AN EXPLORATORY STUDY OF NEW MEDIA ADOPTION FOR PARTICIPATORY PROGRAMMING IN SOUTHWEST NIGERIA'S RADIO STATIONS

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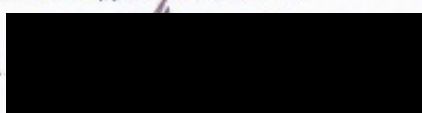
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ABSTRACT

An Exploratory Study of New Media Adoption for Participatory Programming in Southwest Nigeria's Radio Stations

By

Olawale Oni

This study uses mixed methods to closely investigate how journalistic role conceptions and perceived attributes of new technologies, among other external forces, shape broadcast journalists' intention and actual use of new media technologies. An integrated model developed from extant technology adoption and role conception theories was used to examine individual journalists' subjective beliefs about new technologies and normative roles. A hundred and forty nine (149) broadcast journalists were drawn from 18 FM radio stations in four southwest states of Nigeria using multi-stage purposive and snowballing techniques. Another set of 18 broadcast journalists of varied background were interviewed in-situ. Factorial analyses confirm the significance of perceived technological attributes in technology adoption. Role conception correlates with technology adoption. Together, they predict broadcast journalists' intention and actual use of new media technologies, with 32% total variance (R^2). Multiple regression (stepwise) models also show that a combination of perceived technological attributes (utilitarian, communication and hedonic values), perceived organisational support and agenda, and perceived institutional policy control accounted for between 8-10% of the total variance in broadcast journalists' intention and actual use of new digital technologies. Role conceptions also made significant contribution of between 12-13% of the total variance. Disseminator and civic roles emerged as positive predictors of radio journalists' intention and actual use of new digital technologies. While interpreter role approached significance, adversarial surfaced as a negative predictor. Perceived communication value (PCV) and perceived institutional policy control (PIPC) both emerged as significant predictors of technology use behaviour among Nigerian radio journalists, significant at $p \leq .001$. Thematic analyses further substantiate the centrality of perceived attributes of technology such as utilitarian and communication (interactivity) values. Overwhelming impacts of facilitating conditions on adopting new media technologies were recorded. "Gate-watching" and "agenda enhancement" surfaced as neo-normative roles driven by the use of text-based quasi-synchronous social media platforms. Ultimately, the wider social-political and economic conditions in which Nigerian broadcast journalists work shape and constrain their adoption of new digital technologies and journalistic roles, with traces of market-driven approach rather than professional value-creation.

CHAPTER 1

INTRODUCTION

1.1   Study Background

The application of digital technologies to the traditional journalism practice is reconfiguring every aspect of what is generally termed the news business. Significant academic efforts had gone into the exploration of these trends, including immediate and remote impacts of "new" media technologies on journalistic profession (Lewis & Westlund, 2016). Specific areas of influence have been identified and these include: how journalists do their work, the nature of news content, the structure and organisation of newsrooms/news industry, and the relationship between or among news organisations, journalists, and their heterogeneous audience (Domingo et al., 2009; Pavlik, 2000). African newsrooms are not in any way immune from the disruptive impact of new digital technologies as there are observations and formal reports of localised adoption and appropriation by journalists to the changing and challenging African media landscape (Atton and Mabweazara, 2011; Mabweazara, 2010; Mabweazara, Mudhai & Whittaker, 2014; Obijiofor, 2015; Paterson, 2013). An instance of this technological disruption is observable in Nigerian broadcast newsrooms through the deployment of Internet and mobile telecommunication devices for participatory programming. Participatory programming (otherwise called interactive or audience-participatory programmes) involves adoption of an array of technological devices that enhance synchronous and quasi-synchronous interactivity and participation of broadcast journalists, audience members and expert sources in broadcast programming. Earlier studies have explored this concept by focusing on how fixed and mobile telephones, through interactive phone-in programmes, have shaped broadcasting and listenership behaviour outside the framework of community radio (e.g. Girard, 2003). With the proliferation of new digital technological devices, there have been different levels of influence in mass media practice (Asekun-Olarinmoye et al., 2014; Oyero, 2007). Opinions however differ as to the quality of participation, degree of involvement of audience, power relations and professionalism engendered by new digital technologies adoption and appropriation by Nigerian broadcast journalists including their implications on democracy (BBC, 2004; Modestus & Ufuoma, 2015) spurring urgent academic research on the phenomenon.

In spite of this transformative encounter, a few researchers within the recent streams of studies on digital technologies and the evolving African newsrooms have looked beyond the regular qualitative exploration of the implications of developments in digital technologies on the routine practice of African journalists. Even at that, lesser attention is being paid to broadcast journalism and African radio journalists in particular, considering their pivotal role in African development narrative (Akinbobola, 2015; Mabweazara, 2015; Moyo L., 2013a).

The present study departs from a single-focused subjectivist research on African newsrooms and/or their journalists. Neither is it a "static, one-shot, positivist research with a limited focus on change processes' technical dimensions" (Grubernman, 2015, p. 23; McDanagh, 2014a; McDonagh, 2014b). In its cross-disciplinary approach, it combines the traditional sociology of journalism research approach with the recent quantitative research tradition of the information systems (IS) and social psychology, under the theoretical guidance of social constructivists' approaches. The study is a direct response to a call for the ontological and epistemological re-examination of contemporary journalism practice in the African context (Mabweazara, 2015a, 2015b; Paterson, 2013), given the unique technology adoption and appropriation being witnessed in urban parts of the continent. Earlier studies on the role of technological innovations on journalism did assume a deterministic impact of technology on the role and working practices of journalists. But as relevant research moved from the utopic and predictive to more empirical investigations, newer perspectives are emerging basically from Western[1] scholarship. In response to these streams of research, a number of scholars have demanded for a theoretical reorientation of the impact of technology on African journalism; calling for studies that will reflect unique journalistic adoption trends in a particular national setting (Mabweazara, 2014, 2015a; Moyo L, 2013a; Paterson, 2013).

So far, responses have come in the likes of ethnographic studies which not only debunked some of the initial utopic claims regarding African journalism in the technological era, but also detailed how African journalists are "creatively" adjusting to the new digital context of practice, thereby providing a means to understand the structure of the ensuing transformations from an African perspective (Mabweazara, 2014, 2015a). For instance, there were reports of creative appropriation and innovative integration of mobile phones by Mozambicans community newspaper, @Verdade. The media organisation creatively deployed

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[1] The running notion of Western academia, media, technologies, or technological solutions has used consistently in this thesis does not infer a strict, straightjacketed context-specific idea or artefact. It should be interpreted loosely to denote a differentiating term for cultural idea and/or technological artefact emanating from the global North as opposed to the ones developed and popular in Africa and/or by extension the global South.

mobile phones as a means of circumventing the problem of access to Internet caused by socioeconomic inequalities (Mare, 2015). A number of scholars have also reported how organisational approaches, attitudes, as well as "internal power dynamics" shape and constrain print journalists in Egypt (El Gody, 2015), Zimbabwe (2015), Nigeria (Akinfemisoye, 2014) and some other parts of Africa. In the Nigerian context, it was found that "new media technologies are helping journalists to save time in their work as well as improving the quality of newspapers by accelerated speed of production, enhancement of newspaper aesthetics and ease of crosschecking spelling errors with the aid of the spell check software" (Obijiofor, 2003, p. 54). Akinfemisoye (2014) also reports that contrary to scholarship that sees digital technologies as "de-professionalising" or "dumbing down" journalism, Nigerian journalists are making frantic effort to hold their grounds by providing more in-depth and interpretive reports in the digital era.

But despite the growing literature focusing on the impact of new media technologies on African journalism, little is known about how new digital technologies shape professional (normative) roles or how these roles influence actual use of new technologies especially in Nigeria. Given that very little attention has been paid to new media technologies as "tools" for radio production in mainstream journalism practice. A clarion call has been made on the need to for "cross-disciplinary inquiry" (Atkin, Hunt & Lin, 2015) for newsroom studies in order to improve our understanding of the complex interactions between changing news technologies and journalist practices. Response to this call which means building a model on the principle of "dynamic interactivity," one that interconnects a number of reciprocal social, technological, and human communication factors (Lin, 2003, p. 346), is being taken a step further in this study by combining two theoretical frameworks and a host of other metatheories in a mixed methodological approach. It is premised on Mabweazara (2015, p. 114) "moderate heuristic approach," a framework that accommodates Western theoretical approaches in ways that offer "contextually relevant extensions of [the] theories" that help enhance our comprehension of how new digital technologies are shaping traditional journalism in Africa. The approach combines what is termed "the sociology of journalism" and social constructivist approaches to technology (Mabweazara, 2015b, p. 108). Together, the hybridised framework provides the basis for exploring the continued relevance of Western communication technology theoretical approaches in order to understand the connections between journalism as it concerns radio – a foremost medium of mass communication and new digital technologies in an African setting.

As rightly observed by Lin (2003), "one of the most valuable developments in contemporary field of communication and mediated communication technology adoption and

uses research arena involves the increased integration of distinct communication research traditions which has equally thrown open a door of opportunity for communication researchers to share, confer, and challenge the native tradition that each has followed" (Lin 2003, p. 346). This current study also resonates with Mabweazara's (2015, p. 107) argument that: "old" approaches to both journalism and technology [should] provide relevant conceptual frames for understanding how African journalists are localising and creatively adapting new digital technologies, even as they navigate "local" and remote axes of influence. In deploying the new theoretical framework the researcher hopes to chart a new path to further understand whether technological innovations could lead to value creation in the Nigerian context or, at best, is it a new means of serving a labour-intensive working model, that which drives editorial process for broadcast managers in the face of increasingly competitive mediasphere and institutional bureaucracy (Tuggle & Huffman, 1999)? Against this background, the following are the objectives of this study:

1.2   Objectives

The objectives of the present research are as follow:

1. To explore what drive Nigerian broadcast journalists' adoption of new technologies for participatory programming

2. To evaluate the relationship between Nigerian broadcast journalists' role conceptions and perceived technology acceptance and use in the context of participatory programming

3. To examine the extent to which perceived journalistic roles, perceived attributes of technologies, social influences including organisational and institutional beliefs predict intention and actual use of new technologies in the Nigerian context

4. And, to assess the extent to which individual characteristics and broadcast ownership types influence intention and actual use of new technologies in the Nigerian context.

1.3   Rationale for the Study

My interest in this line of inquiry has been sustained over the past few years first as a student-journalist, journalist, journalism educator and researcher. The pervasiveness of newer ICTs and their adoption and appropriation in media practices in Nigeria have provided a rich avenue for me to study the changing dynamics in journalism as a profession. This new popularity touches on core aspects of individual technology adoption behaviour as well as at the organisational

setting (Sun & Bhattacherjee, 2014; Venkatesh, 2003). Apart from that, the blurriness of boundaries between interpersonal and mass communication, between personal technology use in work settings, and between organisational goal-oriented adoption and personal intrinsic motivation have presented interesting scenarios to investigate technology use behaviour. The slim threshold between these separate domains of technology adoption captivates the my interest to explore technology acceptance and use behaviour of Nigerian radio journalists and to understand what these situations portend in relation to professional norms, value and journalistic role-play.

Although journalism has always been influenced by technology (Pavlik, 2001), there is a common assumption now that the profession is in a state of flux due to technologically induced rapid and dramatic changes which are affecting its practice and product (Spyridou, et al. 2013). The high tech revolution has significantly altered the way the public obtains its news and information, while it has deprived the mass media of its traditional monopoly especially of news break. There are reports about credibility challenge coming from legacy media regarding the practice of citizen and online journalism – the tech-driven "alternative media", (Singer, 2011) and of "professional" journalists' inability to play its societal role in the age of network society (Scott, 2005; Broesma, 2010; Picard, 2011). Particularly, there is a growing concern about the changing business models, changing roles with up-skilling and multiskilling as emerging practices (Saltzis & Dickson, 2008). While attention has largely focused on newspapers and online journalism, I am keenly interested in understanding the relationships between technology adoption and journalistic role conceptions, going by the literature.

The rationale for the choice of radio as a medium of mass communication to study is borne out of its scalability and attractions to social development in sub-Saharan Africa and Nigeria specifically – the main study context. Radio is still the dominant mass medium in Africa with the widest geographical reach and the highest audiences compared with television, newspapers and other ICTs (Mudhai, 2011; Mudhai & Whittaker, 2014). World Bank Report (2003) recognises the potential of broadcasting in contributing to the economic growth and poverty reduction in developing countries. In its 2001 report, this Body linked the broadcasting sector to outcomes such as better functioning of markets and government institutions including the sustainability of the Millennium Development Goals (MDGs).[2] In Nigeria, the Gallup

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[2] This refers to the resolution of the Economic and Social Council (ECOSCO) adopted by the United Nations General Assembly's Millennium Declaration, as contained in part III of the proviso on "Development and poverty eradication." The ECOSCO 2000 Ministerial Declaration A/res/55/2 (18 Sept., 2000), paragraph 20 gives further detail on the role of technologies and broadcasting. Most notably is the paragraph 14 which stipulates that "These national programmes [for putting ICT in the service of development] could include, *inter*

reports of 2012 and 2014, as commissioned by the Broadcasting Board of Governors to evaluate contemporary media use in the country, confirm the relevance of radio for news consumption. Seventy-seven percent of an estimated 4,000 survey participants claimed they often use radio to get news. Over the last two decades, radio has enjoyed a renewed dominance mainly due to the democratisation waves, market liberalisation and affordable mobile technology (Myers, 2008). A new potency has been witnessed in radio when it combines with the Internet's social media as described in the term Radio+ (Chowdhury & Hambly, 2013). This implies that the use of a range of new media and communication technologies and their convergence with broadcasting to support interactions that co-produce knowledge and build networks of innovating people, institutions, and systems (Bruns, 2005) have reinstated broadcasting and radio in Africa for that matter into a new "site of production" (Moyo L, 2013a). This trend has opened another avenue to study the "digital turn" (Moyo L, 2013b) in radio broadcasting as the medium becomes an "interactive social communication" (Girard, 2003).

1.4   Significance of the Study

This research hopes to make its theoretical contributions to knowledge by developing an integrated scale for evaluating the relationship between journalistic role conceptions and technology adoption as it relates to broadcast journalism in developing society like Nigeria. It synthesises models of technology adoption developed in information system (IS) with recent theoretical developments in media studies regarding role conceptions in the digital age. This synthesis is informed by the slim threshold between individual and organisational use of technology as observed in Nigerian broadcasting. Changes in broadcast newsrooms due to technology have been reported mostly from ethnographic studies while journalists' role conceptions are evaluated following a combination of journalists' self-report and analysis of their contents. An empirical evaluation is therefore possible with an integrated model which combines important aspects of the existing models and theories of adoption with journalistic role conceptions. The study, in its cross-disciplinary focus, provides a new assessment of the influence of new digital technology in journalism and how this could help in understanding the

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alia, (j) promoting the digital enhancement of already established mass media; (k) developing strategies to link established technologies, such as radio and television, with new technologies such as the Internet; ..." The ECOSCO declaration states elsewhere of specific areas of concern, which broadcasting, together with other technologies, can address: the lack of infrastructure in less developed countries, the need to improve connectivity, the reduction of cost for access to information, and the promotion of "measures to increase the number of computers and other Internet access devices to the Internet within developing countries."

social shaping of technology. I believe that extant theories of technology adoption have more to offer in media and journalism studies beyond the diffusion or technology acceptance models. An integrated framework would provide a clearer insight into the concept of technology adoption in journalism and how journalists' roles are being shaped in a country like Nigeria.

The use of technology in journalism is considered to be a double-edged sword with threats and opportunities alike. In relation to broadcasting, technologies for participatory programming are being thought to reposition the concept of public service communication. From a social constructivist perspective, this study is making another contribution in its attempt to understand how technology could shape broadcast journalists' role conceptions or role conceptions held drive intention and actual use of new digital technologies. This readily addresses the concern of participatory journalism because it is closely linked with journalists' social responsibility and professionalism. Therefore, an insight into how broadcast journalists in a quasi-liberal media system like Nigeria perceive technologies for audience engagement or participatory programming provides an opportunity to assess the extent of participatory culture in the country's broadcast sector. Does participatory culture engender professional value-creation or is it simply a market-driven approach? To this end, the study will make yet another contribution to the ongoing debate about the shifting model of broadcasting and the relevance of interactivity as a potential social development approach in a developing country.

Apart from the aforementioned contributions, the study offers another perspective to reconsider what is termed the "psychology of radio" (see Cantril & Allport, 1935) in its focus on broadcast journalists rather than the usual audience-based studies. Cantril and Allport (1935) proposed the field of enquiry in response to the pervasiveness of radio as a medium of information and entertainment in the 1930s. While these scholars and a number of others with social psychology background (e.g. Greenfield and Beagles-Ross, 1988; Norris and Colman, 1996) advocate for cognitive exploration of listenership. This current study represents a complete shift from the audience focused studies as it offers an insight into what could be called the psychology of radio broadcast journalists in the digital age. In its design, the study would afford both the broadcast industry and new media research community in general some empirical information on the state of broadcast journalism in Nigeria and by extension sub-Sahara Africa. In this claim, I do not argue for a common concern among the sub-Saharan African states, even though there are peculiar socio-political and economic similarities. Yet, bearing in mind some socio-political and economic realities, it holds the possibility of providing a lens through which technology and broadcast journalism can be viewed using one of Africa's most technologically active countries. The study also has its potential in the

assessment of broadcast journalists' perceptions in relation to media performance in the digital age, even in the face of stiff competition, declining professionalism and business viability.

More so, this study will provide the much needed information on Nigeria's broadcast media and journalists' disposition to new technologies as they are being widely adopted and appropriated for participatory programming. An exploratory study of this nature will yield information about the trend, motivation, extent or degree of adoption of new technologies and their potentials, reach and richness in supporting development initiatives. Whilst the study will provide an insight into the Nigerian media adoption, convergence and participatory culture phenomena, the outcome of and recommendations from the study will no doubt be useful in the re-evaluation of policy especially by the apex agency responsible for broadcast regulation in Nigeria in relation to socially responsible us of new communication technologies.

1.5   Research Questions

Given the aforementioned background to the study the following research questions are to be addressed in this study:

1. How likely are Nigerian broadcast journalists to engage new media technologies for participatory programming and how relevant are these technologies to their perceived roles?

2. Is there a relationship between Nigerian broadcast journalists' perceptions of new media technologies and their journalistic role conceptions?

3. To what extent do perceptions of Nigerian broadcast journalists toward institutional control, organisational agenda and other external factors are able to explain variances in technology adoption and journalistic role conceptions?

4. How significantly different are Nigerian broadcast journalists' beliefs about role conceptions and technology for participatory programming in relation to their ownership structure?

1.6   Study Design, Process and Methodology

In order to collect data in pursuit of answers to the research questions earlier stated, the researcher adopted a mixed methods approach, using both quantitative and qualitative research designs. The approach is a shift from the dominant ethnographic tradition in journalism research. Typically, sociological perspectives, routed through phenomenology and/or ethnography methodological approaches are quite common on subject of technology diffusion and use in newsroom. The more common is the qualitative ethnographic approach which uses

interview and observation methods as data collection tools (e.g. Mabweazara, 2010; Akinfemisoye, 2014). In the rare case of quantitative approach, there were studies which combined survey methods with content analysis (e.g. Tandoc, Hellmueller & Vos, 2013), survey with descriptive and some inferential statistics (e.g. Berkowitz, 1993; Chung, Nah & Carpenter, 2013), and case studies (e.g. Bosch, 2014; Zoellner & Lax, 2015). However, not many studies have used mixed methods of quantitative and qualitative designs; using journalists' self-reports captured through surveys and semi-structured interviews conducted in situ and in line with the sociology of journalism epistemology (Dickinson, 2008).

In this study, I combine theoretical frameworks influenced primarily by the detailed coverage given to technology adoption concept in information systems (IS) field with models of journalists' role conceptions. It is important to state that significant grounds have been covered in IS research with respect to individuals' intention and actual use of technologies (Venkatesh, et al. 2003; Sun and Bhattacherjee, 2014). These are studies that have primarily employed quantitative surveys and meta-analyses to determine or confirm factors shaping adoption across different national and organisational contexts, including disciplines and cultures. While development and application of theoretical models such as diffusion of innovation and technology acceptance models of adoption are traceable to IS and management science fields, only a handful of journalism studies (e.g. Zhou, 2008) have adopted these models to study non-Western contexts. Hence, academic reports on pattern of adoption indicating broadcast journalists' acceptance and use behaviour in organisational setting and conducted in the context of developing country like Nigeria are at best scanty.

Though diffusion of innovation and technology acceptance models are popular theoretical frameworks within journalism studies, more often than not, these studies merely echo the theories without properly setting to task the appropriate scales and models developed for evidence-based research (e.g. Aborisade, 2015). It is important to consider a different and thorough methodological approach, not only because it will provide a fresh insight into the phenomenon of technology adoption in broadcast journalism of radio, but also considering the vital roles radio journalists play in a democratic society. The techno-deterministic perspectives which underscore some earlier studies focusing on ICT for development are being reconsidered for a more robust social shaping of technology perspectives. It is therefore noteworthy to see what change in methodology would mean to some of the claims already made regarding African journalists' observed responses to innovations in newsrooms. Studies informed by the social shaping of technology deserve another research approach other than qualitative, subjective and interpretive designs of ethnographic nature.

Given this background, the researcher has sought to conduct a quantitative survey in line with the existing models of technology adoption and journalistic role conceptions. Two scales of technology adoption (Venkatesh, et al., 2003; Tandoc, Hellmueller & Vos, 2012) are integrated with the Chung, Nah and Carpenter's (2013) scale of journalistic role conceptions in order to arrive at a new scale (see the conceptual framework in Chapter 3). The qualitative part is designed to run concurrently with the quantitative as a means of countering whatever bias that the quantitative part may introduce to the study. The qualitative approach in this study is designed as semi-structured interviews.

For its primary quantification, the study will employ both descriptive and analytical surveys. According to Wimmer and Dominick (2011, p.185), a descriptive survey attempts to describe or document current conditions or attitudes—that is, to explain what exists at the moment, while an analytical survey attempts to describe and explain *why* situations exist. In this approach, two or more variables are usually examined to investigate research questions or test research hypotheses. The results will allow the researcher to examine the interrelationships among variables and to develop explanatory inferences. Kraemer (1991) identified three distinguishing characteristics of survey research (p. xiii). First, survey research is used to quantitatively describe specific aspects of a given population. These aspects often involve examining the relationships among variables. Second, the data required for survey research are collected from people and are, therefore, subjective. Finally, survey research uses a selected portion of the population from which the findings can later be generalised back to the population. In survey research, independent and dependent variables are used to define the scope of study. Before conducting the survey, the researcher must predicate a model that identifies the expected relationships among these variables. The survey is then constructed to test this model against observations of the phenomena.

An integrated conceptual model will be used to effectively assess broadcast journalists' perception of technology adoption for participatory programming in relation to their work roles and across tiers of broadcasting. Research on role conceptions is very common in journalism studies. The four-fold journalistic role conceptions scale developed by Weaver et al. (2007) have equally informed a number of studies which combined methods such as surveys with content analysis (e.g. Tandoc, Hellmueller & Vos, 2013). The idea in these previous studies was to link role conceptions with journalistic output. However, using journalists' perceptions to explore and explain technology adoption in journalism offers another approach to understand journalistic role performance.

The prospective population and participants for the study are radio broadcast journalists in southwest Nigeria. Our target population is defined in line with Berkowitz (1993, p. 71) study on work roles and news selection in broadcasting. Broadcast journalists are operationalised as "a list of all reporters, anchors, producers, editors, news directors, and other people working in a journalistic capacity". These are a community of professionals with certain preconceived journalistic roles based on their type of news organisation, professional training, socialisation and individual differences. Deriding from the literature is the premise that these influences, together with role-defined work pressures in the digital era may result in journalistic beliefs that are far from homogenous within work roles. It is assumed that their different role orientations and beliefs may bear upon their conceptions of what exactly their duties are with much greater distinctions likely to stem from social forces more complex than work roles alone. These factors, as they bear upon Nigerian journalists and/or broadcast journalists for that matter, have not been empirically ascertained to the best of the researcher's knowledge. However, the scope of broadcaster-journalists will be limited to FM stations alone. The rationale for this is hinged on the plurality of FM radio stations in Nigeria which makes them cut across urban-rural dichotomy and geographic bound with evidence of new media adoption for participatory programming. More so, the rationale for the choice of southwest geo-political region of Nigeria is informed by its urban-centeredness, a criteria which makes the region more susceptible to new technology diffusion and adoption due to the distribution of wealth compared with other geo-political zones of the country.

