money when they move around with physical cash is also as high as their vulnerability on cyber frauds. Findings suggest that elderly's have more peace of mind when they make payments online rather than moving around with physical cash. Going online has helped to reduce their level of anxiety and increase in peace of mind as opposed to withdraw money and going around with physical cash. They believe that they can rely on their digital service providers' cyber fraud prevention capabilities when they go online, whereas they have no protection at all when they deal with physical cash. Following quotes underpin this sub theme.

*"It is extremely important. Because it saves a lot of time, money and physical energy that we have to waste on moving from one place to another. Most importantly it is very safe method of doing transactions as movement and physical form of money are not involved. It reduces the risk of theft of money."* (P29)

*"I have had become a victim of a fraud. When I was trying to withdraw cash from a standalone cash machine, one man came to me and distracted by asking some question. After answering him when I looked back, my debit card was missing, I thought it was stuck in the machine. I came home and checked my account online and I noticed that someone had purchased some goods from a super market by using my card. I immediately informed the bank and they refunded that money after formal investigations" (P01).*

*"Some time back, my wife was robbed just after she made a withdrawal from a stand-alone cash machine. In front of the machine, no sooner she put the money and the card in her hand bag, robber approached her, grabbed the hand bag and ran away. In an emergency situation like that, if you have an option to rush to the cash machine, enter your online*

*banking user ID and PIN or maybe you can login to online banking through your mobile phone and take immediate steps to freeze your card before you lose any more money”.(P02)*

The theme peace of mind is interconnected to theme trust and confidence. Elderly enjoy peace of mind as a result of the trust and confidence they have placed on their digital banking service provider. They believe that generally banks do everything they can do to provide with the highest level of security to the money they have deposited. In fact the “trust” is fundamental to the business of banking and banks won’t survive in the long run if they fail to uphold and protect the trust that their customers have placed in them. And also on the other hand reputed banks are governed by a state regulator (commonly known as the central bank of the country) and that consciousness adds much value to the trust that elderly have placed on reputed and well established banks. Elderly do not have trust and confidence in challenger neo banks (pure digital) as they are not well established and reputed in their frame of mind. Following quotes underpin this notion of the theme peace of mind.

*“I think banks are generally doing a good job in providing their customers with security and privacy in their transactions and dealings with the bank. Whether it’s online or offline, if you are engaged with a reputed bank you don’t have to worry about the security and privacy”. (P20)*

*“I have dealt with many banks during the past 30-40 years. Generally banks always make sure to provide you the highest levels of security and privacy. Most established banks know that they can’t survive if they lose trust and confidence of customers with regard to security and privacy. I don’t see any breach of trust by my bank in my dealings with them whether it’s online or offline”. (P03)*

*“But you know again I feel insecure at times like during a transaction I feel unsafe. From cons perspective I think I feel insecure but the level of security has enhanced a lot I feel safe now”. (P16)*

*“That is fundamental. Banks who cannot protect the privacy of personal information of their customers will not be able to survive in the long run. Like I changed my bank two years ago, people will frequently change their banks and relationships. Everything is based on trust and*

*confidence. Foundation for a longstanding good relationship is trust. I think for any financial institute the greatest asset they have is, the trust earned from their loyal customers”. (P04)*

*“Yes, I think online frauds and scams are on rise, but on the other hand banks are also improving their security systems and make their customers aware on scams and frauds. I think my bank is doing a good job to prevent frauds. I think that tougher measures and vigilance can drastically reduce the number of frauds and scams”. (P17)*

Security and privacy is a key service quality dimension which has many facets in this new age of digital banking. Trust and confidence, scams and frauds, personal data and secrecy, peace of mind and digital engagement are the building blocks of this pivotal service quality. Strong commitment of banks to protect the funds and confidentiality of transactions have paved the way to build trust and confidence of elderly customers on digital space. Elderly customer segment is the most vulnerable customer segment for online scams and frauds, but however the impact of scams and frauds have been substantiated by the digital engagement of elderly to this end. Elderly customers do believe that their personal information is protected to the highest level by their service provider. This attitude has resulted a reduction in the privacy risk of going online. Going online has helped elderly to reduce their level of anxiety and increase in peace of mind as opposed to withdraw money and going around with physical cash.

#### **3.5.4 Perceived Usefulness**

Perceived usefulness is another theme, emerged strongly through the data analysis (Files-19, References-55). Peace of mind, cost, time and energy saving emerged as sub themes of perceived usefulness. Elderly customers highly admire the convenience factor of online banking as they do not need to find parking, staying in the queues for simple day to day transactions such as paying utility bills and transferring funds. They enjoy doing simple transactions at the comfort of their sofa while having a cup of tea. Following quotes highlight these notions of perceived usefulness. Below tree diagram describes the sub themes emerged through the discussion of the theme perceived usefulness.

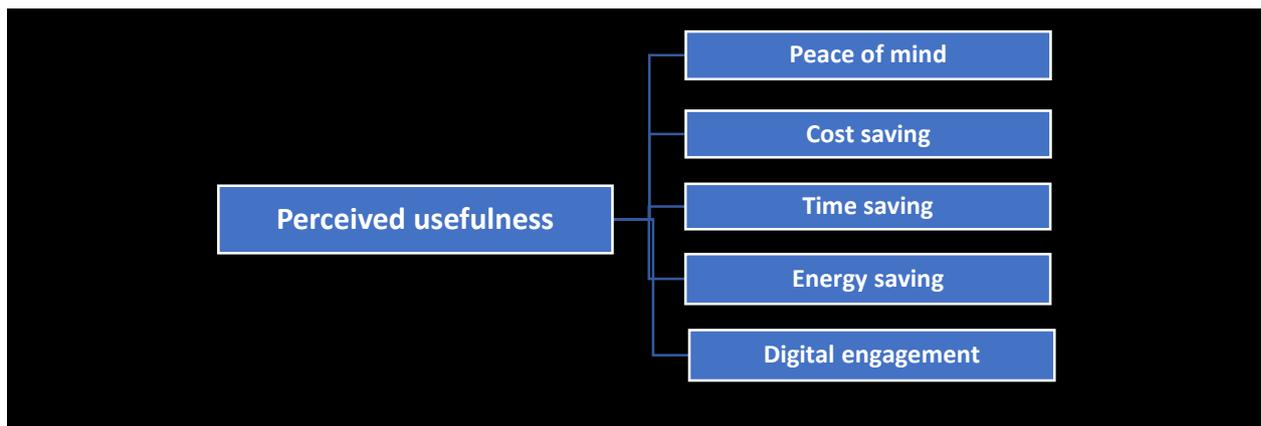


Figure 4-2 Themes and sub themes- perceived usefulness

### Peace of Mind

Elderly enjoy a sense of relief and peace of mind due to the convenience factor of digital banking as well. Even though elderly stick to very basic level of transactions through online banking, the convenience of performing their day to day transactions around the clock at a press of button offers them a lot of satisfaction as they can find more time to relax. Below quotes highlight the notion of peace of mind due the convenience of digital banking.

*“I find online banking more convenient, flexible and simpler to manage than traditional banking. You can transfer money between accounts and make bill payments from the comforts of your sofa. As far as I know new mobile applications which allow you to scan and deposit checks wherever you happen to be. (P02)*

*“Online banking offers you a lot of value and convenience. Gone are days that we spent hours, travelling to a branch, struggling to find parking and wait in-lines to get a get a simple transaction done.”(P07)*

*Online banking also allows you 24/7 anytime access to your balances and transaction records. And on the other hand, it is not a very difficult task to learn and use online banking. If you spend a little time and willing to learn, you can very easily learn and adopt to it.”(P05)*

*“Online banking allows me to access my account history at the comfort of my bed. This is the quickest way to check and see if a transaction has cleared the account. I can also find out the amount of a transaction even if I have lost any receipts. It also allows me to find out about unauthorised transactions more quickly, helping me resolve any issues right away.”(P14)*

*“Digital banking is the digitalisation of banking services in order to reduce risk. Customers are able to do online banking at any time and from anywhere. You can quickly check up on your accounts when you are out shopping, transfer funds so you don't end up overdrawing, or make sure a merchant hasn't double-charged you.”(P04)*

It is quite apparent that the convenience of digital banking is the key motivation factor for them to adopt and use the technology in order to improve their self-efficacy and enjoy a great comfort and peace of mind in their financial lives.

### **Cost, Time and Energy Saving**

Elderly customers more than anything else, naturally tend to opt for cost saving options in any purchase they make. When it comes to banking they always look for the highest return for their deposits and also the lowest fees and charges for the services offered by the bank. Hence digital banking has offered them both functional and emotional benefits. Elderly are fond of receiving the benefit of making any number of payments and transactions and also viewing the history of transactions without incurring any fee or service charge. Also on the other hand paying a visit to make a simple bank transfer or payment consume a lot of time and money as they need to make a physical movement, find parking, stay in queues etc. In fact for some elderly energy saving is an enormous benefit offered by online banking as making a physical movement is a big deal for them due the extreme health conditions. This theme of triple savings (cost, time and energy) is highlighted by the following quotes.

*“For me it’s really important. Being a very old man, who has undergone three bypass surgeries, I can hardly walk around. If I walk to my local bank branch which is in 500m proximity, it will take at least 1hour for me to reach the bank. Online banking is a big relief for me. I can easily pay my bills and transfer funds between accounts from nearly anywhere in the world. I do not have to stand in a queue to pay off my bills. Also I do not have to keep receipts of all of my bills, as I can now easily view all the transactions.”(P04)*

*“It is extremely important. Because it saves a lot of time, money and physical energy that we have to waste on moving from one place to another. Most importantly it is very safe method of doing transactions as movement and physical form of money are not involved. It reduces the risk of theft of money.” (P02)*

*“I’m really impressed about the usefulness of it. I receive my pension through electronic payment system, I can set up standing orders / direct debits and cancel them as I wish without wasting much time and energy. I can pay my utility bills without staying in queues. So it’s really useful.”(P10)*

*“I can see so many pro’s in digital banking. For instance, save time and cost, no paper work, service at fingertips, easy tracking transactions etc.”(P07)*

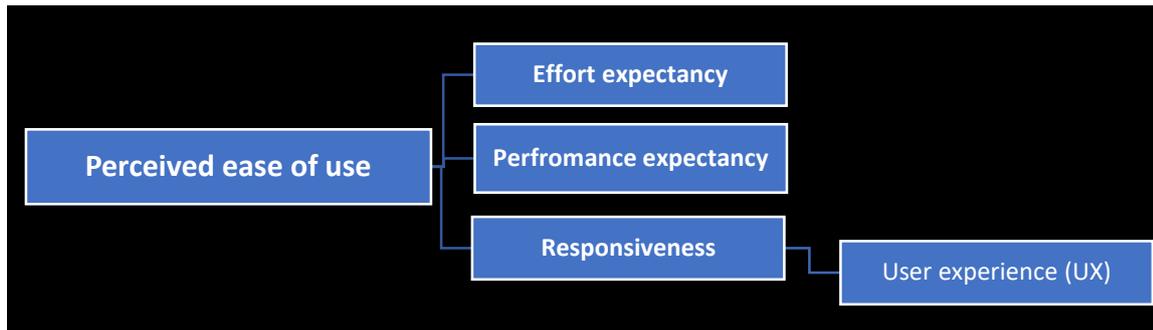
*“I think it’s quite important. Even if it is the last day of your bill payment and you are minutes away from being levied a penalty, you can rely on online banking. Online transactions can be performed anytime of the day from the convenience of press of a button. Not just that, instead of being physically present for huge amount of transactions, you can safely transfer funds at any time, completely hassle-free.”(P06)*

Perceived usefulness make a positive and strong contribution to the customer satisfaction of elderly on digital space. Peace of mind, cost/time/energy saving and digital engagement are the building blocks of this prominent service quality dimension. Elderly enjoy peace of mind as now they can perform their day to day banking transactions at a press of a button while having a cup of tea. Also they do care a lot on cost and time saving as naturally elderly customers look for the highest return for their deposits at the lowest cost and fees. Energy saving is an enormous benefit for some elderly as physical movement is big deal for them due to declining health conditions.

### **3.5.5 Perceived Ease of Use**

Perceived ease of use was also found to be a prominent theme which could make a significant contribution to the customer satisfaction and engagement on digital platform. (Files- 21, References – 43). The sub themes of effort expectancy, performance expectancy, responsiveness and user experience (UX) were emerged over the discussion on the theme perceived ease of use. It is evident from the data that, the effort expectancy positively impacts ease of use and the perceived ease of use increases intention to use digital banking. Positive user experience makes a significant contribution to the customer satisfaction and digital engagement. Below tree diagram describes the sub themes emerged over the discussion on

perceived ease of use.



*Figure 4-3 Themes and sub themes – Perceived ease of use*

**Effort Expectancy:** User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. It was found that elderly who had been exposed to some hands on experience with computers while they were working in an office environment find it easy to get used to digital banking. For many of the elderly online banking has been introduced and offered some assistance by friendly customer service officers at their local bank branch in order for them to get going with the facility. Some of them had learned the basics of the facility from the younger generation in their families who are closer to them. This theme of effort expectancy is highlighted by the following quotes.

*“In my case online banking is user friendly because I had some hands on experience with computers before my retirement. But I know for a fact that many of my friends who are at my age find it difficult with their online banking. So I believe that banks should better understand elderly customers and develop much more user friendly interfaces exclusively for elderly.”(P05)*

*“At the very beginning I found it a bit difficult. I had to seek assistance from my granddaughter. But now I’m used to it and find no difficulty in login and getting a simple transaction done.”(P04)*

*“Yeah now it’s good I remember when I started using online banking you know it was, in order to get security password it was used to be quite difficult and I used to forget my passwords, that was just a big issue but now I’m okay. I use my finger prints to get logged in and it’s quite handy.”(P20)*

*“Well, I’m pretty much used it now. I don’t have any complaints about it. I’m using online banking to pay my bills, transfer money between my own accounts and to third party accounts some times. Quite often I go online to check my account balance. I’m okay with online banking.”(P09)*

*“Yeah they have been user friendly couple of years back there was time consuming log in but now things have changed. I think it’s quite user friendly.” (P01)*

Effort expectancy is a very significant sub theme emerged through the discussion on the theme, perceived ease of use. Apparently majority of elderly (75%) use only the online banking (web application) by using either a laptop or desktop computer. They also use secure key to login and they believe that using a computer with a secure key is the most secured way to do online banking. However data reveals that almost all the respondents are using a smart phone, and only 25% of them use both web application and the mobile banking app though. And on the other hand elderly users expect solutions which could put them at ease when it comes to sign-in and perform transactions. Following quotes highlight the deep metaphors of the notion of effort expectancy.

*“I only use my laptop to login to online banking. I use the secure key provided by the bank and I get a passcode every time I login to the system. I find no difficulty in login. Doing a simple transaction like making payment, transferring funds, checking the balance and history of payments are not that difficult”. (P02)*

*“However sometimes I think to myself, it would be really convenient if we can give voice instructions to the computer and receive voice feedback, rather than using the key board or mouse. I can’t read without my spectacles and if the letter size is very small, it’s not easy to read”. (P02)*

*“I use a secure key to login. By now I’m pretty much use to it and find no difficulty in login and doing a simple transaction. I usually do simple transactions such as, checking the balance, making a payment, transferring money and so on”. I haven’t tried most of the other options available in online banking. If I need some advice or help to make a decision on a more serious transaction, what I do is, I visit my bank branch and talk to customer service officer”. (P14)*

*“If you get your password wrong twice repeatedly then they lock you out from the system. Then you’ve got call the bank and get your password re-set. Now you see, how many passwords do we have to keep in our memory these days? Whenever we register for any service online, you get a user id and password and whenever you get a plastic card from a service provider your get a password associated with it. Sometimes we mix up passwords. That’s very cumbersome” (P01)*

*“Most frequent service that I make use of is, checking account balance. That of course I can find easily in the main menu. The second most frequent activity is making payments/transferring money. That is also available in the main menu options”. I feel that setting up a standing order or direct debit process is not so pleasing though. Also there can be so many other useful functions which we are not familiar with, because we are unable to find the information and guidance on how to use these options quite easily”. (P03)*

*“For me it’s not too bad so far. But we know for a fact when we are ageing, gradually we lose our eye sight, memory and mobility. We hate memorising passwords, reading through long text materials etc. So I think banks should innovate their computer systems and introduce some easy ways to login and perform transactions especially for elderly people”. (P12)*

*“Service is quite good. They offer excellent service with everything. I mostly do online banking now but if there is any problem, I know they can be sorted out by friendly, knowledgeable and professional people. If I have a problem with my bank – whether it’s a payment that didn’t go through when it should have or I’ve lost my card or suspect fraud – I need to be assured that I can get the issue resolved without much pain. I believe that my bank has given me that assurance”. (P07)*

*“My eye sight is weak, reading though long pages and finding information is challenging for me. I prefer listening rather than reading. If my bank can provide an option to read the information which I see on the screen that will be great. And also if they can give us much simpler way to login and authorise transactions, may be like recognising our voice or face, would make our life easy. That is the level of convenience that we really appreciate”. (P04)*

Elderly hate remembering passwords, memorable words and answering a series of security questions. They expect prompt responses from their service providers over the phone whenever they are unable to sign in to system or come across with some difficulty in performing a transaction. Also they prefer to have conversational banking with customer service officers (not chat bots) via online banking home page whenever they need some advice.

### **Performance Expectancy**

Performance expectancy was a very prominent sub theme emerged through the discussion on the theme perceived ease of use. This sub theme leads to the fulfilment of perceived ease of use and thereby higher level of elderly customer satisfaction on digital platform. Elderly expect much more flexibility in terms of login to the system, assistance in re-setting their passwords and help whenever they are unable to login. It is evident that elderly stick to very basic level of functionalities and their customer experience is not fulfilled on digital platform. However they are willing to learn and seek advice from service personnel on more advanced options available in the online and mobile facilities and moreover prompt responses to their queries over the phone as and when they need some assistance. These notions of performance expectancy and fulfillment are highlighted by the following quotes.

*“Some product offerings and features are quite complex for me. I’m confused about the financial jargon and the underlying meanings, they should explain their products and services in simplified manner. Banks should make us feel very comfortable to make decisions on their offerings, products and services. Banks can offer advisory service online, whenever we need to get an advice on a product or service.” (P06)*

*“In fact I’m interested in finding some information on investment products, but when I go the product offerings, I find it they are really complex and difficult to understand. I’m confused by the financial jargon and the underlying mathematics. Banks need to make their products easily understood by any customer and feel comfortable to select the products, manage their accounts/ assets and make investment decisions”. (P04)*

*“I feel happy about their service. But they need to improve their service levels especially for elderly like us. I appreciate the convenience that they have provided through digital banking. However I feel there’s lot more that they can improve on”. (P16)*

*“They need to make sure that staff are trained to recognise the specific needs of elderly customers, listen to what elderly customers say to them and to respond appropriately; ensure that front-line staff have the necessary back-up to respond appropriately to special requests and situations of vulnerability, especially relating to cognitive decline, scams and financial abuse.”(P02)*

*“So it’s really useful. But I feel sometimes it’s really difficult to find some information and action buttons in the home page and menu bar. I think they need to reduce the clutter on screens and make them much more sensible and easy to find what we are looking for”. (P21)*

Literally with little or no effort elderly expect a greater performance or comfortable living with their financials. Elderly compare the relative advantage they receive by adopting and using digital banking. And at the same time they seek advanced solutions with less complex systems and procedures.

### **Responsiveness and User Experience (UX)**

Elderly expect responsiveness from the service personnel of their digital banking service provider to the highest level. They expect prompt and precise responses on their queries and difficulties they come across on digital banking. They feel anxious if their queries and problems are ignored or not answered promptly and precisely. Following quotes highlight this notion of responsiveness and UX.

*“There’s lot more to improve. I really expect a good response from them on my queries. Great service quality is a necessity. If any issues arise they must quickly and painlessly resolve them on the first try. If they failed to do so, I have no reservation about switching if I receive a frustrating response on some issue with my bank. That’s the reason why left my previous bank two years ago. When I have a question, I need a quick response and right information”. (P05)*

*“Login to the system and getting a transaction done is okay, as far as everything works out smoothly. But that’s not the case always. Once I had a terrible experience with my previous bank. When I was on a holiday abroad, I wanted to transfer some money online to my credit card account before the due date. I totally forgot to make that payment beforehand and I noticed it just a one day before the due date. I tried login to my online banking and my account got locked due to entering the wrong password thrice. I tried contacting my bank over the*

*phone and I was desperate to sort this matter. But unfortunately they did not help me, their service over the phone was so horrible. I couldn't fix it and had to pay late payment fee on my credit card". (P05)*

*"I actually expect more from my bank online. They should provide us with much better experience online. They should listen to their customers on how to improve their services. For example, when you go through transactions of the account you can notice some charges and levies debited to your account, but there's no option available online to find out exactly what that charge is and why you have to pay that etc. Even when you call them to find it out, it's frustrating you can't get a proper answer". (P18)*

*"I have mixed feelings about it. Content and information are alright. No need of much effort to navigate through pages to do a simple transactions such as, bill payments, fund transfers, history of transactions and so on. But it's not so easy to find how to settle a loan or may be how to make a payment through your credit card instead of current account. These things are also important to me. I think they should improve the user experience on these areas as well". (P06)*

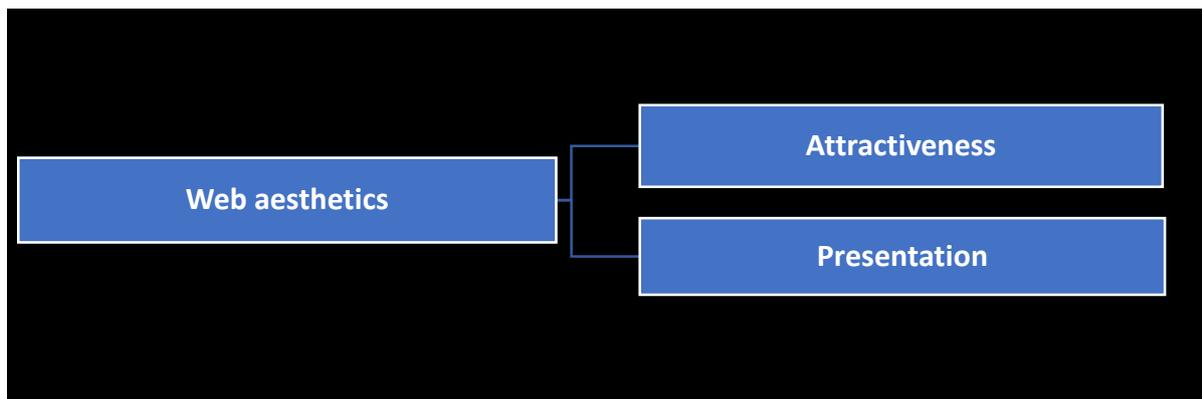
*"There's lot more for my bank to improve. Only thing is they should listen to their customer and make a genuine effort to solve issue as and when they arise. They can learn a lot from their customer quarries, issues and complaints as well. By giving good long lasting solution to an issue raised by one customer may become a big relief to many other likeminded customers as well". (P11)*

*"I have no complaint about the basic functions available in the main menu. It's much better if we can have customised menus. I mean my bank can be flexible to offer me select the options that I would like to have in my main menu. In that way they can add value to our online experience". (P07)*

Digital banking service providers need to make sure their front line and backend staff are well trained to handle the quarries make by elderly customers and offer sensible advises and solutions promptly and if they receive such a level of service, it will lead to an overall positive user experience and a higher level of customer satisfaction and engagement. If the banking personal failed to do so, it might lead even to switching of service providers.

### 3.5.6 Web Aesthetics

Through the discussion on the web aesthetics, sub themes of attractiveness and the, presentation of the site were identified by using a few probing questions. A wide range of emotions and attitudes in the minds of elderly can evoke through the effective use of images, colours, fonts, videos and animations. Most of the respondents acknowledged the fact that they are interested in spending some time watching a video or animation if it adds value to the user experience. Data reveals that these emotions and perceptions impact the user's attitude towards the web site's content, advertised products, company, credibility and site usability. When the design and presentation of a web site is strongly visual, elderly users are able to make aesthetic judgments of a site very quickly and the impact of aesthetics can increase in number of visits and the time they spend on the site. Below diagram describes the sub themes emerged through the discussion on the theme of web aesthetics.



*Figure 4-4 Themes and sub themes – Web aesthetics*

#### **Attractiveness of the site/app**

Data reveals that attractiveness moderately impact the number of visits to the site/app and the time spend exploring and navigation through pages. Graphics can make a significant impact on elderly customer emotions and attitudes. Many of the elderly customers acknowledged the fact that they get bored quite easily by seeing the same images, colours and fonts every day. When it comes to the layout, graphics, colours and fonts of the site/app, many banks stick to the same look and feel by utilising their corporate colours and fonts. But however changing the look and feel of the site/app time to time, in order to make them more attractive will lead to increase in elderly customer positive user experience, engagement and satisfaction. Following quotes highlight the notion of this sub theme, attractiveness.

*“I don’t find it attractive. They use colours and designs that fit it their official colours and designs. They don’t take the emotions and feelings of the users in to account when they develop those interfaces. I think that’s a weakness”. (P09)*

*“Not so impressive. Every day I’m seeing the same the colours, images and text. In fact they can effectively use some nice and appealing images and videos to impress users and in turn it will give them a reason spend more time online. Now what happens is, in and out, in and out. When users spend more time online means, banks also will get an opportunity to sell their products and services much more effectively”. (P02)*

*“I find it attractive. Quite often they change the images and colours and try to provide a different experience time to time. I think the elite look and feel in the home page matters. Customers should not get bored with the look and feel of the home page. If you see so much of text that is also not good. When we see some nice images and colours as we login, it gives us some good feeling and tend to remain in the page for some extra time and navigate through pages.”(P04)*

*“Again I would be quite, one bank is quite handy and it’s simple I like you know the front page it should get you to the right place. But the other bank it tend to have other things as it have a lot of things I don’t like the home page so much information that sometimes you get confused.” (P22)*

### **Presentation of the site/app**

Decades ago, when it comes to web aesthetics, discussion was limited to graphics fronts, colours and the layout. But in the recent past discussion on the web aesthetics has been further strengthened by videos and animations. They can make a significant impact in dissemination information and knowledge. Digital banking service providers are presented with a great opportunity to enhance their presentation of the site/app by making use of videos and animations which could in turn increase the digital engagement, positive user experience and customer satisfaction. Following quotes highlight this sub theme, presentation.

*“Images and videos are helpful for us to understand things better. Now a days in most of the websites we can see that they are making an effort to communicate to the customers by using*

*attractive and appealing images and videos. But unfortunately my bank is not doing a good job in that sense. They need to improve on that area". (P01)*

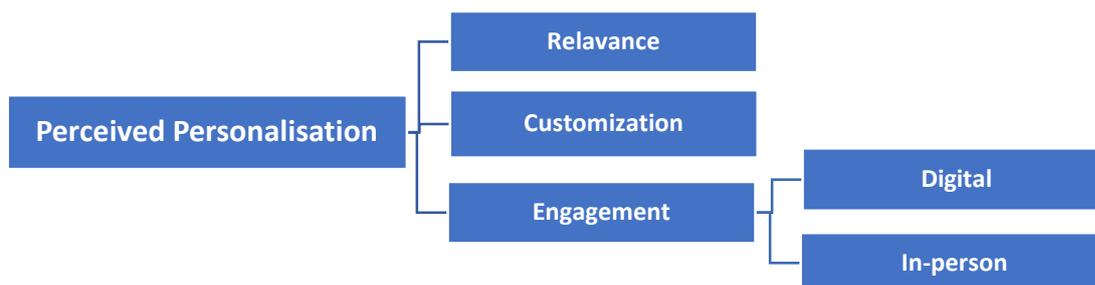
*"If it's advertisements then it's irritating but if these are relevant to digital banking information then its fine". (P05)*

*"Images and videos are really helpful to understand things better without much effort reading through long texts. But unfortunately I hardly see any related images and videos in my online banking home page. (P10)*

It is apparent that the attractiveness and presentation of the site/app can be effectively used to create some impact on elderly to spend more time on the web/mobile app and navigate more options, service facilities on digital banking. Effective use of graphics, colours and fonts can evoke wide range of emotions and attitudes of elderly. Animations and videos in modern sites play a vital role in enhancing the web aesthetics.

### **3.5.7 Perceived Personalisation**

Data suggest that perceived personalisation is a significant determinant of customer satisfaction and engagement. Through the discussion on the theme personalisation, sub themes of relevance, customisation and customer engagement (digital and in-person) were emerged. Elderly customers expect the recommendations they receive from their service provider to be relevant and customised. It was also found that the underlining deep metaphors of personalisation, understanding of their personal preferences by the bank and offering a personal touch are deeply embraced by the elderly. If the personalisation appeals to them it might create greater desire to engage with the bank. Diagram below, describes the sub themes emerged through the discussion on the theme, perceived personalisation.



*Figure 4-5 Themes and sub themes- Perceived Personalisation*

### **Relevance and Customisation**

Elderly expect the product and service recommendations and the offers they receive from their digital banking service provider to be relevant and customised on them. Sending generic offers and adverts will lead to dissatisfaction and disengagement with the bank. Many of the elderly believe that their service provider is not capable enough in understanding their personal needs and preferences. They are dissatisfied and disengaged with the recommendations and offers they receive from their service provider as they are generic and irrelevant to them. These notions of relevance and customisation are highlighted by the following quotes.

*“I would say, that’s the worst part of online transactions. I want individual attention and relevant offers from my bank, and not the usual spam of generic ads. If I’m researching new credit cards, a targeted offer from my bank for a great deal on a card that is customised to what I’m looking for saves my time and money. An offer for a home loan sent to all of a bank’s customers is frustrating spam that just turns me off”. (P02)*

*“In fact I feel good about it. But unfortunately I don’t see that my bank has any understating of my personal needs and wants through my digital engagement. I’m a just another customer and they provide a general service which is designed for all of their customers. Their digital banking system is not capable enough to understand the specific needs of the individual customer. They are very poor at it. I think this is one of the areas that my bank needs to improve on”. (P04)*

*“Whether it’s online or offline, personal touch is important. As human beings we prefer to keep in touch with a human being as against a machine. But unfortunately banks have failed to provide a personal touch to their customers online”. (P16)*

*“That’s the greatest thing that a bank can do to a customer. They earn a lot of money out of their customer deposits. Rather than giving something back to them they charge you for providing service. At least if they can provide us free services based on our personal preferences and interest that’s a great thing. For example they can reach out to the customers who are looking for investments and ask whether they would like to participate in an investment project that the bank has started recently, where customers also can participate and earn some dividends”. (P18)*

*“And also time to time they can ask the opinions and ideas of customers on their products and services. In that way customers will get more engaged and banks have loyal customers and definitely earn more money. But unfortunately I don’t see any engagement or understanding as such online”. (P18)*

*“I don’t think that my bank understands my personal needs and wants through digital engagement. In fact time to time they try to communicate with us via online banking. But however those messages are not personalised, rather generalised. For example, change of tariffs, terms and conditions, service interruptions and so on”. (P03)*

*“I actually like if my bank provides a video chat service via online banking home page. Whenever I come across some difficulty or even when I want to communicate something to my bank, it’s very convenient and effective way to communicate. This type of innovations will probably make me feel like getting a personal touch online”. (P05)*

### **Engagement – Digital**

Customer engagement is a sub theme emerged through the discussion on the theme perceived personalisation. It is apparent that the perceived personalisation has a negative impact on the digital engagement and a positive impact on the in-person engagement. Many of the respondents have a negative impression on appearing numerous content and advert on their screen, which has some connection to their recent activities online. They consider that tracking their behaviour online and recommending content without their consent is an

invasion of their privacy. It is evident that privacy risk can make a significant influence on perceived personalisation. If the personalisation efforts of the bank, trigger a privacy concern, it will lead to a dissatisfaction and disengagement online. But however, personalisation efforts of the bank on in-person encounters lead to a higher level of elderly customer satisfaction and thereby strong in-person engagement. Deep metaphors identified over the discussion of the theme perceived personalisation are highlighted by the following quotes.

*“Rather than giving a personal touch and an impressive experience, what banks and online retailers do is, they track our online search, purchases and use that information for advertising purposes. That is really annoying and I fell like they interfere with our freedom and privacy. It won’t make us engaging or inspiring but disengaging and annoying.” (P05)*

*“If somebody tracks my activities without my consent, it’s invading my personal space and makes me feel like being stalked. I rather prefer, if they engage with me only if I ask for some information and only with my consent to keep a track on my activities and requests”. (P02)*

*“Well, I don’t feel like there is an understanding as such with my bank through online. My online engagement is nothing more than getting a simple transaction done. However, I have seen many websites track our history of online activities and popping loads of advertisements whenever we go online. That won’t give us a good impression. When I see those ads I feel like, I’ve lost my privacy”. (P01)*

*“I think that is something for me to worry about. My bank knows, my income, they know where I spend my money and how much I spend. If they share these type of personal information with third parties they will chase us to sell their products and services. I’ll tell you something happened to me recently, one bank which I had never dealt with calling me to sell a credit card. Time to time different agents call me and one day I got 3 calls from them. It’s terrible. I don’t know how they have got my mobile number”. (P05)*

### **Engagement – In-person**

It is quite evident that many of the elderly customers most preferred channel of banking is omni-channel (both digital and in-person). They always enjoy getting a human touch and having a strong relationship with friendly customer service officers at their local bank branch. Some elderly pay a visit to their branch once in a way, apparently for no reason. The only

motive behind their visit is to have a friendly chat with known customer service officers or may be with their old friends meet at the branch lobby. Whenever they pay a visit as such, if the customer service officers at their branch offer them a great deal of welcome by showing their intuition and understanding of the elderly customers' personal needs and preferences through the relationship they have built upon, that will be deeply admired by elderly and it will lead to a higher level of customer satisfaction and engagement. In person personalisation efforts of the bank are accepted and admired by the elderly as privacy concerns have no role to play in this context. The notion of in-person engagement is highlighted by the following quotes.

*“In fact I prefer a personal touch when it comes to in-person banking, I mean in-branch service. Even though I’m using online banking to pay bills and for some other day to day transactions, my most preferred way of banking is in-branch. I have my accounts with only one bank. My relationship with them is more than 50 years old now. They know me very well”.* (P02)

*“I prefer to pay a visit to my bank branch to conduct a major transaction like applying for a loan, setting up a direct debit or some times to get financial advice. I don’t think that purely online is good at all. We need physical branches and we need to talk to human beings. Machines can’t understand our feelings and our personal preferences”.* (P01)

*“I think personal touch is a very important aspect in customer service. Although robots can be efficient, only humans can create a great emotional experience. The best customer service can be provided by humans after all. Sometimes the quarries that we have to deal with are very personal and specific. General robotic sort of answers won’t help to sort them out.”*(P04)

*“As far as I’m concerned, humans have much higher levels of intelligence than machines. Customer service means, problem solving. When a customer service staff member solves a problem, we get a really good feeling and create a personal contact with the service personal. Sometimes it might go a long way. That is where the loyalty begins”.* (P18)

*“A personal touch can inspire any human being. When you hear you name and when you see something that is particularly relevant and important to you, it’s obvious that you get more*

*attracted and engaged with it. When you don't see any relevance to you in the communication or offers you receive from your bank, you feel like you are dealing with a stranger to you. Whereas when you see a personal touch in your dealing, then you feel like you are dealing with a close friend or a relative". (P03)*

*"I visit the local supermarket every evening and I visit my local bank branch once or twice a week for no specific reason. The only reason that I visit those places is to meet my friends and to enjoy a small chat with them. Quite often I meet somebody to have a chat at the local supermarket and the bank branch lobby. I love to meet my friends and keep in touch with them". (P07)*

*"Nowadays, because of online banking, less customer traffic at branches. Branch staff have enough and more time to talk to us. Especially when I need to make a decision on a very crucial matter, for example-an investment decision, I use to seek their advice. They take time and explain every aspect in detail. I think that is also an unforeseen benefit of online banking". (P16.)*

It is quite evident that the in-person engagement has created a great opportunity for the bankers to better understand the attitudes and perceptions of the elderly customer segment on their service delivery on digital platform. Elderly customer feels free to express themselves to the service provider to a great extent on in-person encounters as they admire the personal touch and privacy concerns has no role to play in this context. And also the in-person engagement can further strengthen the trust and mutual understanding and it will in turn positively influence the customer satisfaction.

### **3.5.8 Customer Satisfaction**

Through the discussion on overall customer satisfaction on digital platform, it was emerged the sub themes of omni-channel, responsiveness and reliability. Probing questions on the satisfaction revealed that, most of the elderly customers do not prefer neo banking (pure digital). Their most preferred way of banking is omni-channel (combination of digital and in-person). For day to simple transactions they prefer digital channel and for more complicated transactions and to get advice on making financial decisions, they prefer in-person banking. Below diagram describes the sub themes emerged through the discussion on customer satisfaction.

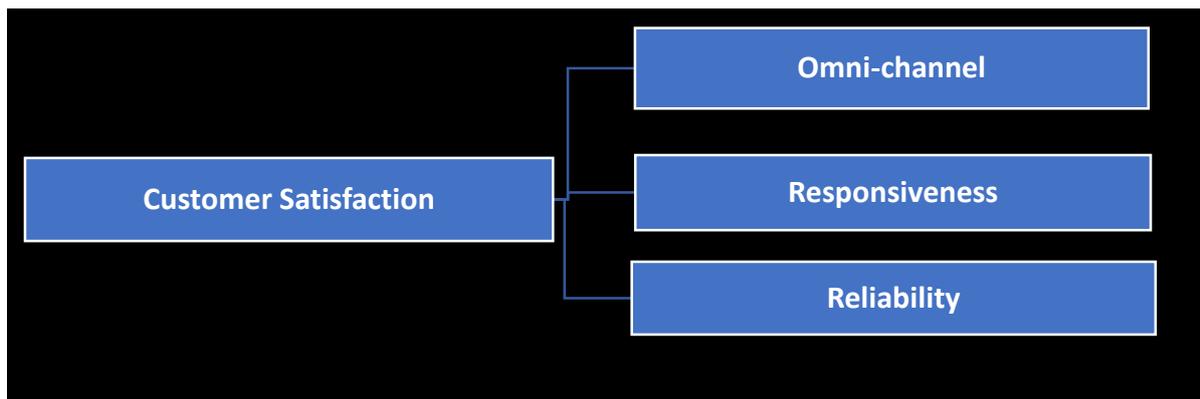


Figure 4-6 Themes and sub themes – Customer Satisfaction

### Omni Channel

Elderly customers are naturally less tech savvy and sceptical on the technology. Mostly they have a traditional frame of mind and prefer human touch as oppose to the technological options. However in this new age of technological advancements, they do understand that there's no turning back and they cannot be tech-wary and alienated from the society. They are willing to learn and get hands on experience on the technology from the younger generation at home and the friendly customer service officers who offer a hand to them. The following quotes highlight the notions of the sub theme omni-channel.

*“I prefer to operate across both digital and physical, In fact I’m not very technologically savvy. Therefore my most preferred channel is, in-person banking. But I still prefer to learn and expand web or mobile-based interactions. I’m happy with both online and in-person customer experience that I’ve received from my bank.”(P01)*

*“Online banking offers you a lot of value and convenience. Gone are days that we spent hours, travelling to a branch, struggling to find parking and wait in-lines to get a get a simple transaction done. Now you can pay a visit to your local bank branch to get some advice from bank officers on more complex issues. And of course now they are free to have a friendly and long chat with you because less customers for in-person banking. Thanks to online banking.”(P03)*

*“Then there's another problem. For example, Banks reflect their own philosophy in their websites and their way of doing things. So banks are very egoistical, you know. And sometimes you get into problems with banks because they charge you something that you*

*don't know why they charge that, or maybe it's unjust or something. There are no mechanisms inside of those sites to address these problems you have there. You see that you still have to go to their office and deal with people and stuff. So, there you are, stuck again in your role in all these bureaucratic procedures and so that you cannot solve this via the web site.”(P18)*

For many of the elderly, online banking has been introduced by friendly customer service officers at their local bank branch. And on the other hand elderly customers prefer to pay a visit to their local bank branch to have casual chat and strengthen their relationships with the customer service officers. Due to the facts of elderly customers' traditional frame of mind and their willingness to learn and use the technology for day to day simple transactions, omni-channel has become their most preferred way of banking

### **Responsiveness and Reliability**

Responsiveness and reliability are some prominent sub themes emerged through the probing questions on the satisfaction. Elderly customers expect greater level of responsiveness through both digital and in-person channels whenever they come across some difficulty in accessing their accounts online and also when they need some advice to make a decision. In such situations, they seek fast recovery and reliable solutions through various touch points of their digital banking service provider. Lower levels of responsiveness and reliability of the service provider will lead to a higher level of dissatisfaction and such situations might lead even to switch service providers. Following quotes highlight the notions of these sub themes of responsiveness and reliability.

*“I don't have any problem communicating with my banker and more particularly I can speak to the customer service centre whenever I need or whenever there is a confusion, so I can talk to them easily, there is no communication barrier.”(P06)*

*“I happened to have a couple of accounts through different banks. One bank used to be quite easy and they get most of things done online and that helps a lot it makes a lot of things easy. And there is another bank where I get my salary from. Couple of times it happened that I have to travel thirty miles just to get there and get my issue resolved. That was quite a hassle.*

*Customer service should be more active in order to keep interaction and communication efficient and effective". (P08)*

*"Yeah, I am satisfied with one as it's my personal account and the other one is also my personal account it's my salary account so I am bound to use it. And the bank that I am not satisfied with use the digital platform, there should be more convenient way to communicate with them. It takes 5-10mins to communicate with them through a fixed line. That's quite painful sometimes it happens like you are halfway there and the call drops and that's again it makes me quite dissatisfied." (P08)*

*"Sometimes you have these issues with access and then poor people behind the system can become obstacles to accessing things right away because they are going by the book, I guess. And sometimes they don't really know how to work. Absolutely. Yes." (P06)*

*"Well, I've got mixed feelings on overall experience I get from digital banking. I appreciate the fact that it is very convenient. Information on our finger tips, no form fillings, no queues, hassle free though I'm of the view that to get the best use of it, we need more support in terms of awareness and easy access." (P03)*

*I'm happy for now, I don't see any big reason to leave my bank. But I might switch my bank if someone recommend a better bank with much more value additions or incentives to use online banking. All depends on the quality of service and convenience. (P04)*

It is apparent that the elderly expect responsiveness and reliability to the highest level through both digital and in-person channels. If their quarries and issues are resolved promptly and sensibly such a standard of responsiveness and reliability will lead to a high level of customer satisfaction and in turn it will create a positive impact on life-long relationships with their service provider.

### **3.6 Summary**

The qualitative study of this thesis focussed on identifying the correlation with service quality dimensions on elderly customer satisfaction and engagement in this new age of digital banking and inform the study two, the quantitative study to develop an appropriate conceptual model and test the theory built in study one. This study has found that cyber security and privacy, perceived usefulness and perceived ease of use have strong and positive correlation with elderly customer satisfaction and engagement while web aesthetics has a moderate and positive correlation on same. It was also found that perceived personalisation also has a significant and positive correlation with customer satisfaction and in-person engagement but however it has a strong and negative correlation with digital engagement.

Findings of this study show that cyber security and privacy is the most significant service quality dimension when it comes to the digital experiences of elderly in this new age of digital banking. Sub themes such as trust and confidence, scams and frauds, digital engagement, personal information and secrecy, peace of mind were identified when analysing the elderly customers' perceptions and attitudes towards this significant service quality dimension. It was identified that the elderly expect a high level of security for the money in their bank accounts and they do believe that their service providers are smarter than the online scammers and fraudsters. Hence increasing rate of scams and frauds won't prevent elderly from going online for financial activities. This has presented a huge challenge for the bankers as they've got to protect this vulnerable segment from scammers and fraudsters while offering simple and smarter options to login and perform transactions.

This study finds that perceived usefulness is also a very significant service quality dimension on digital space for elderly customers. Sub themes such as peace of mind, cost, time and energy saving were emerged over the discussion on this prominent service quality dimension. Elderly customers highly admire the convenience factor of online banking as they do not need to find parking, staying in the queues for simple day to day transactions such as paying utility bills and transferring funds. They enjoy doing simple transactions at the comfort of their sofa while having a cup of tea. And also cost, time and energy saving have offered them both functional and emotional benefits as these sub dimensions of the service quality usefulness are highly appealing to the attitudinal and functional behaviour of elderly.

This study finds that perceived ease of use is also making a very significant contribution to the elderly customer satisfaction and engagement on digital space. The sub themes such as effort expectancy, usage intention, performance expectancy and user experience (UX) were emerged over the discussion on this prominent service quality dimension. User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. Elderly are naturally less tech savvy and seek a hand to get going with the technology. Majority of elderly customers' digital banking experience is limited to the web application of their service provider and have a laidback attitude towards the mobile app, even though they are in possession of a smart phone. Bankers need to persuade and convince elderly to opt for the mobile app as it offers greater security through multifactor authentication while elderly can enjoy easy login and performing transactions with less effort compared to login with a laptop/desktop with a secure key.

It is apparent that the service quality of web aesthetics makes a positive and moderate correlation with elderly customer satisfaction and engagement on digital space. Attractiveness and presentation of the site/app are the building blocks of this service quality dimension. Effective use of graphics, colours and fonts can evoke wide range of emotions and attitudes of elderly. Interestingly in this new age of digital banking, web aesthetics won't limited to graphics, colours and fonts but videos and animations also play a vital role in engaging with elderly on creating awareness, disseminating knowledge and information.

This study also finds that perceived personalisation is a significant service quality which makes a positive and significant contribution on customer satisfaction and in-person engagement while it's negative on digital engagement. Deep metaphors of personalisation, understanding of their personal preferences by the bank and offering a personal touch are deeply embraced by the elderly. If the personalisation appeals to them it might create greater desire to engage with the bank. On the other hand if the personalisation efforts of the bank trigger privacy concerns, it leads to dissatisfaction and disengagement with the bank. Elderly consider that tracking their behaviour online and recommending content without their consent is an invasion of their privacy. It is evident that privacy risk can make a significant contribution on perceived personalisation. But however, personalisation efforts of the bank on in-person encounters lead to a higher level of elderly customer satisfaction and strong in-person engagement.

This study reveals that overall customer satisfaction of elderly on digital space has a positive correlation with omni-channel service, responsiveness and the reliability of the service personnel of their digital banking service provider. Responsiveness and reliability make a very significant contribution to elderly customer satisfaction and engagement on digital space. They expect responsiveness and reliability to the highest level through both digital and in-person channels whenever they come across some difficulty in accessing their accounts online and also when they need some advice to make a decision. In such situations, they seek fast recovery and reliable solutions through various touch points of their digital banking service provider. Lower levels of responsiveness and reliability of the service provider will lead a higher level of dissatisfaction and such situations might lead even to switch between service providers.

This chapter addressed the research question – how emerging service quality dimensions correlate with the elderly customer satisfaction and engagement on digital space, by identifying how the participants conceptualised the thematic dimensions of cyber security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation. The findings then established how the participants identified the interrelationships among these variables. Finally, a conceptual model was proposed for quantitative testing, considering the findings from this theory-building qualitative study.

# Chapter 4

## Study 2:

### Research Design, Methodology & Findings:

#### 4.1 Introduction

Study two builds on the findings from study one. It is a quantitative study in which the conceptual model is operationalized and tested in the financial services sector in the Sri Lankan context. This study investigates theoretical assumptions and hypothesised relationships between the constructs in the model. Study two involved an online survey. The participants were recruited through snowball sampling method (referrals) by leveraging the researcher's network in the banking fraternity in Sri Lanka. A total of 350 respondents were targeted. The survey instrument contained 28 items using a Likert scale of 1–5. The data was examined using AMOS v26.

The philosophical orientation of 'realism' includes moving from theory building to theory testing (Healy and Perry, 2000). The qualitative study of this thesis builds theory of how elderly customers perceive emerging service quality dimensions in this new age of digital banking and how these service qualities correlate with elderly customer satisfaction and engagement. The emerging themes inform the development of a model depicting the concepts relating to the dimensions of interest and support the relevant hypotheses that are developed in study one. While the qualitative research method has the advantage of understanding the depth of a complex and intensive situation, experience, and behaviour (Albright et al., 2013), quantitative research methods have numerous advantages, such as: (1) emphasising a deductive, objective, and generalising approach (Lingard et al., 2008); (2) being very helpful for measuring interventions and/or implementation outcomes; and (3) being very useful for testing an existing conceptual model and obtaining a breadth rather than depth of understanding of the predictors or successful implementation (Landsverk et al., 2012). Therefore, researchers, especially in the social science discipline, frequently adopt a mixed-methods approach, utilising the important implications for methodology and findings (Onwuegbuzie and Leech, 2005). Following this notion, study two is a quantitative study, conducted to test the hypotheses developed in study one. This second study addresses the

following research questions identified in the literature review: RQ1: How service quality dimensions ; security and privacy, perceived usefulness, perceived ease of use, web aesthetics, perceived personalisation correlate with elderly customer satisfaction in this new age of digital banking? RQ2: How perceived personalisation correlates with the elderly customer engagement? (Both digital and in-person) in this new age of digital banking? RQ3: What is the correlation of in-person engagement and digital engagement on elderly customer satisfaction on digital banking?

## **4.2 Research Design and Methodology – Study One**

### **4.2.1 Research Design**

There are three different research designs available for social science researchers: exploratory, descriptive, and causal (Hair et al., 2003; Malhotra et al., 2006). Each type of research design has its own purpose, for example an exploratory research design provides in-depth insight into a problem situation, a descriptive research design describes market characteristics or functions, and a causal research design obtains evidence of cause-and-effect relationships (Malhotra et al., 2006). An exploratory research design often collects data through secondary sources and raw data using qualitative methods to understand the problem or phenomenon (Malhotra et al., 2006), which is applied in the first study of this thesis. While the first study follows an exploratory research design to gain an insight into the impact of emerging service quality dimensions on elderly customers on digital space and establish the relationships among these service quality dimensions and elderly customer satisfaction and engagement the second study measures the extent of these relationships and the degree of their impact on customer experience of elderly in digital banking. Moreover, a descriptive research design assumes that the researcher has prior knowledge about the research area and has established hypotheses which need to be tested (Malhotra et al., 2006). As the findings from the first study provide evidence of how the emerging service quality dimensions of elderly customer satisfaction and engagement are interrelated, it is possible to develop hypotheses to test them quantitatively in the second study. Therefore, according to the definitions of research designs provided by Malhotra et al. (2006), the second study is descriptive in nature. Lastly, a causal research design often tests the cause-and-effect relationships by controlling the external environment and manipulating one or more variables in a controlled environment (Hair et al., 2003), which is not suitable for the second study. There are three different research methods available for a quantitative study: survey,

observation, and experimentation. Although the observation method permits the measurement of actual behaviour rather than intended or preferred behaviour, it is difficult to understand the underlying reasons (attitude, perception, and motive) for such behaviour (Malhotra et al., 2006). Experimentation is appropriate for a causal research design which requires controlling and manipulating variables in a controlled environment (Hair et al., 2003), which is again not suitable for this study. Therefore, of the three different types of quantitative research methods this study uses the survey method, in particular a structured formal questionnaire given to a sample of the population, designed to produce specific information from the respondents which are suitable for statistical analysis (Malhotra et al., 2006). According to Hair et al. 2003, the major advantages of this method are: (1) the ability to accommodate a large sample size, which increases generalizability of the results; (2) the ability to distinguish small differences in responses; (3) ease of administering and recording data; (4) capabilities of using advanced statistical analysis; and (5) the ability to tap factors and relationships which are not directly measurable. The major disadvantages of using a survey method are: (1) the lack of control over timeliness and low response rate, (2) it is difficult to determine the truthfulness of respondents, and (3) it is difficult to develop accurate survey instruments. However, despite these limitations, this method is very popular in marketing research (Malhotra et al., 2006) because, if designed well, the advantages exceed the disadvantages.

#### **4.2.2 Data Collection Technique – Web Based Survey**

The second study of this research followed a web-based survey approach. Justification for using this approach and the web-based survey instrument is also discussed in this section. Web-based surveys are very common and widely used in marketing research (Burns and Bush, 2004). According to Song (2010) and Saunders (2011), there are multiple advantages of using a survey: (1) it is cost effective, (2) it is efficient to cover a large sample, (3) a large amount of data can be collected from a sizable population, (4) the standardised nature of data, and (5) easy comparison. One survey category is the web-based survey, which is a collection of data through self-administered questions on a website (Archer, 2003). It is recognised as a valuable medium of conducting surveys (Dillman, 2000). Normally, the URL (Universal Resource Locator) address of the survey is sent to potential respondents via email, text or any other way, such as Facebook, Whatsapp, LinkedIn posts or Tweets. Once respondents complete and submit the survey on the website the data are transferred electronically to a database for the researcher to analyse.

The benefits of a web-based survey over the traditional paper-based survey are manifold. The prominent reasons for employing this kind of survey in study two are given below. First, a web-based survey provides access to a vast pool of potential and geographically-diverse respondents (Alvarez et al., 2003). This benefit helps the study to get people from different areas of Sri Lanka with demographic diversity. Second, traditional surveys incur higher costs, such as paper, postage, mail out, and data entry, whereas these costs are eliminated in web-based surveys (Cobanoglu et al., 2001; Dillman, 2000). Third, web-based surveys require less time to complete and the data from the survey can be displayed just after the respondents submit the survey (Archer, 2003; Cobanoglu et al., 2001). Fourth, a web-based survey can be linked to a database, where data are collected automatically (Berry, 2005), which can be easily accessible through statistical software for analysis (Archer, 2003; Evans and Mathur, 2005). Lastly, reminder and follow-up messages and emails can be sent to the respondents who did not respond the first time (Archer, 2003). However, like other kind of surveys, web-based surveys have a few limitations. First, if the potential respondents do not have access to the internet, this method of survey is not effective (Dillman, 2000). Second, this survey form has a lower response rate than fax-based surveys (Cobanoglu et al., 2001; Evans and Mathur, 2005); however, this can be reduced using an online survey panel, where the panel can be defined as a group of potential respondents who have agreed to participate in online surveys (Göritz, 2007).

#### **4.2.3 Web-Based Survey Instrument**

The web-based survey instrument contained two sections. On entering the survey site, respondents could read the participant information page that indicated what the research was about, how they would participate, together with their rights of participation in terms of any benefits, any risks involved, their privacy and confidentiality, ethics information, and contact details of the research team. Respondents were advised that if they were happy to participate in the survey they should click the “Next” button in order to begin the questionnaire.

**Section A:** There were two screening questions to match the sample criteria. The first question is about the respondent’s age. This study specifically targeted respondents above the age of 60 years old. Respondents outside of this age group are screened out. Second question asked about the respondent’s length of engagement with the service provider. Respondents having at least 6 months of engagement with their service providers are allowed to proceed, and those who indicated ‘no’ are exited from the survey with a thank you message.

**Section B:** This section formed the main part of the survey document. The construct measurement items were placed in this section in short batches. Respondents simply used their mouse to click the relevant radio buttons to answer the questions. The radio buttons reflected the five-point Likert scale ranging from strongly disagree to strongly agree.

#### **4.2.4 Research Instrument Development**

The web-based research instrument was developed to measure the impact of emerging service quality dimensions on elderly customer satisfaction and engagement on digital space. The instrument development is organised in two stages: construct measurements and inter-rater reliability test. These two stages are described below.

##### *Stage 1: Construct Measurement*

This section discusses the steps taken to determine the items to be used to measure each construct shown in the conceptual model depicted in the latter part of this chapter. The purpose of item selection is to create groups of scenario statements that are considered to measure each construct of the model to be examined in study two. This approach took into account items from existing scales in the literature and created additional items to fit the construct definition where necessary. Both identification and creation of items were informed by the findings in study one. Most of the identified items from the literature tend to be in statement form, where respondents are asked to respond based on the degree of agreement or disagreement. But however this approach was further refined into scenario statements by informed findings of the study one and the empirical knowledge of the researcher, gained by engaging in the banking sector in Sri Lanka for 22 years. A total of 28 items were identified and placed with their underlying constructs. It was ensured that all the items of established scales from the literature were included. The findings of study one were reviewed to ensure all the dimensions of the constructs were mentioned where established scales were not available or where new themes emerged along with the established scale items. All those items progress to the second stage of instrument development.

##### *Stage 2: Inter-rater reliability test*

The purpose of the inter-rater reliability test is to identify any problematic items which may be ambiguous or inappropriate to measure the constructs. The initial measurement scales were examined by two industry experts in the banking sector in Sri Lanka. Valuable feedback and suggestions came from both of them to improve the scale items. The initial scale items

were revised based on their recommendations. Redundant and repetitious items were removed and some items were reworded to make them suitable for this program of research. The final instrument items used for data collection are summarised in table 4-2.

Construct	Item	Source
	I have never had any dispute with my bank over a loss of money in my account due to a cyber- fraud.	Chawla and Joshi (2019)
	If I lose any amount of money in my account due to a cyber-fraud, I believe my bank would refund that money to me.	Chawla and Joshi (2019), Balaji and Chong (2016)
Security & Privacy	I don't think that my bank will share my personal information with any third party for advertising or any such purpose.	Shanahan et al., 2018
	I don't worry about the adverts and content shared with me, by vendors based on my previous searches and activities online.	Developed from study one
Perceived Usefulness	I use digital banking because it saves a lot of time and money as there's no travelling to the bank, finding parking, waiting in the queues etc.	Ghosh (2019)
	I use digital banking because it's open around the clock, 365 days and you can access it from anywhere in the world.	Ghosh (2019)

Construct	Item	Source
	<p>I use digital banking, because it's paper less, no pass books, information on your fingertips, very easy to find the history of transactions.</p>	<p>Ghosh (2019)</p>
<p>Perceived Ease of Use</p>	<p>I' m adopted to digital banking because I find no difficulty in using a computer, tablet or a mobile phone to login and do a transaction.</p>	<p>Davis (1986), Taylor and Todd (1995), Gosh (2019)</p>
	<p>Digital banking is quite easy for me, as I have no issue in memorizing and using passwords, memorable words and one times codes to login and performing transactions.</p>	<p>Davis (1986), Taylor and Todd (1995), Gosh (2019)</p>
	<p>I like the home page of my digital banking service provider as there's no clutter and I can easily find the menu options that I use very frequently.</p>	<p>Developed from study one</p>

Construct	Item	Source
Web Aesthetics	I do care about the colours, texts, fonts, images and layout of my online banking web and the mobile app.	Amin (2015)
	Colorful and pleasing images, videos and animations make me feel spending more time online and exploring information.	Amin (2015)
	I prefer to have a customised home page on my web and mobile app.	Developed from study one
Perceived Personalisation	I receive updates on interest rates paid on fixed deposits especially designed for senior citizens, from my digital banking service provider.	Taylor et al., 2019
	I receive updates on benefits and rewards embedded in especially designed savings accounts for senior citizens from my digital banking service provider.	Taylor et al., 2019

<b>Construct</b>	<b>Item</b>	<b>Source</b>
Perceived Personalisation	I receive prudent investment advices such as investing in stocks, treasury bills, debentures etc. from my digital banking service provider.	Taylor et al., 2019
	I receive updates on loyalty schemes offered by my digital banking service provider-loyalty points that I can earn on deposits made to my accounts and transactions performed online.	Taylor et al., 2019
	My digital banking service provider contact me to recommend products and services and customised offers via my preferred method of contact – text, email, social media, post etc.	Taylor et al., 2019
Customer Satisfaction	I’m satisfied with the level of understanding of my digital banking service provider has on me.	Amin (2015)
	I’m satisfied with and the banking relationship that I have with my digital banking service provider.	Amin (2015)
	I don’t see any reason to switch my digital banking service provider in the near future.	Amin (2015)

Construct	Item	Source
Customer Satisfaction	I have no hesitation to recommend my digital banking service provider to my relatives and friends.	Amin (2015)
	I regularly receive and go through information about products and service recommendations from my digital banking service provider via home page of online banking, mobile app, email and text.	Ghosh (2019) O'Brien and Toms (2010)
Digital Engagement	I would consider and respond to the recommended products and services via home page of online banking, mobile app, email and text, if I feel they are beneficial to me.	Ghosh (2019)
	I do not hesitate to share my thoughts, views and new ideas with my digital banking service provider through online banking, mobile banking, email and text.	Ghosh (2019)
In-person Engagement	I very often pay visit to my local branch to receive advice and recommendations on products and services.	Developed from study one

In-person Engagement	For more complex transactions or decisions such as investing money, setting up a standing order, applying for a loan/credit card against my fixed deposit, I would always prefer to visit my local branch in-person.	Developed from study one
	To share my thought, views and feedback, I always prefer to visit my local branch in person.	Developed from study one

*Table 4-1 List of construct measurement items.*

#### **4.2.5 Sampling Plan**

Sampling is the process of selecting a small number of elements from a large target group of elements, expecting that information obtained from the small group allows judgements to be made about the large target group (Hair et al., 2003). The process of sampling includes several stages: (1) defining the target population, (2) determining the sampling frame, (3) selecting the sampling technique, and (4) determining the sample size (Malhotra et al., 2006).