For sampling, the study employed a non-probability sampling technique. Multistage purposive sampling and snowballing were therefore used for selecting broadcast journalists in a procedure which makes equal representation of every broadcast journalist working in southwest radio stations. Southwest Nigeria has, as at the last count, sixty-one (61) operational FM radio stations. The distribution of southwest Nigeria's FM stations is as follow: Lagos 26, Oyo 22, Ogun 18, Osun 9, Ondo 8 while Ekiti has 2 FM radio stations. The percentage representation of this FM stations to the country's total FM radio stations is currently estimated at 23.3 percent. Following a three-week intensive field trip, a total of 149 broadcast journalists were reached and they yielded to a self-administered questionnaire.

For the qualitative part of the study, semi-structured interview sessions were conducted among selected radio broadcast journalists. This is in support of Law's (1999) suggestion that qualitative approach is preferred in checking the oversimplification of quantitative approach to technology usage model (see Mico et al, 2014; Rogers, 2003). Hence, a total of eighteen (18)

interview sessions which reflect a mixture of the three tiers of broadcasting: public, private/commercial and community (campus) radio and also cutting across senior management staff and newsgatherers (junior colleagues) were conducted. Excerpt from the data will form part of the study analyses and discussions. A detailed discussion of our methodologies and analytic dimensions are in Chapter Four.

1.7   Conceptual Framework

This section presents a synopsis of the core concepts, assumptions and theories that support and inform our research and which ultimately define our study design in general. The conceptualisation encompasses a multi-dimensional appraisal of the increasingly popular sub-genre field of "new media" technology adoption and journalism as it relates to the African contexts. In this interconnectedness of models and theoretical designs, the most convenient point of entry would be to present first an overview of the shared affinity between journalism as a profession and technology as an artefact. Örnebring (2010) shares this entry point by seeking answers to why journalists frequently invoke technology as a self-sufficient explanatory factor in their reflection on the changes taking place within their profession and the world of news media in general. This readily points in the direction of technological determinism, an approach "that identifies technology, or technological developments, as the central causal element in processes of social change" (Croteau, Hoynes & Milan, 2011, p. 286). This popular "billiard ball" approach (Lievrouw & Livingstone, 2006, p. 21) sees technology as an external force which, when introduced into a social situation, is capable of producing a series of ricochet effect. From journalism studies point of view, technological deterministic paradigm is also closely associated with the up-skilling narrative of new technologies use in journalism.

A number of studies have however queried this theoretical paradigm on many fronts (e.g. Cottle & Ashton, 1999; Domingo, 2008; Paterson, 2008; Steensen, 2011; Mabweazara, 2010; Weiss & Domingo, 2010). The approach sees technology as the means "to direct journalism into its heralded societal function of serving the people by fostering accountability and transparency as well as establishing dialogical and participatory models of communication" (Spyridou, et al., 2013, p. 78) and adding to the skill of journalists while enhancing their professional roles.

Nonetheless, there has been a shift away from this perspective to the one that acknowledges technology but then places its effect in the conflagration of social forces, such as cultural norms, economic pressures, and legal regulations in which technologies are

deployed (Boczkowski, 2004; Deuze, 2004; Mabweazara, 2010; Ursell, 2001). This influence of social forces (to be considered under social shaping of technology in latter chapter), rather than the impact of technological artefact purview, argues that in our attempt to understand the relationship between technology and society, we should be wary of asking what "impact" a technology has had on a particular society, for this question in itself suggest, even in its least form, the very powerful effect of technology. Technology in itself cannot determine cultural or social outcomes as it operates only as an extension of human capacity. This subtle theoretical paradigm has informed a growing number of studies on journalism and technology use where journalism is perceived as a social phenomenon rooted in and shaped by professional, organisational and economic factors (Fenton, 2009).

Be that as it may, this study shares its theoretical position with the sociological approaches to technology. The sociological approach to impact of technology, often term the social construction of technologies, does not ignore the inherent capacities of different technology but that the technical properties of each technological artefact inform, directly or indirectly, its pattern of adoption/acceptance and use in different contexts. And, since research into new technologies and journalism, in many ways, echoes research outside journalism (Kelleher & O'Malley, 2005; Zhou, 2008), for instance in relation to task-technology fit, innovation diffusion and technology acceptance in newsrooms and among journalists, these researches supports several claims regarding acceptance and use of technologies among individual adopters and in work settings. Stemming from this premise is my conception of the adoption of technology. Adoption of technology in itself represents an area of study which has witnessed decades of theoretical developments from social psychology, and subsequently information systems (IS). These theories would later be adapted in problematising technology adoption in newsrooms in Western and non-Western contexts (Aborisade, 2015; Kelleher & O'Malley, 2005; Zhou, 2008). Given that journalism and the production of news have been widely analysed in view of discussions about the impacts of new technologies on new work, e.g. Lewis & Westlund (2016) provides a detailed overview of the situation in relation to Western newsrooms. However studies in this direction especially from the developing countries of sub-Saharan Africa have commonly been conducted from a distance. Although sociological perspectives on news production have so far provided the frameworks that help comprehend the complexities of cultural production and the constraints encountered by journalists and their impact on the final product of news, but surprisingly in some of these contemporary studies the voices of journalists are seldom heard.

Therefore, in an effort to explore new media use in broadcasting in this thesis, the researcher will review an array of theories and models of technology adoption with a view of distilling a hybrid conceptual framework for the study. Studies on the changing media landscape have suggested the impact of new communication technologies, through digitalisation and convergence as a part of the precipitating factors behind the "radical" configuration of journalism in general and broadcasting in particular (Cottle & Ashton, 1999). Some of the applauded fallouts of this movement involve the up-skilling and multi-skilling of journalists. However, some studies have also noted that technological engagements in journalism hold the possibility of "dumbing down" the profession (Ursell, 2001), with "enskilling", or "deskilling" as an outcome even in the face of journalists' "multi-skilling" tendency. The dumbing down is attributed to increase in workload and managerial pressure on journalists having to work extra in order to deliver multimedia journalism within competitive environment coupled with decreasing budget and declining workforce (Wallace, 2013). Bearing all these in mind, conceptualising technology adoption in journalism would mean that such concerns as the influence of technologies on broadcast journalistic work and their professional roles become very critical.

1.8   Research Context and Background
1.8.1   New Media Technologies and Nigeria (Radio) Media Landscape

The year 1999 represents a historical turning point in Nigeria, the context of this study. The year marked the end of military rule, a period that started merely six years after independence in 1960. Before 1999 a cumulative period of 10 years post-independence civilian regimes (1960 to 1966 and 1979 to 1983) had existed and leaving about 30 years of military rule (1966 to 1975 and 1983 to 1999). Throughout the post-independence eras (pre- and post- 1999), Nigeria has experienced unprecedented socio-political and economic upheavals which underscored its current position as a "developing" country. The social-political and economic problems have had a marked implication on access to and diffusion of technology including the operations of the press and journalism practise in the country. Suffices to say that the scenario obtaining in Nigeria with respect to availability, acceptance and use of technology across sectors, and for media practices in particular, is neither unique nor exceptional to Nigeria, but that which reflects the prevailing situations in most sub-Saharan African countries. While this affords some degree of extrapolation, I am not oblivion of the peculiar local dynamics and colonial heritages that differentiate the continent.

Hence, like most country in the region, Nigeria faces serious socio-economic challenges traceable to the country's political history of instability. These challenges impinge on the country's low level of access to social services including the diffusion of communication technology, its media system as well as journalism practice. Nigeria for instance evolved its concept of technological development in relation to the National Development Planning in the years after independence. Between 1962 and 1985 four [unsuccessful] development plans were launched (Onipede, 2010). There was the concern for economic independence which the country had hoped to leverage on "home-made" technological resources. The aim was that Nigeria should gradually reduce her dependence on Britain, her colonial lord, that dominated the production and distribution space in the country at that time. The reigning assumption that drove business policy up to the end of the civil war in 1970 was that Nigeria had a lot of resources but lacked the capital to effectively develop them. The policy of non-alignment was initiated to gradually reduce the grip Britain had on Nigeria's economy.

Also, there was the Indigenisation decrees of 1972 and 1977 which forced the foreign firms operating in Nigeria to sell a sizeable portion of their ownership stocks to Nigerians. Within the same period, government revenue was given a boost by favourable developments in the oil industry. The volume of oil produced in the country increased tremendously, with many oil fields established in the Niger Delta region of Nigeria. The Arab/Israel war of 1973 pushed the price of oil to $42 per barrel with consequent increase in Nigerian government revenue. The consequent "oil boom" was meant to catalyse the technological and infrastructural developments. But it was more of a curse to Nigeria and Nigerians. The revenue was lavished on white elephant projects and embezzled by corrupt and visionless leaders. The military ruled Nigeria throughout the oil boom era until 1979 when a civilian government was ushered in. Democratic governance was again truncated in 1983 through yet another *coup de tat*. The last military rule lasted until 1999 when the country had a successful transition to the current civilian regime. Today, even with the democratic dispensation, there has not been significant socio-economic and political changes.

The near stagnant socio-economic and political situation in the country provide a good case for a broad examination of the adoption of new digital technologies by Nigerian journalists. For instance, the Nigerian press – broadcast and print alike – remain a core site for political struggle and power contestation between the government in power and opposition. Rather than view this scenario as innate to the African contexts, media history has shown that it was acquired through media hegemony perpetuated by Western countries during colonialism (Mabweazara, 2015b; Paterson, 2014). The political atmosphere of the colonial era did

influence broadcasting and the entire media ownership in Nigeria (Ikiebe, 2017). A particular incidence in 1954 continues to be a watershed consequent upon a friction between Sir McPherson led colonial government and Action Group political party, under the leadership of Late Chief Obafemi Awolowo. Sir John McPherson, the then Governor-General, went on air and used the government-owned National Broadcasting Service to cast aspersion on the political party whilst also castigating its leadership for staging a walk out at the parliament. He described the party's staged walk out as "perfidy" (Ukonu, 2005, p 147). When Chief Obafemi Awolowo sought to use the same NBC to reply the Governor-General his request was not granted. Consequent upon this denial, the Western Region (comprise southwest Nigeria now) under the leadership of Obafemi Awolowo established the Region's own independent television station in October 1959. This singular action spurred establishment of radio/television stations in other parts of the country. Ever since then, broadcast journalism in Nigeria has become a project tainted by politics. Radio and television became a site of struggle for political conquest and a stage for political manoeuvring. Until very recently, military attaché were drafted to all state-owned radio and television stations in order to control and resist any attempt of hijacking the stations for political effects as often witnessed during coup de tat. This also underscores why the President remains the chief licensing officer appending broadcasting license, not minding the role of the agency put in charge of regulating and securing the license in Nigeria.

The next discussion in this chapter provides a cursory overview of the Nigerian radio broadcast media landscape, diffusion and adoption of new digital technologies, notably the Internet's social media and mobile telephone. It discusses broadcast media ownership in Nigeria, a perspective which constitutes one of the aspects to be examined in the present research, and spotlights the increased adoption of new technologies in broadcast journalism. By examining media ownership and diffusion of technological innovations, I hope to be in a better position to closely explore the technological attributes, level of social influences and relationships between journalistic role conceptions and technology use behaviour among Nigerian broadcast journalists. The discussion ultimately prepares the ground for exploration into how broadcast journalists' perceived attributes of new digital technologies, individual characteristics, social influences and facilitating conditions drive or mitigate adoption of new digital technologies in the country.

The post 1990s state loosening of the stranglehold on the broadcast sector in Nigeria, through the licensing of several private FM stations, has reinvigorated "radio culture" boosted by Internet and mobile phones. This situation has also brought back discussions on the

prospects of technology in facilitating participatory journalism, democratised airwaves while further spurring debates about the "survival of radio in a converged networked new media environment" (Mudahi, 2011, p. 1). While television is important, the focus in this study is on radio and the rationale for this is not far-fetched. The historic significance of African radio is a well-known phenomenon (Alhassan, 2004; Ligaga, Moyo & Gunner, 2012; Meischer, 1999). "No other medium of communication in Africa comes close to radio in terms of audience, political significance and cultural power" (Richard & Funiss, 2000, blurb). The situation is the same in Nigeria. Like elsewhere in Africa, radio in Nigeria is also a "space-conquering technology" (Alhassan, 2004, p.64), a "site of production" (Moyo, D., 2013). This not minding "the proliferation of newer information and communication technologies (ICTs) more recently enlivened by [mobile] phones and social networking applications" (Mudhai, 2011, p. 26). With the pervasiveness of and uneven access to new technologies, how Nigerian radio journalists leverage the new digital technologies to repurpose their journalistic roles remain an interesting area. In this section, I explore radio broadcasting in Nigeria and how new digital technologies (Internet's social media and mobile phones) are deployed by broadcasters in the context of participatory journalism given the unique social, economic and political climates that becloud journalism practice in the country.

Literature on history of Nigerian media, with specific reference to radio broadcasting, is replete with contributions from the academia and non-academic sources (Adeyanju & Okwori 2006; Akinfeleye 2003; Ojebode 2003; Ukonu, 2005; Umeh, 1989; National Broadcasting Commission Code 2010). Recently, the blogosphere has equally joined in the retelling of the Nigerian media history. In these accounts, there is a constant mapping of the historical developments of the Nigerian broadcast industry, with specific reference to December 19, 1932 as the official launch date of the industry. What is undeniable is that the historical journey began with the British colonial government in order to serve the colonial government's information dissemination need (see Aborisade, 2015; Idebi, 2008; Uche, 1989; Ukonu, 2005). Other important historical landmarks in the existing literature include the commissioning of Ibadan station in 1939, the Kano station in 1944, and the establishment of the Nigerian Broadcasting Service in April 1, 1951.

A Bill in 1956 also established the Nigerian Broadcasting Corporation (NBC). The Corporation took up the responsibilities of radio broadcasting. In 1978, the Federal Radio Corporation was also established. The Voice of Nigeria (VON) was created in 1990 and operates on shortwave. The mission is to serve as the external broadcast service aimed at the world or Nigerian in diaspora. The state creation exercises and the deregulation of broadcast

media through Decree No. 38 in August 24, 1992 by the Babangida led military administration eventually fulfilled the desire of the people. The deregulation, or rather a lift of ban broke Nigerian government monopoly of the industry. The country started witnessing increase in the number of radio and television stations. Individuals who had wanted a platform to showcase their cultural identities requesting for broadcast license as private owners. The Decree also established the National Broadcasting Commission (NBC), the agency saddled with the responsibilities of regulating and deregulating the sector.

By mid-1992, 27 broadcast licenses (14 for terrestrial TV and 13 for cable TV) received presidential approval including Daar Comunications' African Independent Television (AIT) (Balarabe, 2013). By 1999 when the country transited from military rule to civilian regime, the broadcast landscape had changed considerably. The liberalisation of airwaves paved the way for rapid growth of the industry such that between 2000 and 2004, radio stations had increased from 53 to 100 (NBC Report, 2004). It is however noteworthy to add that of the over 100 stations, only 17 stations were outside government (state or federal) ownership. Only one stations operated a not-for-profit community radio model as a university campus radio (UNILAG FM). By 2011, NBC had approved 394 of which there were 275 private operators. Only the Federal Radio Corporation of Nigeria (FRCN) operates as a network broadcasting across the country. Between the periods of this research, there are over 150 FM radio stations spread across the 6 geo-political zones of Nigeria. About half of this (61 as at the time of research) are located in the southwest part of Nigeria.

Deregulation of broadcasting remains a double-edged sword in Nigeria with both threats and prospects. There is, for instance, an increase in radio advertisements, which led to more revenue for the private/commercial radio stations operating on FM band. As noted by Olorunnisola and Amadi (2007), plurality of the airwave brought opportunities for foreign partnership. Many foreign programmes were aired against the NBC advocacy for 70 percent indigenous content. Plurality of the airwave also led to increase in political and religious patronage and biases. With the political and economic situation, governments remain one of the largest advertisers. Political leaning during and after electioneering could determine whether a station would get a significant share of the campaign funds (Idebi, 2008; Ukonu, 2005). In addition, the increase in private-owned stations brought competition among the stations especially between state-owned and private-owned broadcast stations. The new private radio and television stations tend to offer better programming and possess better equipment with production output which gave them marketing edge over the state-controlled radio stations which are partially funded. It is logical that private broadcast stations are more appealing to the

Nigerian audience who have acquired a new taste through a constant array of foreign programmes being offered by private television channels and FM radio bands.

Nigerians are avid listeners of radio. However, there are no verifiable sources of audience figures for mass media consumption in Nigeria. The NBC has no official listener figures and the radio stations too are reliant upon private company marketing research and informal assessments, or some spuriously conducted surveys for programme evaluation. What does seem clear is that Nigerians are showing more trust in and giving more credibility to private stations. A number of state-controlled radio and television stations have credibility issue and are coping with long years of dented images due to their partisanship. The heavy political patronage from government (state and federal) has affected the public image of state-owned stations. A number of these state-owned broadcasting corporations have no more than partisan news programmes as an offer for public service broadcasting.

1.8.2 Computers, Internet and Mobile Phones

Although diffusion of personal computers, Internet and mobile phones would not happen in Nigeria until mid-1990s and early 2000s. The rapid uptake of these new digital technologies in newsrooms have rekindled some hope with regards to broadcast journalism. New technologies are being deployed for production and to deliver participatory programming. Prior to the new Internet and mobile phone eras, interactive or participatory programming was limited to letter written to the producer and fixed telephone line phone-in programme. These were usually elitist in nature. The number of owners of fixed telephone lines were extremely low and the callers were often known to the public. These were usually educated retirees who had children overseas. Also in this league were the extremely influential public officers or public officeholders. Hence, participation was limited to these privileged few and a limited state-owned broadcasting corporations with flagship programmes such as the Broadcasting Service of Oyo States *Eyi Ara* radio and television (Saturday Special) programmes. A minister who once served in the Nigerian telecommunication sector was quoted as saying, "telephone is not for the poor." This statement captures the perceptions of the Nigerian public who would later view the mobile phone as a status conferrer technological artefact. Many Nigerians more than one models of mobile phone, not necessarily because poor coverage of GSM signal in some parts and the fear of being without service, but mainly to show off and to announce their membership of the elitist telephone owners. This use behaviour also manifests in their pattern of contribution on interactive programming, with incessant beeping and complimentary calls

dominating the programming which robs off quality participation and interests from genuine callers.

The growth in the information and communication technology (ICT) sector has been a powerful catalyst in repositioning broadcasting in Nigeria. Radio production and dissemination of programming have changed considerably as a result of the adoption and appropriation of social media and mobile phones. For instance, in southwest part of Nigeria with significant uptake of technology, observation of the airwaves and the Internet show that most media organisations with FM stations have a web presence and stream their programmes online or on mobile Apps such as TuneIn. As at the last count in 2017, there were 88 live radio streaming Android Apps in Google Play store. A typical Android App like Radio Nigeria listed 84 Nigerian radio stations about 80 of which are terrestrial FM radio stations. Since the introduction of Facebook Live in 2016, a number of these stations have been appropriating the foremost social network site for live streaming of their flagship programmes. This is a creative attempt to circumvent the costly web portal subscription for a streaming service. The approach also allows them to beat the geographic limitation of reaching more audience especially the "glocal" diasporic audience.

Apart from this, social media also feature in newsgathering practices such as interviewing news sources and eye witnesses. Facebook and Twitter are being widely adopted to locate interviewees for soundbites and actuality. These text-based platforms have provided radio programming with an opportunity for multiple opinions on critical issues. In the Nigerian context, social media platforms are also being used to promote important news item, flagship talk show and as feedback channel. As yet, there is little empirical evidence of how usage of social media by journalists or radio audiences drive role conceptions or performance or enactment in Nigeria.

Mobile phone with its two channel (voice and text) have also contributed significantly to the reshaping of journalism and broadcasting in particular (Bosch, 2014; Chibita, 2010; Mudhai, 2011). In Africa, mobile phone penetration is higher than electricity penetration. Apart from radio, mobile phones are a relevant distribution tools for news. According to Mabweazara (2011), mobile technology has decentred the arena of news in a manner which allows mainstream press in Zimbabwe an alternative avenue for news gathering and dissemination and a way of circumventing the stranglehold of the press by the state. This true of the Nigerian situation.

In Nigeria like in many other parts of Africa, features of the mobile phones have been used in the context of participatory programming. The voice call channel of the mobile phone have come to replace the traditional telephone in the production of phone-in programme. It has replaced the old approach to news gathering and interviewing. And owing to the low penetration of personal computers, the new smartphones and tablets are now frequently used in lieu of computers either to access the Internet for information or for note-taking. More importantly are the use of sundry mobile phone applications such as voice recorder and dictionary. Soundbites and actuality are captured effectively through the mobile phone in formats that are transferable to and accessible in the newsroom for editing. Alabi (2014) also establishes how these new technologies could facilitate feedback from Nigerian broadcast audience. He suggests that new technologies such as text messages, phone-in programmes, social media, and e-mail are veritable feedback channels that could be used to enhance newsroom efficiency and engender audience confidence. This becomes important in the era of public distrust in mass media as a result of sensationalism and partisanship of the media.

Without gainsaying, Nigeria has benefitted from the advent of new digital technologies, a situation which is evidenced in the rate of diffusion and adoption of new technologies across sectors, including journalism. For instance, Nigeria's mobile network which began in 1993 under Nigeria Telecommunication (NITEL) and a service provider, Mobile Telecommunication Service (MTS) has grown significantly. Since the issuance of digital mobile operating license in January 2001 and the commencement of operations in August the same year, the total number of connected lines (mobile GSM, CDMA, and fixed wired/wireless service) had risen from 12,500 to about 35 million between 2001 and 2006. Over the past few years, Nigeria has the fastest growing mobile telephone subscription in Africa (see Figure1). Voice, data and graphics form part of transmission over the GSM culminating into high level impact. The post Post, Telegraph & Telephone era equitable access to ICT by Nigerians have expanded individual and organisations' economic opportunities and enhanced their knowledge and skills.
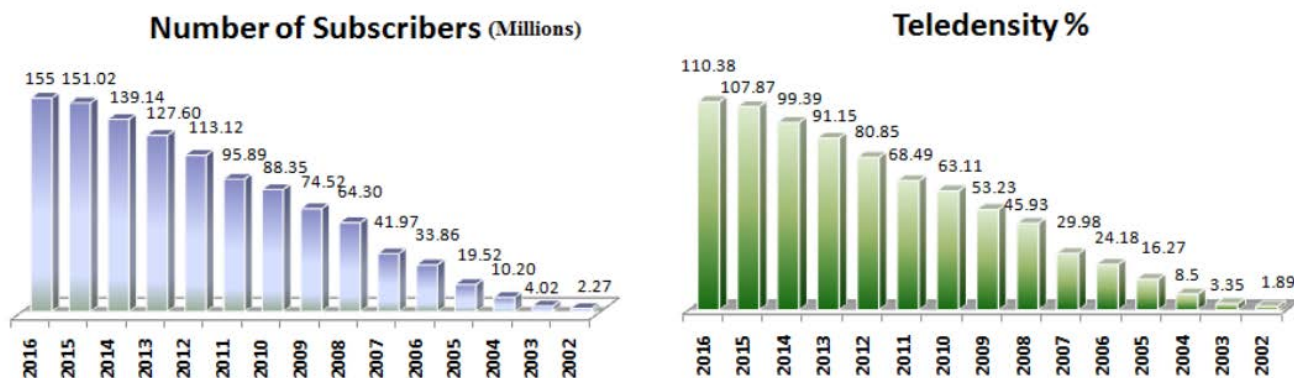
Figure 1: Mobile phone subscription data from 2002 to 2016 (Source: Nigeria Communication Commission, NCC)

The country's penetration rate continues to rise year after year. The National Population Commission (NPC) in its 2012 report revealed that Nigeria's population estimates stood at 170,123,740. Out of the figure, 48,366,179 persons use the Internet as at June, 2012 – a sharp rise from 200,000 Internet users in the year 2000, according to Internet World Statistics (2012). The 2012 figure indicated a 28.4% penetration in Nigeria. This rise in figure indicates the need for effective utilisation of ICT in the country especially in the media industry so that the challenges facing the sector can be overcome.

With the diffusion of new digital technologies into the Nigerian media space, frantic effort has been made to adopt and appropriate the prospects embedded in the features of these technological artefacts in the production and dissemination processes of broadcast media content. Internet, for instance, has afforded a new wave of accessing radio service across multiple platforms and formats. There is an ongoing scramble among broadcast stations and their journalists in order to outdo one another in offering contents beyond the traditional mode through the airwaves. More and more private stations are engaging the Internet and its technologies thereby offering their services beyond the geographical limitations and specificity of their broadcasting licenses. A number of these stations also have internet presence with social media handles and live streaming of flagship programmes on Facebook has soared (list to be included in thesis Appendix).