#### **4.2.6 Target Population**

The target population can be defined as the collection of elements or objects of interest being investigated by the researcher (Hair et al., 2003). The first study focused on exploring the elderly customer perceptions and attitudes in-depth on emerging service quality dimensions and provides an overall idea about digital banking service context where customers are more engaged with their service providers. This led to identifying more respondents for the second study through snowball sampling (referrals of the participants of the study one). For this thesis, digital banking customers who are above the age of 60 and have been engaged with their service provider for more than 06 months, in Sri Lanka are the target population of the study.

#### **4.2.7 Sampling Technique**

There are two major classifications of sampling techniques: probability and non-probability sampling. In probability sampling each element of the population is selected by chance, whereas a non-probability sampling technique relies on the judgement of the researcher (Malhotra et al., 2006). Therefore, it is necessary to have a list of all elements of a population for probability sampling. A non-probability sampling technique is applied in study two for the following reasons (Hair et al., 2003):

- The objective of this study is to obtain customer insights from a specific service context rather than generalising the results to customers of all service contexts.
- The total number of the population is unknown and there is no sampling frame available for the elderly customers who are engaged with digital banking in the country.

Again, there are four different non-probability sampling techniques available: convenience, judgmental, quota, and snowball. According to Malhotra et al. (2006), each sampling technique has its own strengths and weaknesses. Convenience sampling selects a sample based on the convenience of the researcher. It is inexpensive and easy to collect. Judgmental sampling uses the researcher's judgement to draw samples. It provides a better selection of the population than convenience sampling; however, the researcher's knowledge is very important here because they decide which element to pick based on their in-depth knowledge of the research topic. Quota sampling is a two-stage sampling technique: the judgement of researchers and fulfilling the quota based on one or more variables. This sampling technique provides all the benefits of judgmental sampling, and assures that the quota is fulfilled to reflect the representation of major criteria of the sampling frame. In snowball sampling, research draws the first group of a sample based on judgement and later samples are drawn from the recommendations of the earlier group. This method is useful when the population has some rare characteristics and are difficult to find without any reference. Considering all the strengths and weaknesses, the second study of this thesis applied snowball sampling to select the sample, as it incurs a moderate cost of data collection, is extensively used, does not require a population list, and provides a better results compared to convenience, judgmental, and quota sampling (Zikmund et al., 2014).

#### 4.2.8 Sample Size

To decide the appropriate sample size Malhotra et al. (2006) suggest eight considerations. Table 4-3 outlines the determination of the sample size for study two of this thesis.

Considerations	Description	Considerations for this study
The importance of the decision	For research which will play a part in important decision making, make theoretical contributions and/or generate managerial knowledge for widespread use, large samples are required.	This research makes both theoretical and managerial contributions to be disseminated to a potentially large audience of academics and practitioners, therefore it

		will require a large sample.
Nature of the research	In conclusive research, such as surveys and other quantitative approaches, a large sample size is required	This research is quantitative survey research and therefore will require a large sample.
Number of variables	The more variables being tested in a study, the larger the sample size must be.	Tabachnick and Fidell (2013) suggest that the formula for determining sample size is based on the ratio of cases to variables is: $N > 50 + 8m$ (where N is the sample size and m is the number of independent variables). There are 08 variables in this study's model, therefore the sample size would need to be greater than 114
Sample sizes from similar studies	The final sample sizes obtained for other similar studies should be acknowledged and concerns over major discrepancies eliminated.	In three web-based surveys on online banking customer satisfaction: Ghosh (2019) N=388 Taylor et al., 2019 N=296 Amin (2015) N=228 Average=304 responses

Completion rates	Standard completion rates for the type of research and instrument should be taken into account so that an acceptable level of non-response can be determined (Dillman, Eltinge, Groves, & Little, 2002).	Response rates for web-based surveys have been found to vary. Roster et al. (2007) report common response rates to be around 7.1%, while Deutskens, De Ruyter, and Wetzels (2006) report 20.4% and Albaum, Roster, Wiley, Rossiter, and Smith (2010) report 10.5%. Deutskens et al. (2006) also found that longer studies had lower response rates.
Analysis method	Different kinds of statistical analysis require different sample sizes (Zikmund et al., 2014).	Factor analysis and regression can be used if the sample size is more than 100, and it provides good model fitness at around 250 responses (Lei & Lomax, 2005)
Practical limitations	Time and budget limitations can restrict sample size (Zikmund et al., 2010).	Time restraints prevented extensive sampling; however, budgetary restraints were not a concern in this study as there were no costs associated with obtaining the sample.



*Table 4-2 Sample size considerations.*

#### **4.2.9 Data Analysis**

Structural Equation Modelling (SEM) will be employed for the data analysis on study two. Confirmatory Factor Analysis (CFA) will be conducted to measure the goodness of fit on both measurement and the structural models.

**Reliability and Validity:** Reliability refers to the degree of generalisability of the research measure. (Hair et al., 2006). In other words, a more reliable measure shows more consistent results when applied to the evaluation of the same concept. To test the construct reliability of the measurement model, CR (Composite Reliability) and MaxR (Maximal Reliability) will be computed. Validity refers to how well the instrument measures the concept that it is intended to measure (Hair et al., 2006). In this research, three types of validity will be examined: content validity, convergent validity, and discriminant validity. The content validity was evaluated via literature review and inter-rater test. Convergent validity refers to the degree to which different items of the same constructs are correlated (Hair et al., 2006). Discriminant validity refers to the degree to which the measurement items of the different constructs are not correlated (Hair et al., 2006). Both convergent validity and discriminant validity were evaluated using correlation between factors, factor loading, the average variance extracted (AVE), and composite reliability (CR) in CFA.

**Common Method Bias (CMB):** There is a great deal of evidence that method bias influences item validities, item reliabilities, and the co-variation between latent constructs. Several researchers (Krosnick 1991, 1999; Sudman, Bradburn, and Schwarz 1996; Tourangeau, Rips, and Rasinski 2000) have speculated that, because the cognitive effort required to generate an optimal answer to a long series of questions on a wide range of topics is often substantial, respondents cope with these demands by seeking easier ways to generate their answers. More specifically, when the difficulty of the task of generating an optimal answer is high, and a respondent's ability, natural predisposition, or motivation to expend the required amount of cognitive effort are low, Krosnick (1991, 1999) has argued that respondents may "satisfice" by being less thorough in question comprehension, memory retrieval, judgment, and response selection. In other words, they may expend less effort:

thinking about the meaning of a question; searching their memories for information to answer the question; integrating the information that has been retrieved to form a judgment; and matching their judgments to the response options presented in the question Krosnick (1991, 1999). There are a number of factors that may cause biased responding by decreasing the ability of the respondent to answer accurately. These factors relate to the respondent's ability, experience, and/or characteristics of the items that he/she is asked to answer. Factors such as verbal ability/lack of education or cognitive sophistication, lack of experience thinking about the topic, complex or abstract questions, item ambiguity and questions that recall on retrospective results are the most common conditions that cause method bias. (MacKenzie & Podsakoff, 2012). Hence researcher has taken the following remedies to minimise the common method bias.

**Inter-rater reliability test:** The purpose of the inter-rater reliability test is to identify any problematic items which may be ambiguous or inappropriate to measure the constructs. The initial measurement scales were examined by two industry experts in the banking sector in Sri Lanka. Valuable feedback and suggestions came from both of them to improve the scale items. The initial scale items were revised based on their recommendations. Redundant and repetitious items were removed and some items were reworded to make them suitable for this program of research.

**Scenario Statements:** Most of the identified items from the literature tend to be in statement form, where respondents are asked to respond based on the degree of agreement or disagreement. But however this approach was further refined into scenario statements by informed findings of the study one and the empirical knowledge of the researcher, gained by engaging in the banking sector in Sri Lanka for 22 years. Rather than the statement form of scale items with technical jargons, when they were converted into the scenario form, it offers the respondents to understand the question with less cognitive effort and provide with an optimal answer by relating the scenario to their experiences. It will minimise the effort that respondents will have to make on memory retrieval, judgment and response selection. This approach took into account items from existing scales in the literature and created additional items to fit the construct definition where necessary.

**Multiple Regression Analysis:** Multiple regression analysis is used to test the hypothesis framed. The first step in the regression analysis is carried out to understand the impact of

SEP, PU, PE, and WA on the customer satisfaction (CS) and engagement of elderly on digital platform. Further, the influence of PP on customer satisfaction (CS) and engagement (digital – DE, in-person –IPE). The results of the regression model with the R square value and significant values will be exhibited. For the analysis purpose, statistical software AMOS v.26 have been used.

#### **4.2.10 Ethical Considerations**

Ethical issues deal with dilemmas and conflicts raised from the way the research was conducted (Neuman, 2006). When conducting any research, researchers should try to maximise the benefits of the research and minimise potential harm to participants (Abbott and McKinney, 2013). To ensure the ethical issues were addressed, this study obtained ethical clearance from the SBS Ethics Committee before the data were collected. The respondent's informed consent is given in Appendix. This study addressed the ethical issues using the following steps:

- Consent from participants: The online survey started with extensive participant information before the questions began to establish informed consent (Abbott & McKinney, 2013).
- Addressing risk: It was confirmed that respondents were not exposed to any undue risk or harm beyond expressing their opinions. In addition, respondents had the option to terminate the survey at any point in time if they felt uncomfortable.
- Privacy and confidentiality: The web-based survey was completely anonymous. There was no information taken that could help to identify the respondent (such as name, address, or email address)

## **4.3 Findings - Study 2: Quantitative Study**

### **4.4.1 Introduction**

The qualitative study of this thesis builds theory of how elderly customers perceive emerging service quality dimensions including the personalisation and how they influence the customer satisfaction and engagement. The emerging themes inform the development of a model depicting the concepts relating to the dimensions of interest and support the relevant hypotheses that are developed in study two. While the qualitative research method has the advantage of understanding the depth of a complex and intensive situation, experience, and behaviour (Albright et al., 2013), quantitative research methods have numerous advantages, such as: (1) emphasising a deductive objective, and generalising approach (Lingard et al., 2008); (2) being very helpful for measuring interventions and/or implementation outcomes; and (3) being very useful for testing an existing conceptual model and obtaining a breadth rather than depth of understanding of the predictors or successful implementation (Landsverk et al., 2012). Therefore, researchers, especially in the social science discipline, frequently adopt a mixed-methods approach, utilising the important implications for methodology and findings (Onwuegbuzie and Leech, 2005). Following this notion, study two is a quantitative study, conducted to test the hypotheses developed in study two.

Phase two of the study addresses the following research questions identified in the literature review:

RQ1: How service quality dimensions ; security and privacy, perceived usefulness, perceived ease of use, web aesthetics, perceived personalisation influence elderly customer satisfaction in this new age of digital banking?

RQ2: How perceived personalisation influence the elderly customer digital and in-person engagement?

RQ3: How digital and in-person engagement influence on elderly customer satisfaction on digital banking?

It will be recalled the nine hypothesis that have been developed to be tested in the study two;

**H1:** Security and privacy has a significant influence on the customer satisfaction of the elderly on digital banking

**H2:** Perceived Usefulness has a significant influence on the customer satisfaction of the elderly on digital banking

**H3:** Perceived Ease of Use has a significant influence on the customer satisfaction of the elderly on digital banking

**H4:** Web Aesthetics has a significant influence on the customer satisfaction of the elderly on digital banking

**H5:** Perceived Personalisation has a significant influence on the customer satisfaction of the elderly on digital banking

**H6:** Perceived Personalisation has a significant influence on the online engagement of the elderly on digital banking

**H7:** Perceived Personalisation has a significant influence on the in-person engagement of the elderly on digital banking

**H8:** In-person engagement has a significant influence on the customer satisfaction of the elderly on digital banking

**H9:** Digital engagement has a significant influence on the customer satisfaction of the elderly on digital banking

#### **4.4.2 Preliminary Data Analysis**

Data were collected through an online survey and exported to an SPSS database, which ensured no data entry errors. In addition, the preliminary analysis shows no missing values, which is often the benefit of using an online survey where respondents can be alerted to any missing responses.

Impact of emerging service quality dimensions on elderly customer satisfaction and engagement was measured using 28 scenario statements which 22 of them were adopted from

the existing literature and 06 were developed from the study one. Inter-rater reliability test was conducted in order to identify any problematic items which may be ambiguous or inappropriate to measure the constructs. The initial measurement scales were examined by two industry experts in the banking sector in Sri Lanka. Valuable feedback and suggestions came from both of them to improve the scale items. The initial scale items were revised based on their recommendations. Redundant and repetitious items were removed and some items were reworded to make them suitable for the study. A pre-test was then conducted to improve questionnaire structure and content. A five-point Likert scale was used to measure items from “strongly disagree” (1) to “strongly agree” (5). A total of 350 respondents were approached using snowball sampling method and managed to collect 275 qualified responses. (Resulting 64 percentage of response rate). According to Anderson and Gerbing (1988) and Hair et al., 2010, this sample size should be sufficient to obtain a converged and proper AMOS solution for models with three or more indicators per factor. All the respondents were above the age of 60 and had been engaged with digital banking with a licenced retail bank in Sri for more than 06 months.

#### **4.4.3 Measurement Model**

The purpose of a measurement model is to describe how well the observed indicators serve as a measurement instrument for the latent variables. To assess the measurement model, two step analysis processes were employed in this study. Initially, a confirmatory factor analysis was employed to specify the pattern by which each measure loads on a specific factor (Anderson and Gerbing, 1988; Byrne, 2013; Hair et al., 2010). Secondly, the factor loadings were observed to measure each indicator and how well an item measures a construct (Amin and Isa, 2008; Hair et al., 2010; Holmes-Smith, 2001). CFA was conducted to examine the measurement model using AMOS V26. Results showed that the goodness of-fit indices are satisfied. Chi-square value,  $\chi^2$  is significant ( $\chi^2$  750.66, df 322,  $\chi^2$ /df ratio 2.331, P-value 0.000). Meanwhile, the CFI value is 0.917, RMSEA value 0.085, TLI value 0.905, IFI value 0.918 and SRMR 0.0435. By checking the factor loadings for each measurement item, no items were deleted as all the values were more than 0.5 (Holmes-Smith, 2001). As a result, the measurement model retained 28 observed indicators from the original that were derived to estimate the model fit. Table 4-1 shows the goodness of fit indices of the measurement model and the table 4-2 shows the standardised factor loadings of each measurement item.

Variable	$\chi^2$	df	$\chi^2/df$	IFI	CFI	TLI	RMSEA	SRMR
Default Model	750.66	322	2.33	0.918	0.917	0.905	0.085	0.0435
Recommended Value			1.0>5.0<	>0.90	>0.90	>0.90	0.08<	0.09<

**Table 4-3 Goodness-of-fit statistics for measurement model of emerging service quality dimensions of elderly customer satisfaction and engagement on digital banking.**

Construct	Items	Factor Loadings
Security and Privacy	I have never had any dispute with my bank over a loss of money in my account due to a cyber- fraud.	0.819
	If I lose any amount of money in my account due to a cyber-fraud, I believe my bank would refund that money to me.	0.871
	I don't think that my bank will share my personal information with any third party for advertising or any such purpose.	0.862
	I don't worry about the adverts and content shared with me, by vendors based on my previous searches and activities online.	0.828
Perceived Usefulness	I use digital banking because it saves a lot of time and money as there's no travelling to the bank, finding parking, waiting in the queues etc.	0.792
	I use digital banking because it's open around the clock, 365 days and you can access it from anywhere in the world.	0.778
	I use digital banking, because it's paper less, no pass books, information on your fingertips, very easy to find the history of transactions.	0.855
Perceived Ease of Use	I'm adopted to digital banking because I find no difficulty in using a computer, tablet or a mobile phone to login and do a transaction.	0.835
		0.841

	<p>Digital banking is quite easy for me, as I have no issue in memorizing and using passwords, memorable words and one times codes to login and performing transactions.</p> <p>I like the home page of my digital banking service provider as there's no clutter and I can easily find the menu options that I use very frequently.</p>	0.872
Web Aesthetics	<p>I do care about the colors, texts, fonts, images and layout of my online banking web and the mobile app.</p> <p>Colorful and pleasing images, videos and animations make me feel spending more time online and exploring information.</p> <p>I prefer to have a customized home page on my web and mobile app.</p>	0.793 0.790 0.765
Perceived Personalisation	<p>I receive updates on interest rates paid on fixed deposits especially designed for senior citizens, from my digital banking service provider.</p> <p>I receive updates on benefits and rewards embedded in especially designed savings accounts for senior citizens from my digital banking service provider.</p> <p>I receive prudent investment advices such as investing in stocks, treasury bills, debentures etc. from my digital banking service provider.</p> <p>I receive updates on loyalty schemes offered by my digital banking service provider- loyalty points that I can earn on deposits made to my accounts and transactions performed online.</p> <p>My digital banking service provider contact me to recommend products and services and customised offers via my preferred method of contact – text, email, social media, post etc.</p>	0.862 0.874 0.785 0.763 0.859
Customer Satisfaction	<p>I'm satisfied with the level of understanding of my digital banking service provider has on me.</p> <p>I'm satisfied with and the banking relationship that I have with my digital banking service provider.</p> <p>I don't see any reason to switch my digital banking service provider in the near future.</p>	0.881 0.894 0.834 0.870

	I have no hesitation to recommend my digital banking service provider to my relatives and friends.	
Digital Engagement	I regularly receive and go through information about products and service recommendations from my digital banking service provider via home page of online banking, mobile app, email and text.	0.834
	I would consider and respond to the recommended products and services via home page of online banking, mobile app, email and text, if I feel they are beneficial to me.	0.884
	I do not hesitate to share my thoughts, views and new ideas with my digital banking service provider through online banking, mobile banking, email and text.	0.777
In-person Engagement	I very often pay visit to my local branch to receive advice and recommendations on products and services.	0.792
	For more complex transactions or decisions such as investing money, setting up a standing order, applying for a loan/credit card against my fixed deposit, I would always prefer to visit my local branch in-person.	0.851
	To share my thought, views and feedback, I always prefer to visit my local branch in person.	0.865

*Table 4-4 Standardized Factor Loadings*

#### **4.4.4 Construct Reliability and Validity**

It is important to test the construct reliability and validity before analysing the structural model (Anderson and Gerbing, 1988). Although the overall model fit indices may indicate the adequacy of the model they do not ensure the extent to which the constructs capture information of interest (Bagozzi and Yi, 1988; Steenkamp and Baumgartner, 2000).

To test the construct reliability of the measurement model, CR (Composite Reliability) and MaxR (Maximal Reliability) were computed. Both CR and MaxR exceeded the minimum standard of 0.7, which indicates a good estimate of internal consistency (Sharif and Nia, 2018). Table 4-3 shows the CR and the MaxR values of constructs in the measurement model.

Construct	CR	MaxR
Security and Privacy	0.909	0.911
Perceived Usefulness	0.850	0.856
Perceived Ease of Use	0.886	0.886
Web Aesthetics	0.826	0.827
Perceived Personalisation	0.917	0.923
Customer Satisfaction	0.926	0.928
Digital Engagement	0.871	0.881
In-person Engagement	0.875	0.879

*Table 4-5 Composite Reliability and Maximal Reliability*

There are two different types of validity for a measurement model: convergent validity and discriminant validity (Fornell and Larcker, 1981). Convergent validity refers to how well the items measure the same constructs (Bagozzi, 1981), whereas discriminant validity refers to whether constructs are different from each other (Bagozzi and Yi, 1988). For convergent validity, both composite reliability (CR) and average variance extracted (AVE) are important. According to Hair et al. (2010), the CR value should be greater than the AVE and AVE value of each factor should exceed 0.50. On the other hand, HTMT value of each factor should be less than 0.9 to establish the discriminant validity. Table 4-4 shows the CR and MaxR values and Table 4-5 shows the HTMT values of each factor.

Construct	CR	AVE
Security and Privacy	0.909	0.714
Perceived Usefulness	0.850	0.655
Perceived Ease of Use	0.886	0.722
Web Aesthetics	0.826	0.613
Perceived Personalization	0.917	0.689
Customer Satisfaction	0.926	0.757
Digital Engagement	0.871	0.693
In-person Engagement	0.875	0.700

**Table 4-6 Composite Reliability and Average Variance Extracted**

	SEP	PU	PEU	WEA	PP	CS	DE	IE
SEP								
PU	0.883							
PEU	0.803	0.837						
WEA	0.887	0.851	0.729					
PP	0.840	0.823	0.880	0.826				
CS	0.751	0.802	0.848	0.885	0.795			
DE	0.641	0.750	0.727	0.815	0.714	0.725		
IE	0.652	0.724	0.863	0.863	0.625	0.824	0.835	

**Table 4-7 HTMT Values**

#### 4.4.5 Structural Equation (Casual) Model

A structural equation model of impactful emerging service quality dimensions on elderly customer satisfaction and engagement on digital banking was established to estimate the parameters. This model starts from the first order constructs of service quality measurement scale, consisting of five dimensional structures: security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation. The dimension of security and privacy measured by four indicators, perceived usefulness by three indicators, perceived ease of use by three indicators, web aesthetics by three indicators and perceived personalisation by five indicators.

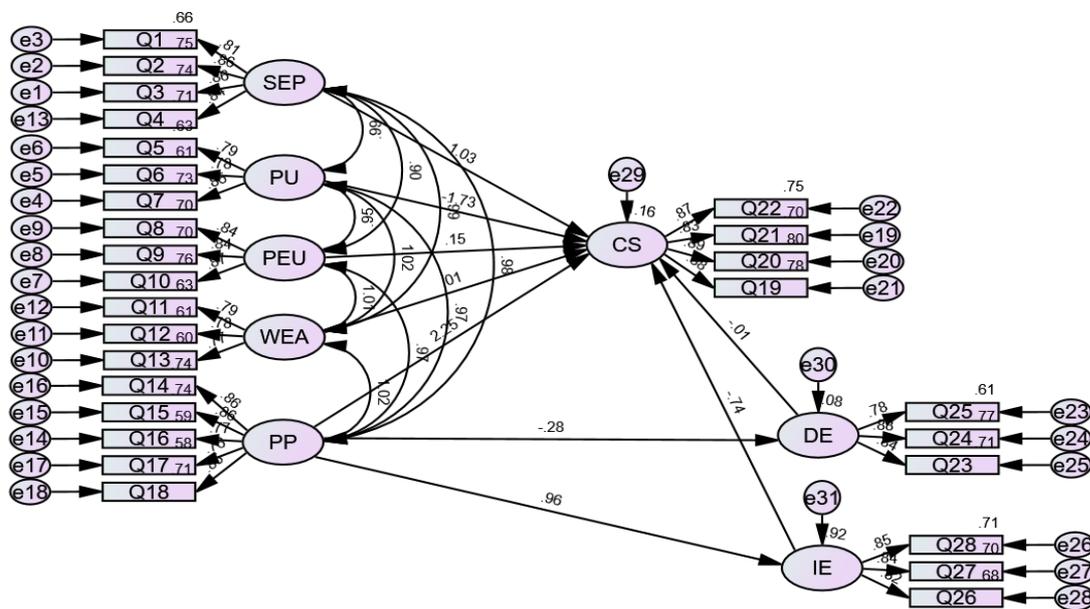


Figure 4-1 Structural Equation Model

Meanwhile, elderly customer satisfaction is measured by four indicators and the digital and in-person engagement are measured by three indicators on each factor. The findings suggest that the structural model of emerging service quality dimensions is a good determinant of elderly customer satisfaction and engagement in this new age of digital banking. Table 4-6 shows the results, which indicate the acceptable goodness-of-fit model.

Variable	$\chi^2$	df	$\chi^2/df$	IFI	CFI	TLI	RMSEA	SRMR
Default Model	865.52	331	2.615	0.918	0.917	0.905	0.085	0.048
Recommended Value			1.0>5.0<	>0.90	>0.90	>0.90	0.08<	0.09<

**Table 4-8 Goodness of fit – Structural Model**

The chi square value and the  $\chi^2/df$  ratio are significant ( $\chi^2 = 865.52$ ,  $\chi^2/df$  ratio 2.615,  $p=0.000$ ). The model has a RMSEA value of 0.085, which is below range level and considered satisfactory. The CFI value of 0.917, IFI of 0.918 and TLI of 0.905 indicated that the model is satisfactory, since the value is above 0.90 (Anderson and Gerbing, 1988; Hair et al., 2010). Overall, the values are close to the threshold, and, thus they represent an acceptable model fit. The regression weights (path co-efficiencies) and significant values for the hypothesis relationships are presented in table 5-7.

**Table 4-7 Regression weights – Path co-efficiencies**

	Estimate	P
IE <--- PP	0.820	***
DE <--- PP	-0.236	***
CS <--- SEP	0.916	.485
CS <--- PU	0.876	.053
CS <--- PEU	0.132	.914
CS <--- WEA	0.020	.977
CS <--- PP	0.742	.177
CS <--- IE	0.849	.014
CS <--- DE	0.015	.542

Notes: PCLOSE = 0.000; significance at the 0.05 level

The significant path co-efficiencies has shown that the perceived usefulness and in-person engagement are the most impactful service quality dimensions on elderly customer satisfaction, followed by perceived personalisation. The standardised path was 0.876 for perceived usefulness, 0.849 for in-person engagement and 0.742 for perceived personalisation.

The results show that security and privacy has a positive relationship with elderly customer satisfaction, but however it's insignificant ( $\beta = 0.916$ ;  $\rho = 0.485$ ), thus H1 is unsupported. Perceived usefulness has a strong and positive impact on elderly customer satisfaction ( $\beta = 0.876$ ;  $\rho = 0.053$ ), thus, H2 is supported. There is a positive relationship between perceived ease of use and elderly customer satisfaction, but it's insignificant ( $\beta = 0.132$ ;  $\rho = 0.914$ ), thus, H3 is unsupported. Relationship between web aesthetics and elderly customer satisfaction is also positive but insignificant ( $\beta = 0.020$ ;  $\rho = 0.977$ ), thus H4 is unsupported. There is a strong and positive relationship between perceived personalisation and elderly customer satisfaction, but however the significance level is marginal ( $\beta = 0.742$ ;  $\rho = 0.177$ ) and thus H5 is unsupported. Relationship between perceived personalisation and digital engagement is negative and significant ( $\beta = -0.236$ ;  $\rho = 0.000$ ), thus H6 is supported. But however perceived personalisation and in-person engagement has a highly significant positive relationship ( $\beta = 0.820$ ;  $\rho = 0.000$ ), thus H7 is supported. Relationship between in-person engagement and customer satisfaction is positive and significant ( $\beta = 0.849$ ;  $\rho = 0.014$ ), thus H8 is supported. In the meanwhile, relationship between digital engagement and elderly customer satisfaction is positive and insignificant ( $\beta = 0.015$ ;  $\rho = 0.542$ ), thus H9 is unsupported.

#### **4.4.6 Quantitative Results and Implications**

Quantitative results show the impact of cyber-security and privacy risk on elderly customer satisfaction is insignificant, but however it can make a very significant influence overall on other emerging service quality dimensions and customer experience of elderly in this new age of digital banking. Banks have generally been able to win the trust and confidence of elderly customers. But however, the level of trust and confidence that the elderly have placed on their digital banking service provider is enormously high. It is apparent that the security and privacy concerns of elderly are greater than the personalisation they expect from their bank. Increased rate of cyber frauds do not prevent elderly from banking online as they trust their money and privacy are protected with their service provider. Bankers need to consider security and privacy concerns of elderly promptly and swiftly and deal with them at the highest standards possible. Elderly wouldn't think of switching digital service providers for the lack of personalisation on digital space but they don't think twice to switch their service provider in case of breach or lack of security and privacy.

It is quite evident that, perceived usefulness can make a very significant and positive influence on elderly customer satisfaction and engagement in this new age of digital banking. Digital banking service providers should proactively consider the special needs of elderly customers. Some elderly customers have special needs due to the declining states of sight and memory. For example, reading through a long text could be a painful experience for some of them. Instead they prefer to listen to the message or the text appearing on their screen and respond verbally. And also they prefer to have a video call with a customer agent through the online banking home page whenever they come across a difficulty and seek some advice. Addressing these special needs will add value to the user experience of elderly customers and it will augment the level of online engagement with them and it will also create a new platform for bankers to cross sell and up sell more products and services to the elderly customers. The biggest challenge for the digital banking service providers with regard to the user experience of elderly, is to minimise and simplify systems and procedures without compromising the cyber security and privacy.

Results indicate that the impact of perceived ease of use is insignificant on elderly customer satisfaction. It is evident that the elderly customers' user experience is not fulfilled and their experience is limited to very basic functions of digital banking. Elderly expect much more flexibility in terms of login to the system, assistance in re-setting their passwords and help whenever they are unable to login. However they are willing to learn and seek advice from service personnel on more advanced options available in the online and mobile facilities and moreover prompt responses to their queries over the phone as and when they need some assistance. It is apparent that the performance and effort expectancy are the building blocks of perceived ease of use. User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. Elderly who had been exposed to some hands on experience with computers while they were working in an office environment find it easy to get used to digital banking. For many of them online banking has been introduced and offered some assistance by friendly customer service officers at their local bank branch in order for them to get going with the facility. Elderly expect solutions which could put them at ease when it comes to sign-in and perform transactions. They hate remembering passwords, memorable words and answering a series of security questions. They feel anxious if their queries and problems are ignored or not answered promptly and precisely. Digital banking providers need to make sure their front line and backend staff are well trained to handle the queries made by elderly customers and offer sensible advice and solutions promptly and if

they receive such a level of service, it will lead to an overall positive user experience and a higher level of customer satisfaction and engagement. If the banking personal failed to do so, it might lead even to switching of service providers.

Impact of perceived personalisation on customer satisfaction is marginal though, its' impact on in-person engagement is positive and significant. In the meantime perceived personalisation has a significant and negative impact on digital engagement.

Almost all of the bank web sites use cookies and similar technologies to provide, protect, and improve their products and services, by personalising content, offering and measuring advertisements, understanding user behaviour, and providing a safer experience. There are different types of cookies and they do a number of different jobs such as remembering user preferences and chosen items, assisting the user to improve the site experience as well as trying to ensure that the adverts or offers they see online are more relevant to them. But however websites are getting the acceptance of the user on the cookies and privacy policy of the site, either explicitly or implicitly. If the consent is obtained explicitly, user knows what cookies are and the privacy policy of the site in general and there's no room for confusion or doubt. If consent is obtained implicitly, cookies and privacy policy is suggested though not directly expressed. Users have the option to opt out of all the cookies or opt out from certain cookies such as advertising and targeting cookies if they wish by clicking through the option "manage cookies". Most of the elderly customers have no idea on cookies or the privacy policy of the web sites and how to manage cookies and privacy settings. If the personalisation efforts trigger customers' privacy concerns about how the bank is collecting and using their personal information, it will lead to a disengagement and dissatisfaction. Bankers need to be hyper-careful when they track elderly users' behaviour online. They need to make sure that elderly customers' consent for the cookies and privacy policy is taken explicitly without keeping any room for confusion or doubt.

Results indicate that the influence of in-person engagement on customer satisfaction is significant and positive whereas the impact of digital engagement is insignificant. Elderly customers' most preferred way of banking is, omni-channel banking (online, mobile, telephone and in-person banking). Of all these channels most suited channel to have a personal touch with elderly is, in-person banking. Elderly prefer to pay visits to their local bank branch to engage with bank officers and build up relationships. They admire the fact

that bank officers in their local bank branch know their personal preferences and have a personal touch on them. Elderly do not interested in neo-banking (digital only). Banks may consider reducing the number of brick and motor branches however, there should be at least a few brick and motor branches where they can engaged with advisory services.

Many of the elderly customers are in possession of a smart phone though, handful of them are using the mobile app of their digital banking service provider. They are of the view that using a laptop or desk top along with a secure key is the most secured way for online banking. But according to the cyber security experts, mobile banking is much safer, because smart mobile devices enable to login with face recognition or finger print (multi factor authentication). Most of the elderly customers prefer to pay visit to their local bank branch to get advice on more complicated issues and transactions and to make decisions on some products and offerings. It is apparent that most of them have started using online banking after having introduced the service by a customer service officer when they were engaged in-person. Similarly bankers should focus on guiding and persuading elderly to use their mobile banking app when they are engaged in-person at local bank branches.

Influence of digital engagement on elderly customer satisfaction is insignificant though, they are willing to engage digitally with banks for the purpose of prevention of frauds and scams. Elderly users are extremely vulnerable to digital scams and frauds. More than for the purpose of personalisation, elderly tend to engage with their digital service provider for the purpose of security as they consider digital engagement could prevent them becoming a victim of a cyber-fraud. Elderly admire the fraud prevention verification methods use by their service providers. Ex- verification codes they receive on their mobile phone and emails to confirm some transactions and text alerts they receive on debits and credits. Digital engagement reduces the level of anxiety of elderly on overall digital banking service and increases the level of confidence to perform online transactions with peace of mind.

Elderly customers have mixed feelings on web aesthetics and it has a moderate impact on customer satisfaction and engagement online. But however it is quite evident that the digital service providers may effectively use web aesthetics to increase the awareness and knowhow of elderly on various better service options and facilities they can make use of. For instance, small duration animated “how to” videos which explain the steps to setting a direct debit, switch on/off credit/ debit card online and also some animated advisory videos to prevent

cyber frauds can add value to the customer experience of elderly online. Since the site's aesthetics can influence brand perception and credibility, the importance of web aesthetics should not be underestimated.

#### **4.4 Summary**

This chapter addressed the research questions – how service quality dimensions ; security and privacy, perceived usefulness, perceived ease of use, web aesthetics, perceived personalisation correlate with the elderly customer satisfaction and engagement in this new age of digital banking by testing and quantifying the conceptual model and the hypotheses developed in study one.

The results confirm that, all the five service quality dimensions identified (security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation) are distinct constructs. The results also indicate that all five service quality dimensions have appropriate reliability and each dimension has a significant correlation with other dimensions and make a significant influence on banking habits of elderly customers on digital platform.

This study has found that, the perceived usefulness is the key driver of elderly customer satisfaction on digital banking, followed by in-person engagement, perceived personalisation, security and privacy, perceived ease of use and web aesthetics respectively. It means that elderly customers are more satisfied and engaged if the digital banking service provider augment the value proposition of digital banking with a clear understanding of the special needs they have. In other words, elderly customers are willing to engage, learn and do more on digital banking and have a much better, fully fledged customer experience on digital platform.

Perceived Personalisation makes a very significant and positive contribution on in-person engagement while it makes a significant and negative impact on digital engagement. And in turn in-person engagement has a significant and positive correlation with customer satisfaction, while impact of digital engagement on same is positive and insignificant. It means elderly customers do embrace and admire the deep metaphors of personalisation, such as understanding their personal preferences, needs and treating as individuals, not as a member of segment or persona. But how ever tracking their activities online and chasing

them with offers and adverts make them feel like invading their privacy. Mostly the personalisation efforts of the banks, trigger privacy concerns in elderly and it leads to a dissatisfaction and disengagement. But however, offering a personalised touch on in-person engagement make them satisfied and more engaged as privacy concerns has no role to play in that context.

# Chapter 5

## Discussion

### 5.1 Introduction

Chapter four presented the analytical results for the conceptual model that was developed at the end of chapter three. This chapter now provides the broader discussion on findings and their implications. The overall objectives of this thesis are threefold. First, the research tries to conceptualise the emerging service quality dimensions which could make a significant contribution on elderly customer satisfaction in this new age of digital banking (RQ1). Second, the work investigates the correlation of perceived personalisation on elderly customer engagement-both digital and in-person (RQ2). Third, the research examines how and to what extent digital engagement and in-person engagement correlate with the elderly customer satisfaction (RQ3). Based on these objectives, this thesis identifies three main research questions to investigate the elderly customer satisfaction and engagement in this new age of digital banking. These questions are now addressed in the following sections. Section 5.2 describes the conceptual dimensions of security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation. Section 5.3 discusses the interrelationships among the significant and impactful service quality dimensions. Lastly the chapter ends with concluding remarks in section 5.4.

### **5.2 Conceptualisation and the influence of emerging service quality dimensions on elderly customer satisfaction and engagement.**

This section addresses the sub-research questions that make up RQ1, as stated below, which was addressed in both the qualitative study (Chapter four) and the quantitative study (Chapter five): RQ1: How are (a) security and privacy (b) perceived usefulness (c) perceived ease of use and (d) perceived personalisation conceptualised in the process of digital banking customer experience of elderly. It will be recalled that the qualitative study involved interviews with elderly customers who engaged in digital banking in order to get a broader understanding of how security and privacy is conceptualised to address RQ1(a): How security and privacy influence the elderly customer satisfaction in this new age of digital banking?

Qualitative study revealed five sub themes out of the service quality dimension of security and privacy. Sub themes of “trust and confidence”, “scams and frauds”, “digital engagement”, “personal information and secrecy”, “peace of mind” were identified when analysing the elderly customers’ perceptions and attitudes towards this significant service quality dimension.

Trust is a crucial factor that plays an important role in people’s mind. The degree of comfort on Internet-based purchases or transactions is fully reliant on trust (McCloskey, 2006). Trust governs the relationships and as consumers get familiar with the Internet-based platforms, the trust tends to increase (Hill and Williams, 2008). It is not at all surprising that lack of trust actually has been one of the most prevalent reasons for not accessing the Internet. This study finds that trust and confidence that elderly customers have placed on their digital banking service provider is enormously high in this new age of digital banking. They are well aware of the fact that, technological advancements and the fierce competition among the banks always increase the standards of security and privacy they provide for the money and transactions of their customers. They believe that, whenever some fraud or irregularity occurs, that information flows through the interconnected systems very fast and banks take immediate steps to take corrective measures. Also they believe that generally banks are strongly committed to protecting the funds and confidential information of their customers and they do their best to provide the most secure environment possible as customers want to be confident when accessing their financial information online.

Johnson, et al. (2018), finds that ease of use, relative advantage, visibility and perceived security positively influence the individual’s intention to use mobile payment services. And also ubiquity and trialability positively influence the individual’s perception of security while concerns over privacy risk negatively influences perceptions over security. In their study they have deployed the extended model of diffusion of innovation theory (DOI – Rogers 1995) and they have extended it by using perceived security, privacy risk, perceived ubiquity and trailability. As per Johnson, et al.(2018), perceived security is defined as the perception that the vendor/provider will take the appropriate action to ensure that using the technology is risk free. Also they note that one of the largest barriers to adoption of mobile payment service is the concern over security and perceived security can have a positive impact over both trust and adoption. Further they note that any factors that positively impact perceived security would also increase likelihood of adoption.

Study in this thesis also confirms the findings of Johnson, et al. (2018) on perceived security and privacy risk. Security and privacy is a distinctive service quality dimension on elderly customer engagement in this new age of digital banking. Most of the digital banking service providers have been able to win the trust and confidence in the frame of mind of elderly as a result of their commitment on providing security and privacy at a substantial level. Elderly customers don't think of switching their service provider for not getting a personalised attention, albeit they don't think twice to switch their digital service provider in case of breach or poor standard of security and privacy. Elderly do understand that generally banks are strongly committed to protecting the funds and confidential information of their customers and they do their best to provide the most secure environment possible as customers want to be confident when accessing their financial information online. And at same time many of them are conscience about the role they have to play as customers when they access their accounts and information online. As elderly customers' mind has framed by a high level of perceived cyber protection from their digital banking service provider, the level of anxiety which could cause them due to their vulnerability has been reduced.

Witty (2019), finds that cyber-fraud is a crime that is on the increase, and one that affects digital technology users across the globe. All participants in their sample had been exposed to a cyber-fraud at some point in their lives and 7 percent of the sample had lost money to a cyber-fraud. Qualitative study of this thesis also in consistence with this finding. Of the thirty respondents of the study had come across with some sort of an encounter with a scammer or online fraudster at some point in their lives. But however only five of them have become real victims of cyber frauds and out of five only one of them had lost money to a cyber-fraud. Rest of them have recovered as they have received a refund from their bank.

Online banking has grown so well that it is now an irreplaceable part of everyday lives of many of elderly customers. So much so that for most of them, it has replaced physically going to the bank branches for every little thing. But amidst all the technological development, they can't forget how much security is important to them too. In the wake of so many data breaches that take place every now and then, online security is not just advisable but absolutely necessary, given how much is at stake for them. For elderly Risk of becoming a victim of a cybercrime is increasing day by day. Banks also understand very well that elderly customers are the prime target of cybercriminals. Elderly customers expect that

bankers should think about it very seriously and they constantly upgrade their security systems to protect them from scammers and criminals.

Since at older age people have limited mobility out-of-home due to deteriorating physical condition, this allows them to explore more time on the Internet which also concludes that older people were keen to use the Internet replacing out-of-home activities (Qualter et al., 2015). Findings of this study also in consistence with the Qualter's findings. This study found that there are four key building blocks of the service quality dimension of perceived usefulness; peace of mind, cost saving, time saving and energy saving. Most of the elderly customers stick to very basic level of transactions though, the convenience of performing their day to day transactions around the clock at a press of button offers them a lot of satisfaction as they can find more time to relax. For elderly customers paying a visit to their local bank branch to make a simple bank transfer or utility bill payment, consume a lot of time and energy as they need to make a physical movement, find parking, stay in queues etc. In fact for some elderly energy saving is an enormous benefit offered by online banking as making a physical movement is a big deal for them due the extreme health conditions.

Nayak et al., (2010) specified that the ease of accessing the web-based platforms indirectly influences the attitude toward the intention to use the web-based platforms. It was also evident from varied experiences in the past that people become increasingly comfortable with technologies the more they use them. This finding is further established by the findings of this study. Effort expectancy, performance expectancy, responsiveness and user experience were emerged as sub themes of service quality dimension of perceived ease of use. Effort expectancy positively impacts ease of use and the perceived ease of use increases intention to use digital banking. Positive user experience makes a significant contribution to the customer satisfaction and digital engagement. User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. It was found that elderly who had been exposed to some hands on experience with computers while they were working in an office environment find it easy to get used to digital banking. For many of the elderly online banking has been introduced and offered some assistance by friendly customer service officers at their local bank branch in order for them to get going with the facility.

Albashrawi and Motiwalla (2019), finds that, although privacy is very crucial aspect in mobile banking app, some customers have a high confidence in the bank that their

information will not be accessed or shared with a third party, hence, they don't show a high concern about privacy. And the surveyed customers are not provided with any options from the bank to personalise their mobile banking experience. This may have contributed to making both privacy and personalisation insignificant determinants of satisfaction as well as it may affect the interaction of personalisation with technology acceptance model (TAM – perceived usefulness and perceived ease of use) factors. Additionally, most likely both privacy and personalisation have not been given a considerable attention by the customers. Also they find that participants focus on efficient and flexible performance of their banking interactions without giving much thought to the aspects of privacy and personalisation.

While findings of Albashwari and Motiwala (2019) on personalisation are consistent with the findings of the study of this thesis, their findings on privacy concerns are in contrary to the findings of this study. This study finds that impact of perceived personalisation on elderly customer satisfaction is marginal. Elderly expect the product and service recommendations and the offers they receive from their digital banking service provider to be relevant and customised on them. Sending generic offers and adverts will lead to dissatisfaction and disengagement with the bank. Many of the elderly believe that their service provider is not capable enough in understanding their personal needs and preferences. They are dissatisfied and disengaged with the recommendations and offers they receive from their service provider as they are generic and irrelevant to them. On the other hand security and privacy have an insignificant impact on elderly customer satisfaction though, privacy concerns play a significant role on impact that perceived personalisation can make on customer engagement. This study finds that the perceived personalisation has a negative impact on the digital engagement and a positive impact on the in-person engagement. Many of the respondents have a negative impression on appearing numerous content and advert on their screen, which has some connection to their recent activities online. They consider that tracking their behaviour online and recommending content without their consent is an invasion of their privacy. It is evident that privacy risk can make a significant influence on perceived personalisation. If the personalisation efforts of the bank, trigger a privacy concern, it will lead to a dissatisfaction and disengagement online. Most of the elderly customers have no idea on cookies or the privacy policy of the web sites and how to manage cookies and privacy settings. If the personalisation efforts trigger customers' privacy concerns about how the bank collecting and using their personal information it will lead to a disengagement and dissatisfaction. But however, personalisation efforts of the bank on in-person engagement

lead to a higher level of elderly customer satisfaction as privacy has no role to play in that context.

Anderson and Swaminathan, 2021 and Liébana-Cabanillas et al., 2013, have indicated that customer satisfaction is driven by website characteristics and quality attributes. In this perspective, Jeong and Lee (2015) explained that product diversity, tangibles, responsiveness, interaction, and stability have significant impact on online customer satisfaction. This suggests that the way in which the service is delivered through a website plays a critical role in driving consumer satisfaction. In this context, Liébana-Cabanillas et al., 2013, emphasised that digital banking customers are mostly satisfied with the internet accessibility, ease of use, usefulness, and trust.

This study also finds that ease of use, usefulness and trust have a significant positive correlation with elderly customer satisfaction on digital banking. User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. It was found that elderly who had been exposed to some hands on experience with computers while they were working in an office environment find it easy to get used to digital banking. For many of the elderly online banking has been introduced and offered some assistance by friendly customer service officers at their local bank branch in order for them to get going with the facility. Elderly expect solutions which could put them at ease when it comes to sign-in and perform transactions. They hate remembering passwords, memorable words and answering a series of security questions. They feel anxious if their queries and problems are ignored or not answered promptly and precisely.

Most of the elderly customers stick to very basic level of transactions though, the convenience of performing their day to day transactions around the clock at a press of button offers them a lot of satisfaction as they can find more time to relax. For elderly customers paying a visit to their local bank branch to make a simple bank transfer or utility bill payment, consume a lot of time and energy as they need to make a physical movement, find parking, stay in queues etc. In fact for some elderly energy saving is an enormous benefit offered by online banking as making a physical movement is a big deal for them due the extreme health conditions.

Apparently most of the elderly customers believe that their bank is constantly upgrading their cyber security systems and try their level best to protect the customers from frauds and scams. As elderly customers' mind has framed by a high level of perceived cyber protection from their digital banking service provider, the level of anxiety which could cause them due to their vulnerability has been reduced. This study finds that trust and confidence that elderly customers have placed on their digital banking service provider is enormously high in this new age of digital banking.

As Kumar (2013) has indicated better customer engagement, begins with listening to the customers. This means that there should be contact with them, feedback, and a follow up with the service the customer received. A part of customer engagement is building a brand identity. With a distinguishable brand identity, future potential customers will gravitate towards the brand once they know that they want to purchase their products (Kallie and Rissa, 2021). The company's potential customers become aware of you brand and usually follow the company on social media and have engaged with their webpage. This is when a company needs to use different channels to provide contents for their interests and the base for customer relationships in the future (Kallie and Rissa, 2021).

This study further strengthen the findings of Kumar (2013) and Kallie and Rissa (2021). For many of the elderly, online banking has been introduced by friendly customer service officers at their local bank branch. And on the other hand elderly customers prefer to pay a visit to their local bank branch to have casual chat and strengthen their relationships with the customer service officers. Due the facts of elderly's traditional frame of mind and their willingness to learn and use the technology for day to day simple transactions, omni-channel has become their most preferred way of banking. Elderly prefer to pay visits to their local bank branch to engage with bank officers and build up relationships. They admire the fact that bank officers in their local bank branch know their personal preferences and have a personal touch on them. Elderly do not interested in neo-banking (digital only). Banks may consider reducing the number of brick and motor branches but however, there should be at least a few brick and motor branches where they can engaged with advisory services.

### **5.3 Interrelationships among the significant and impactful service quality dimensions.**

It was found that security and privacy has a significant and positive correlation with digital engagement. More than for the purpose of personalisation, elderly tend to engage with their digital service provider as they consider digital engagement could prevent them becoming a victim of a cyber-fraud. Elderly admire the fraud prevention verification methods use by their service providers. Ex- verification codes they receive on their mobile phone, emails to confirm some transactions and text alerts they receive on debits and credits. Digital engagement increase the level of satisfaction on the overall online banking service and the confidence to perform online transaction with peace of mind.

Elderly customers' vulnerability on losing their money when they move around with physical cash is also as high as their vulnerability on cyber frauds. Findings suggest that elderly have more peace of mind when they make payments online rather than moving around with physical cash. Going online has helped to reduce their level of anxiety and increase in peace of mind as opposed to withdraw money and going around with physical cash. They believe that they can rely on their digital service providers' cyber fraud prevention capabilities when they go online, whereas they have no protection at all when they deal with physical cash.

This notion of peace of mind is interconnected to the notion of trust and confidence, which is a sub dimension of security and privacy. Elderly enjoy peace of mind as a result of the trust and confidence they have placed on their digital banking service provider. They believe that generally banks do everything they can do to provide with the highest level of security to the money they have deposited. In fact the "trust" is fundamental to the business of banking and banks won't survive in the long run if they fail to uphold and protect the trust that their customers have placed on them. And also on the other hand reputed banks are governed by a state regulator (commonly known as the central bank of the country) and that consciousness adds much value to the trust that elderly have placed on reputed and well established banks. Elderly do not have trust and confidence in challenger neo banks (pure digital) as they are not well established and reputed in their frame of mind.

Digital engagement and perceived usefulness also have a significant and positive correlation. Usefulness of online banking has been augmented by the digital engagement in the minds of

elderly as they get system generated text messages, emails and phone calls as reminders to avoid missing some payments and transactions due to a shortfall of funds in their respective accounts. This augmentation of perceived usefulness leads to a higher level of customer experience and satisfaction.

Service quality dimension, customer engagement has a very significant correlation with perceived personalisation. Many of the respondents have a negative impression on appearing numerous content and advert on their screen, which has some connection to their recent activities online. They consider that tracking their behaviour online and recommending content without their consent is an invasion of their privacy. It is evident that privacy risk can make a significant contribution on perceived personalisation. If the personalisation efforts of the bank, trigger a privacy concern, it will lead to a dissatisfaction and disengagement online. But however, personalisation efforts of the bank on in-person encounters lead to a higher level of elderly customer satisfaction and thereby strong in-person engagement. Thus, omnichannel (both digital and in-person) has become the elderly's most preferred way of banking. They always enjoy getting a human touch and having a strong relationship with friendly customer service officers at their local bank branch. Some elderly pay a visit to their branch once in a way, apparently for no reason. The only motive behind their visit is to have a friendly chat with known customer service officers or may be with their old friends meet at the branch lobby. Whenever they pay a visit as such, if the customer service officers at their branch offer them a great deal of welcome by showing their intuition and understanding of the elderly customers' personal needs and preferences through the relationship they have built upon, that will be deeply admired by them.

## **5.4 Summary**

This chapter provided a broader discussion on findings of both study one, study two and their implications. The overall threefold objectives of the research in this thesis, conceptualisation of the emerging service quality dimensions which could make a significant contribution on elderly customer satisfaction in this new age of digital banking (RQ1), examining the correlation of perceived personalisation on elderly customer engagement-both digital and in-person (RQ2), examining how and to what extent digital engagement and in-person engagement correlate with the elderly customer satisfaction (RQ3) were synthesised and discussed by incorporating the findings with existing literature. This chapter also aimed at

establishing the theoretical properties of the study by conceptualising and identifying the interrelationships among the significant and impactful service quality dimensions. Managerial implications, theoretical and empirical contribution to the knowledge and concluding remarks will be presented in the final chapter of conclusion.

# Chapter 6

## Conclusion

### 6.1 Introduction

Chapter six presented the discussion of the thesis by conceptualising and describing the correlation of emerging service quality dimensions on elderly customer satisfaction and engagement. This final chapter provides the managerial implications, contribution to the knowledge, limitations of the research and finally the summary and conclusion. Section 6.2 discusses the conclusion of the study by synthesising the findings of the study as against the research objectives and the research questions. In section 6.3, presents valuable insights for the bank managers by combining the managerial implications from both qualitative and quantitative studies. In section 6.4, theoretical and empirical contributions to the knowledge are discussed. In section 6.5, limitations of the research are discussed as they could shed light on future research on elderly customer segment and digital banking. Finally in the section 6.6, summarised the chapter and the thesis by reflecting upon the overall purpose, findings and the contribution to the literature on emerging service quality dimensions and their correlation with elderly customer satisfaction and engagement on digital space.

### 6.2 Conclusion

The purpose of this study is to examine the emerging service quality dimensions and their implication on elderly customer satisfaction and engagement in this new age of digital banking in the context of Sri Lanka. This study also focused on answering three research questions;

**RQ1:** How service quality dimensions ; security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation correlate with elderly customer satisfaction in this new age of digital banking?

**RQ2:** How perceived personalisation correlates with the elderly customer digital and in-person engagement?

**RQ3:** How in-person engagement and digital engagement correlate with elderly customer satisfaction on digital banking?

The results confirm that, all the five service quality dimensions identified (security and privacy, perceived usefulness, perceived ease of use, web aesthetics and perceived personalisation) are distinct constructs. The results also indicate that all five service quality dimensions have appropriate reliability and each dimension has a significant correlation with other dimensions and make a significant contribution on digital banking habits of elderly customers.

This study confirms that, the perceived usefulness is the key driver of elderly customer satisfaction on digital banking, followed by in-person engagement, perceived personalisation, security and privacy, perceived ease of use and web aesthetics respectively. It means that elderly customers are more satisfied and engaged if the digital banking service provider augment the value proposition of digital banking with a clear understanding of the special needs they have. In other words, elderly customers are willing to engage and learn more on digital banking and have a much better and fully fledged customer experience on digital platform.

Perceived Personalisation makes a very significant and positive correlation with in-person engagement while it makes a significant and negative contribution on digital engagement. And in turn in-person engagement has a significant and positive correlation with customer satisfaction while correlation of digital engagement is positive and insignificant. It means elderly customers do endorse and admire the deep metaphors of personalisation, such as understanding and treating as individuals, not as a member of a segment or persona. But however tracking their activities online and chasing them with offers and adverts make them feel like invading their privacy. Mostly the personalisation efforts of the banks, trigger privacy concerns in elderly and it leads to a dissatisfaction and disengagement. But however, offering a personalised touch on in-person encounters make them satisfied and more engaged as privacy concerns has no role to play in that context.

Clear understanding of the correlation of emerging service quality dimensions on elderly customer satisfaction and engagement in this new age of digital banking is of utmost importance to service marketers. This thesis has addressed the lack of understanding related

to the impact of emerging service quality dimensions from the elderly customers' point of view. First, it helped to understand the conceptualisations of the dimensions of emerging service qualities. Second, it identified and measured the correlation of those service quality dimensions on customer satisfaction and engagement. Third, it helped to understand the interrelationships among those service quality dimensions.

### **6.3 Managerial Implications**

Banks have generally been able to win the trust and confidence of elderly customers. But however, the level of trust and confidence that the elderly have placed on banks are enormously high. It is apparent that the security and privacy concerns of elderly are greater than the personalisation they expect from their banks. Increase rate of cyber frauds do not prevent elderly from banking online as they trust their money and privacy are protected with their bank. Bankers need to consider security and privacy concerns of elderly promptly and swiftly and deal with them at the highest standards possible. Elderly wouldn't think of switching digital service providers for low level of personalisation on digital space but they don't think twice to switch their service provider in case of breach of security and privacy. Elderly do understand that generally banks are strongly committed to protecting the funds and confidential information of their customers and they do their best to provide the most secure environment possible as customers want to be confident when accessing their financial information online. And at same time many of them are conscience about the role they have to play as customers when they access their accounts and information online.

Generally, elderly customers are aware on basic facts such as, banks would never ask for their passwords or confidential information over the phone or via emails or texts, it is unsafe to click on links that leads to banks websites, which are usually included in emails, text messages, social media posts and other online ads. Also they know that it is always best to type the bank's website address on the browser themselves and they should periodically check their bank accounts to be aware of any irregularities in their online transactions. Apparently most of the elderly customers believe that their bank is constantly upgrading their cyber security systems and try their level best to protect the customers from frauds and scams. As elderly customers' mind has framed by a high level of perceived cyber protection from their digital banking service provider, the level of anxiety which could cause them due to their vulnerability has been reduced.

Perceived usefulness of digital banking in the elderly customers' frame of mind can make a significant contribution on customer satisfaction and engagement. Some elderly customers have special needs due to the declining states of sight and memory. For example, reading through a long text could be sometime painful experience for them. Instead they prefer to listen to the message or the text appearing on their screen and respond verbally. And also they prefer to have a video call with a customer service agent through the online banking home page whenever they come across a difficulty and seek some advice. Addressing these special needs will add value to the user experience of elderly customers and it will augment the level of online engagement with them and it will also create a new platform for bankers to cross sell and up sell more products and services to the elderly customers. Usefulness of online banking has been augmented by the digital engagement in the minds of elderly as they get system generated text messages, emails and phone calls as reminders to avoid missing some payments and transactions due to a shortfall of funds in their respective accounts. Providing a digital banking virtual assistant to carry on conversational banking (Something similar to Google home, Alexa etc.) would be an ideal augmentation of the customer experience of elderly on digital platform. The biggest challenge for the digital banking service providers with regard to the user experience of elderly, is to minimise and simplify security procedures without compromising the cyber security and privacy.