There is a unique offering in text-based social media chats and mobile phones SMS for Nigerian broadcasters/journalists. Text messages have become a viable tool for radio broadcasters in an unusual way. Their use as audience feedback channels has been empirically reported. For instance, in a study of Lagos broadcasting arena, Alabi (2014) notes that television stations more than radio and public more than private stations use feedbacks from

interactive communication technologies (e.g. mobile phone voice and SMS, social media, and email) to improve broadcast programming.

In relation to audience material, otherwise known as user-generated content (UGC), five prime motivations seem to drive text messages use in radio programming in Nigeria, these include cost-effectiveness, immediacy, brevity, screening, and recordability. Text messages are cost-effective compared to voice call, making them affordable for wider audience participation. Although text messages are quasi-synchronous, it is immediate enough to fit the design for live broadcast such as participatory programming, compared to the old letter-to-the-editor mode. Text messages are usually brief and this has come to be advantageous to radio production. A typical mobile phone SMS cannot exceed 160 characters (although recent phones allow up to 480 characters). With this limitation, listeners are obliged to be brief by compressing their messages. It also means that a radio presenter has less information to read-out from each listener, a situation which holds the possibility of permitting diverse opinion; a democratised space for the public. In addition to this, SMS affords the radio producer the opportunity of screening the messages. Since messages are read-through before being aired, off-the-point messages, insults, derogatory or defamatory messages are screened out before they are aired. Special affordances of digital text messages make them to be recordable. Computer programs can be used to collate and analyse the text messages sent over a period of time on a particular topic or programme. All these affordances are rich materials for the anticipated digitalisation switchover in the country.

The prospects of the newer ICTs prompted Nigeria to queue behind digitisation of broadcasting. On June 16, 2006 representatives of 104 countries including Nigeria adopted and signed in Geneva, a treaty with the International Telecommunications Union (ITU). The agreement was for a switchover of television from analogue to digital broadcasting. It was expected that by 17th June, 2015 full transition would have been made by the member countries. Some African and Arab countries were granted a concession to delay their transition end date till 17th June 2020. Since the start date, many countries have completed their switchover to digital television. Meanwhile, new digital systems are being developed for sound broadcasting with no fixed date set for the crossover in FM and AM radio. The ITU switchover was informed by the development in telecommunication technologies which enable a more efficient use of radio frequency spectrum and improved quality picture and audio. With more frequencies or wavelength available, there will be opportunities for interactive broadcasting as the television sets would be able to accommodate more functions apart from signal reception in High Definition (HDTV) digital format (DTV).

The radio industry also stands the chance of benefitting from the digitisation with improvements to sound quality of radio broadcasts. HD radio has the ability to enhance FM station in order to produce sound which is as good as CD and to transform AM station to sound as good as FM. Audience fragmentation is inevitable as audience would be empowered to choose their programmes and the time to consume them. Nigeria officially commenced the digitisation of its broadcast industry in December, 2007 following President Yar'Adua's approval. But the digitisation programme would start later in Abuja, precisely on June 3, 2008 in response to a meeting of stakeholders in the industry. However, the huge capital involved in this transmission, the technological support required and the income level of the Nigerian public have made Nigeria not to meet the June 17, 2012 date for the migration.

Given the socioeconomic condition of Nigeria, it is not certain how the country and broadcast stations are circumventing the challenges posed by the switchover and the proliferation of new digital technologies. A number of these stations are not adequately funded to access the available technologies or to undertake multimedia trainings. The perceptions of Nigerian broadcast journalists about digital technologies and how these influence role conceptions and technology use behaviour inform the present study. It is important to understand how broadcast journalists make creative adoption that is believed to be redefining how broadcasting is practised in Nigeria, bearing in mind the individual and social dynamics shaping adoption of technology

It is important to state that our theoretical exploration of the relationship between journalism and technology focuses on radio broadcast journalism. This sub-sector remains a vital site of production and developmental space in Africa, and specifically in Nigeria, the context of this study. The current spate of digitisation and interactive technology adoption in broadcasting either on a global or local scale has informed a critical evaluation of the processes and consequences of technology use in radio broadcast. A number of concepts have emerged to describe and theorise this trend under different rubrics such as converged journalism, network journalism and much recently in the "critical theory of radio convergence" (Moyo L, 2013a). My task (later in Chapter 3) therefore is to present fully these amalgams of different yet related conceptualizations surrounding our study with a view to understand the relationship between technology and broadcast journalism particularly in the African context from which the study is taking place.

1.9   Structure of the Thesis

This introductory chapter has provided the background and set out the objectives, rationale and significance of the present study. The chapter also states the research questions and outlines methodological approaches used for the study. The chapter also presents the context for the study in order to appropriately situate the work within its social and political milieu. The remaining body of this thesis comprises seven other chapters. These chapters present the literature review on technology in media, including its adoption and its use in journalism and specifically in broadcasting with contextual reference to state of radio broadcasting in Nigeria. In the subsequent chapters we present the theoretical framework of the study and a chapter which outlines and discusses the methodological approaches used for the study. A follow up chapter presents the data and analyses starting with the quantitative data and subsequently proceeds to the qualitative data presentation and its thematic analyses. A discussion chapter looks at the findings in relation to the study objectives and research questions. It discusses unique findings whilst it also highlights relatedness to extant studies where appropriate. The concluding chapter presents an overview of the research findings and summarises contribution to knowledge. The limitations and strengths of the study are presented in this chapter with a section also on areas of feature research.

Chapter 2: Literature Review. This chapter presents a critical review of literature on the key areas of the research. This relates directly to a sub-field of Journalism Studies which focuses on digital technology adoption in journalism. The bulk of this chapter is, therefore, dedicated to the coverage of published work on the topic with particular attention paid to the concept of media convergence as an offshoot of technology adoption in journalism. The importance of this approach lies in the prospect of it shedding light on technological convergence and how it is relevant to our understanding of new digital technology adoption. The significance of technology adoption research stream is foregrounded with a detailed review of theories and models of technology adoption and use as well as empirical studies that utilised them in journalism research. The final section reviews professional norms and journalistic role conceptions. The review helps unpack ideas about the relationships between journalism, professionalism, norms and journalistic roles in a digital versatile era.

Chapter 3: This chapter presents a "metatheoretical" approach to understand the use of new media technologies by African journalists. The approach, as espoused by Mabweazara (2015), recognises the need to draw on several theoretical frameworks including published literature and researcher's own impressions of the underlying assumptions which drive ongoing discussion on the new digital technologies adoption in African journalism. The chapter

attempts to fill an important gap in theorising technology adoption in African journalism by aggregating an array of theories which underpins technology and journalism. Through this approach, the chapter finds comfort in the social constructivist approaches and sociology of journalism as a means of interrogating the dynamic nature of new media technologies and unique adoption of technologies in the African contexts. The chapter reviews Moyo L (2013a, 2013b) "critical theory of converged radio" and a host of other metatheories informed by the overwhelming impacts of technological convergence on African media. Embedding these important concepts into the framework of study affords the researcher an opportunity to extrapolate the concepts to the Nigerian broadcast journalism technology adoption context.

Chapter 4: Study Design, Process and Methodology. Chapter 4 focuses on the design of the research and the chosen methodology, including the methods of data collection and analysis, as outlined above in Section 1.4. It first discusses the research philosophy in view of the need for appropriate epistemological and ontological designs in research, and then identifies the particular methods selected as constituting the most appropriate approaches to shed light on the research questions. The section also presents the population and sampling methods for the target respondents. It next explains the data collection and analysis procedures, discusses ethical issues, approval and consent, then concludes with an account of the translation of interview questions using the NVivo software.

Chapter 5: This chapter covers data presentation and analysis of findings. It offers an analysis an insight into the data collected in Nigeria for this research. It follows through a factorial analysis of the scales and constructs with multiple regressions to test the significance of models and analyse variances, using the statistical package for social sciences SPSS. The central thesis is to determine what factors predict intention and use of new technologies among Nigerian broadcast journalists and the relationships between broadcast journalists' beliefs about technology adoption and journalistic role conceptions. The role of moderating variables such as age, gender, job status and experience are examined along broadcast journalists' station ownership type/tiers of broadcasting.

Chapter 6: This chapter presents detailed information regarding thematic analyses of the transcribed interview data. It uses the NVivo (Pro) software to organise and categorise the evolving themes using Braun and Clarke's (2006) constructivist thematic approach. This approach involves using both the theoretical framework and the research questions to interpret and categorise themes. Ample exemplifications from detailed responses of the interviewees are scrutinised within the set interpretive framework. Four themes and several sub-themes emerged

from an in-depth analyses of the interview data with regards to new digital technologies use among Nigerian broadcast (radio) journalists.

Chapter 7: This chapter of the thesis presents detailed recapitulation and discussions of findings. Both the quantitative and qualitative findings are discussed concurrently as a pragmatic approach to a comprehensive understanding. For clarity of presentation, the discussion targets each of the study's research questions. Findings from both quantitative and qualitative studies are used to answer each of the research questions with some notes of conclusion. The discussion highlights areas of convergence between the current study and extant submissions. Points of divergence are also foregrounded for deeper exploration of overt and/or covert interpretation while maintaining a great caution towards interpreter bias.

Chapter 8: Conclusion. This chapter concludes the thesis by providing an overall appraisal of the study's main findings. The chapter starts by presenting the main crux of each chapter along with other vital information embedded in the thesis as it progresses. More importantly, it reiterates and evaluates the significance of the study's main findings in an attempt to present its overall implications. The chapter also presents areas of possible strengths and weaknesses as well as areas of possible future investigations. The chapter ends with a section on the implications for future research as it is hoped that the study, being exploratory in its design would lead to further detailed study of specific technological innovations, concepts and phenomena that emerge from this study.

The end matter of the thesis comprises the bibliographic information and appendix section. Relevant textual materials that the researcher considered informative and holds the possibility of providing additional information to the subject of enquiry are included in this section. Of importance here are the scales for the study (questionnaires) as well as the interview questions.

CHAPTER 2

REVIEW OF LITERATURE

New Digital Technologies and Journalism

2.1   Introduction

This chapter presents a critical review of literature on the key areas of the research. This relates directly to a sub-field of Journalism Studies which focuses on digital technology adoption in journalism. The bulk of this chapter is therefore dedicated to the coverage of published work on the topic with particular attention paid to the concept of media convergence as an offshoot of technology adoption in journalism. The importance of this approach lies in the prospect of it shedding light on technological convergence and how it is relevant to our understanding of new digital technology adoption. The significance of technology adoption research stream is foregrounded with a detailed review of theories and models of technology adoption and use as well as empirical studies that utilised them in journalism research. The final section reviews professional norms and journalistic role conceptions. The review helps unpack ideas about the relationships between journalism, professionalism, norms and journalistic roles in a digital versatile era.

2.2   Technology and Journalism: Towards Technological Convergence in Newsroom

Researches on "new" technologies adoption in mainstream media and journalism specifically follow a known trajectory with defined historical, descriptive and analytical contributions predominantly from Western scholarship. While historical certainty about where and when humans first made the transition from oral medium to literacy may not be precisely accurate. In the context of journalism practice, scholars have dated the history of technology and journalism back in time to Julius Caesar's AD 59 "Acta Diurna," the daily public chronicle of events during the Empire (Pavlik, 2000). Most historical accounts, however, point to Gutenberg's printing press (1455), the telegraph (1837) and Alexander Graham Bell's

telephone innovations (1877) as three significant technological developments in journalism practice prior to computerisation of newsrooms, starting first with computer-assisted reporting in 1950s and 1960s and, and later with the Internet in the 1990s.

For instance, the first actual instance of computerisation in journalism was during the 1952 United States presidential election when CBS employed the Remington Rand UNIVAC (Universal Access) to predict the outcome of the election between Dwight Eisenhower and Adlai Stevenson, based on early returns (Bansal 2009, p. 103). In 1967, Professor Philip Meyer built of this experience when he successfully utilised an IBM 360 Mainframe to analyse survey data from the coverage of the Detroit riots. He along with John Robinson and Nathan Kaplan at the University of Michigan conducted a survey among African-Americans during the riots and found that contrary to the assumed hypothesis, people who had attended college were equally likely to participate in riots as were high school dropouts. The story won him a Pulitzer Prize and signalled the birth of a new era in the history of technology in journalism as well as computer-assisted reporting.

Other earlier adoption of computers in newsroom involved the work of Clarence Jones of The Miami Herald and Clark Lambert, the newspaper's systems manager, who used computer punch cards and a COBOL programme to analyse court records in 1968. David Burnham of New York Times consolidated on Jones and Lambert efforts and in 1972, he also used computer to analyse records from the New York City Police Department. His analysis of population figures, crime reports, and arrest statistics from the police department revealed discrepancies among the numbers and rates of crimes reported in the city and the arrests made in different precincts. Again in 1973, Burnham used computer to uncover the relationship between fear of crime and a fear of white middle and upper class residents. He found that in New York, a black person was eight times more likely than a white person to be murdered. Other important investigative journalism under the term "precision journalism" would later emerge in 1980s after Meyer published a book on the subject. This was after microcomputers had completely mainstreamed into Western newsrooms and long after telephone had successfully been appropriated by the British Broadcasting Corporation (Criswell, 2002).

Pavlik (2000), in his article: "The Impact of Technology on Journalism", briefly recounts the significance of telephone in transforming newsgathering and reporting in the early 1970s and 1990s, hinting on how journalists "frequently conduct[ing] interviews by telephone and sometimes distributing news via it" (p. 229). In broadcasting, telephone was involved in transforming radio through phone-in or call-in programme. The concept dates back to December, 1924 with the BBC's 5NG Nottingham phone-in programme. There were written

accounts of listeners enjoying the novelty of hearing their own voices taking part in radio production and how telephone subscription surged on account of a BBC London programme. These were the earliest forms of media convergence, the coming together of previously distinct media and communication technologies; an infusion of computers, telecommunications and the mass media that birthed today's digital revolution.

2.2.1 Media Convergence: Concept Definitions and Research Directions

Marshal McLuhan is adjudged as the one who first gave a hint on the digital revolution. In the same vein, assertions on media convergence is credited to the late Massachusetts Institute of Technology political scientist, de Sola Pool (1983) through his text titled *Technologies of Freedom*, where he coined the term "convergence of modes" and offered the conceptualization of media as a process "blurring the lines between media" (Bansal, 2009, p. 3). Pool, in his conceptualization, observed that the traditional divisions between media industries, such as the press, broadcasting and telephone networks, were blurring due to the growing use and influence of digital electronics. Pool is one of the early prophets to point out that convergence can break the walls among each media platform and enable the same content to flow through different media platforms.

In spite of Pool's early conceptualisation, some scholars still don't think the idea of converging operations is new (Colon, 2000). Gordon (2003) cited in Quinn and Filak (2005, p. 5) traces the term convergence to its use in economics where it is used to discuss the process of "convergence of national economics into a global economy." It would be computers and earlier forms of the Internet that gave rise to new meanings in the different contexts of communication technology research. Based on Lawson-Borders's (2006) research, Tribune Company had started its early model of convergence in 1920s with a merger of the Chicago tribune and the company's radio station. According to Colon (2000), some newspapers in the U.S had owned television stations and shared news functions with other media outlets as far back as 1950s. By the first half of the 2000s, "newsroom convergence" had become the next buzzword to spread around media industry. The most widely publicise case was in Tampa, United States, where Media General built a $40 million "temple of convergence" (Colon, 2000, p. 26) for its Tampa Tribune newspaper, NBC television affiliate, and TBO.com website. The Tampa's model underline what is generally associated with media convergence from the perspective of new digital technologies.

There are different attempts at defining convergence in a number of new media technologies researches which identify the significance of the concept in journalism. Doyle (2002) talks about media convergence from the perspectives of technology by referring convergence to the coming together of the technology of telecommunication, computing, and media. The term convergence has become associated with "electronic content delivery" (Gordon, 2003 cited in Quinn & Filak, 2005). Within the media landscape, convergence has also come to mean "a whole array of convenient work-saving devices that allowed reporters to use computers for research, analysis and writing" (Pavlik & Dennis, 1993, p. 3). Bansal (2009), claims there is no single definition for convergence, adding that it is multidimensional with varying conceptions and contexts. Latzer (2013) opines that convergence is an ambiguous multidisciplinary term being used to describe and analyse processes of change toward uniformity or union. For this study, I reckon with a definition that describes convergence as the "blurring of boundaries" between previously distinct media and communication technologies (Wahl-Jorgensen & Hanitzsch, 2009, p. 130). In communication research, the concept of media convergence is used to describe different sorts of blurring boundaries. More common is the blurriness in the programming of public and private broadcasters in dual-order models (Kleinsteuber, 2008) and demarcation between telecommunications and the mass media as investigated in the current research.

Jenkins (2006) offers popular insights into convergence through its oft-quoted book Convergence: where old and new media collide. In this book, the author describes the new migratory behaviour of content across multiple media platform and media audience, including the cooperation between multiple media industries. By stating that "Media convergence is an ongoing process, occurring at various intersections of media technologies, industries, content and audiences beliefs" (Kolodzy, 2006, p. 4). Jenkins (2001) provides a simple framework for defining convergence. Kolodzy also figures out a framework that clearly indicates that media industries are participating in convergence in order to produce and distribute different media content to different media audiences by using different equipment and tools. The crux of convergence, in Jenkin's view, rests not only on technology but the participatory affordance brought by technology. He reckons with the cultural shift in attitude of once passive audience who are now active seekers of media content and social connections.

Jenkins (2001) elaborates five processes which describe media convergence, these are: technological convergence, economic convergence, social or organic convergence, cultural convergence, and global convergence. Technological convergence refers to digitisation of all media content. The transformation of words, images, and sounds into digital information which

makes the digitised formats to flow seamlessly across different media platforms. This is the process of media convergence that drives technology adoption in most African broadcast journalism. It describes the adoption and appropriation of operation system such as computer technology and software, telecommunications and the Internet in broadcast production including programming. Economic convergence refers to industry or "corporate merger" (Baldwin et al. 1996; Fidler, 1997, p. 27). Social or organic convergence refers to technology users' multitasking abilities for navigating the new information environment. It exemplifies the ability of a consumer to use technology to combine two or more tasks at the same time. Cultural convergence, describes new forms of creativity which is at the intersection of various media technologies and which generate new forms of multimedia content that can promoted across different platforms. Global convergence refers to the cultural hybridity that results from international circulation of media content. This also exemplifies the use of the Internet's social media, for instance, by Nigerian radio station to stream their flagship programmes on social network sites like Facebook. The approach helps international audiences to link up with a local station in real-time. Using technology to achieve global connectedness is in itself a form of hybridised convergence. The effect of convergence hybridity of this nature comes with implications which require scholarly attention. It remains an interesting perspective worth exploring in technology adoption research of this nature.

In its multi-perspective and eclectism, convergence has provided the analytical framework for various industries to discuss various aspects of change, to observe conflicting processes of convergence and divergence as two faces of the same phenomenon (Jenkins, 2006) and to provoke industry reform (Fagerjord & Storsul, 2007). Latzer (2013) points to the inevitability and desirability of convergence of telecommunications and broadcasting since the 1980s, even though the strategic objectives seem to have "taken place more intensely than in media circles" (p. 3).

In summary, convergence has to do with the blurring of the limits between different media in terms of professional skills, formats, production strategies and journalistic roles (Deuze, 2004; Domingo, et al., 2011). As inseparable "recombinants" concepts of media convergence (Deuze, 2004), multimedia and interactivity relate directly to the affordance of new technologies, that is their capacity to deliver information in multiple formats such as text, audio, video and graphics (otherwise multimodality), and to effect a two-way synchronous or quasi-synchronous communication system via the internet and mobile phone technologies (Oni, 2013; Steensen, 2011). Bardoel and Deuze (2001), opine that convergence represents one of the key characteristics of journalism and the Internet. Convergence, interactivity,

customisation of content and hypertextuality - put together with the widespread use and availability of new technological "tools of the trade" are putting all genres and types of journalism to the test. It underscores the concepts of "networked journalism" and participatory journalism. Networked journalism has to do with the convergence between the core competences and functions of journalists and the civic potential of online journalism. Participatory journalism, on the other hand, has to do with the act of a citizen or a group of citizens playing an active role in the process of collecting, reporting, analysing and disseminating news and information (Bowman & Willis, 2003). This latter concept falls within the ambit of this study in its focus on how new digital technologies are used within the context of interactivity in the Nigerian radio newsrooms for participatory programming or journalists-audience interactivity on-air and online.

2.2.2   The Emergence of Media Convergence Studies

The emergence of media convergence studies is traceable to the dwindling circulation of newspapers and the proliferation of new information and communication technologies (ICTs) in the society, starting from the mid-1990s. In Kawamoto's (2005, p.5) words, newspapers "were getting signals that their industry was in decline, especially with the younger generations of information seekers" and that "they would continue to suffer unless they embraced a number of technological, economical and organisational innovations." Thus, as newsrooms embraced technological innovations, several studies were triggered to examine the trend, impact, and/or effect of digital technology adoption on news work and the emergence of online newspapers (e.g. Garrison, 2001; Kopper, Kolthoff & Czepek, 2000; Jackson, Poole & Kuhn, 2002). With hundreds of U.S. news outlets claiming to have some sort of converged arrangement for producing news (Lowrey, 2005), these early attempts were significantly underwhelming (Singer, 2011).

The two earlier approaches to media convergence studies examined: (1) the impact of technology adoption in newsrooms, focusing on new journalistic practices especially the combination of traditional news production culture and the new production and delivery system of online journalism (Jack, 2009), and (2) the effect these changes have on the consumer (Boczkowski, 2002; Higgins, 2000; Nguyen, 2003). Between 2000 and 2005, General Media's Tampa News Centre (TNC) had become the research hub for a number of U.S. case studies on convergence phenomenon (e.g. Cassidy, 2005; Huang, Rademakers, Fayemiwo & Dunlap, 2003; Singer 2004a). TNC triggered media research into exploring the actual changes inside newsrooms and the effects this converged environment has on journalists (e.g. Dupagne &

Garrison, 2006; Huang et al, 2003). Other newsroom convergence studies were conducted at media companies that were at the time implementing convergence strategies across the U.S. (Silcock & Keith, 2006; Singer, 2004a; Ursell, 2001) and Europe (Domingo et al., 2009; Garcia Aviles et al., 2009; Hemmingway, 2005; O'Sulllivan, 2005; Schoenbach, deWaal & Lang, 2005).

However, van Noort's (2007) case study pioneered research in African media convergence. The study researches convergence as a process at the Mail and Guardian newspaper and their online edition. The research focuses on the reporters' and editors' attitudes towards newsroom convergence and on cultural resistance against change as a major challenge in the convergence process. Triangulating with structured interviews, observations and questionnaire, the researcher found that communication problems between newsrooms, different production cycles and time management issues were prominent difficulties faced by the South African news organisation. From these findings, convergence researchers have realised that a few years of convergence practice cannot show a complete picture of media convergence (Huang et al., 2003). Numerous newsrooms are in transition and examples of fully converged newsrooms remain rare (van Noort, 2007). Most newsrooms seem to stay in the changeover, never fully converging (Quinn & Quinn-Allan, 2005).

Since fully converged newsrooms remain scarce, research in post-2005 has shifted to a more important perspective by examining how converged news operations have affected newsrooms practices, journalistic roles and culture (Dupagne & Garrison, 2006, p.241). Several studies with a focus on African news media have followed this latter stream of research, thereby providing insights into digital technologies adoption in the evolving African newsrooms (Berger, 2005; Mabweazara, 2010, 2015). These studies have reported some creative and localised adoption or appropriation behaviours of African journalists, not minding the unusual circumstances which underscore technology innovation diffusion in the continent. Instances of how uneven access to digital technologies as well as socioeconomic and political forces shape adoption of technologies in African newsrooms are rife in these reports (e.g. Atton & Mabweazara, 2011; Berger, 2005; Nyamnjoh, 2005; Mabweazara, 2010; Mabweazara, Mudhai & Whittaker, 2014; Obijiofor, 2015; Paterson, 2013).

Although a number of these African-focused studies did assume some deterministic notion about the potentials of new technologies. For instance, in the context of journalism practice, new technologies have been reported to hold the potential to increase efficiency of African journalists and, by so doing, provide a platform to overcome the barriers associated with "old" approaches to journalism practice (Mabweazara, 2010). However, new evidence

based on social construction of technology theoretical paradigm have shown the danger in the over-hyped explanations of the perceived potential of new technologies in journalism, with African journalists joining the digital "alternative journalism" trend whilst still contesting their hegemonic traditional practices (Akinfemisoye, 2014). Irrespective of context, scholars have noticed that "the greatest hurdle has not been technology but rather 'cultural resistance' from traditional journalists" (Thelen, 2006 cited in Singer, 2003, p. 149). According to van Noort (2007), the foundations of cultural resistance against convergence began with the differences between print and online journalism practices. These sharp differences have been identified in the journalistic writing styles (Pape & Featherstone, 2005; Thurman, 2005b) and work practices where "the web journalists have to think about a story beyond the linear narrative" (Deuze, 2001; Stovall, 2004, p. 64) and decide in which of the available online formats will the news be presented.