Findings of this study also suggest that perceived ease of use can make a significant contribution on elderly customer satisfaction and engagement. It is evident from the data that effort expectancy and performance expectancy are the two key building blocks of this service quality dimension. Responsiveness and user experience also make a significant and positive contribution on perceived ease of use. Effort expectancy implies to how much of effort that the user should make to achieve the desired end result, in other words online experience has to be effortless. User friendly interface, either on web or mobile app is fundamental for elderly to get going with technology. It was found that elderly who had been exposed to some hands on experience with computers while they were working in an office environment find it easy to get used to digital banking. For many of the elderly online banking has been introduced and offered some assistance by friendly customer service officers at their local bank branch in order for them to get going with the facility. It was found in the qualitative study that the smartphone ownership of elderly is 100% but however 80% of them were not using the mobile app of their digital banking service provider. Bank marketers in their communications and the frontline staff in their in-person service delivery, should make much

more effort to get elderly aboard on their mobile banking app as it is the most convenient and secured channel on digital service delivery.

And on the other hand performance expectancy leads to the fulfilment of perceived ease of use. Elderly expect much more flexibility in terms of login to the system, assistance in re-setting their passwords and help whenever they are unable to login. It is evident that elderly stick to very basic level of functionalities and their customer experience is not fulfilled on digital platform. However they are willing to learn and seek advice from service personnel on more advanced options available in the online and mobile facilities. Moreover they expect prompt and precise responses on their queries and difficulties they come across with some sort of a transaction. They feel anxious if their queries and problems are ignored or not answered promptly and precisely. Digital banking service providers should make sure their front line and backend staff are well trained to handle the queries made by elderly customers and offer sensible advice and solutions promptly and if they receive such a level of service, it will lead to an overall positive user experience and a higher level of customer satisfaction and engagement.

Contribution of perceived personalisation on elderly customer engagement and its' contribution on overall digital banking experience of elderly are key contributions to the knowledge provided by this study. Personalisation implies to the level of understanding of a service provider has on their customers personal needs and preferences through their digital engagement with the customers. In other words how far a service provider can treat their customers as individuals not as a member of a segment or persona. This study finds that relevance, customisation and privacy risk are the key drivers of personalisation. Elderly customers expect the recommendations they receive from their service provider to be relevant and customised. It was also found that the deep metaphors of personalisation, understanding of their personal preferences by the bank and offering a personal touch are deeply embraced by the elderly. If the personalisation appeals to them it might create greater desire to engage with the bank. Sending generic offers and adverts will lead to dissatisfaction and disengagement with the bank. Many of the elderly believe that their service provider is not capable enough in understanding their personal needs and preferences. They are dissatisfied and disengaged with the recommendations and offers they receive from their service provider as they are generic and irrelevant to them.

This study finds that the perceived personalisation has a negative correlation with the digital engagement and a positive impact on the in-person engagement. Many of the respondents have a negative impression on appearing numerous content and advert on their screen, which has some connection to their recent activities online. They consider that tracking their behaviour online and recommending content without their consent is an invasion of their privacy. It is clearly evident that the privacy risk can make a significant contribution on perceived personalisation. If the personalisation efforts of the bank, trigger a privacy concern, it will lead to a dissatisfaction and disengagement online. But however, personalisation efforts of the bank on in-person encounters lead to a higher level of elderly customer satisfaction and thereby strong in-person engagement.

Results of the quantitative study in this thesis indicate that the correlation of in-person engagement on customer satisfaction is significant and positive whereas the correlation of digital engagement is insignificant. Elderly customers' most preferred way of banking is, omni-channel banking (online, mobile, telephone and in-person banking). Of all these channels most suited channel to have a personal touch with elderly is, in-person banking. Elderly prefer to pay visits to their local bank branch to engage with bank officers and build up relationships. They admire the fact that bank officers in their local bank branch know their personal preferences and have a personal touch on them. Elderly do not interested in neo-banking (digital only). Banks may consider reducing the number of brick and motor branches but however, there should be at least a few branches which are engaged with advisory services to elderly.

This study suggest that web aesthetics could make a moderate contribution on elderly customer satisfaction and engagement in this new age of digital banking. Few years back web aesthetics were limited to elements such as colours, fonts, graphics and images, basically the attraction of the interface. But in this new age, animations and videos make a real impact on web aesthetics and enhance the customer experience on digital space. Advancements in digital technologies and creative industry have created a new opportunity for digital service providers to use web aesthetics much more effectively to increase the awareness and knowhow of elderly on various better service options and facilities they can make use of. For instance, small duration animated "how to" videos which explain the steps to setting a direct debit, switch on/off credit/ debit card online and also some animated advisory videos to prevent cyber frauds can add value to the customer experience of elderly online. Since the

sites' aesthetics can make a significant contribution on overall brand perception and credibility, the importance of web aesthetics should not be under estimated.

## **6.4 Contribution to the Knowledge**

The research of this thesis represents a comprehensive body of work that contributes to and extends the literature on conceptualising and measuring key emerging service quality dimensions on elderly customer satisfaction and engagement in this new age of digital banking. From theoretical perspective this study contributes in many ways. This research provides a conceptual model developed from elderly customers' perceptions of the emerging service quality dimensions on digital platform. And also it provides a clearer understanding of conceptualising and measuring the emerging service quality dimensions on elderly customer satisfaction and engagement in this new age of digital banking. Through examining the interrelationships among the key dimensions and their relationships with customer satisfaction and engagement, this research provides a clear understanding of the contribution of perceived personalisation, which is a fresh perspective adding to the literature, when it comes to the elderly customer experience on digital platforms. The study in this thesis reveals, relevance and customisation are the essence of perceived personalisation. Elderly expect the product and service recommendations and the offers they receive from their digital banking service provider to be relevant and customised on them. Sending generic offers and adverts will lead to dissatisfaction and disengagement with the bank. Many of the elderly believe that their service provider is not capable enough in understanding their personal needs and preferences. They are dissatisfied and disengaged with the recommendations and offers they receive from their service provider as they are generic and irrelevant to them. Correlation between perceived personalisation and the customer engagement is enormously influenced by the privacy concerns of elderly. They consider that tracking their behaviour online and recommending content without their consent is an invasion of their privacy. If the personalisation efforts of the bank, trigger a privacy concern, it will lead to a dissatisfaction and disengagement online.

From a practitioner perspective, this research depicts the overall findings of the qualitative research on elderly consumers' conscientious and user experiences (UX), which provides practitioners a clear understanding and summary of the components that underpin elderly customer satisfaction and engagement which in turn will help to identify and close any service quality gaps in customer service design on elderly.

Elderly customers are naturally less tech savvy and sceptical on the technology. Mostly they have a traditional frame of mind and prefer human touch as oppose to the technological options. However in this new age of technological advancements, they do understand that there's no turning back and they cannot be tech-wary and alienated from the society. They are willing to learn and get hands on experience on the technology from the younger generation at home and the friendly customer service officers who offer a hand to them. For many of the elderly, online banking has been introduced by friendly customer service officers at their local bank branch. And on the other hand elderly customers prefer to pay a visit to their local bank branch to have casual chat and strengthen their relationships with the customer service officers. Due the facts of elderly's traditional frame of mind and their willingness to learn and use the technology for day to day simple transactions, omni-channel has become their most preferred way of banking.

## **6.5 Limitations and Future Research**

The research in this thesis has several limitations which create opportunities for future studies related to the emerging service quality dimensions on digital banking. The first limitation of this research is the nature of the context used to collect the data. Finding elderly respondents as per the set criterion, age above 60 , active online baking customer for at least 06 months and have some capacity to share the experiences on digital space was extremely difficult and time consuming. Hence researcher leveraged his personal network of banking colleagues of the two banks he worked for and through the snowball and convenience sampling methods (referrals) respondents were recruited. Therefore the respondents are limited mainly to one region in the country (in and around the capital city) and do not represent a wider horizon, different backgrounds and personas.

When it comes to digital experiences, segmentation of customers also can be done based on their attitudes and how they perceive their digital service provider and how tech savvy they are. They can be divided in to four board personas, as Pioneers, Pragmatists, Sceptics and Traditionalists. Pioneers are risk takers, tech-savvy and hungry for innovation. Pragmatists are ubiquitous, trusting and channel agnostic. Sceptics are tech-wary, dissatisfied and alienated. Traditionalists value human touch, tech-avoiders and losing trust. Even within the elderly aging from 60-85, we can observe these attitudes and based on same, their opinions on digital service providers and customer experiences may vary. Future research into elderly

and their experiences on digital space focused on these personas might unfold some interesting and valuable insights.

This research shows the influence of emerging service quality dimensions on elderly customer satisfaction and engagement. It measured the strength and directions of these relationships. However, based on the research design it is difficult to conclude the cause-and-effect relationship among the variables. Future studies can utilise an experimental design, where such a cause-and-effect relationship can be reflected.

## **6.6 Summary**

This thesis has addressed the lack of understanding related to the customer experience, satisfaction and engagement on digital banking in this new age, from the elderly customers' point of view. First, it helped to understand the conceptualisations of the emerging service quality dimensions on digital banking. Second, it identified and measured the correlation of those service quality dimensions on customer satisfaction and engagement. Third, it helped to understand the interrelationships among the significant and impactful service quality dimensions in this new age of digital banking.

This thesis contributes to both the theory and practice. From the theoretical point of view, in addition to helping to understand the emerging service quality dimensions, this thesis contributes to classifying the value from the customers' perspective. From a practical point of view, it helps digital banking service providers to design and evaluate their digital banking service process on elderly customer. Understanding of the contribution of emerging service quality dimensions in this new age of digital banking is a significant piece of research from both scholars' and practitioners' perspectives. Both of these groups recognise the importance of this area and realise the necessity to make the service environment better by utilising the new knowledge.

End.

## References

- Abbasi, A. S., Akhter, W., Ali, I. & Hasan, A., 2011. Factors Affecting Customer Loyalty in Pakistan. *African Journal of Business Management*, 5(4), pp. 1167-1174.
- Abdel-Hafez, A., Tang, X., Tian, N. & Xu, Y., 2014. A reputation-enhanced recommender system.. *Data Mining and Applications*.
- AbuShanab, E., Pearson, M. J. & Setterstrom, A. J., 2010. Internet Banking and Customers' Acceptance in Jordan. *Communications of the Association of Information Systems*, 26(23).
- Adams, F., Rodriguez, M., Place, D. & Yaiser, M., 2017. *Read My Lips: Clear Communication Means Billions in Revenue*, Newyork: Forrester.
- Aderonke, A. A. & Charles, P. A. K., 2010. An Empirical Investigation of the Level of Users' Acceptance of E-Banking in Nigeria. *Journal of Internet Banking and Commerce*, 15(1), pp. 1-13.
- Adomavicius, G. & Kwon, Y., 2012. Overcoming accuracy-diversity tradeoff in recommender systems. *Transactions on Knowledge and Data Engineering*, 24(5), pp. 896-911.
- Aguirre , E., Roggeveen , A. & Grewal , D., 2016. The personalization-privacy paradox: implications for new media. *Journal of Consumer Marketing*, 33(2), pp. 98-110.
- Aguirre, E. et al., 2015. Unravelling the personlization paradox: the effect of information collection and trust-building strategies on online advertisement effectiveness. *Juornal of Retailing*, 91(1), pp. 34-49.
- Ahmad, A. E. & Al-Zu'b, H. A., 2011. E-banking Functionality and Outcomes of Customer Satisfaction: An Empirical Investigation. *International Journal of Marketing Studies*, 3(1), pp. 50-65.
- Ahmad, R. & Buttle, F. A., 2002. Retaining telephone banking customers at Frontier Bank. *International Journal of Bank Marketing*, 20(1), pp. 5-16.

Albashrawi, M. & Motiwalla, L., 2019. Privacy and Personalization in Continued Usage Intention of Mobile Banking: An Integrative Perspective. *Information System Frontiers*, Volume 21, pp. 1031-1043.

Ameen, M., 2016. Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. *International Journal of Bank Marketing*, 34(03), pp. 280-306.

Anderson, E. W., Fornell, C. & Lehmann, D. R., 1994. Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58(3), pp. 53-66.

Anderson, R. E. & Swaminathan, S., 2011. Customer Satisfaction and Loyalty in E-Markets: A PLS Path Modeling Approach. *The Journal of Marketing Theory and Practice*, 19(02), pp. 221-234.

Angwin, J., 2015. The web's new gold mine: your secrets. *Wall Street Journal*, Volume 404.

Anon., 2018. *Annual Report*, Colombo: Central Bank of Sri Lanka.

Anon., 2018. *Annual Report*, Colombo: Central Bank of Sri Lanka.

Ansari, Mela, C. F. & Neslin, S. A., 2008. Customer Channel Migration. *Journal of Marketing Research*, 45(February), pp. 60-76.

Antón, Annie , I., Qingfeng , H. & Baumer , D. L., 2004. *Inside JetBlue's Privacy Policy Violations*. Chicago, IEEE Security & Privacy.

Ataman, Berk, M., Carl, M. F. & Van , H. J., 2008. Building Brands. *Marketing Science*, 27(6), pp. 1036-1054.

Australian Competition and Consumer Commission, 2018. *Trageting Scams*, Melbourne: [www.accc.gov.au](http://www.accc.gov.au).

- Awad, Farag , N. & Krishnan, S. M., 2006. The Personalization Privacy Paradox: An Empirical Evaluation of Information Transparency and the Willingness to be Profiled Online for Personalization. *Management and Information Systems Quarterly*, 30(3), pp. 13-18.
- Baek, T. & Morimoto, M., 2012. Stay away from me: examining the determinants of consumer avoidance of personalized advertising. *Journal of Advertising*, 41(1), pp. 59-76.
- Bagozzi, R. P., 2004. The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift.. *Journal of the Association for Information Systems*, 8(4), pp. 244-254.
- Baldus, B. J., Voorhees, C. & Calantone, R. J., 2015. Online brand community engagement: Scale development and validation. *Journal of Business Research*, 68(5), pp. 978-985.
- Balice, T., Ye, C. & Swilley, E., 2014. From firm controlled to consumer-contributed: consumer co-production of personal media marketing communication. *Journal of Interactive Marketing*, 28(2), pp. 117-133.
- Banggood;, 2018. *Cookies and Privacy Policy*, Shanghai: Banggood.
- Bart, et al., 2014. Which ProductsAreBestSuitedtoMobileAdvertising?AFieldStudyof Mobile Display Advertising Effects on Consumer Attitudes and Intentions. *Journal of Marketing Research*, 51(June), pp. 270-85.
- Baumann, C., Hamin, H. & Tung, R. L., 2012. Share of wallet in retail banking. *International Journal of Bank Marketing*, 30(2), pp. 88-101.
- Baxendale , S., Macdonald, E. K. & Hugh , N. W., 2015. The Impact of Different Touchpoints on Brand Consideration. *Journal of Retailing*, 91(2), pp. 235-253.
- Baxendale & Wilson, H. N., 2015. The Impact of Different Touchpoints on Brand Consideration. *Journal of Retailing*, 91(2), pp. 235-253.
- Bayan, R., 2001. Privacy Means Knowing Your Cookies Link-Up. *Journal of Public Policy & Marketing*, 19(Spring), pp. 7-19.

- Berghel, H., 2002. Hijacking the Web,” *Communications of the ACM. Information Technology and Management*, 6(April), pp. 181-202.
- Bhattacharjee, A., 2001. Understanding Information Systems Continuance: An Expectation-Confirmation Model. *MIS Quarterly*, 25(3), pp. 351-370.
- Bilgicer, Tolga, Jedidi, K. & Lehmann, D. R., 2015. Social Contagion and Customer Adoption of New Sales Channels. *Journal of Retailing*, , 91(2), p. 254 –271.
- Bitner, Ostrom, A. L. & Morgan, F. N., 2008. Service Blueprinting: A Practical Technique for Service Innovation. *California Management Review*, 50(3), pp. 66-94.
- Black, N. J., 2015. Modelling consumer choice of distribution channels: an illustration from financial services. *International Journal of Bank Marketing*, pp. 161-173.
- Brasel, S. & Gips , J., 2014. Tablets, Touchscreens, and Touchpads: How Varying Touch Interfaces Trigger Psychological Ownership and Endowment. *Journal of Consumer Psychology* , 24(2), pp. 226-233.
- Brinker, Mike, Lobaugh, K. & Paul , A., 2012. *Dawn of Mobile Influence: Discovering the Value of Mobile in Retail*. [Online]  
Available at: <http://www2.deloitte.com/content/dam/Deloitte/us/Documents/consumer-business/us-retail-mobile-influence-factor-062712.pdf>.  
[Accessed 05 September 2019].
- Brodie, R. J., Llic, A., Juric, B. & Hollebeek, L. J., 2013. Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), pp. 105-114.
- Brynjolfsson, Hu, Y. J. & S, M., 2013. Competing in the Age of Omnichannel Retailing. *MIT Sloan Management Review*, 54(4), pp. 23-29.
- Buchanan, T. & Whitty, M. T., 2014. The online dating romance scam: causes and consequences of victimhood. *Psychology, crime and law*, 20(03), pp. 261-283.

Buscher, D., Dumais, S. & Curtell, E., 2015. *The good, the bad and the random: an eye-tracking study of ad quality in web search*. Geneva, International ACM SIGIR Conference on Research and Development in Information Retrieval.

Calder, B. J., Malthouse, E. C. & Schaedel, U., 2009. An Experimental Study of the Relationship between Online Engagement and Advertising Effectiveness. *Journal of Interactive Marketing*, 23(4), pp. 321-331.

Carlson, J. & O'Cass, A., 2011. Developing a framework for understanding e-service quality, its antecedents, consequences, and mediators. *Managing Service Quality*, 21(03), pp. 264-286.

Carnegie, D., 1936. *How to win friends and influence people*. 1981 ed. New York: Simon and Schuster.

Carnegie, D., 2011. *How to win people and influence people in the digital age*. s.l.:Dalecarnegie.com.

Chaffey, D., 2016. *Mobile Marketing Statistics Compilation*. [Online] Available at: [availableathttp://www.smartinsights.com/mobile-marketing/mobile-marketing-analytics/mobilemarketing-statistics/](http://www.smartinsights.com/mobile-marketing/mobile-marketing-analytics/mobilemarketing-statistics/) [Accessed 15 July 2019].

Chan, D. X., Yuan, Y., Koehler, J. & Kumar, D., 2011. Incremental clicks impact of search advertising. *Journal of Advertising Research*, 51(4), pp. 643-647.

Chapman, S. & Gurpreet, D., 2002. Privacy and the Internet: The Case of DoubleClick, Inc.,” in Social Responsibility in the Information Age: Issues and Controversies. *Journal of Direct Marketing*, 9(Spring), pp. 10-19.

Chatterjee, P., Hoffman, D. L. & Novak, T. P., 2003. Modeling the clickstream: implications for web-based advertising efforts. *Marketing Science*, 22(4), pp. 520-541.

Chi Lee, M., 2009. Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, pp. 130-141.

Choia , Y., Moonb, H. S. & Kimc , J. K., 2019. Assessing Personalized Recommendation Services Using Expectancy Disconfirmation Theory. *Journal of Information Systems*, 29(2), pp. 203-216.

Cohen , L. E. & Felson, M., 1979. Social Change and Crime Rate Trends: A Routine Activity Approach. *American Sociological Review*, 44(04), pp. 588-608.

Cortinas, M., Chocarro, R. & Villnueava, M. L., 2009. Understanding multi-channel banking customers. *Journal of Buisness Research*, 63(11), pp. 1215-1221.

Dahlstrom, R. & Nygaard, A., 2014. How to recover trust in the banking industry? A game theory approach to empirical analyses of bank and corporate customer relationships. *The International Journal of Bank Marketing*, 32(4), pp. 268-278.

Davis, M., 2019. *Personalization Pays Off Big Time for Financial Marketers*, New York: The Financial Brand.t

De Haan & Thorsten , W., 2015. The Role of Mobile Devices in the Online Customer Journey. *MSI Working Paper, Marketing Science Institute*, pp. 15-124.

De Keyser, Schepers, J. & Konus, U., 2015. Multichannel Customer Segmentation: Does the After-Sales Channel Matter? A Replication and Extension. *International Journal of Research in Marketing*, 32(4), pp. 453-456.

De Vries & Leeflang , P. S., 2012. Popularity of Brand Posts on Brand Fan Pages: An Investigation of the Effects of Social Media Marketing,. *Journal of Interactive Marketing*, 26(2), pp. 83-91.

Doll, W. J. & Torkzadeh, G., 1988. The Measurement of End-User Computing Satisfaction. *MIS Quarterly*, 12(2), pp. 259-274.

- Donegan, C., 2019. *State of the Connected Customer*, San Francisco: Salesforce.
- Doorn, V., Leeflang, P. S. & Tijs, M., 2013. Satisfaction as Predictor of Future Performance: A Replication. *International Journal of Research in Marketing*, 30(3), pp. 314-318.
- Dootson, P., Beatson, A. & Drennan, J., 2016. Financial institutions using social media – do consumers perceive value?. *International Journal of Bank Marketing*, 34(1), pp. 9-36.
- Dorotic, Matilda, Tammo, B. H. & Peter, C., 2012. Loyalty Programmes: Current Knowledge and Research Directions. *International Journal of Management Reviews*, 14(3), pp. 217-237.
- Eastman, J. K. & Iyer, R., 2004. The elderly's uses and attitudes towards the Internet. *Journal of Consumer Marketing*, 21(3), pp. 208-220.
- Elizabeth, D., 1999. Provision of electronic banking in the UK and the Republic of Ireland. *Journal of Bank Marketing*, 17(2), pp. 72-82.
- Gan, M. & Jiang, R., 2013. Constructing a user similarity network to remove adverse influence of popular objects for personalized recommendation.. *Expert Systems with Applications*, 40(10), pp. 4044-4053.
- Gao, T., Rohm, A. J., Sultan, F. & Pagani, M., 2013. Consumers un-tethered: a three-market empirical study of consumers' mobile banking acceptance. *Journal of Business Research*, 66(12), pp. 2536-2544.
- Gensler, Peter, C., Verhoef & Böhmer, M., 2012. Understanding Consumers' Multichannel Choices Across the Different Stages of the Buying Process. *Marketing Letters*, 23(4), pp. 987-1003.
- Gera, R., 2011. Modelling e-service quality and its consequences in India: an SEM approach. *Journal of Research in Interactive Marketing*, 5(2), pp. 203-225.
- Ghosh, M., 2019. Analysing the Engagement and Attitude of Elderly Towards Digital Platforms in India. *Journal of Creative Communications*, 14(03), pp. 214-234.

Goldfarb, A. & Tucker, C. E., 2011. Online display advertising: targeting and obtrusiveness. *Marketing Science*, 30(3), pp. 389-404.

Goldfarb, A. & Tucker, C. E., 2011. Privacy regulation and online advertising. *Marketing Science*, 57(1), pp. 57-71.

Google will take 55% of search ad dollars globally in 2015, 2015c. *eMarketer.com*. [Online] Available at: [www.emarketer.com/Article/Google-Will-Take-55-of-Search-Ad-Dollars-Globally-2015/1012294](http://www.emarketer.com/Article/Google-Will-Take-55-of-Search-Ad-Dollars-Globally-2015/1012294) [Accessed 12 April 2019].

Guynn, J., 2002. Internet connects seniors to the rest of the world. *Knight Ridder Tribune Business News*, p. 1.

Hair, J., Anderson, E., Tatham, L. & Black, C., 1998. *Multivariate Data Analysis*. 5 ed. New Jersey: Upper Saddle River.

Han, S. L. & Baek, S., 2004. Antecedents and Consequences of Service Quality in Online Banking: An Application of the SERVQUAL Instrument. *Advances in Consumer Research*, Volume 31, pp. 208-214.

Hanssens, 2015. *Empirical Generalizations About Marketing Impact*. 2 ed. Cambridge: Marketing Science Institute.

Harder, L. & Sullivan, J., 2019. *How Google Keeps Changing Financial Marketing*, New York: The Financial Brand.

Ha, et al., 2006. *An Examination of User Perception and Misconception of Internet Cookies*. Montreal, Montréal: Association for Computer Machinery.

Hendrickson, A. & Collins, M. R., 1996. An assessment of structure and causation of IS usage. *The Database for Advances in Information Systems*, 27(2), pp. 61-67.

Hijikata, Y., Shimizu, T. & Nishida, S., 2009. Discover-oriented collaborative filtering for improving user satisfaction.. *ACM Transactions on Information Systems*, 22(1), pp. 5-53.

Hoehle, H. & Huff, S., 2009. *Electronic Banking Channels and Task-Chanel Fit*. Arizona, University of Minnesota.

Hoehle, H. & Scornavacca, E., 2012. Three decades of research on consumer adoption and utilization of electronic banking channels: A literature analysis. *Decision Support Systems*, 54(1), pp. 122-132.

Hollebeek, L. D., Glynn, M. & Brodie, R. J., 2014. Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation. *Journal of Interactive Marketing* , 28(2), pp. 149-165.

Holtfreter, K., Reisig, M. D. & Pratt, T. C., 2008. Low self-control, routine activities, and fraud victimization. *Criminology*, 46(1), pp. 189-220.

Homburg, C. & Giering, A., 2000. Personal characteristics as moderators of the relationship between customer satisfaction and loyalty—an empirical analysis. *Psychology and Marketing*, 18(1), pp. 43-66.

Hoofnagle, C. J., 2005. Privacy Self Regulation: A Decade of Disappointment,” Electronic Privacy Information Center. *Journal of Public Policy & Marketing*, 22(Spring), pp. 58-70.

Ho, S. Y. & Bodoff, D., 2014. The effects of Web personalization on user attitude and behavior: An integration of the elaboration likelihood model and customer search theory. *Management Information Systems Quarterly* , 37(2), pp. 497-520.

Hough, M. & Kobylanski, A., 2009. Increasing elder consumer interactions with information technology. *Journal of Consumer Marketing*, 26(1), pp. 39-48.

Hui, K., Teo, H. & Lee, S. T., 2007. Overcoming online information privacy concern: an information-processing theory approach. *Management Information Systems*, 24(2), pp. 13-42.

Hui, Sam K, K., Jeffrey, J. & Suher, J., 2013. The Effect of In-Store Travel Distance on Unplanned Spending: Applications to Mobile Promotion Strategies. *Journal of Marketing*, 77(March), pp. 1-16.

- Jackson, et al., 2006. *Protecting Browser State from Web Privacy Attacks*. New York, Association for Computer Machinery.
- Janda, S. & Trocchia, P. J., 2000. A phenomenological investigation of Internet usage among older individuals. *Journal of Consumer Marketing*, 17(7), pp. 605-616.
- Javari, A. & Jalili, M., 2015. A probabilistic model to resolve diversity-accuracy challenge of recommendation systems. *Knowledge and Information Systems*, 44(3), pp. 609-627.
- Jayawardhena, C. & Foley, P., 2000. Overcoming Constraints on Electronic Commerce - Internet Payment Systems. *Journal of General Management*, 24(2), pp. 19-35.
- Jensen, C., Colin, P. & Christian, J., 2005. Privacy Practices of Internet Users: Self-Reports Versus Observed Behavior. *International Journal of Human-Computer Studies*, 63(July), p. 203–227..
- Jeong, Y. & Lee, Y., 2010. A study on the customer satisfaction and customer loyalty of furniture purchaser in on-line shop. *Asian Journal on Quality*, 11(02), pp. 146-156.
- Jiang, L., Jun, M. & Yang, Z., 2015. Customer-perceived value and loyalty: how do key service quality dimensions matter in the context of B2C e-commerce?. *Service Business*, 10(2), pp. 301-317.
- Jiang, Y., Shang, J. & Liu, Y., 2010. Maximizing customer satisfaction through an online recommendation system.. *Decision Support Systems*, 48(3), pp. 470-479.
- Johnson, D. S., Bardhi, F. & Dunn, D. T., 2008. Understanding How Technology Paradoxes Affect Customer Satisfaction with Self-Service Technology: The Role of Performance Ambiguity and Trust in Technology. *Psychology and Marketing*, 25(5), pp. 416-443.
- Johnson, V. L., Kaiser, A., Washington, R. & Torres, R., 2018. Limitations to the rapid adoption of M-payment services. *Computers in Human Behavior*, Volume 79, pp. 111-122.
- Johnston, R., 1995. Identifying the critical determinants of service quality in retail banking: importance and effect. *International Journal of Bank Marketing*, 6(5), pp. 53-71.

Jun, M., Yang, Z. & Kim, D., 2004. Customers' perceptions of online retailing service quality and their satisfaction. *International Journal of Quality and Reliability Management*, 21(8), pp. 817-840.

Jyoti , B., 2017. Biometrics and machine learning. *PCQuest; Gurgaon*, 28 June.

Kaminskas , M. & Bridge, D., 2017. Diversity, serendipity, novelty and coverage: A survey and empirical analysis of beyond-accuracy objectives in recommender systems. *ACM Transactions on Interactive Intelligent Systems* , 7(1), pp. 140-151.

Kandampully, J., Zhang, C. & Bilgihan, A., 2015. Customer loyalty: a review and future directions with a special focus on the hospitality industry. *International Journal of Contemporary Hospitality Management*, 12(05), pp. 379-414.

Karimov, F. P. & Brengman, M., 2011. Adoption of social media by online retailers: assessment of current practices and future directions. *International Journal of E-Entrepreneurship and Innovation*, 12(1), pp. 26-45.

Kim, H., Kim, K. & Ryu, Y., 2009. Personalized recommendation over a customer network for ubiquitous shopping. *IEEE Transactions on Service Computing*, 2(2), pp. 140-151.

Kim, K. & Kim, J., 2011. Third-party privacy certification as an online advertising strategy: an investigation of the factors affecting the relationship between third-party certification and initial trust. *Journal of Interactive Marketing*, 25(3), pp. 145-158.

Klesse, Kathrin, A., Levay, J. & Goukens, C., 2015. The Effect of Preference Expression Modality on Self Control. *Journal of Consumer Research*, 42(4), pp. 535-550.

Konus, Verhoef, P. C. & Neslin, S. A., 2008. Multichannel Shopper Segments and their Covariates. *Journal of Retailing*, 84 (4), 398–413., 84(4), p. 398 – 413.