Dupagne & Garrison (2006) classifies challenges in newsrooms borne out of cultural resistance into two: organisational and sociological. Organisational resistance has to do with increased workload and managerial pressure on account of convergence. This situation has led to a team approach and, subsequently, a declining sense of internal competition and conflict over resources. Singer (2004b) provides an insight into the sociological dimension of news work resulting from convergence in newsrooms. In her study of Tampa Tribune and three other American newspapers, she examines how professional norms, newspaper culture and specific news-making routines play out as cultural resistants in converged newsrooms. Singer points to the "us" versus "them" perception between the newsrooms as a common characteristics that buttress journalists' resistant to convergence.

In addition, she observes that degrees of participation in convergence tasks vary both within and among newsrooms, with many print journalists expressing little or no motivation to participate in convergence. Journalists cited inadequate training in different forms of storytelling as justification (Singer, 2004b, p. 850). As news making routines change, print reporters were concerned about fitting new duties into their newsgathering and production routines. Journalists that were used to once-a-day deadline now struggled with the immediacy-oriented online and television productions which require more frequent feeding (Singer, 2004b, p. 847). Despite these hindrances, reporters still see convergence as inevitable and offer "willingness to accommodate changes in perspective and practice" simply because they did not have fundamental concerns with the idea of convergence itself (Singer, 2004b, p. 849).

So far, empirical researches dealing with actual convergence projects have shown that there is no one-cap-fit-all model as there are no clear-cut definition (Silcock & Keith, 2006).

Different professional culture (such as between print and broadcast journalism), business priorities, individual characteristics of journalists are among several potential factors that have a decisive role in shaping the emergence and sustainability of convergence projects (Boczkowski & Ferris, 2005; Klinenberg, 2005, Singer, 2004), not to talk of mixed outcome of the implications of convergence on media content (Cottle & Ashton, 1999). The notion of context is also significant given Dupagne and Garrison's (2006) suggestion that journalistic convergence should not be regarded as just an "effect" stemming from corporate decisions or technological innovations alone. Technological innovation has been found to be contingent upon professional and economic decisions as well as individual journalist's technology literacy knowledge/skills and the specific routines they performed. Scholars have also advised that journalistic convergence must be discussed not as a technology-driven process by focusing on the artefacts alone, but also as a process that uses technological innovation to achieve set goals (such as newsgathering and increased interactivity between media organisations and stakeholders), in specific settings, for specific outcome. This represents an important suggestion for the task in the current research.

2.3 Mapping the Theoretical Landscape of Technology Adoption Research: How TAM and DIT are Operationally Constructed in Quantitative Journalism Research

The field of Information Systems is besieged with theories and models of technology adoption where a number of these propositions have been used to explain patterns of adoption behaviour in individual and work settings. The decision of how and why people and organisations adopt or reject a certain technology serves as a dominant theme in these IS research. Nevertheless, these IS theories and models have found application in other fields of enquiry such as in education, marketing and management science, and more recently in healthcare studies in relation to developing countries (Tarhini, Hone & Liu, 2013). Suffix to say here that the field of social psychology, through its behaviour theories, provides the theoretical backbone for IS theories/models of technology adoption. This is evident in the formulation of such an important theory as the technology acceptance model (TAM) (Davis, 1989; Davis, Bagozzi & Warshaw, 1989) which was developed from the theory of reasoned action-TRA (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and theory of planned behaviour (Ajzen, 1991).
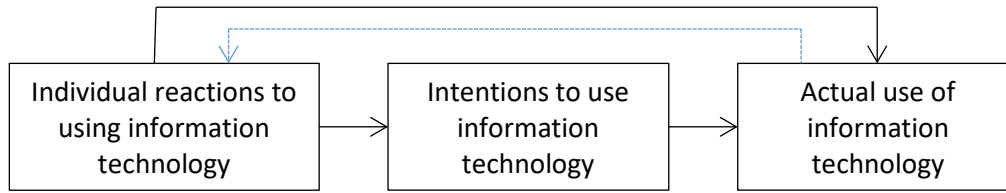
Figure 2.1: Basic technology adoption model (Source: Venkatesh, 2003**)**

Within the broad area of adoption studies, there have been two well established research streams. On the one hand are studies which aimed to understand and predict adoption at the individual level by focusing on individual's behavioural intention and use as dependent variables (Compeau & Higgins, 1995b). On the other hand are research streams which focused on implementation success at the organisational level, operating through factors such as the task-technology fit – that is the extent to which a technology fits an organisation's set goal/workers' role (Goodhue & Thompson, 1995). Each of these research directions has made vital contributions to the body of knowledge on adoption of information and communication technologies (ICT) including how they shape journalism in non-western contexts (Aborisade, 2015; Avgerou, 2008).

For this review, I am particularly fascinated by the stream of research which focuses on individual's adoption of technology in work settings with particular reference to journalism. This area has witnessed a comprehensive comparison of the key competing models following several studies of relatively simple individual-oriented technologies as opposed to more complex organisational technologies that are the focus of managerial concern. The current approach is, however, not in total disregard of the importance of contributions from the other streams of research. It is a choice borne out of the peculiarity of the field of journalism where technology and technology use form the integral part of the profession and in the context where voluntary rather than forced use of technologies informs professional practice.
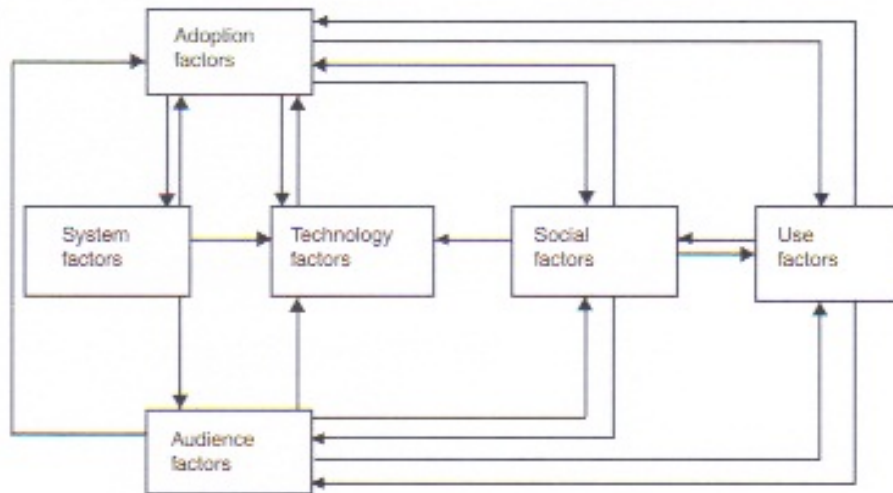
Figure 2.2: An interactive communication technology adoption model (Source: Lin, 2003, p. 346)

For instance, in a bid to open the frontier of research in communication discipline to opportunity afforded by the ubiquity of new communication technologies use in journalism, Lin (2003) proposes an integrated model for evaluating the factors that help shape adoption decisions of various communication technologies and the potential impact of technology adoption on the social system, audiences, and use patterns in communication fields (e.g. journalism). Building on Atkin (2000), Lin (2003, p. 346) observes that "communication as a human behaviour occurs on a continuum within microsocial systems that is subsumed under a larger macrosystems." And to understand the effects of these systems on journalistic achievements, one needs a "research model that is built on the principle of dynamic interactivity, one that interconnects a number of reciprocal social, technological, and human communication factors." She further highlights six (6) model components and their corresponding theoretical conceptions in order to explicate the intended focus of each of the components. These components are: system factors, audience factors, social factors, technology factors, adoption factors, and use factors. These components are developed from three fundamental theories of technology adoption such as the technology acceptance model, diffusion of innovation and uses and gratification theory.

Root Theories	Core Constructs of UTAUT			
	Performance Expectancy	**Effort Expectancy**	**Social Influence**	**Facilitating Conditions**
TRA/TPB/TAM/TAM+	Perceived Usefulness	Perceived Ease of Use	Perceived Behavioural Control and Subjective Norms	
MM	Extrinsic Motivation	Intrinsic Motivation		
MPCU	Job Fit, Long-term Consequence	Complexity	Social factor	Facilitating Conditions (Media Ownership: Private and Public)
SCT	Outcome Expectations– performance and Personal	Affect, Anxiety		
DIT	Relative advantage (Content, Technology, and Cost as sub-constructs), Compatibility, Results Demonstrability (Observability and Communicability as sub-constructs)	Ease of Use	Image (Personal and Corporate, has never been tested)	Voluntariness of Use

Table 2.1: Harmonised table of core components for technology adoption theories and models

2.3.1 Technology Acceptance Model (TAM)

Leading the pool of theories and models on technology adoption is the technology acceptance model-TAM (Davis, 1989). Developed from popular and oft-quoted social psychology theory: theory of reasoned action-TRA (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TRA explains that a person's performance of a given behaviour is product of that person's behavioural intention to perform the behaviour, while behavioural intention is consequent upon specified factors such as the person's attitude and subjective norms concerning the behaviour (Park, Lee & Cheong, 2007, p. 163). By adapting this proposition, TAM explores the factors that affect behavioural intention to use technologies at individual

level and suggests a causal relationship between two key variables: *perceived usefulness* and *perceived ease of use*— and users' attitudes, behavioural intentions, and actual system adoption and use (Davis, 1989). According to this model, perceived ease of use precedes perceived usefulness, which has a direct effect on an individual's intention to use the technology, which then leads to actual use behaviour (Figure 4.3)
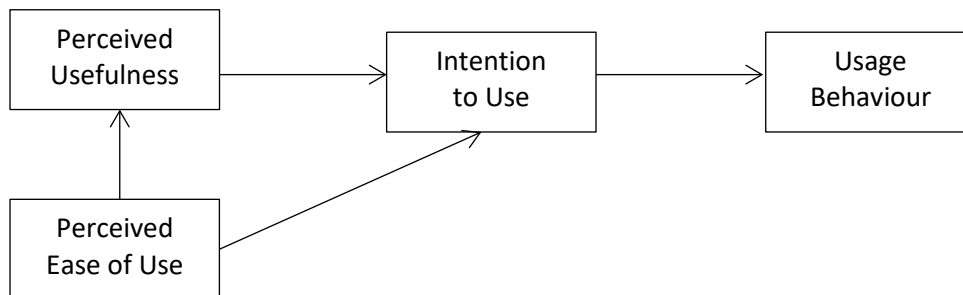
Figure 2.3: Basic technology adoption model

This model suggests that technology use is predicated upon a user's perceptions of how easy the person perceived the technology to be and how *useful* s/he perceived the technology to be for task performance. These beliefs or perceptions, together with system design affordances, are considered as motivators of user's intention and actual use behaviour. Park, Lee and Cheong (2007, p. 164) interpreted TAM has a path model which provides for the impact of external factors such as user characteristics, task characteristics, system or technological design, organisational influence, political influence, nature of the system development or implementation process. Due to the elasticity of this model, it has attracted usage across a range of discipline.

In the build up toward TAM, Bailey and Pearson (1983) had identified 39 factors as drivers of users' innovation satisfaction. Cheney, Mann and Amoroso (1986) later grouped these factors into three categories of variables namely (1) uncontrollable (task technology and organisational time frame); (2) partially controllable (psychological climate and systems development backlog); and (3) fully controllable (end-user computing (EUC) training, rank of EUC executive and EUC policies). Davis (1989) and Davis, Bagozzi and Warshaw (1989) proposed TAM to explain why users accept or reject information technology (IT) purposefully for tracing the impact of external variables on internal beliefs, attitudes and intentions (Legris, Ingham & Collerette, 2003, p. 192). For TAM the authors suggest that perceived usefulness (PU) and perceived ease of use (PEOU) are the two most important factors in explaining IT use. Overall, TAM was empirically proven successful in predicting about 40 percent of an IT

use (Hu, Chau, Sheng & Tam, 1999). Hence, the last three decades have witnessed an inflow of studies which aimed to understand, predict and explain adoption of various technologies at individual and organisational levels. There has been a theoretical movement away from the individual to focus more on relationships between behaviour, individuals and the social/physical environments in which adoption occur. An overview (Chutter, 2009), systematic and meta-analytic reviews of TAM from 1980 to 2001 (Legris et al., 2003) and from 1986 and 2003 (Lee et al. 2003) provide robust accounts of the parsimonious and complexity of TAM as a model of technology adoption and use.

2.3.2   TAM and Journalism Studies

Given its parsimony, a number of studies have adapted TAM to explore behavioural intention towards adoption of technology innovations in journalism (Kelleher & O'Malley, 2005; Zhou, 2008). Rather than using professional journalists, some of these studies used students as samples For instance, Kelleher and O'Malley (2005) explore the usefulness of TAM in understanding students' adoption of communication technologies such as the bulletin board system as a learning outcome in journalism and mass communication education and to help predict students' future intention to use communication technologies in their career beyond the classroom. In the study, TAM was used as a framework to examine how communication students' perceptions of ease of use and usefulness of the technology in school setting affect their intentions to use these technologies in their career and beyond school. Among a group of college journalism students (N = 55) at different classes and time (from year 1 to 3), the study found that students' perception of the ease of use of the technologies led to their perception of the usefulness of these technologies. Perceptions of ease of use and usefulness were also found to increase significantly with time.

The limited application of TAM in journalism studies is not far-fetched. Firstly, journalism studies endear itself to a simplistic ontological and epistemological classification which, in a way, readily aligns researchers' interest along certain normative axes namely: media practices, media text/content analyses and audience analysis. Domingo, Masip and Meijer (2013, p. 8) name the three main journalism research domains as: the sociology of newswork, with a focus on professional work practices; the paradigm of literary criticism, with its emphasis on news text; and the exploration of media consumption patterns and habits in what is popularly referenced as reception studies or audience research. Situating technology adoption studies into these "classical" research categories relativizes the significance of TAM by foregrounding technological determinism, a theoretical orientation which has received

criticism for its over-reaching superlative claim on the impacts of technology on journalism and social development in general.

Although TAM has attracted heavy usage from researchers in IS, business management, and recently in education and healthcare fields due to the presence of technological innovations such as computers and smart technologies in classrooms and hospitals. In spite of its parsimony as an operational model, it has equally received criticism from scholars, having observed IT usage researchers' over-reliance on social psychology background for TAM constructs which, they claim, invariably shifted attention of researchers from the "core subject matter" – the information technology artefact (Sun and Bhattacherjee, 2014, p. 1). Chutter (2009) questions the practical value, limited and predictive power of the model. Hence, there is lack of attention to technological details, a demerit which makes TAM as well as its theoretical add-ons (e.g. TAM2 and UTAUT) to be unfit for adequate explanation of innovations diffusion or why the same technology engendered different usage patterns across different adoption contexts (King and He, 2006; Sun & Zhang, 2006a). Even with different technologies and contexts of adoption, significant differentiation have not been made. Instead, emphases have always been made, for instance, to perceived ease of use/usefulness as "proxies" to explain technology adoption across work settings (Sun & Bhattacherjee, 2014, p. 1). Lunceford (2009) argues that these traditional constructs of perceived ease of use/usefulness ignores the essential social processes of IS development and implantation and discountenance other salient issues such as cost and structural imperatives that force a user into adopting the technology. Apart from this, independent efforts by researchers to expand and subject TAM to the framework of a constantly changing technological landscape such as media convergence could only lead to further abstraction of IT usage models and making it more difficult to isolate the individual effects of the technology.[3]

2.3.3 Diffusion of Innovation Theory (DIT)

Diffusion and Innovation Theory is another theoretical dimension peculiar to studies on technology adoption. The theory has "a long-standing tradition in the study of new communication technologies" (Atkin et al., 2015) while it has also been widely adapted to studies in media and communication studies (Garcia-Aviles, 2012). However, the new technologies also alter the landscape in which researchers apply the diffusion of innovation

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[3] (see Chutter, 2009 for a recent review of TAM research featuring over 700 citations from scholars across 16 countries including Nigeria).

theory prompting constant review of the theory since 1962. Given the reviews and the contemporary converged media environment, there is renewed interest in communication scholarship to further explore the theoretical strength of DIT. As rightly observed by Atkin et al. (2015), in the era of digitally converged multiplatform environments, there is a need to strike a balance between the parsimonious attribute of DIT and theoretical complexity of other theories and models of technology adoption.

Diffusion, in this theory, is defined as the process through which an innovation is communicated and spread over time to members of a community. The theory provides a basis for understanding the "one stage process" of who will use a technology and how quickly it will diffuse through a population up till the point when prospective users becomes exhausted (Rogers, 1995). According to Rogers (2003), innovations are defined by five important characteristics: relative advantage, compatibility, complexity, trialability, and observability. Relative advantage has to do with the degree of positive differential to previous system/technology; the notion that an innovation is better than its predecessor. Compatibility characteristic has to do with degree of conformity with already known value system and user experience; the consistency of an innovation with needs, values, and experiences of the adopter. The complexity characteristic has to do with level of difficulty for using an innovation. The trialability characteristic describes the limited basis in which a potential adopter can experiment with an innovation. And lastly, the observability characteristic has to do with the degree to which the results of adopting an innovation can be seen by others. These characteristic have been found to be positively related to the rate of adoption (Atkin et al. 2015). They also function differently within subpopulations in relation to changing technologies. Relative advantage is also consequent upon changing technologies such that perceived utility of new innovation may trigger innovation diffusion.

The actual manner of use of the technology is largely disregarded in diffusion studies and thus provides only a basis for studies and little in-depth understanding as to the actual appropriation of a technology (Fichman, 2000). This falls within the description of uses and gratification theory. However, in terms of process, there are five phases in the innovation-decision process model (Rogers, 2003). The first is the stage of obtaining knowledge of an innovation (otherwise called awareness stage). The awareness stage involves a confirmation of the decision dependent on receiver attributes (such as personality characteristics) and social attribute variables. The second stage is attitude formation phase, the point when an individual forms an attitude toward an innovation. The third phase is the decision-making phase and this is when an individual makes the decision to adopt or reject an innovation. The fourth stage

involves implementing the new innovation. Each of these phases has time element to them (Atkin et al. 2015).

Atkin et al. (2015), point to the need to consider diffusion of innovation in the context of new digital technologies. Diffusion phases, according to the authors, are still useful for capturing the process of adoption even with the rise of digital media such as the Internet. For instance, while awareness has been traditionally linked to mass media exposure, social media such as Twitter and Facebook have been prominent sources of information among young people. Evaluation phase has also been linked to physical examination and personal contact and it can altered by the interactivity affordance of new media. Trial, which is another phase of adoption has been altered in today's media environment. The trial phases happens now more rapidly than ever before as a direct effect of media convergence and/or "technological fluidity" (Lin, 2003). Lin (2009, p. 886) uses the term fluidity of technology to explain "an interoperable multifunctional and multitasking capability stemming from the converged synergy of compatible digital communication, information, and media technologies." The nature of new digital technologies such as that a device can serve multiple functions or appropriated to function for multiple tasks have led to more frequent trials of interactive communication technologies. Such adoption and appropriation are taking place in broadcast journalism in the way new media technologies such as personal computers, mobile phones and Internet's social media are deployed by journalists.

Another features common to DIT are the categories of adopters. Five categories are named by Rogers (2003) and these are innovators, early adopters, early majority, late majority, and laggards. In recent DIT review, these categories have been found not to be sufficiently exhaustive to reflect the scenario of nonadoption or incomplete adoption (Rogers, 2003). To solve this problem, "innovativeness" was created as a measure of this construct (Atkin et al., 2015). Innovativeness has been used to depict socioeconomic characteristics of adopters (e.g. Vishwanath & Barnett, 2011), yielding a claim that adults who are younger, more affluent, and better educated are more likely to adopt new communication technologies. Lin (1998) operationalizes the "need for innovativeness" construct because it allowed for the important distinction between "innate and "actualized" innovativeness.

Another concept that is recently associated with diffusion processes is "opinion leadership" (Atkin, et al. 2015). It is noteworthy to mention how this too has been affected by the affordances of new digital technologies and convergence of media. In the old approach, taking a cue from the two-step flow theory, inflammation and influence flows from the media to opinion leaders, and from opinion leaders to the less interested segment of the population.

However, changes in the communication landscape have altered this scenario as control shifted from the conventional media to an active audience who can initiate access, and seek out rather react to messages. The implications of this shifting landscape with regards to opinion leadership in converged media can be assessed in journalism across national contexts.

2.3.4 TAM and DIT in Journalism Research

In a bid to assess the impact of the TAM and DIT models in journalism, Zhou (2008) investigates adoption of Internet by 813 Chinese journalists. She incorporates the classical diffusion of innovation theory-DIT (Rogers, 1995) and TAM as a means of predicting various types of intra-organisational adoption. Zhou argues that the diversity of intra-organisational adoption offers a new way of approaching technology adoption in work settings and in overcoming the limitations of TAM to comprehend journalists' technology adoption. Zhou (2008) combines the DIT constructs such as perceived attributes of innovations, social norms and individual characteristics (Rogers, 1995) with TAM's perceived usefulness, perceived ease of use, institutional norms and organisational characteristics as predictors of technology adoption at work settings (Chinese newsrooms). By bringing the two theories together, Zhou (2008) introduces an integrated framework which compares the roles of different psychological, individual, institutional factors in an organisational members' voluntary and mandatory use of technology (Figure 4.4: An Integrated framework of the DIT and TAM to predict technological innovation adoption).
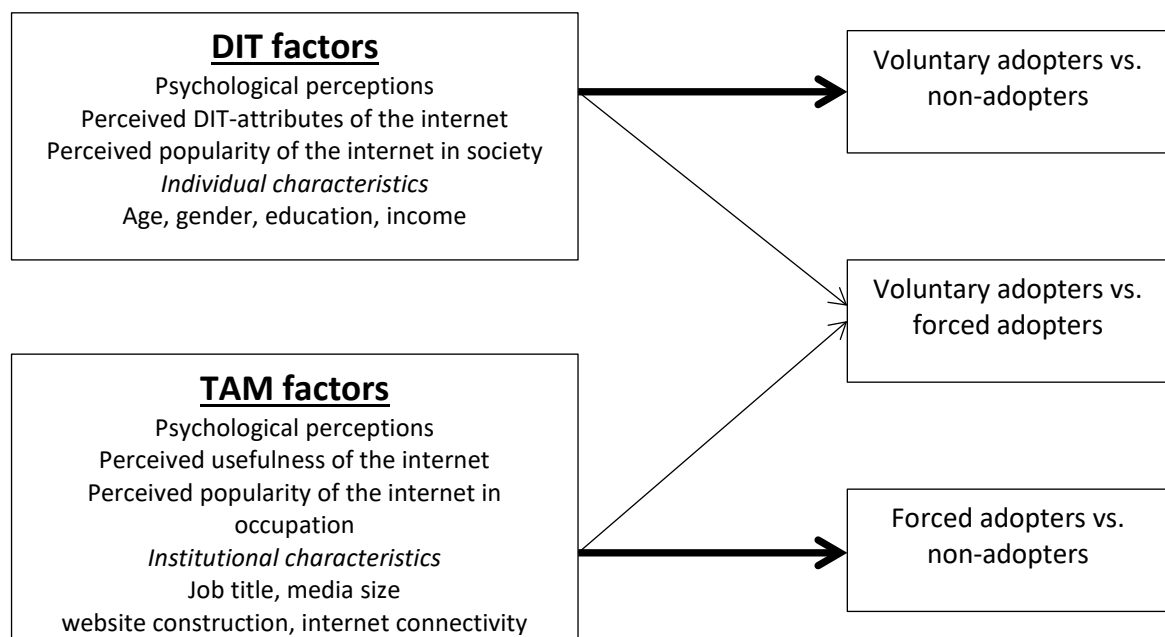
Figure 2.4: Zhou's (2008) combined model of DIT and TAM

Six factors were conceptually constructed to represent TAM in the model while five factors were used to capture aspects of the DIT (see Figure 2.2). The authors also borrowed TAM's "ease of use" in order to replace complexity determinant. This was in line with Moore & Benbasat's (1991) framework which has received wide acceptance in studies focusing new technologies adoption. Zhu and He (2002) also dropped DIT's trialability in their "perceived characteristic of the Internet" construct and proposed "image" (that is, the status conferrer attribute of new technologies) as an additional determinant. Zhu and He (2002) were able to use four out of the five DIT constructs (that is relative advantage, compatibility, ease of use and result demonstrability) to demonstrate the primary technology adoption constructs among Chinese Internet users. Whether this is the case in all social contexts has not been determined. Zhou (2008) also harmonises these four constructs into the model (Figure 2.2) in order to explore the relationship between Chinese journalists' "perceived DIT-attributes of the Internet" and adoption pattern such as voluntariness and mandatory or non-adoption (p. 479).

By using multinominal logistic regression (MLR), the synthesized framework of DIT and TAM accounted for 30 percent of the total variance in Chinese journalists' Internet adoption, which was highly significant $(X^2 = 444.73, df = 32, p < .001)$. Two DIT constructs (i.e. relative advantage and ease of use) turned out to be significantly positive for both the voluntary and forced Internet adopters as well as for the voluntary adopters and non-adopters alike. Hence, Chinese journalists who think favourably about advantages and ease of using the Internet are more likely to be voluntary adopters than forced adopters or non-adopters. The performance observability and image in the model are not satisfactory. However, journalists who observe good results from the Internet tend to be forced adopters rather than voluntary adopters.

The role of social context in shaping adoption is acknowledged in the subjective norm construct of TAM. In order to foreground the significance of social context, Zhou (2008, p. 480) conceptualizes "perceived popularity of the Internet in a society". This also follows from Zhu and He's (2002) conceptual development of four axes of social influence, namely family members, among primary group members, among strangers within the same occupation, and among the general population. The authors find a significantly positive relationship between perceived popularity of the Internet and individual's (Chinese) Internet adoption. The assumption is that perceived popularity would exert a greater impact in collectivistic society like China, and be more influential on "interactive" media (e.g. social network sites of the Internet, mobile phone, SMS). However, distinction was not made in this research as to the *synchronicity* of the interactive media, such as email and SMS versus voice call and instant

messenger Apps on social network sites. The current research hopes to explore this aspect in its conceptual model. Other construct operationalized into Zhou's study includes "perceived popularity of the Internet in occupation," which was factored into the model in order to capture organisational influence and institutional norms influencing technology adoption.

Zhou also provides for individual characteristics following different proves of the role of individual characteristics in technology adoption, especially with the personality traits/factors or "need for innovativeness" construct (Lin, 1998). These include age, as it is unclear in journalism research as to who is pioneering new media use in newsrooms between the young and old journalists. The general assumption is that older journalists are high ranking staffers with more resources at their disposal in a typical news organisation. Whether this is so across national contexts as not been ascertained. While age is beyond organisational influence, job status are within an organisational realm of influence and both do not correlate, as we equally understand in the Nigerian case where the broadcast regulatory agency stipulates certain "years of experience" and not age for managerial position.[4] In the light of this, Zhou asked, "could old journalists be less innovative than younger ones?" He proceeds to test the power of age in distinguishing between voluntary adopters and forced or non-adopters and found the impact of age to be significant in both pair comparisons. Thus, in the Chinese context, young journalists were found to be more likely to be voluntary adopters than forced adopters or non-adopters. The impact of other demographic variables such as gender, education and income is largely not significant, but male journalists appeared to be more likely to be voluntary adopters than non-adopters.

In sum, Zhou (2008) finds that perceived attributes are the most prominent predictors of innovation adoption among Chinese journalists', with 42.4 percent of the 813 journalists sampled being forced adopters. All five attributes (relative advantage, ease of use, usefulness, observability and image) are independent of the influences of various individual and institutional factors. Only relative advantage, ease of use and usefulness are significant in predicting either voluntary or forced adoption of Internet. In the Chinese context, forced adopters are high-ranking journalists who believe the Internet could enhance their job performance and who work in large technologically oriented organisations.

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[4] The Nigerian Broadcasting Commission's (NBC) Code stipulates that "only professionals" (broadcasters) who have attained a minimum of 10 – 15 years post qualification experience in the (broadcast) industry shall head a specialised department such as News, Programmes, Engineering and Marketing. Only those with at least 15 years cognate experience shall be made CEO or Chief Operations Officer in a broadcasting station. The most recent edition of the Code (Ed. 2010) is accessible online at: http://nbc.gov.ng/downloads/broadcast-code

Other factors which have been highlighted as predictors of organisational technology adoption process include organisation's size, structure, innovativeness, technical support, incentives and control structure (Frambach & Schillewaert, 2002). The argument is that the bigger the organisation, the more likely would be its innovativeness and adoption of new technologies. The bigger they are, the more likely would be the use of control mechanisms to encourage, albeit forcefully, employees' adoption of innovations. Journalism is not an exception to this proposition as pointed out in Defleur's (1997) study which shows that newspaper circulation size and staffing positively correlate with news organisation's adoption of new technologies and journalists' usage of databases and computers. Garrison (2000) also notes the role of (in-house) technical support for beginners in his longitudinal research on diffusion of Internet among American journalists. In the current study, this important direction is factored into the conceptual model for exploring Nigerian radio journalists' adoption of technology. It expresses the idea behind "facilitating conditions" of the UTAUT model and as well as TAM's subjective norms (see Table 2.1).

Chan-Olmsted, Rim and Zerba (2012) also explored a combination of TAM and DIT in their examination of the predictors of mobile news consumption among young adults. The study predicated on Pew Research Centre's 2011 report that over half of smartphone owners in the U.S. used their mobile devices to access news. And since young adults are vital demographics to explore changing pattern of news consumption and development of future news model that matches an emerging market. The assumption that the growth of mobile news would impact on news consumption habit of next generation news users and, consequently, affects the news business considerably was explored. The researchers surveyed perceptions of young adults (18 -24 years old, N = 384) towards news consumption on mobile devices and compared it to other media while also examining effects of news preferences and pattern of media usage.

As predicted, there was high mobile news consumption among the sampled young adults (84 percent), with 17 percent claiming they will use mobile news in the future. Internet over mobile phones was indicated as usage pattern and television was the most preferred traditional source of news for young adults. A series of simple regression analyses show that overall perceived relative advantage significantly predicted mobile news usage, history of use and willingness to pay for mobile news. Perceived usefulness significantly predicts mobile usage and willingness to pay for mobile news service, while ease of use also significantly predicts mobile usage and history of mobile news use (Chan-Olmsed, Rim & Zerba, 2012, p. 136). Multiple stepwise regressions were used to determine the effect of each media usage

variable. A significant model that explained 6 percent of the variance was recorded for mobile news usage. Mobile phone use was the most significant in predicting mobile news usage($\beta = .25, p < .001$). Statistically significant model was also produced for history of use, explaining 4 percent of the variance. Mobile phone use ($\beta = .17, p < .01$) and radio use($\beta = .13, p < .05$) significantly predicted young adults' news media history of use. Young adults' news consumers expressed no willingness to pay for mobile news with a significant model at ($F[1, 364] = 5.07, p < .05$) which explained 1 percent of the variance. They were however willing to pay for newspapers as the result shows statistically significance in predicting adoption.

2.3.5   Uses and Gratifications Theory (UGT)

The uses and gratifications theory, which seeks to examine audience media uses in light of social and psychological needs has stimulated numerous studies of new media technologies use across contexts. Its emphasis on audience activity has limited its application in journalism studies to areas outside the scope of individual or audience adoption of technology. However, its theoretical concept, such as its ability to explain motives for media behavior (Charney & Greenberg, 2002), has made it useful in filling the theoretical gaps in TAM and DIT. Recent technology adoption research has combined motives with perceived technology attributes to explain frequency of using interactive communication technologies (e.g. Hunt et al., 2014a, 2014b; Park, 2010) including several social media use (e.g. Hanson & Haridakis, 2008) and Smartphone Apps (Malka et. al., 2017). Hence, just as notions of perceived utility and relative advantage undergird TAM and DIT respectively, UGT provides a framework for understanding individuals' motives for using communication technology, needs, and consequences of media adoption and use behavior (Katz et al., 1974). Based on its narrow focus, UGT has received less attention in technology adoption research. For instance, one major criticism, apart from its focus on audience activity, is that it "does not make a clear distinction between "needs" and "motives," while its "key theoretical propositions are tautological in nature" (Atkin, et al., 2015, p. 633). Motives are also not analyzed in regard to antecedents or consequences as the theory indicates (Krishnan & Hunt, 2015). Given this criticism, UGT will be excluded from my conceptualisation of adoption scenario with regards to technology adoption in Nigerian broadcast journalism.

2.4   Unified Technology Acceptance and Use Theory (UTAUT)

A detailed review of eight theories including TAM and DIT was conducted by Venkatesh et al. (2003) whilst arguing for a unified model to capture the essential constructs that would help predict technology acceptance and use across technological, organisational, and national contexts (see Table 2.1 for the harmonised presentation of these theories and models of technology adoption). These include: a combination of TAM and theory of planned behaviour-TPB (Taylor & Todd, 1995), motivational model-MM (Davis et al,. 1992), social cognitive theory-SCT (Compeau & Higgins, 1995) and the model of personal computer utilization-MPCU (Thompson et al., 1991).

Prior to 2003 when UTAUT was developed, the situation was that researchers were often forced to pick and choose characteristics across a wide variety of these competing models and theories (Williams, Rana & Dwivedi, 2015, p. 443). UTAUT was therefore developed as a solution to harmonise the literature in relation to acceptance and use of new technologies. In conceptualising the model, Venkatesh et al., (2003) first identified five key limitations of the previous models and then proffered seven primary constructs that were discovered to be relevant as direct determinants of intention or usage of technology in organizational setting. After analytic appraisals of all the constructs, four prime constructs were distilled as the most significant determinants of user acceptance and usage behaviour by Venkatesh et al. (2003). These are: performance expectancy, effort expectancy, social influence, and facilitating conditions. They were able to jettison attitude toward using technology, self-efficacy (judgment of one's ability to use a technology to accomplish a particular task), and anxiety (anxious or emotional reactions when it comes to using a technology) as *not* too direct determinants of intention to use technology. Venkatesh et al. (2003) moderate these determinants using demographics (such as gender, age, experience and voluntariness). Venkatesh et al. (2013) present results from a six-month study of four organisations which revealed that the eight contributing models explained between 17 and 53 percent of variance in user intentions to use technologies. The new model outperformed the previous eight models with an adjusted R^2 of .69 (i.e. 69 percent) (Venkatesh, et al., 2003, p. 425).

Ever since its launch, UTAUT has been a parsimonious model being employed in technology adoption and diffusion research as a theoretical lens for conducting empirical studies of technology use intention and behaviour. Williams, Rana and Dwivedi (2015, p. 444), in a review of UTAUT from 2004 to 2014, puts the model's citations as being just under 5,000 times, with references to a range of technologies and several work settings. Overall assessment of UTAUT's studies by these authors suggests that studies on UTAUT are not yet dominated

by any group of highly productive individuals. Publications are currently dispersed across a large number of authors with each contributing fewer articles (three at most). Knowledge production spanned across 20 countries of which Africa's only had four: South Africa, Uganda, Ethiopia and Tanzania. Out of 494 articles reviewed, 13 publications are based on the African technology adoption experience. Specifically, 11 of these research papers have their contributors as affiliates in colleges of journalism and mass communication and/or department of telecommunication (7), information studies and media had four (4) papers. Williams, Rana and Dwivedi (2015, p. 450). Quantitative surveys with inferential statistical analyses were the predominant methodological approach.

In spite of the robustness and parsimonious nature of UTAUT, a number of researchers have criticised UTAUT for its bias across different countries and contexts (Dwivedi et al. 2012; Teo 2015; Park, 2010; Peters, 2011) citing its limited focus, omission of self-efficacy construct as it was wrongly interpreted for the inclusion perceived behavioural control and complexity of the four determinants and moderators (Atkin et al., 2015). Williams, Rana and Dwivedi (2015) observe certain limitations in published works that utilised UTAUT. In fact, only two variables (performance expectancy and behavioural intention) were found to meet the benchmark of Jeyaraj et al (2006). More recently, Kiwanuka (2015) also points to the failure of the UTAUT authors to include the processes leading to adoption in their interpretation and inclusion of DIT into UTAUT. The author suggests that for UTAUT to be effective in its measure of technology use behaviour, researchers most cater for the environment and process in which technologies are used.

In a bid to enhance the explanatory power of UTAUT, Venkatesh et al. (2012) has reviewed the model by adding three additional constructs to the initial four, these are: price value, hedonic motivation and habit. El-Masri and Tarhini (2017) have also introduced "trust" as a variable in order to tested UTAUT 2 model against e-learning systems adoption in Qatar and U.S. Results show that UTAUT 2 with the addition of trust explained more variance of behavioural intention compared to the original UTAUT. Their findings also support the effects of individual, social, organisational and cultural factors in explaining (students) users' behavioural intention of adopting e-learning systems.

2.5 Incorporating the Core Information Technology Usage Model (CITUM) into UTAUT: A Hybridized Model

In this section I attempt resolving UTAUT's criticism by incorporating another recent model, which is Sun and Bhattacherjee's (2014) Core IT Usage Model. Sun and Bhattacherjee, (2014)

contend that it is vital to separate the purpose and nature of technology artefacts before assessing their usage pattern. Technologies, they say, should be visualized as emerging system; with actors within a network of actants embedded in a socially dynamic context (Sun and Bhattacherjee, 2014, p. 2). By also summing up the initial determinants of the UTAUT model, for instance into utilitarian value (which relates to performance expectancy and perceived usefulness/ease of use constructs), hedonic value (which relates to the perceived enjoyment aspect of intention to use technology), communication value (that endears usage to social ties and influence of "other"), and technology complexity (which also relates to perceived behavioural control construct) a new model which captures technological characteristics/attributes in view of media convergence was developed. Therefore, by drawing from both the UTAUT and the core IT usage model, three core technological attributes is deduced as the summative motivations of technology use, these are: the utilitarian value, the hedonic value and the communication value. These technological attributes will be operationalised into the conceptual framework for this research.

2.5.1   Utilitarian Value

Sun and Bhattacherjee (2014, p. 3) use utilitarian value as a summary term that captures the trends in adoption studies to properly situate the potential of TAM's (or its earlier derivatives, such TRA's, TPB's) perceived usefulness, that is the degree to which an individual believes that using a particular technology will enhance their performance. The term also underscores Rogers' (1995) DIT's construct under "attitude towards innovation." The stream of research which explored the perceived usefulness construct prior to its operational reconstruction in UTAUT model as performance expectancy (see Table 2.1) include Moore and Benbasat (1991), Venkatesh and Davis (2000), Zhu and He (2002) and also in Zhou (2008) technology adoption studies among Chinese journalists. The idea is that rather than focusing on multiple constructs explicated as people's "attitudes toward innovation" or "outcome expectation" (Compeu & Higgins, 1999) in many theoretical frameworks for researching technology adoption in work settings (e.g. DIT's relative advantage, computer self-efficacy model, and MM's extrinsic motivation). Performance expectancy as a unifying construct would cater for the central theme which runs in evaluating how an individual perceive their intention and use of technologies in work settings. In the same vein, Sun and Bhattacherjee (2014) reconstruct the term more fittingly as utilitarian value by considering the fluidity of intention and use of technology in the digital era which goes beyond enhancements of users' performance. Against this background, the authors hypothesise that the effect of perceived usefulness on IT usage

intention is stronger for technology with high utilitarian value than for technology with low utilitarian value.

2.5.2   Hedonic Value

In view of the reality in contemporary technological innovation which combines job efficacy or communication need with "playfulness", the term hedonic value highlights the need to cater for the new technological dimension by adding users' enjoyment or fun-catching or playfulness as a part of technological design. Enjoyment as the keyword here is operationally defined as the extent to which an activity of using a technology is perceived to be enjoyable in its own right (Davis et al., 1992).Technology that has hedonic features is directed at different cognitive based outcomes such as personal pleasure or enjoyment. Intention or actual use behaviour may then be affected by the playfulness attributes of a technological innovation. This addition therefore bridges a vital gap in UTAUT's technology adoption framework. A number of past studies have attempted to evaluate the contributing power of perceived enjoyment, playfulness or perceived fun. For instance, Moon and Kim (2001) study explore the contributing potential of playfulness embedded in the Web technology and found a strong relationship. Two groups of users were surveyed for their perceptions on the web wide web as a work-oriented or entertainment-oriented technology. Perceived usefulness was observed to have stronger influence on usage intention for those users who perceived the Web as a work-related technology than those who viewed it as an entertainment-oriented technology. Igbaria et al. (1995) find that perceived enjoyment correlates with time spent using the Internet, but not the frequency of use or number of tasks performed.

Still on the subject of Internet usage, Teo, Lim and Lai (1999) report that perceived enjoyment correlates positively with the seasonal and daily frequencies of Internet usage. Perceived fun, operationalised as the performance of an activity for no apparent reinforcement other than the process of performing the activity per se, was found to be positively correlated with computer system usage (Igbaria et al., 1994). Perceived playfulness, which is operationalised into three parts namely: concentration, curiosity and enjoyment was found to have significant impact on the intention to use the Internet (Moon & Kim, 2001). In relation to perceived ease of use, Van der Heijden (2004) also finds that perceived ease of use and perceived enjoyment contributed to the prediction of usage intention than perceived usefulness. Sun and Bhattacherjee (2014, p.3) point out that the main driver of this concept lies in Deci's (1975) social psychology motivational theory. Adapted into technology adoption model,

extrinsic motivation refers to expectations of benefits external to the system-user interaction, such as job efficacy or perceived usefulness. Intrinsic motivation refers to the cognitive-based rewards – such as catching fun – derived by users from interacting with the system.

Against this backdrop, Sun and Bhattacherjee (2014) hypothesise that effect of perceived enjoyment on technology usage intention would be stronger for technology with high entertainment value than for those with low entertainment value. An important dimension here relates to TAM's perceived ease of use or its extension in effort expectancy construct. In the case of technology that is mostly utilitarian, work performance is the ultimate goal. This position makes perceived ease of use to be less central in predicting usage intentions. On the contrary, technology that is predominantly hedonic such as social media networks and mobile phones being used in the context of participatory journalism and in the capacity of interactive technologies, have a bearing on performance expectancy or perceived usefulness (as extrinsic goal). The effort put into using a technology becomes important as a shaper of intention to adopt. Technology with high hedonic value would therefore contribute to the prediction of perceived ease of use, compare to technology with low hedonic value. A number of studies have validated this claim using Internet as a technology (e.g. Atkinson & Kydd, 1997; Moon & Kim, 2001).

2.5.3   Communication Value

According to Sun and Bhattacherjee (2014, p. 4), communication value derides on a network of users, the "other", who motivate user intention and behaviour. In relation to technological artefacts, these are interactive technologies such e-mail, the two channels of the mobile phone (short message service and voice call), groupware, including any technologies that facilitate communication, cooperation, and collaboration among a group of users within work settings. These may include group support system developed specifically or appropriated as such as a means of improving group productivity or decision making, or in personal social settings as in the case of online social networks like Facebook which is specifically designed for entertainment. The central ideas driving communication value are that the technology must be communication-oriented and rely on a network of users who consciously or subconsciously motivate other users in the use of the technology. The assumption is that users are unlikely to adopt technologies if they cannot use it to communicate or interact with their colleagues or social group, irrespective of its utilitarian value or hedonic value. Overt influence from the adopters' social groups, which extend beyond the immediate work setting, contributes to the technology usage in the same capacity as its utilitarian or hedonic features.

In this study, this assumption is operationalised to address the "social influence", and by extension, the "subjective norm" constructs of the extant theoretical frameworks on technology adoption. As earlier mentioned social influence as a factor or variable in acceptance and use of technology research is a fundamental construct which stems from the social psychology theory of reasoned action and extends to TAM. In its basic proposition, subjective norm is defined as "a person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Fishbein & Ajzen, 1975). Subjective norm has been found to have a mixed influence on technology usage intention, as it is suggested to be dependent on the technology being investigated (Sun & Bhattacherjee, 2014). In fact, Davis et al. (1989) dropped the construct in their formulation of TAM. However, for communication-oriented technologies, the effect of subjective norm or social influence (as it would be called in UTAUT) is seen to be more salient. In this kind of situation, prior adopters of technology "have an incentive to enlist more users in order to expand their own communication and collaboration network, and therefore may promote that IT to their peers, friends, and referent groups by sharing their experience with and offering help to potential adopters" (Sun & Zhang, 2006b). This assumption was adopted and proven by Rogers (1995) in the diffusion of innovation theory (DIT) where communication and social influence from early adopters are primary drivers of new innovation adoption among late adopters. Sun and Bhattacherjee (2014, p. 4) explain further that influence from prior adopters help persuade potential users of the utilitarian value of a communication-oriented technology. This influence is expected to be stronger on intention to adopt as it is considered along the perceived usefulness. This proposition was tested in their meta-analytic study where it was reported to precede perceived usefulness with ($p = 0.44$) as a predictor of intention and actual use behaviour of technology. How social influence is represented and adequately captured in the role theory narratives leading to journalistic role conceptions will be the focus of my next discussion in this chapter.

2.6 Journalism, Professional Norms and Role Conceptions in the Digital Era

The relationships between technology and journalism have been one of the focal points of journalism research since the introduction of personal computers and the Internet to newsrooms. The inherent architecture of Web 2.0 and the proliferation of mobile telecommunication products and services initiated a kind of prophetic optimism about the potential of new media technologies in facilitating participation, collaboration and self-expression, including the idea of new business models that will safe journalism from its death

knell. This is consequent on dwindling newspaper circulation, audience patronage, and credibility crisis of some established media organisations. Although journalism has always been shaped by technology (Pavlik, 2001), it is no doubt currently in a state of flux "as it is undergoing rapid and dramatic structural changes, affecting it as a practice, as a product and as a profession" Spyridou et al. (2013). In relation to how journalistic do their work, several studies have pointed to how new digital technologies are challenging professional practices. Singer (2007) addresses this concern by stating that "inherently open, participatory nature" of the Internet technology has led to blurriness in the boundaries between "professional" and "popular" communicators. She echoes Burnett and Marshall (2003) observation that the "vast, fluid, ongoing, multi-voiced discourse of the online space has provided the platform for the merger of traditional communication dichotomies, adding that "the Internet has fostered a new environment in which definitions of professional concepts are open to reinterpretation and in which oversight of professional behaviour is shared" (p. 79).

Focusing on cultural norms and practices, Singer (2011) notes that three aspects of journalism are mostly challenged by new media technologies, these are: shifting control over information, news production practices, and relationships with audiences. In relation to central normative aspects of professional journalism, Singer (2007) identifies two pressure points in relation to the Internet and journalism: voluntary commitments to truth and to "transparency" or accountability to the public. These two norms are considered in the context of professionalism, particularly the ways in which professional autonomy in defining and enacting behaviour is challenged by popular communicators. According to Singer (2011), the exponential growth of the Internet created a situation where everyone can be a publisher. However, this does not mean that journalists are willing to relinquish their professional roles or ready to accommodate every blogger or citizen journalist for that matter into their "professional hall of fame". The "existential questions" from journalists and which also drive the debate about the power shift as a result of the proliferation of digital technologies include: Who is a journalist? What does a journalist do differently that other people cannot? What unique social role do journalists play that distinguish them from other people? I move on to address these questions in the next section where I review how journalists legitimise their profession in view of ongoing technological disruption.

2.6.1 Professionalism and Journalistic Norms

Like many other communication constructs, the notion of professionalism has its root in sociology. According to Larson (1977), professional has to do with how certain groups are

perceived as possessing, among other things, special power and prestige. Professionalism is also conceptualised in view of the degree of autonomy available for the members of the profession over their own occupational behaviour. The professional community confers absolute authority on members, the authority provides a code of practice as guiding principle and for determining whether its members have behaved properly and also for enforcing punitive measures for erring members (Singer, 2007). Given this premise, it becomes uncertain the extent to which journalists can legitimise themselves as professionals if they are not seen as such by the public and if there are no community chartered to legitimise their roles. Professional journalists, unlike regular professions, seek validation from the public in order to exist as professional.

For journalists to exist as professionals, they have to see themselves as providing a public service. According to Larson (1977), this is a hallmark of professionalism and "the strongest claim to professional status over the past century" (Singer, 2011, p.3). By making a claim to public service, journalists have rendered themselves accountable to the public. Singer (2007) discusses the idea of journalists' public accountability as part of the professional duty citing an example in the United States journalists who have made independence a part of their ethical code and constantly fight any attempts to encroach on this autonomy. Journalists across national contexts have borrowed the concept of accountability to construct their professional. Through accountability claim, journalists have "framed their stance in terms of the need to fulfil public obligations of informing the citizenry, free from influences of government or obligations to any external force" (Singer, 2007, p. 81). With this approach, journalists have created a space for themselves in the public sphere as institutional elites, riding on the provision of information. This normative role and accountability comes with the responsibility to deliver quality information to the public and the safeguarding of it. Ethical guidelines provide journalists with the framework for differentiating between high-quality information that is a service to the public and low-quality information that may be a disservice. By identifying with public service, journalists have attracted unto themselves the responsibility of distinguishing the providers of fake information from the sources of reliable information. Singer (2011, p. 4) notes that the ethical precepts alluded to in the accountability claim are lofty; "often too close to the ideal than to the reality." Nevertheless, they are fundamental to most journalists' definitions of themselves and their role in democratic society.