Köster, M., Rüth, M., Hamborg, C. & Kasper, K., 2015. Effects of personalized banner ads on visual attention and recognition memory. *Applied Cognitive Psychology*, 29(2), pp. 181-192.

Lassar, W. M., Manolis, C. & Winsor, R. D., 2000. Service quality perspectives and satisfaction in private banking. *International Journal of Bank Marketing*, 18(4), pp. 244-271.

Lavin, M., 2006. Cookies: What Do Consumers Know and What Can They Learn?. *Journal of Targeting, Measurement and Analysis for Marketing*, 14(July), pp. 279-288.

Lawrence , R., Almasi, G., Kotlyar, V. & Viveros, M., 2001. Personalization of supermarket product recommendations. *Applications of Data Mining to Electronic Commerce*, 40(3), pp. 77-87.

Lederer, et al., 2004. Personal Privacy Through Understanding and Action: Five Pitfalls for Designers. *Personal and Ubiquitous Computing*, 8(November), pp. 440-454.

Lee, K. & Lee, K., 2015. Escaping your comfort zone; a graph based recommender system for finding novel recommendations among relevant items. *Expert Systems with Applications*, 42(10), pp. 4851-4858.

Lemon, K. N. & Verhoef , P. C., 2016. Understanding Customer Experience Throughout the Customer Journey. *Journal of Marketing*, 80(Special Issue), pp. 69-96.

Lemon, K. & Wangenheim , F. V., 2009. The Reinforcing Effects of Loyalty Program Partnerships and Core Service Usage: A Longitudinal Analysis. *Journal of Service Research*, 11(May), pp. 357-370.

Liang , T., Lai, H. & Ku, Y., 2007. Personalized content recommendation and user satisfaction: theoretical synthesis and empirical findings. *Journal of Management Information Systems*, 23(3), pp. 45-70.

Liang, C. & Holsapple, C. W., 2013. E-Business Adoption Research: State of the Art. *Journal of Electronic Commerce Research*, 14(3), pp. 261-286.

Liang, P. T., Lai, J. H. & Ku, Y. C., 2007. Personalized Content Recommendation and User Satisfaction: Theoretical Synthesis and Empirical Findings. *Journal of Management and Information Systems*, 23(3), pp. 45-70.

Liang, T. P., Lai, H. J. & Ku, Y. C., 2006. Personalized Content Recommendation and User Satisfaction: Theoretical Synthesis and Empirical Findings. *Journal of Management Information Systems*, 23(8), pp. 45-70.

Lichtenstein, S. & Williamson, K., 2006. Understanding customer adoption of internet banking: an interpretive study in the Australian banking context. *Journal of Electronic Commerce Research*, 7(2), pp. 50-66.

Liebana-Cabanillas, F., 2013. The determinants of satisfaction with e-banking. *Industrial Management & Data Systems*, 113(05), pp. 750-767.

Linn, J., 2005. Technology and Web User Data Privacy. *IEEE Security & Privacy*, 3(January), pp. 52-58.

Liu, C. & Arnett, K. P., 2000. Exploring the factors associated with Web site success in the context of electronic commerce. *Information and Management*, 38(1), pp. 23-33.

Liu, C., Sinkovics, R. R., Pezderka, N. & Haghiri, 2012. Determinants of consumer perceptions toward mobile advertising: a comparison between Japan and Australia. *Journal of Interactive Marketing*, 26(1), pp. 21-32.

Lumpkin, J. R. & Hunt, J. B., 1989. Mobility as an influence on retail patronage behavior of the elderly: Testing conventional wisdom. *Journal of the Academy of Marketing Science*, Volume 17, pp. 1-12.

Malthouse & Calder, B., 2011. Engagement and Experiences. *Journal of Service Research*, 14(3), pp. 272-279.

Marous, J., August, 2019. *Secret to Digital Banking Success is AI with Human Like Feel*, London: The Financial Brand.

Marous, J., March, 2019. *Digital Redefines Customer Engagement Playbook for Financial Institutions*, London: The Financial Brand.

Martin, David, Hailin , W. & Adil, A., 2003. Hidden Surveillance by Web Sites: Web Bugs in Contemporary Use. *Communications of the ACM*, 46(December), pp. 258-264.

McMellon, C. A. & Schiffman, L. G., 2000. Cybersenior mobility: why some older consumers may be adopting the Internet. *Advances in Consumer Research*, Volume 27, pp. 139-144.

McQuitty, S., Finn, A. & Wiley, J. B., 2000. Systematically Varying Consumer Satisfaction and its Implications for Product Choice. *Academy of Marketing Science Review*, 2000(10), pp. 1-16.

Melis, Campo, K. & Lien , L., 2015. The Impact of the Multi-Channel Retail Mix on Online Store Choice: Does Online Experience Matter?. *Journal of Retailing* , 91(2), pp. 272-288.

Millett, L., Batya , F. & Edward , F., 2001. *Cookies and Web Browser Design: Toward Realizing Informed Consent Online*. New York, Association for Computer Machinery.

Milne, G. R., Bahl, S. & Rohm, A., 2008. Toward a framework for assessing covert marketing practices. *Journal of Public Policy & Marketing*, 27(1), pp. 57-62.

Milne, G. R. & Culnan, M. J., 2004. Strategies for reducing online privacy risks: why consumers read (or don't read) online privacy notices. *Journal of Interactive Marketing*, 18(3), pp. 15-29.

Miyazaki, A. D., 2008. Online privacy and disclosure of cookie use: effects on consumer trust and anticipated patronage. *Journal of Public Policy & Marketing*, 27(1), pp. 19-33.

Modahl, M., 2000. *Now or Never: How Companies Must Change Today to Win the Battle for Internet Consumers*. New York, NY: Harper Collins Books.

Mogenson, D., 2015. *I Want-to-Do Moments: From Home to Beauty*. [Online] Available at: <https://www.thinkwithgoogle.com/articles/i-want-to-do-micro-moments.html> [Accessed 15 11 2019].

- Mols, N. P., 2001. Organizing for the effective introduction of new distribution channels in retail banking. *European Journal of Marketing*, 35(5), pp. 661-686.
- Moon, S.-Y., Philips, G. C. & Moon, S., 2011. The Effects of Involvement on E-Satisfaction Models. *Services Marketing Quality*, 32(04), pp. 332-342.
- Moore, T., 2010. The economics of cybersecurity: Principles and policy options. *International Journal of Critical Infrastructure Protection*, 3(1), pp. 103-117.
- Morschis, G. P., 2016. Consumer behavior in later life: Current knowledge, issues, and new directions for research.. *Psychology & Marketing* , 29(2), pp. 57-75.
- Muhlbacher, H., Perret, G. M. & Raies, K., 2015. Consumption community commitment: Newbies´and longstanding members´ brand engagement and loyalty. *Journal of Business Research* , 68(12), pp. 2634-2644.
- Neslin, Marije , S. & Thomas, J. S., 2006. Challenges and Opportunities in Multichannel Customer Management. *Journal of Service Research*, 9(2), pp. 95-112.
- Newman, D., January 2019. *Top 10 Digital Trasformation Tends for 2019*, New Jersey: Forbes.
- Oliver, R. L., 1980. A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17(04), pp. 460-469.
- Olson, P., 2014. *Google’s nest moves to become the master of the smart home, by talking to other devices*. [Online]  
Available at: <http://www.forbes.com/sites/parmyolson/2014/06/24/google-nest-smart-home-internet-of-things>  
[Accessed 12 May 2019].
- Onishi , H. & Manchanda , P., 2012. Marketing Activity, Blogging and Sales. *International Journal of Research in Marketing*, 29(3), pp. 221-234.

- Packard, G. & Patabhiraiah, A., 2015. SocialDollars: The Economic Impact of Customer Participation in a Firm-Sponsored Online Customer Community. *Marketing Science*, 34(3), pp. 367-387.
- Pan, Y. & Zinkhan, G. M., 2006. Exploring the impact of online privacy disclosures on consumer trust. *Journal of Retailing*, 82(4), pp. 331-338.
- Parasuraman, A., Berty, L. L. & Zeithaml, V. A., 1988. Servqual: A Multiple-Item Scale For Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*, 64(1), pp. 12-40.
- Pauwels, 2016. Like the Ad or the Brand? Marketing Stimulates Different Electronic Word-of-Mouth Content to Drive Online and Offline Performance. *International Journal of Research in Marketing*.
- Peter, J., 1981. A Review of Basic Issues and Marketing Practices. *Journal of Marketing Research*, 18(2), pp. 133-145.
- Philip, K. & Keller, K. L., 2015. *Marketing Management: Analysis, Planning, and Control*. 15 ed. New Jersey: Englewood Cliffs.
- Polyak, I., 2000. The center of attention. *American Demographics*, 22(11), pp. 30-32.
- Porter, M. E. & Heppelmann, J. E., 2014. How smart connected products and transforming competition. *Harvard Business Review*, 92(November), pp. 11-64.
- Powell, R. A. & Single, H. M., 1996. Methodology Matters. *International Journal for Quality in Health Care*, 8(5), pp. 499-504.
- Pratibha, D., 1996. Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. *International Journal of Research in Marketing*, pp. 29-51.
- Qeisi, A., 2009. Analyzing the use of UTAUT model in explaining an online behaviour: Internet banking adoption. *Brunel Business School Theses Marketing*.

Raghu, T. S., Kannan, P. K., Rao, H. R. & Whins, A. B., 2001. Dynamic Profiling of Consumers for Customized Offerings over the Internet : A Model and Analysis. *Decision Support Systems Systems*, 32(December), pp. 117-134.

Rapp, et al., 2015. Perceived Customer Showrooming Behavior and the Effect on Retail Salesperson Self-Efficacy and Performance. *Journal of Retailing*, 91(2), pp. 358-369.

R, D., Rahtz, M., Sirgy, J. & Meadow, L., 1989. The Elderly Audience: Correlates of Television Orientation. *Journal of Advertising*, 18(3), pp. 9-20.

Reagle, J. & Lorrie , F. C., 1999. The Platform for Privacy Preferences. *Communications of the ACM*, 42(February), pp. 48-51.

Risselada, H. & Bijmolt , H. A., 2014. “Dynamic Effects of Social Influence and Direct Marketing on th eAdoption of High-Technology Products. *Journal of Marketing*, 78(March), pp. 52-68.

Saleem, M. A., Zahra, S., Ahamd, R. & Ismail, H., 2016. Predictors of customer loyalty in the Pakistani banking industry: a moderated-mediation study. *International Journal of Bank Marketing*, 34(03), pp. 411-430.

Sampson, S., 2012. Visualizing Service Operations. *Journal of Service Research*, 15(2), pp. 182-198.

Schivinski, B. & Christodoulides, G., 2016. Measuring Consumers' Engagement With Brand-Related Social-Media Content: Development and Validation of a Scale that Identifies Levels of Social-Media Engagement with Brands. *Journal of Advertising Research*, 56(1), pp. 64-80.

Schuh, J. & Brimmer, A., 2020. *Google Keeps Changing Financial Marketing*, New York: The Financial Brand.

Schumann, J. H., Wangenheim, F. & Groene, N., 2014. Targeted online advertising: using reciprocity appeals to increase acceptance among users of free web services. *Journal of Marketing*, 78(1), pp. 59-75.

Sekaran, U. & Bougie, R., 2009. *Research Methods for Business: A Skill Building Approach*. 5 ed. s.l.:JohnWiley and Sons Ltd.

Sengupta, C., 2019. *Welcome to Google Bank*, New York: The Wall Street Journal.

Shamdasani, P., Mukeherjee, A. & Malhotra, N., 2008. Antecedents and consequences of service quality in consumer evaluation of self-service internet technologies. *The Service Industries Journal*, 28(1), pp. 117-38.

Sharma, A. & Lenka, S. K., 2015. Analysis of QKD multifactor authentication in online banking systems. *Technical Sciences*, 63(02).

Sharma, G. & Malviya, S., 2014. Internet Banking Service Quality and Its Impact on Customer Satisfaction in Indore District of Madhya Pradesh. *International Journal of Business and Management Invention*, 3(3), pp. 01-06.

Shoppers turn to smart phones and tablets to cash in coupons, 2014. *eMarketer*. [Online] Available at: [www.emarketer.com/Article/Shoppers-Turn-Smartphones-Tablets-Cash-Coupons/1011582](http://www.emarketer.com/Article/Shoppers-Turn-Smartphones-Tablets-Cash-Coupons/1011582) [Accessed 14 March 2019].

Shoppers turn to smrt phones and tablets to cash in coupons, 2014. *e-Marketer.com*. [Online] Available at: [www.emarketer.com](http://www.emarketer.com) [Accessed 30 March 2019].

Silvia, P., 2015. Davos: Banking for senior citizens - Senior citizens - A golden opportunity. *The Banker London*, January.

Silvia, P., Jan, 2015. *Senior citizens - A golden opportunity*, London: The Banker .

Simola, J., Kuisma, J., Öörni, A. & Uusitalo, L., 2011. The impact of salient advertisements on reading and attention on web pages. *Journal of Experimental Psychology: Applied*, 17(2), pp. 174-190.

Simonson, I. & Ofir, C., 2007. The Effect of Stating Expectations on Customer Satisfaction and Shopping Experience. *Journal of Marketing Research*, 44(February), pp. 164-174.

Skiera, B. & Nabout, N. A., 2013. A Bidding Decision Support System for Profit Optimizing Search Engine Advertising. *Marketing Science*, 32(2), pp. 213-220.

Social network ad spending to hit 23.68 billion dollars world wide in 2015, 2015d.

*eMarketer*. [Online]

Available at: [www.emarketer.com/Article/Social-Network-Ad-spending-Hit-2368-Billion-Worldwide/20151012357](http://www.emarketer.com/Article/Social-Network-Ad-spending-Hit-2368-Billion-Worldwide/20151012357)

[Accessed 16 April 2019].

Solove, D. J., 2004. *The Digital Person: Technology and Privacy in the Information Age*, New York, NY: New York University Press.

Song, J. H., Kim, H. Y., Kim, S. & Lee, S. W., 2014. Effects of personalized e-mail messages on privacy risk: moderating roles of control and intimacy. *Marketing Letters*, 25(2), pp. 1-13.

Suh, B. & Han, I., 2002. Effect of trust on customer acceptance of Internet banking. *Electronic Commerce Research and Applications*, 1(3), pp. 247-263.

Sundarral, R. P. & Wu, J., 2005. Using information-systems constructs to study online- and telephone-banking technologies. *Electronic Commerce Research and Applications*, 4(4), pp. 427-443.

Sundar, S. S. & Marathe, S. S., 2010. Personalization versus customization: the importance of agency, privacy and power usage. *Human Communication Research*, 36(3), pp. 298-322.

Tran, T. P., Lin, C.-W., Baalbaki, S. & Guzman, F., 2020. How personalized advertising affects equity of brands advertised on face book.. *Journal of Buiness Research*, 1(15), pp. 120-130.

Tucker, C. E., 2014. Social networks, personalized advertising, and privacy controls. *Journal of Marketing Research*, 51(5), pp. 546-562.

Tyrvainen, O., Karjaluoto, H. & Saarijarvi, H., 2020. Personalization and hedonic motivation in creating customer experiences and loyalty in omnichannel retail.. *Journal of Retailing and Consumer Services*, Volume 57, pp. 102-123.

Unni, R. & Harmon, R., 2007. Perceived effectiveness of push versus pull mobile location-based advertising. *Journal of Interactive Advertising*, 7(2), pp. 28-40.

Urban, G. L., Amyx, C. & Lorenzon, A., 2009. Online trust: state of the art, new frontiers, and research potential. *Journal of Interactive Marketing*, 23(2), pp. 179-190.

Urban, G. L., Liberali, G., MacDonald, E. & Bordley, R., 2014. Morphing banner advertisements. *Marketing Science*, 33(1), pp. 27-46.

Vachirapronpuk, A. J. & Broderick, S., 2002. Service quality in internet banking: the importance of customer role. *Marketing Intelligence and Planning*, 20(6), pp. 327-335.

Van Slyke, C., Shim, J. T., Johnson, R. & Jiang, J., 2006. Concern for information privacy and online consumer purchasing. *Journal of the Association for Information Systems*, 7(6), pp. 415-444.

Vargo, S. L. & Lusch, R. F., 2004. Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, 68(January), pp. 1-17.

Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. D., 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), pp. 425-478.

Venkatesh, V. & Zhang, X., 2010. Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information and Technology Management*, 13(1), pp. 5-27.

Verhoef, Kannan, P. K. & Inman, J. J., 2015. From MultiChannel Retailing to Omni-Channel Retailing. *Journal of Retailing*, 91(2), pp. 174-181.

Verhoef, Kooge, E. & Walk, N., 2016. *Creating Value with Big Data Analytics: Making Smarter Marketing Decisions*, New York: Routledge.

Verhoef, Neslin, S. A. & Vroomen, B., 2007. Multichannel Customer Management: Understanding the Research-Shopper Phenomenon. *International Journal of Research in Marketing* , 24(12), pp. 129-148.

Vodopivec , M. & Nisha Arunatilake, 2008. *The Impact of Population Aging on the Labor Market: The Case of Sri Lanka*, Colombo: Institute for the Study of Labor.

Wang , M. & Cho , S., 2017. The impact of personalization and compatibility with past experience on e-banking usage. *International Journal of Bank Marketing*, 35(1), pp. 45-55.

Wang, Jen-Hui, R., Malthouse, E. C. & Krishnamurthi , L., 2015. On the Go: How Mobile Shopping Affects Customer Purchase Behavior. *Journal of Retailing*, 91(2), pp. 217-234.

White, H. & Nteli, F., 2004. Internet banking in the UK: Why are there not more customers?. *Journal of Finacial Services Marketing*, 9(1), pp. 49-56.

White, T. B., Zahay, D. L., Thorbjørnsen, H. & Shavitt , S., 2008. Getting too personal: reactance to highly personalized email solicitations. *Marketing Letters*, 19(1), pp. 39-50.

Whitty, M. T., 2019. Predictingsusceptibilityto cyber-fraudvictimhood. *Journal of Finacial Crime*, 26(01), pp. 276-292.

Willemsen, M. C., Knijnenburg, B. P. & Graus, M. P., 2011. Using latent features diversification to reduce choice difficulty in recommendation lists. *Human Technology Interaction*, pp. 14-20.

Wolfenbarger, M. & Gilly, M. C., 2002. comQ: dimensionalizing, measuring and predicting quality of the e-tailing experience. *Working Paper, Marketing Science Institute, Cambridge*, pp. 1-51.

Worldwide ad spending: are marketers around the world shifting dollars to digital and mobile?, 2015a. *eMarketer.com*. [Online]  
Available at: [www.emarketer.com/adspendtool](http://www.emarketer.com/adspendtool)  
[Accessed 12 April 2019].

Xie, E., Teo, H. & Wan, W., 2006. Volunteering personal information on the internet: effects of reputation, privacy notices, and rewards on online consumer behavior. *Marketing Letters*, 17(1), pp. 61-74.

Xu, H., Luo, X., Carroll, J. M. & Rossan, M. B., 2011. The personalization privacy paradox; an exploratory study of decision making process for location-aware marketing.. *Decision Support Systems*, 51(1), pp. 42-52.

Xu, H. & Teo, H., 2004. *Alleviating consumers' privacy concerns in location-based services: a psychological control perspective*. Washington, DC., International Conference on Information Systems (ICIS).

Yang, Z. & Fang, X., 2004. Online service quality dimensions and their relationships with satisfaction: a content analysis of customer reviews of securities brokerage services. *International Journal of Service Industry Management*, 15(3), pp. 302-326.

Yeow, P. H., Yuen, Y. Y. & Tong, D. Y. K., 2008. User acceptance of Online Banking Service in Australia. *Communications of the IBIMA*, 22(1), pp. 191-197.

Yuan, S., Liu, Y., Yao, R. & Lin, J., 2016. An investigation of users' continuance intention towards mobile banking in China. *Information Development*, 32(1), pp. 20-34.

Zeithaml, V. A., Parasuraman, A. & Malhotra, A., 2000. A Conceptual Framework for Understanding e-Service Quality: Implications for Future Research and Managerial Practice. *MSI Working Paper Series*, 0(115), pp. 1-49.

# Appendix

## Appendix 1



### Participant Information Sheet

#### Research Project Title

Emerging service quality dimensions of digital banking in this new age and its' impact on elderly customer satisfaction and engagement: a study in Sri Lankan context.

#### Details of the Researcher

Pasan Gunaratne, PhD Student in Business Management, Salford Business School, University of Salford, Manchester.

Email: [P.C.S.Gunaratne@edu.salford.ac.uk](mailto:P.C.S.Gunaratne@edu.salford.ac.uk)

Mobile: + 44 (0) 7413511354

Postal Address: 68, Flat 601, Belsize Park, London. NW3 4EH

## **Invitation**

You are being invited to take part in this research project. Before you decide to do so, it is important you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

### **1. What is the purpose of this research project?**

Recent surveys and studies covering the banking sector tell us, bank branch traffic has dropped by more than 60% by last several years and that the contingent of customers requiring a physical location continues to go down. We are at the verge of a second inflection point in modern banking. Under the backdrop of these revolutionary technical advancements, elderly customers are increasingly under pressure to get their banking done with peace of mind. The key focus of the study is to identify the impact of new wave of digital banking (e-service on digital platform) on elderly consumer's experiences, satisfaction and engagement.

### **2. Why have I been chosen?**

You have been chosen as you fulfil the eligibility criterion to become a respondent for the project (age above 60 and a digital banking customer). Your experiences, pain points, positive and negative thoughts on digital banking are sought after as data to analyse in this research project.

### **3. Do I have to take part?**

It is up to you to decide whether or not to take part. If you do decide to take part you will be able to keep a copy of this information sheet and you should indicate your agreement to go ahead as a respondent by a return email, text message or telephone call. You can still withdraw at any time. You do not have to give a reason.

#### **4. What will happen to me if I take part?**

A personal interview between the researcher and the respondent will take place which we estimate will take around 30-45 minutes.

#### **5. What do I have to do?**

Please fill out the questionnaire / answer the questions asked by the researcher based on your opinions and experiences. There are no other commitments or lifestyle restrictions associated with participating.

#### **6. What are the possible disadvantages and risks of taking part?**

Participating in the research is not anticipated to cause you any disadvantages or discomfort. The potential physical and/or psychological harm or distress will be the same as any experienced in everyday life.

#### **7. What are the possible benefits of taking part?**

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a beneficial impact on customer service provided by banks to the elderly customer through online and mobile banking. Results will be shared with participants on request. We are a university and so it is part of our reason for being that we advance knowledge through research as well as through teaching. Your participation in this research helps us to do that.

#### **8. What happens if the research study stops earlier than expected?**

Should the research stop earlier than planned and you are affected in any way we will tell you and explain why.

## **9. What if something goes wrong?**

If you have any complaints about the project in the first instance you can contact the researcher. If you feel your complaint has not been handled to your satisfaction you can contact the supervisors of the researcher. Please find below their contact details.

1. Dr.Tahir Rashid  
Maxwell Building, Salford Business School, University Road, Salford, M5 4WT  
Tel: + 44 (0) 161 2953096  
Email: t.rashid@salford.ac.uk
2. Dr. Ambarin Khan  
Maxwell Building, Salford Business School, University Road, Salford, M5 4WT  
Tel: +44 (0)161 295 2222  
Email: a.a.khan6@salford.ac.uk

## **10. Will my taking part in this project be kept confidential?**

All the information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified or identifiable in any reports or publications. Individual participant research data, such questionnaires, interviews will be anonymous and given a research code, known only to the researcher. A master list identifying participants to the research codes data will be held on a password protected computer accessed only by the researcher. Data collected may be shared in an anonymised form to allow reuse by the research team and other third parties. These anonymised data will not allow any individuals or their institutions to be identified or identifiable.

## **11. Will I be recorded, and how will the recorded media be used?**

You will not be recorded in any way other than your input to the questionnaire without separate permission being gained from you.

**12. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?**

The questionnaire will ask you about your opinions, thoughts and experiences on banking in this new age of digital self-service. Your views and experiences are just what the project is interested in exploring.

**13. What will happen to the results of the research project?**

Results of the research will be published. You will not be identified in any report or publication. If you wish to be given a copy of any reports resulting from the research, please notify the researcher.

**14. Who has ethically reviewed the project?**

This project has been ethically approved by the Salford Business School's ethics review procedure and subsequently endorsed by the ethics procedures of the University of Salford. The University of Salford's Research Ethics Committee monitors the application and delivery of the University's Ethics Review Procedure across the University.

**15. Contact Details of the Salford Research Team**

University of Salford, Lady Hale Building, University Road, Salford. M5 4WT

Tel: 0161 295 5278

Email: [SBS-Research@salford.ac.uk](mailto:SBS-Research@salford.ac.uk)

Thank you for taking part in this research.

## Appendix 2 - Interview Guide (Study One)

### Section -1

#### View on global digitalization

-What is your age group? 60/65, 66/70, 71/75, 76/80, 80>

-How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

#### General perception on digital banking

-How is your digital banking service going on?

-Why do you think it's important or not?

-In your opinion what are the pros and cons of DB?

#### Encounters with cyber-criminals

-How do you feel on the assurance of your bank on security and your privacy on digital banking transactions?

-Why do think that privacy and security are important aspects of digital banking?

#### General perception on social media and networking

-How do you feel on the impact of social media channels on your life?

-Why do you think that social media channels play an important role or otherwise in digital banking?

## Section 2

### Personalization

-How do you feel if your bank understands your personal needs and wants through your digital engagement?

- Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

### Security and Privacy

-What is your opinion about the amount of personal information held by your digital banking service provider?

-How do you see the future of digital banking with the increasing rate of cyber frauds?

-Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

### Perceived Usefulness

-How do you describe the level of service you receive from your digital banking service provider?

-How do you feel about the usefulness and user friendliness of your digital banking service?

-How do you describe the quality of information you receive through your digital banking service?  
(Content, navigation through pages, quality and freshness)

### Perceived Ease of Use

-How do you feel about login in to the system and getting a transaction done through your digital banking service?

-How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (Web/mobile app)

-What are the challenges you face and what are the pain points you have on your digital banking service?

### Web Aesthetics

-What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

-How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

-How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

### Section 3

#### Satisfaction

-How do you feel on the overall customer experience you receive on your digital banking channel?

-Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

-How do you see the future of your relationship with the current digital banking service provider?

#### Engagement

-What are your thoughts on the interaction and the communication between you and the bank through digital channels?

-How do you feel about the recommendations and offers make to you by your bank through digital channels?

## **Impact of emerging digital banking service quality dimensions on elderly customer satisfaction and engagement.**

Required

1. Are you above the age of 60 years?

- Yes  
 No

2. Are you a digital banking customer of a licensed commercial bank in Sri Lanka for more than 06 months?

- Yes  
 No

3. I have never had any dispute with my bank over a loss of money in my account due to a cyber- fraud.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

4. If I lose any amount of money in my account due to a cyber-fraud, I believe my bank would refund that money to me.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

5. I don't think that my bank will share my personal information with any third party for advertising or any such purpose.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

6. I don't worry about the adverts and content shared with me, by vendors based on my previous searches and activities online.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

7. I use digital banking because it's open around the clock, 365 days and you can access it from anywhere in the world.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

8. I use digital banking because it saves a lot of time and money as there's no travelling to the bank, finding parking, waiting in the queues etc.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

9. I use digital banking, because it's paper less, no pass books, information on your fingertips, very easy to find the history of transactions.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

10. I'm adopted to digital banking because I find no difficulty in using a computer, tablet or a mobile phone to login and do a transaction.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

11. Digital banking is quite easy for me, as I have no issue in memorizing and using passwords, memorable words and one times codes to login and performing transactions.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

12. I like the home page of my digital banking service provider as there's no clutter and I can easily find the menu options that I use very frequently.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

13. I do care about the colors, texts, fonts, images and layout of my online banking web and the mobile app.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

14. Colourful and pleasing images, videos and animations make me feel spending more time online and exploring information.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

15. I prefer to have a customized home page on my web and mobile app.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

16. I receive updates on interest rates paid on fixed deposits especially designed for senior citizens, from my digital banking service provider.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

17. I receive updates on benefits and rewards embedded in especially designed savings accounts for senior citizens from my digital banking service provider.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

18. I receive prudent investment advices such as investing in stocks, treasury bills, debentures etc. from my digital banking service provider.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

19. I receive updates on loyalty schemes offered by my digital banking service provider- loyalty points that I can earn on deposits made to my accounts and transactions performed online.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

20. My digital banking service provider contact me to recommend products and services and customised offers via my preferred method of contact – text, email, social media, post etc.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

21. I'm satisfied with the level of understanding of my digital banking service provider has on me.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

22. I'm satisfied with and the banking relationship that I have with my digital banking service provider.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

23. I don't see any reason to switch my digital banking service provider in the near future.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

24. I have no hesitation to recommend my digital banking service provider to my relatives and friends.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

25. I regularly receive and go through information about products and service recommendations from my digital banking service provider via home page of online banking, mobile app, email and text.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

26. I would consider and respond to the recommended products and services via home page of online banking, mobile app, email and text, if I feel they are beneficial to me.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

27. I do not hesitate to share my thoughts, views and new ideas with my digital banking service provider through online banking, mobile banking, email and text.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

28. I very often pay visit to my local branch to receive advice and recommendations on products and services.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

29. For more complex transactions or decisions such as investing money, setting up a standing order, applying for a loan/credit card against my fixed deposit, I would always prefer to visit my local branch in-person.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

30. To share my thought, views and feedback, I always prefer to visit my local branch in person.

Select your answer

1. Strongly Disagree
2. Agree
3. Neutral
4. Agree
5. Strongly Agree

## Appendix 4

Transcripts;

Respondent AG024

Age Group – 60/65      Gender – Male

Q: How do you feel about the global digitalization process?

**A-** The fast-paced, shallow nature of digital exchanges could create a more passive society that is unable to consider ideas on a deeper level or with any passion.

Q: In general what do you think about digital banking?

**A-** Reducing the dependence on paper forms, as all transactions are done electronically, which contributes to reducing the expenses incurred by the conventional bank and the client pays them administrative expenses.

Q: Why do you think it's important or not?

**A-** Its important nowadays

Q: In your opinion what are the pros and cons of DB?

**A-** It's a great medium for the banks to endorse their products and services. But on the other hand you might get overly marketed too and become annoyed by notifications. That said, these can easily be turned off.

Q: Have you ever become a victim of a cyber-fraud/scam?

**A-** No

**Q: Why do think that privacy and security are important aspects of digital banking?**

**A-** If banks do not control security and privacy issues than it will be easier to hack.

**Q: How do you feel on the impact of social media channels on your life?**

**A-** Some argue that social sharing has encouraged people to use computers and mobile phones to express their concerns on social issues without actually having to engage actively with campaigns in real life. Their support is limited to pressing the 'Like' button or sharing content.

**Q: Why do you think that social media channels play an important role or otherwise in digital banking?**

**A-** Yes definitely

**Q: How do you feel if your bank understands your personal needs and wants through your digital banking?**

**A-**Yes they have completely engage me online

**Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?**

**A-**Yes it's engaging and inspiring

**Q: What is your opinion about the amount of personal information held by your digital banking service provider?**

**A-**I don't think they will misuse it

**Q: How do you see the future of digital banking with the increasing rate of cyber frauds?**

**A-They need to focus in this area seriously**

**Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?**

**A-If they fail to keep it confidential they will lose my trust**

**Q: How do you describe the level of service you receive from your digital banking service provider?**

**A-Satisfactory**

**Q: How do you feel about the usefulness and user friendliness of your digital banking service?**

**A-Very user friendly and convenient to use**

**Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)**

**A-It's good**

**Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?**

**A-It's good, we can login to system so it's very important to be user friendly so it will be useful**

**Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (Web/mobile app)**

**A-It's good**

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A-It's good

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A-Yes it's attractive

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A-Very helpful

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A-If its advertisements than it's irritating but if these are relevant to digital banking information then its fine

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A-Very helpful

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A-My bank is highly reputable so I will recommend it

Q: How do you see the future of your relationship with the current digital banking service provider?

**A-Continue with the existing one**

**Q:** What are your thoughts on the interaction and the communication between you and the bank through digital channels?

**A-Excellent**

**Q:** How do you feel about the recommendations?

**A-Depending on my financial situation I use to consider**

Respondent AW003

Age Group – 65/70      Gender – Male

**Q:** How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

**A:** Whether we like it or not, technology is getting smarter day by day. Things are changing at lightning fast. Generally retired people like us are laid back and we are not up to date with technology. We find it really difficult to catch up with technology at that pace. But however, we have no choice, we need to get use technology, look for help form our children and grandchildren, whenever we find something difficult and learn how to survive in this new age of technology.

**Q:** How is your digital banking service going on?

**A:** By now I'm doing really well with my online banking. I started online banking couple of years back. At the very beginning, I wasn't fond of it. But however gradually I gained confidence and now I'm pretty much okay and find it really convenient and reliable. Online banking was introduced to me by a teller working at my bank. He is a very friendly person and one day I had nice casual chat with him and he explained me the benefits of online banking and assured that it's secure and safe. So I decided to try out online banking. I'm really thankful to that guy for introducing me online banking and he made my life easy.

Q: Why do you think it's important or not?

A: Undoubtedly it's important. Benefits of online banking are enormous. Biggest benefit of online banking is, it saves a lot of time. Even though I'm using online banking, I visit my bank branch one or twice a week. Reason being, to have a casual chat with the friendly staff working there. Nowadays, because of online banking, less customer traffic at branches. Branch staff have enough and more time to talk to us. Especially when I need make a decision on a very crucial matter, for example-an investment decision, I use to seek their advice. They take time and explain every aspect in detail. I think that is also an unforeseen benefit of online banking.

Q: In your opinion what are the pros and cons of DB?

A: I think easy access is the biggest benefit of online banking, it also makes banking highly convenient. The need of waiting in long queues at the bank is completely eliminated. Moreover, with mobile banking option available for most banks, transfers and payments have become easier. Transactions can be completed on the go, whether you are stuck in a traffic jam or in the midst of work. This makes it even easier to check your balance before making cashless purchases to avoid embarrassment if your account doesn't have the balance to purchase everything on your shopping list. And also I feel that banks should consider providing an option for the customers to cancel or temporary stop transactions on their bank card via, a cash machine or online banking. Some time back, my wife was robbed just after she made a withdrawal from a stand-alone cash machine. In front of the machine, no sooner she put the money and the card in her hand bag, robber approached her, grabbed the hand bag and ran away. In an emergency situation like that, if you have an option to rush to the cash machine, enter your online banking user ID and PIN or maybe you can login to online banking through your mobile phone and take immediate steps to freeze your card before you lose any more money.

Q: How do you feel on the assurance of your bank on security and your privacy on digital banking transactions?

I have dealt with many banks during the past 30-40 year. Generally banks always make sure to provide you the highest levels of security and privacy. Most established banks know that they can't survive if the loose trust and confidence of customers with regard to security and privacy. I don't see any breach of trust by my bank in my dealings with them whether it's online or offline.

Why do think that privacy and security are important aspects of digital banking?

Your identity is extremely valuable. Having your identity stolen can compromise everyday activities and undermine your reputation, both privately and professionally. That's why it's extremely important to protect your personal privacy online. As we bank and shop online quite often, proper internet security is more important than ever. Having an online banking account, you might fall a victim to a fraud at any time. Hackers are very advanced nowadays. They are capable of hacking your identity

without your knowledge. Even if hackers do not steal from your account, you can still have your account details compromised in the case of an identity theft. Therefore security and privacy and security are of utmost importance to online banking customers.

Q: How do you feel on the impact of social media channels on your life?

A: I'm not engaged with social media in big time. But however I use Skype. Because that is the easiest and cheapest method to stay in touch with my friends and relatives in overseas. I'm not in Facebook or other social media network. Once in a while I go to Youtube. My understanding on social media, is there are pros and cons. Some people are really addicted to it and social media has become a paradise for them. But some people see it as a hell with full of anxiety and stress.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: I really don't think that banks are using social media to promote digital banking. Anyways I'm not in social media and I think that is case for many elderly people like me. I don't believe that banks can reach out to elderly customers effectively via social media.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

I don't think that my bank understands my personal needs and wants through digital engagement. In fact time to time they try to communicate with us via online banking. But however those messages are not personalized, rather generalized. For example, change of tariffs, terms and conditions, service interruptions and so on. Sometimes those documents/notifications are very lengthy and time consuming to read. I don't think anyone bothers to go through the. What I feel is my online relationship with the bank is basically transactional.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: Whether it's online or offline, personal touch is important. As human beings we prefer to keep in touch with a human being as against a machine. But unfortunately banks have failed to provide a personal touch to their customers online. I actually like if my bank provides a video chat service via online banking home page. Whenever I come across some difficulty or even when I want to

communicate something to my bank, it's very convenient and effective way to communicate. This type of innovations will probably make me feel like getting a personal touch online.

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: I think, banks need to keep tons of personal information about their customers. On one hand they will get a better legal protection when it comes to illegal activities. Ex-money laundering. And on the other hand banks can use these personal information effectively to improve their products and services to customers. Having more information on our income and our spending behaviours, where we spend, why we spend, how much we spend that sort of information could be helpful to evaluate a credit facility requested by customer. So I look at it very positively. I don't think that banks share those personal information with any third parties. But I believe that telecom service providers' do that and that's why we get contacted by so many unknown vendors to introduce their products and services to us.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: What I think is technology is so advanced today. It's changing at lightning speed. Banks are in a big competition and they always try to provide you with highest levels of security for your money and transactions. Telecommunication technologies are so advanced. All the branches within a bank are interconnected and also all the banks around globe are interconnected in some way or the other. Whenever some fraud or irregularity occurs, that information flows through the interconnected systems very fast. So I think banks take immediate steps to take corrective measures. I think every financial institute take security very seriously and consider that as number one priority. So I believe that cyber frauds will not slow down the rapid development of digital banking.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: As I previously mentioned, telecommunication service providers do share personal information such as mobile phone numbers, email addresses and so on. So we get bombarded with calls from sales persons and email flyers in our mailboxes from various service providers. If banks also try to do this, I think consequences can be very serious. Because customers do not expect their bank to share personal information with any third party. If they feel that their bank is doing so, they will lose the trust and confidence on their bank to deposit money and do any transactions. It is really important for banks to protect the privacy of their customers and protect their trust and confidence to the highest levels all the time.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: Service is quite good. They offer excellent service with everything. I mostly do online banking now but if there any problems, I know they can be sorted out by friendly, knowledgeable and professional people. If I have a problem with my bank – whether it’s a payment that didn’t go through when it should have or I’ve lost my card or suspect fraud – I need to be assured that I can get the issue resolved without much pain. I believe that my bank has given me that assurance.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: Most frequently I use online banking to transfer money between my own accounts and to pay utility bills. Online banking allows me to access my account history and transactions from anywhere. This is the quickest way to see whether a transaction has cleared the account. It also enables me to find out about any unauthorized transactions more quickly, so I can dispute them right away. Also I can see my pending transactions. So I find it really useful. My Online banking home page is also not cumbersome to use. I can easily find the options and get the job done fast.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: I really don’t bother and waste time to go through most of the information in the home page. Sometimes I can see there are some messages, informative pages, videos etc. But however I usually don’t go through them. Navigation through pages is also not that difficult.

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: I use a card reader to login. By now I’m pretty much use to it and find no difficulty in login and doing a simple transaction. I usually do simple transactions such as, checking the balance, making a payment, transferring money etc. I haven’t tried most of the other options available in online banking. If I need some advice or help to make a decision on a more serious transaction, what I do is, I visit my bank branch and talk to customer service officer.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel (web/mobile app)?

A: I think my bank is okay in those aspect. I can satisfy with speed and availability. So far I haven't come across any irregularity in transactions. Accuracy is almost perfect. I can rely on them.

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: Online banking is quite good to perform simple day to day transactions, but when it comes to opening an account or applying for a loan, online is a bit frustrating. Sometimes problems are easier to solve in person. If there is a mistake somewhere, a face-to-face discussion may be the most effective way to make progress when things are confusing. You won't have to wait on hold and deal with an escalation process when everybody can sit down together and figure things out. The staff at bank branch matters, because it's easier to get good service if you know them, they know you, and they know what you typically do with your accounts. You can pick and choose who you deal with if you're familiar with the employees (hopefully there's somebody there who you like working with).

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: Truly speaking I'm not satisfied with the attractiveness of the home page of my online banking. They use the same images, colours and every single day, we see the same thing. What I feel is they should make some changes time to time and bring us a new look and feel. Otherwise it will make a really boring experience.

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: I use to do very simple things like, making a bill payment, transferring money, checking my account balance and transactions history etc. I can easily find all these service in the home page. But I really don't know about most of other services available in the online service. I think my bank should promote such services and offer us some guidance and help to navigate them.

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Images and videos are helpful for us to understand things better. Now a days in most of the websites we can see that they are making an effort to communicate to the customers by using attractive and appealing images and videos. But unfortunately my bank is not doing a good job in that sense. They need to improve on that area.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: Overall I'm happy about my online banking experience. I find it really convenient because it saves me a lot of time. It is available 24/7 and 365 days. I can keep a track of my transactions and check the history of payments. All these benefits are extremely important and online banking has become part and parcel of our day to day living. But however I enjoy paying visit to y local branch once in a while because I meet my friends there and also I enjoy having a chat with friendly staff members at my local branch.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: In fact I recommend digital banking to others. Convenience and easy access to our money make our life pretty much easy. It's such a great thing for seniors like us. We don't have to waste time to get our routine banking transactions done. We can use that time to enjoy our lives, talk to our friends, read a book, go for a walk or simply spend time, doing what we really enjoy.

How do you see the future of your relationship with the current digital banking service provider?

A: I think almost all the banks are proving a satisfactory service in terms of online banking. Technologies they use are almost same and competition is fierce. So far, I'm happy with my current service provider and I have no reason to look for another service provider. But future is always uncertain, we never know what will happen tomorrow.

Respondent AF019

Age Group – 60/65      Gender – Female

Q: How do you feel about the global digitalization process?

**A.** The digital era you know brings all kinds of information to our very fingertips you know, people now rely heavily on computers and mobile phones with internet, which give you an immediate answer to any questions so it's a good era.

Q: In general what do you think about digital banking?

- A.** They have also improved you know you can say less security, less risk and visual banks are you know characterized by organization experience and contribute to be every time the date of dejections payment you know so overall they are improving further their services.  
Yeah it is important in this emerging world and technology so it's important to be updated.

**Q:** Have you ever become a victim of a cyber-fraud/scam?

- A.** No, not really

**Q:** Why do think that privacy and security are important aspects of digital banking?

- A.** Yeah I guess it's very important to keep you know keep m y account safe and maintain confidentiality. Like this is very important

**Q:** How do you feel on the impact of social media channels on your life?

- A.** Social media is you know like you can say that without social media, now it has become part of our life so the balance of power from the hands of few to the masses it's a good role of social medial overall.

**Q:** Why do you think that social media channels play an important role or otherwise in digital banking?

- A.** The Banking industry is aware of the power of social media, it gives the customers a voice and enables the banks to connect and reach out to far more customers than traditional channels, but currently, banking activities on social media are limited to marketing products, engaging customers & providing support.

**Q:** How do you see the future of digital banking with the increasing rate of cyber frauds?

- A.** As banks have upgraded their cyber security, hackers have turned to shared banking systems and third-party networks to gain access. If these aren't as protected as the bank, the attackers can get through with ease. It is controlled then the future of banking sector is good

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A. Yeah I trust my bank and I don't think that they will leak out my personal information it is you know their responsibility. It is very important

Q: How do you describe the level of service you receive from your digital banking service provider?

A. It is much better you know it is user friendly as well it's very easy to use I'm not facing any difficulties during my financial transactions.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A. It's very easy to use

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A. perfect

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A. perfect

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A. no complain

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

**A.** Yeah sometimes there are connectivity issues, overall I have no complain but sometimes there are some connectivity issues. When you call the customer service they respond not very quickly so this is one of the thing they need to improve.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

**A.** Yeah that does not very much matter for me the attractiveness but I like it its good

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

**A.** easy access

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

**A.** easy to understand

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

**A.** Yeah I am comfortable and quick and friendly also.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

**A.** cost effective, I mean no hidden charges

Q: How do you see the future of your relationship with the current digital banking service provider?

**A.** Yeah I am you know I have no big issues also my past experiences, will definitely remain with them and continue with my existing bank

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A. The medium of communication has changed now like initially there was the person physical meeting with the bankers and all and now we have customer services online services you know it is we can say more interactive but frankly speaking it is less communicable.

Q: How do you feel about the recommendations?

A. It is simple when it is beneficial I use to opt it that it depends what exactly they are you know recommending so it depends basically but I use to consider like what they are offering you know.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A. Yeah it's quick and friendly so I recommend it.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A. because its time saving

Q: How do you see the future of your relationship with the current digital banking service provider?

A. Like I think it will be great yeah and like I will continue with my existing bank

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

- A. Medium of communication has been change now initially there was personal meeting with bankers and all now we have customer service and online service so it is more interactive now but less communicable.

Respondent BP005

Age Group – 60/65      Gender – Female      Date of interview – 05.05.2020

Q: How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

A: I see a lot of benefits in digitalization process. I can get answers to questions about almost anything just by asking my telephone. I can save money on everything, including clothing and shoes, airfares, hotels and eat at better restaurants and drink better wine. Navigation via car has dramatically improved, with accurate up-to-date traffic information and destination way finding. Digital life is being able to speak and see someone – regardless of where you are – on a phone you carry on your person.

Q: How is your digital banking service going on?

A: I find it no difficulty with digital banking. When I retire, I had hands on experience using computers. I was doing a secretarial job. I was pretty much used to computers and going online. I'm doing well with my digital banking. I pay my utility bills online, transfer money to various people and to my own accounts and investments. Quite often I use digital banking to check my account balance.

Q: Why do you think it's important or not?

A: It has made banking is much easier. The online banking provides you the luxury for banking anytime and anywhere. Throughout the year, the website services are offered round the clock for internet banking; except for time needed for website maintenance. On the internet banking page, you can see the summary of your real-time bank account. This mode of banking helps to keep a check on the bank account at any time. Even if you want to make some payments, change your mailing address, or contact details, all that you need to do is click on few pages.

Q: In your opinion what are the pros and cons of DB?

A: An online account is simple to open and easy to operate. It is available all the time. You can perform your tasks from anywhere and at any time, even at night or on holidays when the bank is closed. The only thing you need to have is an active internet connection. It is fast and efficient. Funds get transferred from one account to the other very fast. You can also manage several accounts easily through internet banking. You can keep an eye on your transactions and account balance all the time.

And also there are some cons as well, security of transactions is a big issue. Your account information might get hacked by unauthorized people over the internet. Password security is a must. After receiving your password, change it and memorize it. Otherwise, your account may be misused.

Q: How do you feel on the assurance of your bank on security and your privacy on digital banking transactions?

Generally banks are strongly committed to protecting the funds and confidential information of their customers. They do their best to provide the most secure environment possible as we want to be confident when accessing our financial information online. While they work to protect our banking privacy, we will also have a role to play in protecting our accounts and personal information. My bank always make me aware and request us to practice some security measures such as, keep security codes confidential, to make sure our debit card is never used by some other person. Not to share the security codes, to check the bank account on regular basis etc.

Why do think that privacy and security are important aspects of digital banking?

If anything goes wrong, we as customers are helpless. We cannot have a good night sleep if we don't have the confidence that our bank will provide a protection to our money and online transactions. If our private data gets stolen, it floats seriously out of control. So privacy and security should be the number one priority in banking.

Q: How do you feel on the impact of social media channels on your life?

A: My husband and I live relatively far away (about two to five hours) from our families and our friends live in several countries. Facebook makes it easier to stay in touch with them, to inform them about important events, to show pictures of our daily lives, and – in return – to be informed about things that matter to them. For me, my circle of online friends has evolved from mainly 'online contacts' in the mid-2000s to people whom I know in daily life. As a result, if we meet friends after a year or so without contact, we do not need to give an overview of last year, but just continue the conversation and play a board game. It is also easier now to stay in touch with a larger number of people than in earlier days. Apps like WhatsApp allow us to have daily contact with our families, simply by exchanging short messages or sending quick pictures. This interaction does not replace phone calls and visits, but complements them. Impact of social media in my life is very positive.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: People nowadays, share a lot of personal information via social media. So banks can effectively use social media channels to understand the lifestyles of their customers, their personal preferences. These insights can be used to offer products which are more likely to meet their needs and add value to their lives. For example, if a customer gets married and shares this information on social media, the banks can access this information and offer products that would be of interest to that customer, for instance – a house mortgage, Family insurance etc. And also banks can use this information to show them relevant deals and credit card offers available right now.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

That's the greatest thing that a bank can do to a customer. They earn a lot of money out of their customer deposits. Rather than giving something back to them they charge you for providing service. At least if they can provide us free services based on our personal preferences and interest that's a great thing. For example they can reach out to the customers who are looking for investments and ask whether they would like to participate in an investment project that the bank has started recently, where customers also can participate and earn some dividends. And also time to time they can ask the opinions and ideas of customers on their products and services. In that way customers will get more engaged and banks have loyal customers and definitely earn more money. But unfortunately I don't see any engagement or understanding as such online. We just have a very basic and transactional relationship.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: Rather than giving a personal touch and an impressive experience, what banks and online retailers do is, they track our online search, purchases and use that information for advertising purposes. That is really annoying and I feel like they interfere with our freedom and privacy. It won't make us engaging or inspiring but disengaging and annoying. I would say, that's the worst part of online transactions. I want individual attention and relevant offers from my bank, and not the usual spam of generic ads. If I'm researching new credit cards, a targeted offer from my bank for a great deal on a card that is customized to what I'm looking for saves my time and money. An offer for a Home Equity Line of Credit rate sent to all of a bank's customers is frustrating spam that just turns me off.

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: I think that is something for me to worry about. My bank knows, my income, they know where I spend my money and how much I spend. If they share these type of personal information with third parties they will chase us to sell their products and services. I'll tell you something happened to me

recently, one bank which I had never dealt with calling me to sell a credit card. Time to time different agents call me and one day I got 3 calls from them. It's terrible. I don't know how they have got my mobile number.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: I believe future is mostly digital and no turning bank. Frauds and scams also will rise as online activities increase. Internal vigilance between banks and customers is a must to prevent scams and frauds. I had a very bad experience with my previous bank couple years back and I closed my account with that stupid bank. I became a victim of a fraud and bank put the blame on me and I never got that money back. To my knowledge some banks are not smart enough to provide a better security systems and protect their customers' money from scammers and fraudsters. Nowadays people should carefully choose a good bank who is smarter than scammers. I have been dealing with a new bank since last two years and I'm quite happy with their service.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: That is fundamental. Banks who cannot protect the privacy of personal information of their customers will not be able to survive in the long run. Like I changed my bank two years ago, people will frequently change their banks and relationships. Everything is based on trust and confidence. Foundation for a longstanding good relationship is trust. I think for any financial institute the greatest asset they have is the trust have earned from their loyal customers.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: Not too bad. There's lot more to improve. I really expect a good response from them on my queries. Great service quality is a necessity. If any issues arise they must quickly and painlessly resolve them on the first try. If they failed to do so, I have no reservation about switching if I receive a frustrating response on some issue with my bank. That's the reason why left my previous bank two years ago. When I have a question, I need a quick response and right information.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

In fact online banking has made our lives pretty much easier. It saves a lot of money and time. No queues in bank branch lobbies now to get simple transactions done. No pass books. Now your bank is open around the clock, 365 days. You can access it from anywhere in the world. So it's useful indeed.

In my case online banking is user friendly because I had some hand on experience with computers before my retirement. But I know for a fact that many of my friends who are at my age find it difficult with their online banking. So I believe that banks should better understand elderly customers and develop much more user friendly interfaces exclusively for elderly.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: I have mixed feelings about it. Content and information are alright. No need of much effort to navigate through pages to do a simple transactions such as, bill payments, fund transfers, history of transactions and so on. But it's not so easy to find how to settle a mortgage or may be how to make a payment through your credit card instated of current account. These things are also important to me. I think they should improve the user experience on these areas as well.

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: Login in to the system and getting a transaction done are okay, as far as everything works out smoothly. But that's not the case always. Once I had terrible experience with my previous bank. When I was on a holiday aboard, I wanted to transfer some money online to my credit card account before the due date. I totally forgot to make that payment beforehand and I noticed it just a one day before the due date. I tried login into my online banking and my account got locked due to entering the wrong password thrice. I tried contacting my bank over the phone and I was desperate to sort this matter. But unfortunately they did not help me, their service over the phone was so horrible. I couldn't fix it and happened to pay late payment fee on my credit card.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel (web/mobile app)?

A: Speed and accuracy are not too bad. But I'm impressed with the availability of the system. I remember once system was not available for two consecutive days without any prior notice. You can't totally rely on computer systems. You should always have back up plan ready for your safety and recovery. Manual work comes handy when things go wrong with computers.

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: Banking online is not challenging for me. I actually expect more from my bank online. They should provide us with much better experience online. They should listen to their customers on how to

improve their services. For example, when you go through transactions of the account you can notice some charges and levies debited to your account, but there's no option available online to find out exactly what that charge is and why you have to pay that etc. Even when you call them to find it out, it's frustrating you can't get a proper answer.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: I don't find it attractive. They use colours and designs that fit their official colours and designs. They don't take the emotions and feelings of the users in to account when they develop those interfaces. I think that's a weakness.

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: I have no complaint about the basic functions available in the main menu. It's much better if we can have customized menus. I mean my bank can be flexible to offer me select the options that I would like to have in my main menu. In that way they can add value to our online experience.

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Not so impressive. Every day I'm seeing the same the colours, images and text. In fact they can effectively use some nice and appealing images and videos to impress users and in turn it will give them a reason spend more time online. Now what happens is in and out, in and out. When users spend more time online means, banks also will get an opportunity to sell their products and services much more effectively.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: I'm okay with it. But I don't say it's impressive. There's lot more for my bank to improve. Only thing is they should listen to their customer and make a genuine effort to solve issue as and when they arise. They can learn a lot from their customer quarries, issues and complaints as well. By giving good long lasting solution to an issue raised by one customer may become a big relief to many other likeminded customers as well.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: Yes. I recommend digital banking to others, because it's convenient, paper less, no queues, information on your fingertips. I always love to help my friends and neighbours who are differently abled both physically and mentally. I have already introduced online banking to many of them and whenever they come across with a difficulty in online banking they call me for assistance and advice. I happily help them to sort out them.

Q: How do you see the future of your relationship with the current digital banking service provider?

A: For the time being I'm okay. But future is always unpredictable. Things are changing at lightning speed. I'm not hesitant to switch my bank for a better service as I did couple of years ago.

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A: Not good at all. I want individual attention from my bank and not the usual generic spam emails or texts or ads. A great deal customized for me will save my time and money. Mostly I see ads and notifications sent to all of customers and they are actually frustrating spam.

Q: How do you feel about the recommendations and offers make to you by your bank through digital channels?

A: I haven't seen any recommendation or customized offer. As I explained, quite often I get generic spam.

Respondent DJ013

Age Group – 60/65    Gender – Male

Q: How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

A: Digitization affects the entire value chain and emphasizes the importance of business ecosystems, provoking significant changes in the way companies build their competitive advantage.

Q: In general what do you think about digital banking and why do you think it's important or not?

A: Banks can start exploring revolutionary business processes which were not available to them before. Banks have introduced many advanced apps, which can help you in online banking. Due to this, customers are able to do online banking at any time and from anywhere. Moreover Understanding the usage of internet banking might be difficult at the first. That said, there are some sites which offer a demo on how to access online accounts (not all banks offer this). So, a person who is new to technology might face some difficulty.

Q: Have you ever become a victim of a cyber-fraud/scam?

A: Not exactly no.

Q: Why do think that privacy and security are important aspects of digital banking?

A: Not only does this affect the customer. It also greatly harms the bank while they attempt to recover the data.

Q: How do you feel on the impact of social media channels on your life?

A: Social media is slowly killing real activism and replacing it with 'slacktivism'.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: Yes, Very few banks are keen on taking things a step further by offering transactional banking services on these platforms.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

A: My bank understands what I want and need before I ask for it. And, protect me from situations that may negatively impact my financial well-being.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: Yes to some extent

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: I trust my bank

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: Digital solutions help manage marketing lists, allowing banks to reach broader markets and build closer relationships with tech savvy consumers.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: Yes, It's their duty

Q: How do you describe the level of service you receive from your digital banking service provider?

A: Yeah it's much better and I can comfortably do my transactions.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: It's absolutely ok

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: It's okay as well

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: It's absolutely OK

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A: It's OK as well

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: No there is nothing like than as you no I'm quite satisfied with it.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: It's excellent

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: Yeah it's quick and friendly

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Tutorials helped me to understand the operations

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: Yeah it's quick and friendly

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: Because its time saving

Q: How do you see the future of your relationship with the current digital banking service provider?

A: I will continue with my existing bank I am fine with it.

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A: Yes its increased interaction and communication up to 24/7, I believe

Q: How do you feel about the recommendations?

A: Yeah I think so they should be more adaptive with growing technology.

Respondent DS014

Age Group – 65/70      Gender – Female

Q1-How do you feel about the global digitalization process?

**A1-** Digital technologies have unlocked new business opportunities, they have given rise to challenges, which has triggered the digital transformation of companies.

Q2-In general what do you think about digital banking?

**A2-** It provides the ability for users to access financial data through desktop, mobile and ATM services.

Q3-Why do you think it's important or not?

**A3-**The online banking attributes offer you the luxury of banking anywhere and anytime. You will receive website services 24x7 for internet banking barring the time for website maintenance.

Q4-In your opinion what are the pros and cons of DB?

**A4-**It's convenient, because you can easily pay your bills and transfer your funds between accounts from nearly anywhere in the world. You cannot have access to online banking if you don't have an internet connection; thus, without the availability of internet access, it may not be useful.

Q5-Have you ever become a victim of a cyber-fraud/scam?

**A5-** no

Q6-Why do think that privacy and security are important aspects of digital banking?

**A6-** if they can't protect customers lose confidence

Q7-How do you feel on the impact of social media channels on your life?

**A7-** While social media activism brings an increased awareness about societal issues, questions remain as to whether this awareness is translating into real change.

Q8-Why do you think that social media channels play an important role or otherwise in digital banking?

A8- The future of banking is digital and social media will play an important role in shaping the banks of the future, while banks & customers might not be open to the idea yet due to concerns about data privacy & security risks,

Q9-How do you feel if your bank understands your personal needs and wants through your digital engagement?

A9- By providing personalized, real-time, and consistent communication throughout my journey.

Q10-Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A10- didn't realize in this way

Q11-What is your opinion about the amount of personal information held by your digital banking service provider?

A11- scared

Q12-How do you see the future of digital banking with the increasing rate of cyber frauds?

A12- I think the future is bright but they have to control cyber frauds as well

Q13-Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A13- in order to keep our trust they should protect it

Q14-How do you describe the level of service you receive from your digital banking service provider?

A14- pretty much satisfied

Q15-How do you feel about the usefulness and user friendliness of your digital banking service?

A15- It's great, it's good.

Q16-How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A16- it's great

Q17-How do you feel about login in to the system and getting a transaction done through your digital banking service?

A17- it's great

Q18-How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A18- if I use mobile app it's quite satisfactory

Q19-What are the challenges you face and what are the pain points you have on your digital banking service?

A19- satisfactory

Q20-What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A20- they all are good and its perfect and I am quite satisfied with it.