Apart from accountability, Singer (2007) also points to how professionalism is attained through membership of trade union whilst seeking autonomy. Members of a profession, she says define, shape, and control their own work progress. With regards to journalism, the

process of news-making has ensured that there are traditional routines, newsroom structures and decision-making level that sustain the quality of the final product. Most of these routines, structures and decision-making cannot be separated from the fact that journalism evolves from the social space of a newsroom within a news organisation. It represents a domain of power and "a collective enterprise designed to streamline (and typically profit from) individual work" (Singer, 2007, p. 81). She adds that the power relations that is involved in news work and which flow through the hierarchical news work environment includes not only reporters but also editors, whose job is to ensure that information reaching the public is ethically sound (Keith, 2015). High-quality information must be credible, so journalists highlight ethical principles such as truth-telling, normative stances such as independence, and newsroom practices such as verification of news and sources. This underlies the credibility claim, accuracy and accountability for inaccuracy in the event of hasty news break (Singer & Asher, 2009). While the profession itself seek its legitimacy by seeking autonomy from outside control, individual professionals actually give up personal autonomy to a significant degree. The idea of the journalist as the person who decides what others should know highlights the role of the press in a democratic society (Gans, 2003). As a "gatekeeper" (White, 1950), Fiske (1989a) observes how journalists are able to exert their influence over the circulation of knowledge and shape political reality through agenda setting function and through which public opinions are shaped (McCombs & Shaw, 1993).

Accountability and autonomous professional power explicated in the gatekeeping and agenda-setting normative claims have taken on new definitions with the proliferation of new digital technologies. Journalists have drawn on these normative claims to re-affirm their stance as gatekeepers of information reaching the public. It is, in a way their attempt to assert occupational control over the uncontrollable; an attempt to reclaim the authority that vanished in the transition from an environment in which journalists were central to the flow of information to one that is open in which there is no centre at all (Robinson, 2007). The open network architecture of the Internet have created a situation whereby an infinite number of participants simultaneously serve as sources, audiences and information providers. It allows multitude of people from anywhere in the world to exert a form of bottom-up power and create meaning that is explicitly resistant to that created by legacy media and their journalists.

Accountability, together with openness, has been linked with another recently articulated concept of transparency and truth (Singer, 2007). Truth as a normative concept in journalism is defined as: "being honest about the nature of what is known and how that knowledge has been generated" (Kovach & Rosentiel, 2001). Transparency has its meaning in

political philosophies where it is tied to the public's ability to call government to account (government being accountable to the public). From this background, transparency also shares normative connections with the broader notions of social responsibility and responsibility – the expectations, relations and obligations among people operating within a set of cultural and situational norms (Scott & Lyman, 1968 cited in Singer, 2007, p. 83). Social responsibility has been the umbrella term in relation to journalists' claim to professionalism. This is emphasised in the social responsibility theory, a theorem which seeks to unite ideas of democracy, responsibility and truth-telling in relation to press function.

Social responsibility theory situates journalism strategically in the centre of political action and the public need for reliable information in order for them to call government to account. It is the responsibility of the journalist to provide the public with "a substantial and honest basis of fact for its judgements of public affairs (Hocking, 1947, p. 169). Christians and Nordenstreng (2004) have argued for the centrality of social responsibility as a worldwide ethical commitment, adding that accountability becomes especially vital as the media become simultaneously more citizen-based and more globally oriented. In spite of interrelatedness among the aforementioned ideas, Singer (2007) draws our attention to the difference between accountability and responsibility, citing ethicist, Lou Hodges' assertion that responsibility connotes "proper conduct", while accountability is more about "compelling" proper conduct. Truth is another normative concept which is central to journalists' construction of professionalism. According to Misztal (1995), it is a public good, essential for stable relationships, the maintenance of cooperation and for overall social welfare. Trust, as an embodiment of truthfulness of the communication we receive from others is central to actions needed to maintain social order. Bok (1989) proposes that a society whose members were unable to distinguish truthful messages from deceptive ones would collapse. Singer (2007) relates the proposition to a statement about responsibility, that is, the positive commitment of an individual not to deceive or act in other ways detrimental to the social good and accountability, or the related notion of being publicly answerable for one's actions. Transparency embodies accountability as truthful disclosure before, during and after an action has been taken.

Studies documenting journalists' reactions to new digital technologies have reported journalists' unwillingness in yielding to shifts in control over information. Scholar have also explored issues of truth, trust and transparency in a new media environment (Gunkel & Hawhee, 2003; Thurman, 2008; Tompkins, 2003). For instance, Thurman (2008) reports widespread concern about participatory journalism, particularly the effects of user-generated

content (UGC) on professional norms and values. Thurman notes that in spite of resources dedicated by the British national media (the BBC) to UGC, journalists still felt there is need for proper handing and editing of user contributions in order to ensure balance, decency, "reputation and trust" (Hermida & Thurma, 2008). Singer and Ashman (2009, p13) also report that journalists at Guardian newspaper were worried about the potentially detrimental effect of "nasty comments, which can undermine the brand," noting an editor's comment that there's a crucial role for "the expert journalists who can interrogate and understand all of those sorts of things in a way that the citizen reporter just can't." Journalists at local British newspaper also reportedly felt the need to oversee the quality of UGC despite diminishing newsroom resources. The value of UGC, according to journalists, is "disproportionate to the excessive amount of management time which is taken up whist trying to ensure it is accurate, balanced, honest, fair and – mostly importantly – legally safe to publish" (Singer, 2011, p. 6).

On the notions of truth, trust and transparency in a new media environment, Tompkins (2003) notes the difficulty in assessing the truthfulness in online messages, despite the circumventive moves of uncertainty reduction and the effects of filtered-out disambiguating cues. Tompkins points to the asymmetrical nature of online communication and how the fact that communicators are not physically present to one another contribute to the difficulty of determining both truthfulness and trustworthiness. Gunkel and Hawhee (2003) explain deeper that a computer-mediated environment reconfigures prevailing ethical systems based on truth and identity. Truth, the authors say, "is not a quality or a value that is indigenous to the computer; it is the 'will to deception' that best characterises its operations" (p. 183). Singer (2007) points to Cooper's (1998) ethical concerns about information communication technologies; citing how deception and accountability were high on the list of 40 ethical issues created by new media technologies. While scholars have been able to study the relationships between journalism and new media technologies in respect of professionalism and norms, significant efforts have also gone into the examination of journalists' conceptions of online news and citizen journalism. The focus of the next section shall be a review of role theory and how it informs journalists' role conceptions as well as studies in this direction.

2.7 Interpreting Journalistic Role Conceptions Paradigm within the Context of Technology Adoption Theories

Journalistic roles manifest in relation to discussion on technology adoption in journalism. Journalists' technology usages are invariably tied to performance expected of the tools and how easy the tools are to the quality of output, the goal of an organisation, its corporate identity

among competitors and audience members in general. Individual journalists' adoption is therefore a function of their cognitive ability, psychological dispositions towards role, interpreted within the frame of influences coming from within and outside the journalists' professional sphere. Literature on journalistic role conceptions informs on these external and internal influences that shape professional role conceptions/orientations as well as performance. In fact, Bourdieu (1998) argues that in order to understand and grasp the explanatory mechanism of journalistic practice one has to understand that journalism, as a social institution, has very little autonomy, and subject to a whole series of pressures. Tandoc et al. (2013) provides a vivid background into these influences by echoing Shoemaker and Vos (2009) who explicitly linked gatekeeping studies to field theory. Five levels of influences, ranging from individual to the social system level, were theorised. They identified professional role conceptions as an individual-level influence, arguing, for instance, that "the gatekeeper's ideas about what his or her job entails can also affect gatekeeping choices" (Shoemaker and Vos, 2009, p. 47). Journalistic role conceptions originate from one's perception of what society and the sub-groups within it, such as one's news organisation, expect. But these expectations integrate into role conceptions once they are individually internalised. Therefore, individual journalists might vary in their role conceptions.

Apart from "organisational and societal factors" identified in some of the several studies on journalistic role conceptions (e.g. Weaver, 1996; Wei and Weaver, 1996; Schultz, 2002), a journalist's professional conduct is also reported to be influenced by his ideas, attitudes, professional norms and perception of the audience (Donsbach, 2004). The relationships between the propositions and variables mentioned in the extant models of technology adoption are factored into the conceptual model to reflect these influences. For instance, social influence and subjective norms are directly related as they are considered under the individual journalist's ideologies or predispositions that shape professional roles. As a member within a society it could be assumed that individual conceptions will be shaped by certain external yet contextual factors.

Apart from occupationally related (social) influences, I assume that another important factor that shape technology adoption and role conception in journalism may result from audience expectations, apart from institutional/organizational structures and work practices. This assumption is hinged on the notion of identity in role placement rather than role enactment. Role, according to literature, is played when the enacted role (coming from the role player) is successfully situated and interpreted within the same frame of experience, backgrounds and/or expectations of the *other* (the role receiver) (see Oni, 2013). In journalism,

the 'other' is the audience community. Against this backdrop, perceptions of audience expectations could count as a prime determinant of journalists' intention to use technology and actual use behaviour. While this is indirectly related to the subjective norm's and social influence factor in the extant models, it is worthy of consideration, albeit independently, in view of the participatory culture afforded by interactive technologies in contemporary broadcasting.

Another important dimension evident in the proposed conceptual model is to look at the extent to which factors derived from the different value dimensions of technology can affect intention to use and use behaviour and to also see whether role conceptions could be shaped by them. My proposition here is strongly influenced by the blurring line between individual and organizational uses of new technologies by journalists and how they are balancing professional identity with the personal and private. Against this backdrop, the researcher draw on Sun and Bhatercherjee's (2014) sub-categorization of technological attributes/values that summed up the three prominent reasons for contemporary technology usage. These are the utilitarian, communication, and hedonic values. Prior research has viewed technology as a primarily utilitarian tool – that which enhances performance and productivity in the workplace. This dimension is reflected in the "perceived usefulness" and "performance expectancy" constructs or the "outcome expectancy" and "extrinsic motivation" of the TAM, UTAUT, motivation model (see Davis et al. 1992) and the "relative advantage" of DIT.

As reported in the literature on the subject, users' perceived usefulness is the strongest and most consistent predictor of technology usage intentions in the workplace. However, with the unprecedented affordances of new media this value may not be easily realized in some of the technology being adopted or appropriated for journalistic routines. Instead, some technologies which serve hedonic (entertainment and pleasure) and communication purposes, such as enhancing users' enjoyment or their interactional or collaborative purposes share work-related goal and utilitarian value. In view of this blurriness, I argue that the effect of perceived usefulness on technology usage by broadcast journalists and for specific journalistic roles will be varied: stronger for technology which they consider high in utility and lower for those which they consider as less utilitarian. Journalists' perception of technology as hedonic or fun-related, I argue, will significantly affect their adoption and role conceptions.

Communication-oriented technologies such as www, email, chat-IRC, social network (e.g. Facebook) blogs, Twitter, podcasting, YouTube, web radio (as in Spyridou et al. 2013: 83) are those that facilitate communication, cooperation, and collaboration among group of users (Sun & Bhattacherjee, 2014: 4). Such technologies may be used in work settings to

enhance productivity or decision making, or in personal social settings (e.g. social networking like Facebook, Twitter, etc.) for entertainment and pleasure. Communication-oriented technologies are expected to motivate journalists' intentions and behaviours; they are likely to be the strong determinant of adoption and for the discharge of certain roles. However, with reports on journalists' unyielding tendencies to relinquish known journalistic traditions and practices, the researcher argues that the effect of communication-oriented technologies on role conceptions will be stronger for information dissemination or the normative role rather than investigative, societal growth, and populist mobilization irrespective of their utilitarian or hedonic value (see Oni 2014 for insights on aspect of motivations in radio broadcasting).

Because of the opportunity for overt influence coming either from social groups or institutional (market) competition, the effect of communication-oriented technologies are expected to be a salient factor. In DIT studies, influences from "referent groups" have been demonstrated as a prime driver of new innovation adoption among later adopters. But in profit-over-investment media environment and government-owned public broadcasting, the extent to which market forces and competitiveness, operationalized as a part of the social influence and subjective norm, affect adoption and shape role conceptions can be ascertained through this conceptual model. While communication from prior adopters helps persuade potential users of the utilitarian value of communication-oriented technology through perceived usefulness, social influence that may result from media competing for relevance and market rating rather than the instrumentality of the technology could be another major determinant of adoption and shaper of journalistic role conceptions. This aspect of subjective norm on usage intention can be appropriated against Kelman's (1958) tripartite propositions on the socio-cognitive process of attitude change: from compliance stage to identification stage and finally to internalization stage (see Sun & Bhattacherjee, 2014).

Based on the forgoing, the resultant matrix could be used to factor the utilitarian, hedonic and communication values of technologies being employed in broadcast journalism and also to understand the predominant role conceptions across broadcast tiers or media platforms when interactive technology is involved. These are expected to be moderated by variables such as gender, age, experience, and dichotomous job-roles (news worker versus news manager) and viewed against tiers of broadcasting (public and commercial).

2.7.1 Grounding Journalistic Role Conceptions in Technology Adoption Studies

For a clearer grounding of journalistic role conceptions, it is important to first conceptualize the occupational ideology of the profession called journalism by revisiting how scholars have

aptly defined "the professional journalists" from others. Journalists are considered to be a group of professional which operate within a defined cultural scope. This defined operational scope reveals itself when the way journalist think and act are accessed and assessed. It can also be viewed as a particular set of ideas or practices through which journalists seek and confer legitimacy for their role in society and through which their work is made meaningful for themselves as well as others (Hanitzsch, 2007, p. 369). Spyridou et al (2014), quoting from Singer (2003, p. 81) express the three dimensions of journalistic culture as:

> The *cognitive dimension* refers to the knowledge, techniques and training required to produce journalistic artefacts that conform to the standards required by the normative dimension. The *normative dimension* refers to the 'rulebook' which defines the way journalists perform their work (for instance, methods of reporting, news values, working routines). Finally, the *evaluative dimension* refers to issues of autonomy and prestige and responds to ideas and perceptions regarding journalism's identity and role [my emphases].

Based on this interpretation, media scholars refer to journalists' professionalization process as a strictly ideological development process. A process which underlines constant refinement and collective notion of who is a real journalists and what real journalism is about. These are not static but dynamic process as the process of defining and redefining the profession shifts from time to time, but still remain is the guiding principle of what journalism should be (Deuze, 2005). This constant shift underlines the differences in the profession which could be within a broader universal professional identity and national (geographical bound identity) or organisational (media type: newspapers versus broadcast or online journalism) cultures. Hermans and Verger (2009) put it succinctly that journalists may be viewed as a homogenous community of professional, but marked differences exists between them. And this could be in how and to what extent they use technologies in their daily task.

Over the past decade, a number of studies in America (Pavlik 2001; Boczkoski, 2004) and Europe (Domingo, 2008; Steensen, 2009; Sarrica, Fortunati, O'Sullivan, et al. 2010) have focused on this line of differences with extensive research to back it up. Regarding the new media and the influence of Internet in newsrooms, it is reported that national culture influences the development of attitudes of journalists towards Internet implementation in newsrooms (Fortunati, et al., 2009). Some scholars have argued that development in journalism is consequent upon decision taken in specific newsrooms, in particular circumstance and by journalists with professional culture and higher skills and who hold positive view about innovations (Domingo, 2008). It is within this conceptualised, shared but yet diverse "occupational ideology" (Deuze, 2005) that I hope to crystallize journalistic role conceptions

for the task of building a conceptual model for exploring how social-cultural nuances established in extant theories of technology adoption could influence broadcast journalists' beliefs about technology and how idea about technology may shape journalists' role conceptions or vice versa.

2.8 Deriving Journalistic Role Conceptions from the Role Theory

Role theory account for what is known today as journalistic role conceptions. The idea that journalists' conception of their professional roles likely influences the media output and that certain independent variables influence journalistic role conceptions dates back to the turn of 20th century (Weaver and Wilhoit, 1986, 1996). However, with wide scale interactive technology adoption in and outside newsrooms, the concept of journalistic roles remains a rich vein of research for current scholarship. As it is rightly observed by Hanitsch (2007), in journalism studies, no area of research has flourished more than the inquiry into the professional roles of journalism. Both the theory and the concept have landed firmly on the contemporary research agenda.
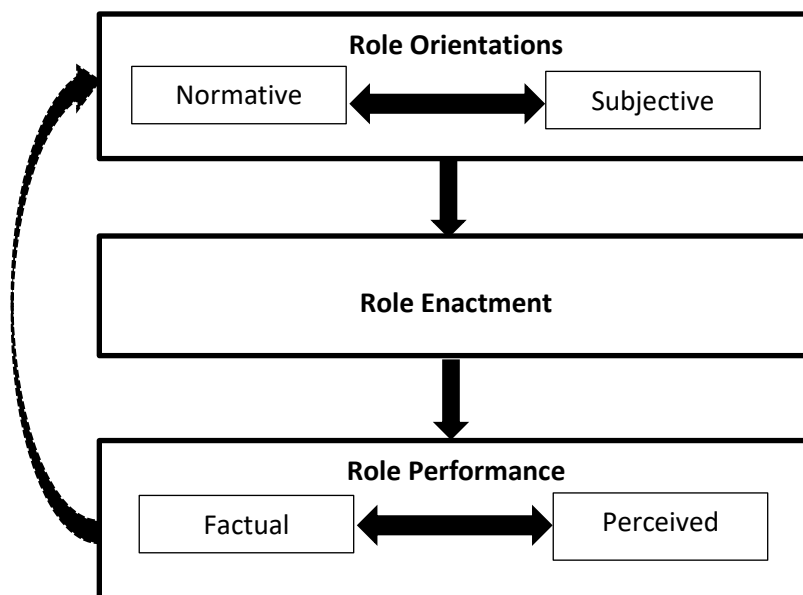
Figure 2.5: Professional roles of journalists (Source: Hanitsch, n.d.)

It is important to mention that studies on journalistic role conceptions are marked by a set of variant terminologies which often constitute unnecessary complexity in the approaches to research. The earliest term referred to professional roles of journalists as "press functions" (Scott, 1931) or the roles and functions of the mass media (Laswell, 1948; Wright 1960; see also Siebert, Peterson & Schramm, 1963). Other terminologies such as "role

perceptions/conceptions" (Chung, Nah & Carpenter, 2013; Skovsgaard et al., 2013) and media roles are also popular concepts for referring to the professional roles of journalists. More recent studies refer to concepts such as "news ideologies" or "journalistic paradigms" (Hanitzsch, 2007). In the general literature on journalistic role conceptions, three terms are often used as pointers to the exact approach for assessing features of professional roles of journalists in various contexts (Figure 4.7). These are role orientations, role enactment and role performance.

Role orientations refer to the values, attitudes and beliefs with regards to the position of journalism in society as well as the professional roles journalists embrace in relation to the media systems being practised in the society. The approach focuses on journalists' perceptions or subjective understandings as these roles are product of their cognitive faculties. Role orientations are mutually realised as normative and subjective. Hanitzsch, in his online essay on "role conceptions and professional values worldwide", explains that while normative orientations appear external to the journalists which manifests under the influences of the social system forces. Subjective orientations, on the other hand, incorporate the occupational values and beliefs which individual journalists embrace consequent upon their professional socialisation and the internalisation of normative expectations. Next is the role enactment which underpins the process by which role orientations is being carried out. The assumption here is that journalists' perceptions of their social role shape their beats as well as the stories they ultimately craft (Shoemaker and Reese, 1996; Tandoc et al., 2013; Reich & Hanitzsch, 2013). And thirdly is role performance which, according to Hanitzsch, is used to capture the professional roles of journalists as they are executed in practice. Role performance operates at the behavioural domain which can be mutually realised as the factual role performance, that role which is actually played by the journalists and received accordingly by the public (audiences). The factual role performance can be measured through observation and content analysis. On the other part is perceived role performance which is also cognitive based (as in role orientations) and refers to journalists' subjective understandings of their practiced roles that are bound to the individual journalists' self-awareness and self-image. The current study aligns with the domain of role orientation and as well shares its conceptualisation with the subjective part of role performance. However, the scope of this study does not cover the role enactment paradigm or an evaluation of how the audience receive the projected image or professional identity of journalists in their use of new communication technologies.

Historically, early discussions on journalistic role conceptions are traceable to the emergence from sociology and social psychology in the 1920s as what is generally known as role theory (cf. Biddle & Thomas, 1966, p. 6). By the 1960s a wide variety of fields were

analysing the concepts and categories of role theory, with different fields tapping on the possibilities of role theory to explain professional roles. There was the Talcott Parsons' empiricist proposition and the notion that culture or institutions could only be studied as internalised elements of individuals (DiMaggio & Powell, 1991). The interpretation is that role theory could account for institutions simply by studying individuals who hold places within the institutions. Other two most recent traditions are the "symbolic interactionist role theory" and "functional role theory" of the mid-1970s (see Biddle, 1986, p. 71; Sarbin & Allen, 1982, p. 52).

However, the concept of role conceptions took shape in the journalism literature as a result of mass media scholars' discussions about role of the media and research based on logical locus that certain independent variables influence role conception. The discussions were not originally targeted at defining the journalistic roles, but that of the entire industry. The earliest formulation can be seen in Harold Lasswell's and Charles Wright quadratic media functions. For instance, as observed by Vos (2009, Online), the initial definitions from pioneers such as Lasswell's and Wright's echo one of Cohen's (1963) ideas concerning journalistic role conception. He refers to this as a reporter's conception (a journalist idea or belief) about his professional tasks (Cohen, 1963, p.25). Thus, presenting the interface between role theory and journalistic role conception from Cohen's discussions provide useful insight into the genesis of journalistic role conceptions studies.

Other notable scholars in the development of theoretical orientations for analysing journalistic role conceptions are Johnstone, Slawski and Bowman (1976), Stark and Soloski (1977), Culbertson (1983), Weaver and Wilhoit (1986, 1996), Kocher (1986), Zhu, Weaver, Lo, Chen, and Wu (1997). For instance, Johnstone et al. (1976) idea of journalistic role conceptions also touches on some of the features of more formal role theory. Journalistic functions is in synch with the functionalist camp of role theorists which, as earlier mentioned, holds that role conception must embrace social responsibilities of journalists. Their discussions stress on the notion that any studies on journalistic role conceptions should consider the self (i.e. the individual reporter) in role enactment. By observing either a number of journalists or a single journalist repeatedly is a worthy exercise in determining "patterns of beliefs" (Johnstone et al., 1976, p. 120), since beliefs are not necessarily fully organized by the individual.

Stark and Soloski (1977) provide a unique lexeme for their interpretation of role conceptions. By referring to a reporter's "predisposition" (p. 121), they see role conceptions as a bias, meaning that reporters have preconceived notion that affect how they do their jobs.

According to Vos (2009, Online), predisposition brings into the open the epistemological significance of the concept of journalistic role conception. With a term like predisposition it would mean that journalists' role conceptions are a matter of the journalists' worldview.

Culbertson (1983), Kocher (1986), and Dillon (1990) also make reference to "viewpoint", "ideologies" and "professional identities" of the functionalist role theorists in their narrative on journalistic role conceptions. These terms elicit deeper information about the individual or personality enacting a role. Role conceptions therefore are attitudinal, or of circumstances of an individual measurable in empirical studies. This position is further strengthened by the use of "personal perspectives" (Culbertson, 1983, p. 2). Culbertson's (1983) factor analysis of journalists' role conceptions also referenced *institutional factor* that may shape role conceptions. His study suggests an institutionalization of role in something outside the individual journalist – a location different than the mental location, self or the individual. It is worthy of note that Culbertson's (1983) reference tallies with the "subjective norm" and "social influence" constructs of extant theories of technology adoption. The institutional factor also shares its interpretation in Lin's (2003) social factors interpreted as the influence of an adopter's communication networks, including peer group (Iyengar, Van den Bulte & Valente, 2011) on their technology adoption behaviour (see also Venkatesh & Brown, 2001). I anticipate a dual influence coming from institutional factor and/or social influence on both role conceptions and technology adoption use behaviour.

Cohen (1963) identifies "the neutral reporter and the reporter as participant" (p. 22-31) in his operational interpretation of a reporter's roles. Cohen's conceptualisation best places the role of a reporter partly in the reporter (self) and partly in the institution. Likewise, Johnstone et al. (1976) provide for "pure ideological types" which equally embrace the "neutral" and "participant" reporter roles dichotomy. They would later refer to these roles as "Whole Truthers" and "Nothing-but-the-Truthers" (1976, p. 120). These two division best situate a reporter's roles in the reporter and in the institution of the press.