Q21-How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A21- comfortable

Q22-How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A22- images and videos are there for our better understanding

Q23-How do you feel on the overall customer experience you receive on your digital banking channel?

A23- comfortable

Q24-Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A24- my bank App and Web is user friendly

Q25-How do you see the future of your relationship with the current digital banking service provider?

A25- remain intact

Q26-What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A26- mostly phone banking.

Q27-How do you feel about the recommendations?

A27- basically my bank app and web is very user friendly right and if ask for the recommendation so I am already satisfied with it so no such recommendations.

Respondent DK021

Age Group – 60/65      Gender – Female

Q: How do you feel about the global digitalization process?

A: It is breaking down industry barriers and creating opportunities for business model. Its good and jeopardizing existing business models.

Q: In general what do you think about digital banking?

A: Yeah it is important because it's reducing the dependence on paper, as all transactions are done electronically, it contributes to reducing expenses and expenses are paid by the conventional bank and the client pays them only the administrative expenses. Yeah but it has some pros and cons both it has increased the gap that has arisen between the client and the bank and it may entails some operations without adequate collateral and the bank is exposure to fraud.

Q: Why do you think it's important or not?

A: It's important nowadays

Q: In your opinion what are the pros and cons of DB?

A: It is available all the time. You can perform your tasks from anywhere and at any time, even at night or on holidays when the bank is closed. The only thing you need to have is an

active internet connection. But Password security is a must. After receiving your password, change it and memorize it. Otherwise, your account may be misused.

Q: Have you ever become a victim of a cyber-fraud/scam?

A: No, not really

Q: Why do think that privacy and security are important aspects of digital banking?

A: Yeah because, you know all of our information is on cloud so it's very important that should be secured

Q: How do you feel on the impact of social media channels on your life?

A: Some say social media is sharing and has encouraging people to use computers and mobile phones to express their concern on social issues but that is supported limited to pressing the like button or sharing content.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: Yeah transactional banking on social media is already being put it into practice by some bank and allow their customer to transact online.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

A: Yeah, my bank has created an awareness to use mobile app and engaging me digitally also

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: Yeah, agree

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: I don't think they misuse it but sometimes it's scary

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: Yeah, they have to resolve this issue immediately

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: Of course it's their responsibility

Q: How do you describe the level of service you receive from your digital banking service provider?

A: It's pretty good

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: My bank have made mobile–friendly features and websites to help customers do banking efficiently.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: Excellent

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: That's excellent

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A: Satisfactory

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: Connectivity issue

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: It's reasonable

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: Convenient

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Yeah visuals helps to understand the features and functionality better

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: It's convenient

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: My positive experiences

Q: How do you see the future of your relationship with the current digital banking service provider?

A: I think I will remain with them

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A: I think it's improved a lot over the period

Q: How do you feel about the recommendations?

A: I consider them when they suit my requirements and then I take them

Respondent FR002

Age Group – 65/70      Gender – Female

Q: How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

A: World has become digital. When we were in our thirties, first mobile phones started to come on the market. We didn't grow up with a cell phone or a smartphone in hand, the gadgets in our times were quite simple. Computers were big, phones had wires, cars used gas and to watch a movie you would go to the cinema. Now with the internet and all the smart devices you can replace almost all types of equipment from the past with only one. A simple laptop nowadays is much more powerful than some secret research computers from the 80s and it weighs just 2 pounds. Life now is way different than in our youth days. The gap is huge, it becomes bigger every day, and seniors just can't catch up to that pace.

Q: How is your digital banking service going on?

A: Well, I'm pretty much used it now. I don't have any complaints about it. I'm using online banking to pay my bills, transfer money between my own accounts and to third party accounts some times. Quite often I go online to check my account balance. I'm okay with online banking.

Q: Why do you think it's important or not?

A: I think it's quite important. Even if it is the last day of your bill payment and you are minutes away from being levied a penalty, you can rely on online banking. Online transactions can be performed anytime of the day from the convenience of press of a button. Not just that, instead of being physically present for huge amount of transactions, you can safely transfer funds at any time, completely hassle-free.

Q: In your opinion what are the pros and cons of DB?

A: I think easy access is the biggest benefit of online banking, it also makes banking highly convenient. The need of waiting in long queues at the bank is completely eliminated. Moreover, with mobile banking option available for most banks, transfers and payments have become easier. Transactions can be completed on the go, whether you are stuck in a traffic jam or in the midst of work. This makes it even easier to check your balance before making cashless purchases to avoid embarrassment if your account doesn't have the balance to purchase everything on your shopping list.

Q: How do you feel on the assurance of your bank on security and your privacy on digital banking transactions?

Banks generally do everything that they can do to ensure their customers' information is protected and there is no security breach. It ultimately provides you security from online frauds and account hacking. But however, no system is completely fool-proof and accounts can be hacked, resulting in identity theft via stolen card details and passwords etc. So while we are using online banking with general confidence, we need to be careful to deal with suspicious people and merchants and also we need to be careful to change passwords and

protect our login information. On the other hand elderly customers like us are not physically strong enough. We can't even walk fast. Once my husband was attacked by a thief and stolen the cash in his hand, just after he withdrew some money from a cash machine. After that incident I never use a cash machine by the side of road. If go to a cash machine, I always choose a machine located inside a branch. And also I try to make payments online as much as I can avoid withdrawing money from the account. I think making online payments is the safest. Carrying cash around is risky for elder people like us.

Why do think that privacy and security are important aspects of digital banking?

A: Online banking has grown so well that it is now an irreplaceable part of our everyday lives. So much so that for most of us, it has replaced physically going to our bank branches for every little thing. But amidst all the technological development, we can't forget how much security is important to us too. In the wake of so many data breaches that take place every now and then, online security is not just advisable but absolutely necessary, given how much is at stake for us. You can lose both time and money in case of an online fraud. Although banks do everything in their hands to recover your money, sometimes it comes back either partially or even nothing at all.

Q: How do you feel on the impact of social media channels on your life?

A: I'm not a big fan of social media. I'm not in face book. But I use Whatsapp and Youtube. I believe impact of social media is huge in our day to lives. It has connected people around the world. It has given people a platform to share their updates, photos, reviews, opinions. Networking and staying connected with many people has become easier due to Social Media. People can voice out their opinions and reach out to a large group of audience easily.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: I don't think that it's a good idea to promote online banking through social media. Anyways I'm not engaged with social media that much. But I haven't seen anything related to online banking through social media. Even if I see any, I don't like to waste my time on it.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

If somebody tracks my activities without my consent, it's invading my personal space and makes me feel like being stalked. I rather prefer, if they engage with me only if I ask for some information and only with my consent to keep a track on my activities and requests.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: In fact I prefer a personal touch when it comes to in-person banking, I mean in-branch service. Even though I'm using online banking to pay bills and for some other day to day transactions, my most preferred way of banking is in-branch. I have my accounts with only one bank. My relationship with them is more than 50 years old now. They know me very well. I prefer to pay a visit to my bank branch to conduct a major transaction like applying for a loan, setting up a direct debit or some times to get financial advice. I don't think that purely online is a good at all. We need physical branches and we need to talk to human beings. Machine can't understand our feelings and our personal preferences.

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: Yes, it's true that they hold enormous amount of our personal data. But as customers we don't have a choice. And I firmly believe that banks have a great deal of responsibility to safe guard our personal data. I don't think that they would share our personal data with any third

parties without our consent. If they do that there would be serious consequences. They might get prosecuted and will have to pay financial compensation.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: Yes, I think online frauds and scams are on rise, but on the other hand banks are also improving their security systems and make their customers aware on scams and frauds. I think my bank is doing a good job to prevent frauds. I think that tougher measures and vigilance can drastically reduce the number of frauds and scams.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: Personal data is essential to so many decisions made about us. Personal data is used to determine whether we are investigated by the government, or searched at the airport, or denied the ability to fly. Indeed, personal data affects nearly everything, including what messages and content we see on the Internet. Without having knowledge of what data is being used, how it is being used, the ability to correct and amend it, we are virtually helpless in today's world. Moreover, we are helpless without the ability to have a say in how our data is used or the ability to object and have legitimate grievances be heard when data uses can harm us.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: I'm happy with the level of service I receive from my bank as a long standing customer. Online banking I use to perform simple day to day transactions. I frequently visit my bank branch and I have a very good relationship with them. Also I see less customers in branches nowadays, I think that is because of online and mobile banking, so that bank officers have more time to talk to us and further strengthen our relationships. I really enjoy having some casual chats with them and asking for their advice on various things.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

It's a very useful tool for me. I can use online banking to pay my bills and protect me from having the physical paper cheques get lost in the mail. I have set up all my payees and no need to fill out the information every time I make a payment. Online banking allows me to access my account history at the comfort of my bed. This is the quickest way to check and see if a transaction has cleared the account. I can also find out the amount of a transaction even if I have lost any receipts. It also allows me to find out about unauthorized transactions more quickly, helping me resolve any issues right away.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: Well. I'm not that much bothered about the content in the home page of the web. I don't find it's that difficult to find the menu options and details that I always deal with. Some time I see different messages and advertisements in the home page, but I usually don't open them and read through.

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: I only use my laptop to login in to online banking. I use the card reader provided by the bank and I get a passcode every time I login to the system. I find no difficulty in login. Doing a simple transaction like making payment, transferring funds, checking the balance and history of payments etc. are not that difficult. But however sometimes I think to myself, it would be really convenient if we can give voice instructions to the computer and receive voice feedback, rather than using the key board or mouse. I can't read without my spectacles and if the letter size is very small, it's not easy to read.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel (web/mobile app)?

A: I'm okay with my bank and their system. They are always accurate and reliable. Speed and reliability are also not too bad. Once in a while I feel some friction in the system. I don't know whether it's my bank's problem or something to do with my internet connection. But overall I don't have such complaints about the system.

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: Some product offerings and features are quite complex for me. I'm confused about the financial jargon and the underlying meanings, they should explain their products and services in simplified manner. Banks should make us feel very comfortable to make decisions on their offerings, products and services. Banks can offer advisory service online, whenever we need to get an advice on a product or service. I don't like to talk to a robot. I prefer to talk to a human.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: I actually don't worry about the attractiveness. When I go online all what I want is to finish the job as fast as I can and log out from the system. I really don't enjoy looking at a screen and sitting in front of a computer. Because of the convenience factor I use the computer, but I don't want to waste much time with it. I really enjoy reading a book, going for a walk, talking to a friend.

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: I use to do very simple things like, making a bill payment, transferring money, checking my account balance and transactions history etc. I can easily find all these service in the

home page. But I really don't know about most of other services available in the online service. I think my bank should promote such services and offer us some guidance and help to navigate them.

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Images and videos are helpful for us to understand things better. Now a days in most of the websites we can see that they are making an effort to communicate to the customers by using attractive and appealing images and videos. My bank is also doing the same. Very frequently they change images in the home page and they try to give a different experience and message to us. It's quite impressive.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: I'm really happy about my online banking experience. Easy access is the biggest benefit of online banking, it also makes banking highly convenient. The need of waiting in long queues at the bank is completely eliminated. Moreover, with mobile banking option available for most banks, transfers and payments have become easier. Transactions can be completed on the go, whether you are stuck in a traffic jam or in the midst of work. This makes it even easier to check your balance before making cashless purchases to avoid embarrassment if your account doesn't have the balance to purchase everything on your shopping list.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: In fact I recommend digital banking to others. Convenience and easy access to our money make our life pretty much easy. It's such a great thing for seniors like us. My husband is not a very educated person but I'm really happy, that I have convinced him and guided him to use

online banking. Now he is also engaged with online banking, doing transactions on his own. I don't think twice to recommend digital banking to my friends and relatives.

Q: How do you see the future of your relationship with the current digital banking service provider?

A: I don't see any reason to switch my bank. I have been with them for more than 50 years now. I'm one of their loyal and very long standing customer. My home branch staff know me very well and I can get any issue sorted at any time with no hassle. When it comes to the online banking, as far I'm concerned, all the banks are same. I think there's no point for me to switch to another bank for a better online service. Hopefully I will continue with my current bank for many, many years to come.

Respondent GK004

Age Group – 80/85      Gender – Male

Q: How do you feel about the global digitalization process? (Online shopping/payments, connecting with family and friends, social media networking etc.)

A: I actually found computer literacy, later in my life. I'm very old now, I walk very hardly. Thanks to my granddaughter she taught me how to use a laptop computer and a smart phone. I'm still learning and find it really helpful. Imagine a few years ago, this lockdown would have been a total disaster, but the technology now is fantastic. I've learned so much these last few weeks for everything we had to do before. I have a new life with Skype now. Quite often I make Skype calls with my three grandchildren. I pay my bills online and sometimes I order fresh groceries from a local trader online. Last week I attended a socially distanced tea party on our street and it was organised via a newly created WhatsApp group.

Q: How is your digital banking service going on?

A: I find it really convenient. By now I can manage to do simple transactions, like checking the balance, paying my bills and transferring funds. I'm willing to learn more and do more in the future. I'm really happy about the progress that I've made thus far. I still prefer to pick my fruits and vegetables in the supermarket and be in touch with my neighbours and friends. Before we really didn't see neighbours much except to wave but now we are all best friends, we have lively chats and share tips via our WhatsApp group.

Q: Why do you think it's important or not?

A: For me it's really important. Being a very old man, who has undergone three bypass surgeries, I can hardly walk around. If I walk to my local bank branch which is in 500m proximity, it will take at least 1 hour for me to reach the bank. Online banking is a big relief for me. I can easily pay my bills and transfer funds between accounts from nearly anywhere in the world. I do not have to stand in a queue to pay off my bills. Also I do not have to keep receipts of all of my bills, as I can now easily view all the transactions.

Q: In your opinion what are the pros and cons of DB?

A: There are so many pros of online banking. It's hassle free. Easy to access, available any time of the day and throughout the year. Literally, your bank is never closed. Check your balance, track your transactions, transfer funds and pay bills all these can be done in seconds. It's really fast and saves time and money. But however on the other hand there are some cons as well. Cyber criminals are also very smart today. Being seniors we are not that much tech savvy. Very easily we can be victims of a cyber. Luckily I haven't become a victim as yet, but many of my friends have become victims of cyber frauds.

Q: How do you feel on the assurance of your bank on security and your privacy on digital banking transactions?

I have been long standing and a loyal customer of my bank for a very long period. So far I have no complaint about breach of privacy and security. In my opinion this is fundamental for any bank. If they fail to protect the customers' privacy and security they will not be able to survive in the industry. Business of banking is purely based on trust. Banks know this very well and they make every effort to protect their customers' privacy and security.

Why do think that privacy and security are important aspects of digital banking?

Data breaches are serious problems for banks because it leads to losing public trust, and causes customer insecurity. It occurs because of weak cyber-security strategy and it is difficult to recover. It is the responsibility of the bank to communicate with their customer upfront about cyber-security and other measures they must take to prevent and protect their personal data and private information. To gain the trust of consumers, it is important for a bank to have a strong cyber-security plan.

Q: How do you feel on the impact of social media channels on your life?

A: Social media has a huge impact on our lives. While some impacts can be positive, social media has been shown to negatively affect things like our moods and stress levels. Addiction is caused by social media too. With access to it anytime of day on our phones, it's easy to fall into the bad habit of checking it everywhere – during a meal, in class when a lecturer is talking, or even in bed when it's time to sleep! Anyways I'm not a big fan of social media. I only use Skype and WhatsApp. I love Skype because it has enable me to keep in touch with my granddaughters. And also WhatsApp has enable me to keep in touch and share some tips with my neighbours. Strictly speaking I'm not addicted to it.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: I know for a fact that my granddaughters do not look forward to going to a branch to speak to a bank officer about their finances or discuss investment options, they prefer being

able to manage their money from any location. This means their banks must be present at every communication point, whether it is telephone, social media, web or mobile apps. This generation of customers will get attracted to the convenience of carrying out banking activities via their social media accounts. Banks will be able to leverage on this offering their services which will be relevant to a younger customers thereby deepening their relationship with the banks. But I believe social media is not an impressive way to reach out to elderly people like me.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

A: Well, I don't feel like there is an understanding as such with my bank through online. My online engagement is nothing more than getting a simple transaction done. But however, I have seen many websites track our history of online activities and popping loads of advertisements whenever we go online. That won't give us a good impression. When I see those ads I feel like, I've lost my privacy.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: I think personal touch is a very important aspect in customer service. Although robots can be efficient, only humans can create a great emotional experience. The best customer service can be provided by humans after all. Sometimes the quarries that we have to deal with are very personal and specific. General robotic sort of answers won't help to sort them out. As far as I'm concerned, humans have much higher levels of intelligence than machines. Customer service means, problem solving. When a customer service staff member solves a problem, we get a really good feeling and create a personal contact with the service personal. Sometimes it might go a long way. That is where the loyalty begins.

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: Machines carry out many tasks that were once the responsibility of people. Advances in technology mean they help us with complex tasks such as processing a lot of information quickly and making decisions. Banks know that a customer's time is valuable so they try to keep our personal data to make various decisions very fast. For example when a customer applying for a new product or service they can process our application very fast based on the amount of information they have. This can be done by using machines to run eligibility checks or credit checks, for example. So I look at it very positively, generally I don't think that banks will misuse our personal information.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: Risk of becoming a victim of a cybercrime is increasing day by day. Banks know very well that online banking customers are the prime target of cybercriminals. I believe that they take this very seriously and they constantly upgrade their security systems to protect customers from scammers and criminals. And on the other hand we also as the customers should be very vigilant and take every measure that we can make to prevent ourselves from becoming a victim. In my case, I never give personal information on websites, I always visit websites that I know and trust, I only use my own computer, I only open emails from people that I know. I know for fact that banks also make their customers aware on these things in numerous ways. If customers also help them, together we can reduce the amount of frauds take place online.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: Banks may handle a variety of personal information, including information and data on personal ID, property, accounts, credit, transactions, etc. Each time we use a credit card, withdraws money from an ATM, or purchases financial products, a record will be kept at the bank, and these records form an important basis from which our personal preferences and

property status may be inferred. If the personal information is leaked out or abused by the bank, we may suffer financial losses, because we may become targets of scammers and fraudsters. With the amount of increasing number of online transactions and crimes, very critical than ever before for banks to take corrective measures to protect privacy and personal information of customers.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: As a long standing customer of my bank, I am most impressed by the customer care and additional facilities that are being added, I have seen that they are always trying to upgrade their systems and procedures with advanced technologies and keep the customers well informed. Internet threats have become smarter and therefore banking needs to keep up. Customers need to keep up too. Currently I'm happy and I recommend their online banking service to anyone.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: I find online banking more convenient, flexible and simpler to manage than traditional banking. You can transfer money between accounts and make bill payments from the comforts of your sofa. As far as I know new mobile applications which allow you to scan and deposit checks wherever you happen to be. Online banking also allows you 24/7 anytime access to your balances and transaction records. And on the other hand, it not a very difficult task to learn and use online banking. If you spend a little time and willing to lean, you can very easily learn and adopt to it.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: I some time check the latest interest rates, exchange rates and some information on investment opportunities. I find that the information they provide are up to date and helpful. Also I see some notifications popping up when I login to the homepage. Whenever they want to inform customers on important changes and interruptions they send notifications. If I feel they are relevant to me, I go read them. Otherwise ignore.

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: At the very beginning I found it a bit difficult. I had to seek assistance from my granddaughter. But now I'm used to it and find no difficulty in login and getting a simple transaction done. To make it much safer, my bank has provided me with a card reader. Every time when I login, I've got to enter the last four digits of my debit card in the login page. Then I get a get a onetime 6 digit code in the card reader and that code needs to enter in the home page to complete the login.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel (web/mobile app)?

A: Speed some times vary. I don't know whether it's something to do with my internet connection or my bank's computer system. But however I'm not much bothered about it. I always check my bank statement very carefully. So far everything is accurate. System availability is also not that bad. I login to the account may be once or twice a week. I can satisfy with the system availability.

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: In fact I'm interested in finding some information on investment products, but when I go the product offerings, I find it they are really complex and difficult to understand. I'm confused by the financial jargon and the underlying mathematics. Banks need to make their products easily understood by any customer and feel comfortable to select the products, manage their accounts/ assets and make investment decisions.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: I find it attractive. Quite often they change the images and colours and try to provide a different experience time to time. I think the elite look and feel in the home page matters. Customers should not get bored with the look and feel of the home page. If you see so much of text that is also not good. When we see some nice images and colours as we login, it gives us some good feeling and tend to remain in the page for some extra time and navigate through pages.

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: I usually do very simple and basic things. History of transactions, bill payments and fund transfers all these options are available in the home page. But however, I haven't tried much complex transactions like, opening and account, applying for a loan, setting up a direct debit etc. Anyways, when I go online, I always try to finish the job fast and logout from the computer. I don't like to spend much time in front of the computer, because it badly affects me both physically and psychologically.

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: Yes, I see some nice images and videos in the home page of my online banking, but the thing is I don't like to spend much time around them. But I agree with the fact that those things can make a good impact on the customers. Good and appealing images and informative videos can help customers to understand things better.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: My bank is providing 24/7 and 365 access and many options: on the web at home, on the phone on the go, at physical branches, and more. I prefer to operate across both digital and physical, In fact I'm not very technologically savvy, therefore my most preferred channel is, in-person banking . But I still prefer to learn and expand web or mobile-based interactions. I'm happy with both online and in-person customer experience that I've received from my bank.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: Undoubtedly I recommend. Online banking offers you a lot of value and convenience. Gone are days that we spent hours, travelling to a branch, struggling to find parking and wait in-lines to get a get a simple transaction done. Now you can pay a visit to your local bank branch to get some advice from bank officers on more complex issues. And of course now they are free to have a friendly and long chat with you because less customers for in-person banking. Thanks to online banking.

How do you see the future of your relationship with the current digital banking service provider?

A: Being a loyal and longstanding customer of my bank, I get individual attention from them. I believe that my bank understands me to a great extent. Online banking experience is also improving day by day. I enjoy casual chats with friendly bank officers in my local branch. I think my relationship with the bank will grow further.

Respondent GPO20

Age Group – 60/65      Gender – Female

Q: How do you feel about the global digitalization process?

A: Digitalization has opened up a new world of opportunity you know when it comes to jobs, due to the remote working that the internet has allowed for and you know There are now completely new job roles like internet technology specialists, and anyone can open their own online business which is an amazing new advantage you know.

Q: In general what do you think about digital banking?

You know like it's always expected to occur technical error you know that can hinder the work of whole bank and lots of accounts of people and in the virus that impact electronic devices to penetrate you know the system, this is also one of the big issues and you know the devices are electronic technical changes so it is good but nobody knows you know that what would happen in the future.

Q: Why do you think it's important or not?

It's important nowadays

Q: In your opinion what are the pros and cons of DB?

A: Yes you know like I would say that there was a conventional banking system or you know the traditional banking system so it was for me more it was convenient financial services such as you know loan when you have to make changes to your banking arrangements but when it comes to advantage so yes it is online transaction is possible now and digital banks appears to retain you know an edge, when it comes to online banking experience but overall I feel that the personal relationships is badly decorticated.

Q: Have you ever become a victim of a cyber-fraud/scam?

A: No, not exactly my account was hacked once but there were no financial lose but that was not scam or that was you know that was something else I cannot tell you.

Q: Why do think that privacy and security are important aspects of digital banking?

A: Yes this is very important and if they cannot protect this thing and data of customers so the banking sector will not progress in the future I guess.

Q: How do you feel on the impact of social media channels on your life?

A: Yeah Social media, you know, it is good for the entertainment of the people and to make aware of the social issues without you know having to engage actively so and you can save whatever you want to save easily and you can share your post you can share the information what you have so it is a good platform you know.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

My bank has created an awareness to you know to the mobile app engaging me digitally and now I can do all my financial transactions through - banking without even visiting to my branch so it is one of the facility which has been provided by this digital banking services.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

A: My bank can leverage mobile banking as a platform to help track and improve my finances.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A: Yes, it's engaging and inspiring

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: Yes that exactly I was telling you before that this is one of the challenge for the these financial institutions to protect the data and keep it save and you know secure so when digital banking service people ask about more personal information so I use to you know a little reluctant to give my information.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: To gain business they will have to overcome cyber crimes

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: Yes and they have to protect and secure the data.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: Service is much better and I have no issue with the services what they are providing.

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: Very user friendly and convenient to use

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: Yeah it's good, it is absolutely ok

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: Yeah it's convenient and very quick and I can easily make my transactions without any problem.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A: It's good

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: It's good

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: Yeah its good it's reasonable it's attractive you're right

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

A: Very helpful

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

A: If its advertisements than it's irritating but if these are relevant to digital banking information then its fine

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: Yeah my bank is good and trustworthy and I will you know satisfied with the services what they are giving me

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

A: My bank is highly reputable

Q: How do you see the future of your relationship with the current digital banking service provider?

A: Yes I will stick with them I will remain with them and I will continue my account with that bank.

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A: Yeah communication is, I don't have any problem communicating with my banker and more particularly I can speak to the customer service center whenever I need or whenever there is a confusion so I can talk to them easily so there is no communication barrier.

Q: How do you feel about the recommendations?

A: I don't basically like the offers what my banks use to offer me basically I'm you know a retired person so I have very limited amount of money so I use to spend that money and I am not very much interested in investing plans what my bank use to offer me but I will definitely feel in the future they give me some good offer.

Respondent JP018

Age Group – 60/65      Gender – Female

Q: How do you feel about the global digitalization process?

A: Basically, the benefits of digitalization have a flip side effect. The centralization of control over our wealth and personal information putting together all you know like eggs in a basket. While technology in the same time like human error, it is not immune to failure so by relying on something that is not 100% reliable, we are running a risk of losing control of our assets. Handing control over also opens us up to digital crime like hackers, who have unknown destructive potential.

Q: In general what do you think about digital banking?

A: Digital banking is quite interesting like because you know except going to banks we can just do it at home or any place where you want to get next to store accounts do the transactions so think is pretty good innovative.

Q: Why do you think it's important or not?

A: It's important in fact you know it's like the banking system that you get to know, it's important

Q: In your opinion what are the pros and cons of DB?

A: See, through digital banking the positive side is this that its fast and you can be anywhere and do the transactions but it has a negative side as it gives out too much our information and so there are too many scammers around so we can be hacked or scammed.

Q: Have you ever become a victim of a cyber-fraud/scam?

A: No

Q: Why do think that privacy and security are important aspects of digital banking?

A: See as I said earlier since the banking system has most of our private information so that is the reason they really need to protect and secure the information being leaked out.

Q: How do you feel on the impact of social media channels on your life?

A: It has great impact on my life.

Q: Why do you think that social media channels play an important role or otherwise in digital banking?

A: Well if there's digital banking is concerned, yes social media that's like an important aspect.

Q: How do you feel if your bank understands your personal needs and wants through your digital engagement?

A: My bank understands personal needs and wants through digital engagement they basically engage you know the way they explain and debating engagers its very inspiring.

Q: Why do you think that getting a personal touch (dealing with an understanding on you) through your digital banking experience makes you more engaging and inspiring or otherwise?

A : Well yes it does like getting you know you mean to say if there are understanding, see since you are understanding our personal needs they make us more engaging and inspiring.

Q: What is your opinion about the amount of personal information held by your digital banking service provider?

A: See that's where I'm not really comfortable at times because they are get to know a lot of our information and victim that's the thing.

Q: How do you see the future of digital banking with the increasing rate of cyber frauds?

A: See cyber frauds scam are like you know it won't go further because it's a bank extract like you know the way they protect and the way they put their security in that case I don't think cyber frauds and scammers can go very far.

Q: Why do you think that, it is important for digital banking service providers to protect the privacy of your personal information?

A: It is important that they should protect the privacy of personal information the reason is because otherwise if any other XYZ gets to know about our information can use our banking and can use our debit card or even credit cards.

Q: How do you describe the level of service you receive from your digital banking service provider?

A: It's excellent

Q: How do you feel about the usefulness and user friendliness of your digital banking service?

A: They are quite user-friendly and that I'm quite satisfied.

Q: How do you describe the quality of information you receive through your digital banking service? (Content, navigation through pages, quality and freshness)

A: See, information that I receive is like excellent like I'm very satisfied with my banking service.

Q: How do you feel about login in to the system and getting a transaction done through your digital banking service?

A: I think it's good and it's actually easy and you know systematic. It's easy that's it.

Q: How do you describe the speed, accuracy, availability and reliability of the system of your digital banking channel? (web/mobile app)

A: Pretty good

Q: What are the challenges you face and what are the pain points you have on your digital banking service?

A: Basically I won't say any challenges only there's one point is like when they connect or like you know when the bank's net is down or something like unable to connect because of some kind of error that's the only challenge I face otherwise it's all good.

Q: What is your opinion on the attractiveness of the home page of web/mobile app of your digital banking service?

A: It's excellent, I'm quite happy with the home page and the web/app.

Q: How do you feel on the services you find on the menu options in the home page of web/mobile app of your digital banking service?

It's very nice, pretty helpful

Q: How do you feel on the images and the videos you find in the web/mobile app of your digital banking service?

Good, it's pretty good the images and video they all are very nice.

Q: How do you feel on the overall customer experience you receive on your digital banking channel?

A: Overall customer experience as a customer I'm like very satisfied customer with the digital banking channels that I have.

Q: Why do you recommend your digital banking channel and the banking service provider to others or otherwise?

Well I would be because their services are good, their quality of information, reliabilities are excellent and that's about it.

Q: How do you see the future of your relationship with the current digital banking service provider?

A: Well I would be sticking with my bank.

Q: What are your thoughts on the interaction and the communication between you and the bank through digital channels?

A: It's pretty good, I think their communication and interaction has been improved they even interact via chat and all. It's good

Q: How do you feel about the recommendations?

A: Oh the recommendations and offers that bank may true, they are pretty good at times and helpful.