Weaver and Wilhoit's (1986) study sees journalists role from three spheres rather than two. They operationalize role conceptions as "adversarial, interpretive, and disseminating" (1986, p. 115). This typifies journalists as an advisor, interpreter or disseminator of information and who have an "orientation" to see their roles in distinct ways (1986, p. 117). Role to them is defined as the American journalists' "view" of their responsibilities. Within this frame, there is no sense that the role is located in the press as an institution; it is either in reporters or "among" reporters – as a group/community of people defined norm. Weaver and Wilhoit add the fourth dimension – the "populist mobilizer function" a decade later (1996, p. 140). By

profiling journalists who embrace these different typologies of roles, they were able to place majority of American journalists into the interpretative role. With this their conception, journalistic roles is located in the reporter, since these reporters are assumed to be conscious of their roles. Culbertson (1983) also sees three divisions as representing journalistic role conceptions. But these are labelled differently as "3 belief clusters" – the interpretive, traditional, and activist (1983, p. 1) when referring to the role conceptions. Two divisional paradigms are also espoused by Kocher (1986) in his study of German and British journalists. He labels role conceptions as "Bloodhounds" and "Missionaries" (Kocher, 1986, p. 43). However, underlining the catchy label is the location of roles in individual reporter, rather than in the press institution.

Within African contexts, a few studies have equally documented their findings on what constitute African journalists' role conceptions, following the scale provided in Western studies. In spite of the differences such as regularly contested frameworks of press freedom, political pluralism, and poor working condition that contextualized these studies, their findings reflect some of the general themes established in earlier studies conducted in Europe and America. For instance in his work on Cameroonian journalists' role conceptions, Ngomba (2010) presents a review of some prominent studies from which African journalists' role conceptions have been explored. The review coverage includes journalists from some African Countries such as Tanzania, Algeria, Uganda, and Egypt (e.g. Lederbogen, 1992; Kirat, 1998; Ramparasad, 2001; 2003; Mwesige, 2004), with NEPAD (New Partnership for Africa's Development), a non-governmental agency, spearheading some research along this direction. Ngomba (2010) observed that these studies make similar conclusions as the Western studies, pointing out that in spite of contextual differences, journalists in Africa tend to share the same role conceptions ideas with their Western counterparts. Kanyegirire (2006) stresses that African journalists have adopted and adapted several ideas from the Western and Post-colonial development journalism models to their contexts. This domestication of universal ideology/ professional role conception has a convergence domain where, within multiple views of journalistic functions, liberal objectivist and developmental dimensions are added as part of an effort to satisfy conflicting and diverse needs of their profession and their developing societies (Ebo, 1994 cited in Kanyegirire, 2006, p. 162).

Ngomba (2010) identifies the source of friction and volatile relationship between African states and their journalists to be an attempt by African journalists to practically reconcile the "demands" of these two models. Interpreting this within the frame of identity (re)construction model (Oni, 2013), African journalists can be said to be manipulating their

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operational face and contextually role-playing based on the script prescribed by work setting and available artifacts. This interpretation becomes vivid in view of other findings that African journalists considered "dissemination of information about development activities", "promotion of national unity", or "societal growth", to be the most important role of the mass media and/or news maker (Oni, 2014; Wete, 1986) and pointing the differences among English-speaking and French-speaking Cameroonian journalists to the different journalism cultures inherited from both the British and French colonization of Cameroon.

Though journalists' role conceptions studies in Africa are at best scanty, Ngomba (2010) worked with Cameroonian political journalists to determine their professional role conceptions as first order in the "Fourth Estate of the Realm". He (or she?) finds that Cameroonian (by extension African) journalists' espouse roles which can be grouped into the following four categories: *the teacher/educator/informant role, the watchdog/surveillance role, agenda-setting role, and social responsibility role* (Ngomba, 2010, p. 14).

From these discussions so far, the multidimensionality of the concept of journalistic role conceptions have been established. The chapter has presented the multi-disciplinary perspectives from which the reviewed authors have drawn their common but divergent operational definitions and theoretical orientations in role theory. The uniqueness of these different interventions has enabled the mapping of academic discussions on role theory and journalistic role conceptions in particular. This has also helped in finding the trajectory for this current study. The review exercise so far has presented the opportunity of constructing an integrated model of technology adoption in journalism and its adoption for the task of studying the extent to which technology adoption for participatory programming in broadcasting could shape or shaped by broadcast journalists' conception of their roles. The community of southwest Nigerian broadcast journalists would afford us a situation to empirically study dynamism in newsroom within media and allied studies theoretical frames.
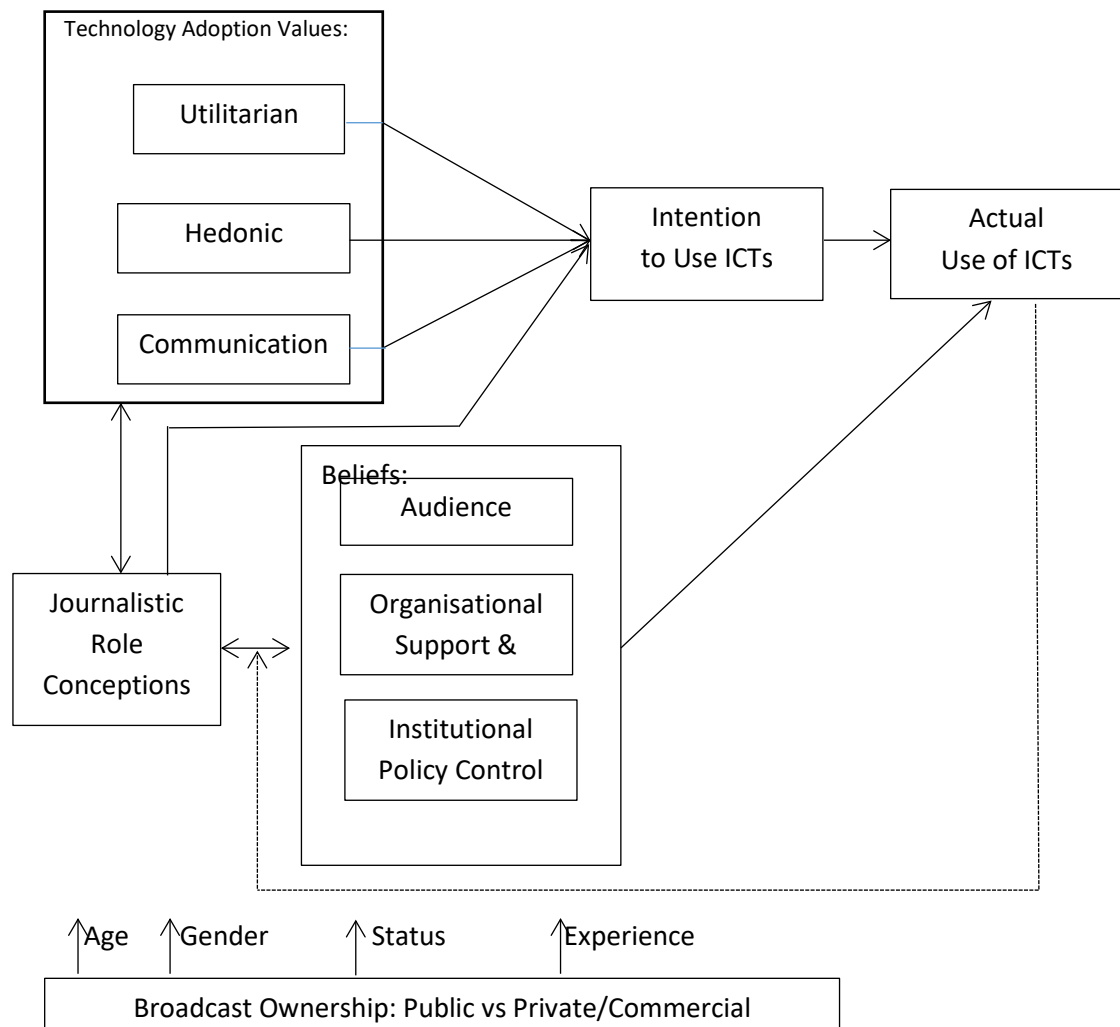
Figure 2.6: Conceptual Framework: An Integrated Model of Technology Adoption in Broadcast Journalism

2.9   Conclusion

So far, I have explored how extant theories of adoption such as TAM and DIT have helped increase our understanding of the adoption process for a wide range of innovations in newsroom. However, with the simplistic and deterministic connotations espoused when a number of these propositions are adapted to technology adoption research, it means they are likely to be subjected to critical review, modifications and hybridisation before they can yield the expected outcome. More importantly, in this era of digitally converged multiplatform environments, it is important to balance the necessary tension between parsimony and complexity. I use the above-illustrated diagram to balance this tension with regards to technology adoption in an African broadcast journalism context. The conceptual model indicates the relationships between technology adoption and journalistic role conceptions and

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how they may help predict intention and actual use of new digital technologies when adopted in the context of participatory programmes. The model recognises the significance of technological or system attributes which facilitate utilitarian, hedonic, and communication values of the technologies and which endear them to use in work settings. The assumption is that users' perceived attributes of technologies as well as their levels of socialisation including societal, professional, organisational and institutional hold the possibility of shaping how roles are conceived and could predict users' intention and actual use of new digital technologies. In the next chapter I move on to discuss the theoretical framework and embed the proposition in the Nigerian context.

CHAPTER 3

THEORETICAL BACKGROUND

3.1   Introduction

This chapter adopts a metatheoretical approach to interrogate the use of new media technologies by Nigerian, and by extension, African journalists. The approach recognises the need to draw on several theoretical frameworks available in the literature as well as researcher's own impressions of the underlying assumptions which drive ongoing discussion on the new digital technologies adoption in African journalism. Postulated by Mabweazara (2015b) to address lack of theoretical guidance in researching African digital journalism, presents an insightful dimension to understanding how African journalists are adapting to new "digital era" from multiple perspectives. The nature of metatheories are such that "they are more or less conscious or unconscious assumptions behind theoretical, empirical and practical work … and are often part of interdisciplinary trends" (Hjørland, 1998, p. 607). Several communication theorists and researchers have observed the inadequacies of extant theories of technology adoption in representing the complexities of technology adoption in converged environment (Lin, 2000; Lin, 2003; Atkin et al. 2015). The situation becomes doubly worrisome when Western theoretical approaches are to be "forced" on a situation which presents a set of differing social realities, as found in the African contexts. In order to fill the theoretical gap, I engaged in a critical appraisal of the existing literature on theories of technology adoption, "sociology of journalism" as well as a host of other concepts that underpin digital technologies adoption in an African context. The argument is that in order to understand the impact of new digital technologies on radio journalism in Africa for instance, we must situate African journalists into a critical and analytical context that draws on "old" approaches to both technology and journalism, while it provides the option to interrogate the social relations within which the journalists operate (Mabweazara, 2010).

As pointed out in the previous chapter, the increased adoption of new technologies in traditional newswork raises new concerns about the role and value of these technologies in

journalism. Consequently, there is a need to rethink how researches on technology and journalism are conducted and theories re-assessed in view of the dynamic nature of new media technologies and how they are adopted and appropriated in non-Western contexts.

Following the initial literature review, several micro-concepts have been identified in relation to how new digital technologies are shaping journalists professional norms and which also hold the possibility of influencing intention and actual use of these technologies. These micro-concepts are in relation to media convergence and its associated blurriness of boundaries, technology fluidity, functionally similar technologies/technological cluster, media logic and modes of ownership power. Embedding these important concepts into the framework of study would assist in this chapter to, (1) explicate the dynamism of the integrated framework of technology adoption (see Figure 2.4), and (2), extrapolate the concepts to the African/Nigerian (broadcast) journalists' technology adoption scenarios. Ultimately, the approach in this chapter affords a proper comprehension of technological attributes, individual characteristics, social influence, organisational and system factors that shape broadcast journalists' behavioural intention and actual use of new media technologies in a non-western context.

3.2 Towards New Theoretical Ground in Digital Technologies Adoption and (African) Journalism

The proliferation of new digital technologies has heralded discourses about the changing media landscape occasioned by adoption and use of new digital technologies. The impacts of these digital technologies on the speed at which information disseminates have created a shift in the balance of power and blurring of boundaries between journalists and "the people formerly known as the audience" (Rosen, 2006). Not only has the disruptive nature of new digital technologies on journalism in general, and African journalism to be specific, brought about epistemological rethinking, it has also spurred a new call for theoretical reconsideration of communication theories and frameworks of research. Chaffe and Metzger (2001), for instance notes, that the meaning of "mass communication" has come under criticism as new communication technologies have blurred communication boundaries. Atkin et al. (2015, p. 633) echo Rogers and Chaffe's (1993) prediction that the study of new media technology will require new paradigms to study the media, that "Scholars are going to have to shift toward models that accommodate the interactivity of most new communication technologies."

A number of research from Western perspective have responded to the shifting epistemological ground consequent on the impacts of new digital technologies on journalism.

For instance, some researchers have explored how the rise of the Internet has ushered in a melding of mass and interpersonal channels (e.g. Caplan, Perse, & Gennaria, 2007; Papacharissi & Rubin, 2000). New theoretical orientations have emerged to predict changing communication and adoption behaviour occasioned by new digital technologies (e.g. Lin, 2003; Atkin et al. 2015).

From the African perspective, a growing body of research has also reported how new information and communication technologies have influenced cultural norms and practices of African journalists (e.g. Atton & Mabweazara, 2011; Berger, 2005; Nyamnjoh, 2005; Mabweazara, 2010; Mabweazara, Mudhai & Whittaker, 2014; Obijiofor, 2015; Paterson, 2013). The initial scholarly conjectures had been that as a result of "digital divide," that is, the uneven access to information and technological resources between the developed North and poor South, African journalists are "in deficit as regards the emerging global information order" (Berger, 2005, p. 1). Although there is dire need for catch-up in Africa in terms of technological innovations, this, however, does not portray a picture of backwardness but of setbacks associated with the realities of "access" to digital technologies and the complexities and contradictions connected to the "localised" diffusion and permeation of these technological innovations in African newsrooms (Mabweazara, 2015, p. 3).

The last two decades have revealed the cataclysmic impact of new digital technologies on the practice of journalism on the continent. There are clear indications of functioning new technological facilities and dimensions of internal newsroom creative adaptations to the digital era. This scenario is readily observable via the upsurge in the number of published articles devoted to "digital technologies and the evolving African newsroom" (Mabewazara, 2015a) as well as the availability of a slew of peer-reviewed academic journals published as special issues on new digital technologies adoption in Africa.

While efforts at evaluating the changes ushered in by the influence of new digital technologies on African journalism are "evolving", researchers are somewhat in a state of epistemological dilemma, not knowing whether to dump the Afrocentric and "deterministic" approaches to the study of African journalism or break a new theoretical ground in the digital media environment. Mabweazara, (2015b, p. 107) notes that there were "calls by a number of African media academics to reject Western theoretical paradigms and concepts by foregrounding 'home-grown' approaches derived from African cultural belief systems and experiences" (Ngomba, 2012; Tomaselli, 2003). Mabweazara (2015b), however, warned that such "ethnocentric stances are not always necessarily valuable." "De-Westernising" African journalism studies just because of "patently germane features of African cultural experiences

that have implications for the practice of journalism" Mabweazara (2015b) is to calve out an epistemological island where African cultural experiences are extricated from the universal body of knowledge. It is an attempt to "reify" and "essentialise" African experiences by blindly locking ourselves in the specificities of local as to lose sight of essential insights from outside intellectual traditions and experiences (Mabweazara, 2015b, p. 107). Such radical approaches, Mabweazara (2015b) submits, fail to reckon with the fact that journalism is an institutional practice with history rooted in Western scholarship. According to de Beer (2010, p. 213), West is where international paradigms and research trends are set. It is where African journalists seek examples of "best practices", training and education. This "knowledge colonialism" have defining implications for journalism theory and research" (de Beer, 2010, p. 213).

Thus, while Africa has its own unique experience of digital technologies, there is no denying the fact that it has borrowed extensively the bulk of its institutionalised communication practices, including journalism, from the West. Therefore, in deploying established Western theoretical insights, as this research contends, it is important to critically situate, adapt and possibly modify the theories of interest to suit African realities. The big questions to ask would be that: what exactly are African realities? Should we study African digital technologies use behaviour differently? I move on to explore the literature in order to find answers to these questions.

African realities, for what they are, can be seen in the ways African journalists operate under the unique influences of social, political and economic forces. Some of these influences are "universal" to the African contexts, while a number of them are uniquely country-specific. For instance, Paterson (2014, p.259), notes that African journalists operate in multifaceted conditions "where news production is sometimes strikingly similar to what might be seen in any global news hub … and, conversely, sometimes distant from Northern norms in terms of its goals and methods." African journalists deploy the Internet to access international newsrooms and roles as foreign correspondents. But locally, they function in conditions starkly differing from those in the West. African journalists work with fewer resources which they usually procured by themselves. African journalists share technological resources as personal as the mobile phones, and connectivity for one is usually connectivity for all. Apart from these, African journalists are badly remunerated and rarely incentivised. They contend with job instability; legal and regulatory challenges; complex political contexts; and poor telecommunications infrastructure, all of which coalesce to shape and constrain their adoption and appropriation of new digital technologies (Kperogi, 2012; Obijiofor & Hanusch, 2011).

In order to adequately capture these unique nuances and defining characteristics, Mabweazara (2015b, p. 108) strongly suggests that African journalism research should "emphasise sensitivity to context – using established Western theories with close attention to the uniqueness of the conditions in which African journalists operate." Given this background, this study presents a conceptual framework that reflects the realities of new technologies adoption in an African context. The framework departs from "hard" technological determinism (Mabweazara, 2010) which underlies several extant theories on technology adoption. Technological determinists argue that particular technical developments, communication technologies or media are the sole or prime causes of changes in society (Flew, 2002; Lievrouw, 2002). The current framework draws on social constructivist approaches to technology and the sociology of journalism, including an array of theoretical insights from Western media scholarship.

3.3 Exploring Social Constructivists and Sociology of Journalism in Digital Journalism Research

Social constructivist approaches draw on a broad range of academic traditions with different theoretical frameworks. As social construction of technology, it takes into account the social and cultural realities that impact on the deployment of technologies in specific contexts (Bijker, 1995; Lievrouw & Livingstone, 2002). The approach does not ignore the inherent capacities of different technology, but that the technical properties of each technological artifact inform, directly or indirectly, its pattern of adoption/acceptance and use in different contexts. The sociology of journalism, on the other hand, constitutes the ongoing standard against which research into journalism has traditionally been evaluated. It concerns itself with the ways in which news organisations manage the processes through which information is gathered and transformed into news, and the pressures that encourage journalists to follow familiar patterns of news making (Manning, 2001). With this integrated approach, the study helps sustain a view of technology as thoroughly socially shaped (Hine, 2001).

While drawing emphasis on the role of context in process of diffusion of technological innovations, Avgerou (2010) notes that contextual differences play a huge part in this process. The significance of context underscores the two important paradigms in IS research: "the universalistic and situated research streams" (Avgerou, 2010, p. 3). Avgerou's universalistic perspectives highlight the value of technology artefact and acknowledge only the general techno-economic reasoning through which its value is realized without recourse to the full circumstances of the social actors. On the contrary, situated perspectives see technological

innovations from the viewpoint of the social actors, which are the artefact users. It emphasises technological usefulness in relation to the context of its use and practices that it engenders.

Avgerou (2010, p. 4-5) points to how these two perspectives further shape the two popular epistemological divisions in development studies in what is referred to as the "Transfer and Diffusion" and "Social Embeddedness" paradigms. The *Transfer and Diffusion* paradigm seeks to explore the process through which ICT innovation diffused in a developing country, starting from advanced economies to developing countries. Successful diffusion would then mean that the new technologies are suitably adapted or appropriated before its impact could be assessed. Studies working in line with this perspective tend to explore the actual factors that shape adoption of technology in different contexts, these include economic conditions, technology competencies, users' attitude to technology, and institutionalised work habits. A number of researches in media and journalism studies with a focus on African contexts are more at home with this very direction in their attempts to investigate technological innovations in relation to contextual differences against Information Systems (IS) theories (e.g. Aborisade, 2015).

Social Embeddedness (SE) paradigm operates on the notion that individual use of technology indicates their cognitive, emotional, and political capabilities as a product of influences of their membership of social institutions (Avgerou, 2002). Simply put, it views IS innovation as socially constructed entities with usage bound to individuals' understanding of the world around them. In the context of a developing country, the attention is focused on the embeddedness of ICT innovation in the social context of various organisational setting (Avgerou, 2010, p. 4) such as African newsrooms. Research which operates on the basis of SE paradigm explores the process leading to the emergence of technology innovation and organisational change (or its resistance) as they come in contact with the local social dynamics (e.g. Spyridou et al., 2013; Akinfemisoye, 2014). Researchers who follow this path "aimed to develop a conceptual analytical capacity to guide context-specific sense-making and practice" (Avgerou, 2010, p. 5). The central idea is the process of adoption in situ. Typically they address "how technology innovation and organisational change emerge (or are retarded) amid the local social dynamics" (Avgerou, 2010, p. 4). Studies in this direction are theoretically framed in social theory such as actor network theory (e.g. Spyriodou, et al., 2013), structuration and adaptive structuration theories (e.g. Aborisade, 2015) and institutionalism.[5] Recent studies

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[5] According to Hemmingway (2005, p. 10), Actor Network Theory (Latour, 2005; Law, 1992, 1999) conceptualises journalism as a complex network of human and non-human actors where these actors undergo constant negotiation and where the embedding technologies can be more rigorously analysed and

such as Grubernmann (2015) have also drawn on Action Research[6] to explicate the processes of innovation in context. In their early efforts at problematising social embeddedness, scholars have also used Pettigrews's (1985) contextualist approach (e.g. Walsham, 1993; Braa et al., 2007). Other IS studies stemming from the SE paradigm have also used neo-institutionalist and social constructionist approaches in their exploration of ICT innovation in the context of developing countries (Miscione, 2007; Silva, 2007). Avgerou (2010) cites how different authors have fallen on the variegated social-theoretical approaches, including Castell's networks of action model, complexity theory and others (see Grubernmann, 2015) in order to reflect the significance of context in their studies.

3.4   Contextualising the Metatheoretical Framework: Nigeria and Africa in Perspectives

As earlier highlighted, the theoretical framework for this study draws on multiple theoretical perspective in order to remain true to the "principle of dynamic interactivity" (Lin, 2003). Dynamic interactivity is a research framework that "interconnects a number of reciprocal social, technological, and human communication factors" (Lin, 2003, p. 346). Its Western source means that it departs from radical Afrocentric approaches to de-Westernise journalism studies, while it shuns extreme technological determinism in favour of what Mabweazara's (2015b, p. 114) has creatively termed the "moderate heuristic approach." The moderate heuristic approach emphasises deploying the collective insights of relevant Western theoretical understandings while at the same time "foregrounding the realities of contexts in which African journalists operate" (Mabewazara, 2014, p. 5). Mabweazara (2015b) explains this as a flexible approach that enables researchers to investigate African journalism in its diverse contexts: "its culture, institutions, and the broader communication envioronment" (Mabweazara, 2010b, p. 25), and weave out of that mosaic (Obonyo, 2011) insights into how the use of new digital technologies is shaped by the multiple contexts in which journalists on the continent work.

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understood. Structuration and adaptive structuration theories are variants of social theory which provides insights and vocabularies to address conceptual relationships, such as technology/society, agency/structure, and technical reasoning/institutional dynamics. The objectives of such studies have been the development of theoretical capacity for addressing questions concerning the way specific categories of technologies and social actors clusters are formed, shaped each other and lead to particular socioeconomic outcomes (Avgerou, 2010, p. 4).

[6] Action research, as a "remarkably inclusive technology" involves collaborative approach among members of a community and professionals who bring their expertise to bear on certain problems with the hope of proffering workable solution through collaborative assistance. As a methodology, it involves a whole range of approaches and practices each grounded in different traditions (Reason and Bradbury, 2001 cited in Grubernmann, 2015, p. 19).

A number of metatheories have since emerged from the literature that relate to how African journalists are adapting to the influences of new digital technologies. The following metatheories have been found to be adequate for our task of interrogating African journalists' new media use behaviour, these include theory of fluidity, functionally similar technologies/technological cluster. Other aspects are media logic and modes of ownership power. These metatheories will be discussed in turn as we examine how they relate to the context of this study (Nigeria), and by extension, African journalism.

3.3.1 Media Convergence: Of Blur Boundaries, Technology Fluidity and Functionally Similar Technology

As the effects of media convergence have become more and more pronounced in journalism, communication theorists have come to realise the need to reflect this situation in the theoretical frameworks that drive new digital technologies adoption. This section, therefore, focuses on such combined influence as it presents what constitute the metatheories that address technology adoption situation.

In the past, mass communication and interpersonal communication have developed in silos, with each having its own theories and defined research traditions. However, due to the emergence and proliferation of new digital interactive technologies, these independent research walls need to be reconstructed in order for theories and research to keep pace with changes in user behaviour in the converged media environment. Extrapolating this situation to the media convergence taking place in Nigeria, one would but realise that radio has "transmutated" from one-way unidirectional mass mediated communication to a two-way medium. The linear model of top-down information flow from broadcasters to heterogeneous audience within a defined geographic space has been replaced by the granular digital interactivity of new media. This situation makes for radio audience to be active contributors in radio content production.

A number of studies have focused on the concept of interactivity which underpins radio's transmutation in the digital era. For instance, Alabi (2014) explores this aspect given radio and television's perception as traditional unidirectional media in Nigeria. Findings show radio and television stations in Lagos part of Nigeria have become active users of new digital technologies for feedback purpose. Based on the findings, there exists a clear difference in the way private stations and public broadcast stations engage the "feedback channels" with more use coming from public broadcast stations. Apart from the fact that this study has not explored what could possibly be the cause of this disparity in use, partly because of its focus. The two

theories of uses and gratifications and democratic participant theories deployed in the study as framework have not been adequately articulated to guide the study's analysis. The study restricts itself to an exploration of technological artifacts without situating their use in the socio-political context informed by the democratic participant theories. For adequate theoretical representation, framework of technology adoption research and theory, should reflect these new realities in the converged media environment.

Exploring the converged media environment in Nigeria further shows there is a shifting media landscape attributed to technological convergence. Observation of technology adoption and/or its appropriation across the three tiers of Nigerian broadcasting (private, public and "community") has revealed that new media technologies are transforming broadcasting and thus making it at least in principle to be more accessible to the public through such affordances like mobility and multiplatform deliveries. Radio broadcasting has shifted from its old "monomodal" production involving audio only to "multimodal" environment where a combination of text, graphics, pictures and videos are being used to enhance production (Moyo, 2013a). This creative use informs a reconsideration of radio's local name in the southwest Yoruba speaking part of Nigeria as "ero asoromagbesi" [a device lacking in feedback].

Jenkins (2001) highlights as a part of five processes of convergence, the concept of global convergence. This refers to the cultural hybridity that results from international circulation of media content. This exemplifies the use of social media by Nigerian radio station to stream their flagship programmes on social network sites like Facebook. As part of their convergence efforts, some Nigerian radio stations stream their flagship programmes on social network sites like Facebook and promote same on Twitter. The approach helps international audiences to link up with a local station in real-time. Sometimes the programme are made available to be viewed and listened to at audiences' convenience, a redefinition of what used to be radio audience. How technological convergence of this nature connects to institutional forms of media ownership and their modes of power remains an interesting perspective to explore in the digital era.

With technological convergence in Nigeria, radio has become fluid, an attribute which promotes its flexibility as well as reinvigoration. Lin (2000) introduces the theory of technology fluidity to explain how the transmutability of a medium influences the audience's technology adoption. The theory posit that, "when the technical attributes of a medium possess a greater capability to transmogrify between or simultaneously operate in multiple communication modalities or task platforms, the technology is a more fluid communication medium" (Lin, 2003, p. 355). A more fluid communication technology provides not only

multitasking functions, but a greater degree of presence of and virtual verbal/nonverbal interactions between communicators. The fluidity of a medium may also directly influence audience perceptions of media richness, as the medium's ability to concurrently deliver the communication content in multiple textual and audiovisual modes should enhance the audience perception of "information richness." The concept of technology fluidity reflects the reality of continuing media and information technology convergence that is creating an array of hybrid multipurpose-multimedia products. Radio's transmutability has since become more visible with the Internet. Lin (2000) empirical study provides the initial assessment of technology fluidity theory with findings that the audiences who consider the Internet a more highly fluid medium are also more likely to adopt online broadcasting service via video-streaming technology. Further examples of fluid technologies include a desktop video-conferencing system that can provide audio, video, text, and computational displays and exchanges, or a digital personal communication system that can serve as a wireless phone and an offer a range of other functionalities.

Technology fluidity is, therefore, about system multimedia modalities which afford multitasking, collaboration, and interactivity. This perfectly fits the Nigerian experience given how mobile phones and other Android mobile devices are being used by radio journalists. More often than not, radio journalists deploy mobile phones for more than voice call and text messaging. Mobile phone has become a device for interviewing news sources, functioning in the same capacity as voice recorders. Journalists browse with it for a range of work-based reasons, including sourcing for programme topics, researching the topics and looking for word meanings. Big screen Android devices are also used in the preparation of script, at least for radio journalists who still believe in scripting. The fluidity of the mobile phone comes into play when it is been used for a range of work-based activities. Also, it is important to highlight the fact that collaborative use of mobile devices are noticeable among African journalists, Nigerian radio journalists inclusive.

Some African media scholars (e.g. Nyamnjoh, 2004; Mabweazara, 2010) have observed the phenomenon of "single-owner-multiple-user" in the way some Zimbabweans use the mobile phones. Africa's cultural values of sociality, interconnectedness, interdependence and conviviality are believed to have encouraged this reality (Mabwezara, 2010). Nyamnjoh (2004) assert that the creative appropriation of new media technologies among Africans "is not only informed by cultures amenable to conviviality, interdependence and negotiation, but also by histories of deprivation, debasement and cosmopolitanism" (Nyamnjoh, 2004, p. 54). While echoing previous research, Mabweazara (2010, p. 32) points to how African journalists

(operating in ICT-impoverished newsrooms) yield benefit from ICTs through sharing limited resources. Citing Berger's (2005) account of Southern African journalists, he notes that even as regards unwired computers, in many cases journalists queue to share newsroom resources rather than have personal workstations (Berger, 2005, p. 9). It is on this note that the framework of research covers for the concept of technological fluidity as it will afford researchers the opportunity to evaluating how technology adoption is invariably shaped by the socio-political environment in which they operate. Mudhai (2004, p. 320) argues that when evaluating the deployment of new technologies in Africa, "attempts should be made to take into consideration local conditions or structured contingency of the circumstances in which the technologies are deployed."

Another underrepresented aspect of new digital technologies adoption research involves the role of functionally similar technologies. Developed from the functional perspective (e.g. Katz et al., 1974), functionally similar technologies is a concept that addresses the tendency of a new technology to displace its functionally similar counterpart. A new technology or content choice, particularly one regarded as desirable alternative, can replace its functionally similar counterpart. New digital technologies thus blur some of the traditional distinctions governing functional similarities that had so neatly separated choices based on content or channel. Atkin et al. (2015) provides instances of the kind of blurriness associated with functionally similar technology using the PC and the smartphones. Smartphones, according to the theorists, are basically palm-sized computers that incorporate communication and multimedia interface functions. This makes it possible for smartphones to reduce the need for using a PC, tablet, or camera or audio recorder as it is currently observed among Nigerian journalists. The assumption is that "considerations of displacement, supplementation, and complementation functions will influence the adoption process of the abundant choices presented by communication technologies, particularly those that encompass overlapping functions" (Atkin et al. (2015). Functionally similar technologies and shared use typically undergird technology adoption in Nigeria and in other parts of sub-Saharan Africa. With the availability of smartphones, most Nigerian journalists are able to deploy the same device in multiple journalistic occasions such as newsgathering, interviewing, picture taking and note-taking. Atkin et al. (2015, p. 635) observe that despite their predictive validity, technology adoption researchers have not been incorporating this perspective into research frameworks, adding that "they are more difficult to conceive than are single innovations." Therefore, a better understanding of an individual's technology adoption behaviour could be achieved by

examining the innovators who adopt several technologies, in conjunction with an analysis of interpersonal influences.

3.4 "Critical Theory of Radio Convergence:" An Overview

These technologies also mean that immediate feedback in radio broadcasting is guaranteed. Adoption of social media platforms and mobile phones for audience participation are gradually breaking technological and social barriers limiting ordinary people's engagement in mainstream media. Radio is tapping into the independent mobile and online cultures and practices, spawning a digital radio culture of texting and the mainstreaming of public mobile cultures (Moyo L, 2013a). Radio has joined the network community of social media technology. It has become a network space, virtual space, mobile space, and while at the same time retaining its physical space identifiable by its studio format which now operates within the Habamas public sphere concept (Moyo L, 2013b, p. 214; Akinbobola, 2015).

Three concepts can be deduced from the transformative impact of new media technologies on radio: First is the "digital turn", described by Moyo L. (2013a) as a form of seismic shift from analogue to digital forms of representation. This represents the computerisation of production and transmission routines. A situation which foreground technical and/or computer skills for programme production and presentation and the eventual digitisation of radio signal transmission and reception beyond the traditional means. Upskilling and multiskilling of journalists are synchronized with new affordances of digital transmission and reception via telecommunications.

The second concept, which is termed "radio convergence", is also occasioned by digitisation. Radio convergence has seen radio been transformed from a bland beat box to a robust multivocal medium (Kalodzy, 2006 cited in Moyo L, 2013b). Apart from technological convergence which describes the merging of platforms at technological level, convergence has opened radio up to other multiple forms of convergences, such as content convergence and a form of audience convergence, which according to Moyo L (2013a) is described as "a trend towards cooperative partnership." Radio in Africa is witnessing reinventing with the fusion of broadcasting, computing and telecommunications. The implications of this that radio journalists and their audiences have to learn how to absorb the shock of convergence and learn what it is to interact with radio.

Theoretically, the merging of telecommunications, broadcasting, and computing means that radio journalists and their audiences have to rethink what it means to communicate through radio. Converged radio means the emergence of new modes of using radio (Moyo L, 2013b:

216). With radio content becoming malleable, its flow of content on multiple platforms is guaranteed. Broadcasters, like their counterparts in newspaper, are now operating audio blogging by having their concluded programmes uploaded onto a website. Radio audience in diaspora and the mobile community of listeners now have access to experience or re-experience new listening culture through web listening or mobile Apps. The implication of this is that radio has emerged as a multimedia technology which is no more restricted by geography. The spontaneity syndrome which underscores its previous irreversibility is gone (Moyo L, 2013b, p. 215). The geographic limitation placed on terrestrial broadcast band such FM by the regulatory agency (Nigerian Broadcasting Commission) has been removed through the Internet. Theoretically, radio is no more restricted to terrestrial transmission using frequency waves.

And finally are the radical changes in cultures and practices, which according to Moyo (2013), describe the re-modification of routines, skills and values that formed and informed radio news production, distribution and consumption habit prior to digitization. Media scholars have observed the "routinisation logic" which defines certain established norms and practices in newswork (e.g. Tuchman, 1978). This routinisation logic sheds light on the noticeable difference in journalistic rituals along institutional and organizational settings. Routinisation logic explains the idea of radio as "sites of production" (Tuchman, 1978), a cauldron of mixed interests where journalistic roles are performed under tele-guided situation as informed by strict organisational values and institutional regulatory control. Invariably, this culture also describes how journalists' actions and that of the general public relate together and become influential within the concept of participatory news programming (Bivens, 2008, p. 113).

In spite of these, the transformation going on in today's radio cannot be totally attributed to changes in radio technology leading to converged radio. Moyo (2013a) explains the transformation of radio as a product of a dialectical process which sees radio constantly negotiating its existence with telecommunications and new audience practices. Two things can be deduced from this dialectical process going by Moyo's (2013a) conceptual interpretation of the impact of technology in radio journalism. On the one hand are the changing cultures and practices in relation to radio programme production and dissemination. On the other hand is the changing audience role and new empowerment of the once passive audience facilitated by new communication technologies. Audiences have become more mobile and participatory, using the digital technology to listen as well as contribute to radio programming. This leads to the establishment of an informal production spaces for audiences and also the merging of mainstream and citizen journalism on radio (Moyo L, 2013a).

Moyo (2013a) also makes a claim for a hybridised theory which serves to unlock the complex structures and processes within which radio convergence takes place and how it is negotiated to produce new radio cultures and practices that in turn impact those spaces. By emphasising the important role of agency and structure in technology adoption, the critical theory of radio convergence argues for a "social shaping" thesis (see Paschal, 2001) in individual and institutional uses of digital media technologies.

3.5   The Structuration and Actor Network Theories

It is important to point out here that Moyo's (2013b) conceptualisation resonates with two important theories that have gained prominence in recent studies on technology adoption and use (Spyridou et al., 2013). These theories are the adaptive structuration theory (AST) and the actor network theory (ANT). In the first account, adaptive structuration theory (DeSanctis and Poole, 1994) seems to have drawn on Giddens's structuration theory as expressed in its *Constitution of Society* (1984) and also in its canonical emphasis on social practices as a product of continuous recreation of human activities wherein they are actors in a confluence of agency, structure, and system (Giddens, 1984. p.2). In the same vein, the adaptive structuration theory, developed as a method for assessing process change resulting from the use of technologies, stipulates that change can be investigated by focusing on the structures that are formed when human interact with technology over and over again. Structure is constructed as invisible cognitively based product of human action. When interpreted against determinism and in line with constructivism, the transformative capacity of agents – that is their capability to re-enact or transform the structure by employing or evolving different rules, strategies and resources, places them over and above hegemonic structural properties. Routinisation, which grounded in institutional contexts, therefore explains agent-structure relationship. A number of studies in journalism have emerged recently seeking to explain the dynamic nature of journalism as it comes in contact with new digital interactive and non-interactive technologies, using the structuration theory (Larsson, 2012).

Actor network theory (Latour, 2005), on the other hand is another "conceptual framework for understanding processes of technological innovation by considering a mutual shaping of technology and society" (Spyridou et al. 2013, p. 79). While actor represents both human and non-human elements of the network as they take their form and acquire their attributes as a result of their interactions with others. Networks are also processual, built activities performed by the actors out of which they are composed. Journalists could be conceptualised as actors within a complex network of other different "actants", acting as

intermediaries or moderators and translating the network, meaning, practices, and products. According to Weiss and Domingo (2010), such relations could provide an avenue for assessing the power structures between different actors in the newsroom. A growing number of journalism studies are testing the usefulness and effectiveness of the ANT proposition (e.g. Anderson, 2009; Hemmingway, 2005; Spyridou, et al. 2013). Given the above discussion, this thesis builds on these recent interdisciplinary efforts as further explicated by this review of Moyo's (2013a) critical theory of converged radio.

3.6   Sociological Theory of Media Ownership

One of the noticeable shortfalls of new digital technologies and journalism research is the failure to theorise ownership variation. In this section, I try to make up for this theoretical gap by considering how forms of institutional ownership may shape African journalists' adoption of new media technologies. The assumption is that there is no way we can extricate ownership variation and their modes of power from our understanding of contemporary media. And because this aspect is useful to our overall understanding of the Nigerian contexts, a brief overview of this theoretical area is, therefore, considered important.

Profits seemed to provide the basis for excellence in journalism, and this extends to the survival struggle of legacy media in the digital era. In this quest for survival, new digital technologies are promising alternatives. Journalism is searching for a new business models in technology with the hope of extracting profits from advertises and audiences either in a bid to increase newsprint circulation and audience reading behaviour (Anderson, Bell & Shirky, 2012) or to take advantage of the Internet's affordances to create new kinds of journalism at affordable cost (Anderson, 2013; Deuze, 2008). On the other hand, journalism sees a hope in new digital technology as a means to reduce or eliminate commercialism in order to strengthen public and not-for-profit alternatives (Pickard, 2011). Bringing these two schools of thoughts together is the first step towards building a comprehensive sociological theory of media ownership. Doyle (2002) opines that examination of ownership and control patterns is important for two reasons: first, all points of view need to be heard if society is to be truly democratic; thus media must provide access for equal representation of opinions in the news. Second, abuses of power and influence by elites need to be monitored by a free media devoid of political patronage and influences of the business people. Doyle argues that too much concentration of media ownership is dangerous and unhealthy because the media have the power to make or break political careers and have a considerable influence over public opinion. For the task in this study, I will be appraising how modes of ownership power could shape the

deployment of new digital technologies between public and private/commercial media organisations.

Benson (2015, forthcoming) provides one of the most explicit discussions on the subject citing two different levels to experience media ownership power, one being "allocative" power and the other "operational" power (Benson, forthcoming). Operational power refers to the "specific implementation of policies already determined, which is likely delegated to top editors" and for which media owners can exercise their control directly or indirectly. Owners' allocative power refers to media owners set goals and priorities in the allocation of resources available in newsrooms. Recent journalism studies (e.g. Zhou, 2008) have devoted their attention to find out about how differences in job status can shape journalists' new digital technologies use behaviour. As it is, it is yet unclear in journalism research as to who is pioneering new media use in newsrooms between the young and old journalists. The general assumption is that older journalists are high ranking staffers with more resources at their disposal in a typical news organisation. Whether this is so across national contexts as not been ascertained. While age is beyond organisational influence, job status are within an organisational realm of influence and both do not correlate, as we equally understand in the Nigerian case where the broadcast regulatory agency stipulates certain "years of experience" and not age for managerial position.

Apart from the aforementioned levels of control, media ownership power can also be classified according to the effects of the ownership power on news content. However, amidst a diversity of other specific power wielded by media owners (such as hiring decision, promotion, downsizing, management/house styles, organisational policies including overt and covert attempts to shape news content or editorials (Chomsky, 2006), modes of ownership power which affect news content can be grouped into four broad categories: political instrumentalism, economic instrumentalism, audience adjustment, and public service orientation or commitment (Benson, 2015; Benson, forthcoming).

Political instrumentalism has to do with implicit or explicit attempts by media owners to use their media establishments "to promote or attack politicians, social movements and/or issues of special concern to the owners" (Benson, forthcoming). Several instances of political instrumentalism abound in Nigeria socio-political space where ownership of print and broadcast media organisations are either card carrying members of a political party or covert business owners who are eying political appointments or political advertising patronage. Media scholars have decried all forms of political instrumentalism (Graham, 1998; Hallin & Mancini, 2004) as a violation of journalism standard, ethics and professionalism. Still, such practices

have not disappear the world over. The current study hopes to explore this aspect of ownership power in its framework with "perceived organisational support and agenda" construct (see Chapter 2).

Closely related to political institutionalism is economic instrumentalism which refers to promoting or hindering news events or topical issues related to media owners' business concerns, their advertisers and those of their competitors, in order to gain a competitive advantage. In the digital era, this could mean cross-platform promotion of media products (news content) across all available domains. The race towards digital presence of some Nigerian radio stations can be viewed against this concept, if we are to evaluate the extent to which the practice of, for instance, live streaming on social media is contributing to the stations' economic model. Some Nigerian broadcasting stations with radio and television network also have this advantage over others with a single media outlet. In Ibadan-Nigeria, a radio station had to set up another local radio station in order to counter the rising influence of a new FM station which deployed both terrestrial and Internet radio. The effects of this kind of economic struggle in the digital era on new media technologies adoption proves to be an insightful dimension.

Audience adjustment, according to Benson (forthcoming), "is the strategic effort to increase revenues or profits by identifying a target audience and responding to perceptions of this audience's interests or preferences." Media owners constantly seek new ways to reach the fragmentised broadcast audience who have evolved a set of new media consumption habit it the digital era. The social media presence of some radio stations can be viewed as an attempt to locate online audience and compare them with on-air audience. While promoting news content on, for instance, twitter some Nigerian broadcast organisations and programme handlers do adjust their news content and format in order to extend their reach to a designated target audience. The strategy is to use hyperlinks (Tiny URL) to redirect social media audience to their websites where live streaming is ongoing or where the audience can be properly exposed to a range of advertisements and pay-per-click banners being promoted on the websites. Having thousands of retweets coming from a media outlet's news links or news quotes have opened up a new forms of rating to which Nigeria media organisations are constantly hoping to achieve.

The last aspect of modes of ownership power is termed by Benson (2015, forthcoming) as public service orientation/commitment. According to this theorist, public service orientation has to do with reporting that is geared toward journalism normative ideals of accountability, diversity, public participation, and comprehensiveness (see Chapter 2 for a detailed discussion

on normative ideal and professionalism). It manifests in media ownership ideal claim to social responsibility, surveillance and watchdog role in a democratic setting. It also includes the notion of multiple perspective of news (Gans, 2003) under the ideal that public participation in news-making will democratised the news in a way that pushes news toward objectivity. Public service commitment is evident in decisions to damn whatever the consequences that may occur as a result of media organisations' publishing against the constituted authority or high profile business interests. The extent to which new media technologies are shaping these normative ideals and the way the normative roles are being reconstructed or contested in the digital era remain my interest in this study. A number of academic interests have emerged around the concept of public service orientation/commitment, with a focus on how new digital technologies are used to circumvent media hegemony and state control. Independent online news media outlets in Africa have become the albatross of politicians, governments and corrupt business people. These online news outlets have evolved as a new mode of ownership power that are worthy of academic attention. However, this perspective is outside the scope of the current research. Hence, the framework for this study will be restricted to the two concepts of political and economic instrumentalism.

3.7   Conclusion

So far, the chapter has discussed the relevance of approaching new digital technologies adoption in African journalism from a metatheoretical perspective. The approach recognises the need to draw on several theoretical frameworks available in the literature as well as researcher's own impressions of the underlying assumptions which drive ongoing discussion on the new digital technologies adoption in African journalism. Given that several communication theorists and researchers have observed the inadequacies of extant theories of technology adoption in representing the complexities of technology adoption in converged environment. I have used the chapter to critically appraised existing literature on theories of technology adoption, which align with the social constructivists' theoretical paradigms and "sociology of journalism" as a traditional approach to the study of journalism. A host of other concepts that underpin digital technologies adoption and applicable to the African/Nigerian contexts were highlighted. The chapter has argued that in order to understand the impact of new digital technologies on radio journalism in Africa for instance, we must situate African journalists into a critical and analytical context that draws on "old" approaches to both technology and journalism, while it provides the option to interrogate the social relations within which the journalists operate.

Stemming from the initial literature review (Chapter 2), several micro-concepts have been identified in relation to how new digital technologies are shaping journalists professional norms and which also hold the possibility of influencing intention and actual use of these technologies. These micro-concepts are in relation to media convergence and its associated blurriness of boundaries, technology fluidity, functionally similar technologies/technological cluster, media logic and modes of ownership power. Embedding these important concepts into the framework of study has assisted in explicating the dynamism of the integrated framework of technology adoption presented in Chapter 2. It has also allow extrapolation of the metatheories to the African/Nigerian context of new digital technologies adoption. Ultimately, the approach in this chapter has afforded a proper comprehension of technological attributes, individual characteristics, social influence, organisational and system factors that may shape broadcast journalists' behavioural intention and actual use of new media technologies in a non-western context.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1   Introduction

Mediated communication adoption research has emerged in recent times as a product of increased acceptance and use of new technologies across field of practice. One of the most valuable developments stemming from this new popularity involves the rise in inter-disciplinary approach to once distinct area of research such as journalism studies. As rightly noted by Lin (2003), the increased integration of distinct communication research traditions presents "an unprecedented opportunity for communication researchers to share, confer and challenge the 'naïve' tradition that each has followed" (p. 346). Integrating different models therefore represents a worthy means of investigating and analysing micro- and macro-systems. A model built on the principle of "dynamic interactivity" (Lin, 2003), that is one that interconnects a number of reciprocal social, technological, and human communication factors offers an epistemological reorientation to new mediated communication researchers.

In the previous chapter, a hybrid model of technology adoption which was built on the aforementioned principle of dynamic interactivity was presented. In this chapter, I move on to present the research design and methodological approach deployed in order to explore the hybrid model in relation to the aim and objectives of the current research. Hence, this chapter is organised into different parts. Each section then focuses on unique aspects of the Methodology. The goal is to explain the purpose of research, the rationale for choice of approach, the sampling procedures, data gathering tools and the analytical directions of the study. On the sections under Methods, important discussions on survey research design, qualitative approach using interviews and the validity of scale and reliability as well as the analytics procedures for both the quantitative and qualitative parts of study are presented. The analyses section presents the sample proportion and brief accounts of inferential statistic employed: that is factor analysis, and the multiple regression. Finally, the qualitative aspect will also present discussions on the thematic coding and analysis employed through the use of NVivo 11 software. These detailed discussions will assist in effective understanding of the

results chapter and subsequent discussion of findings in the later chapters of this thesis. In sum, the current study follows a mixed modal approach which aligns with the subjective interpretivism notion of sociology of news production with scientific empiricism of quantitative social psychology. The significance of the mixed methods approach, in view of emerging research trends in technology use in journalism, is further highlighted in this chapter. The study therefore seeks to complement other perspectives and methodological designs which are currently in use within the sociology of newswork paradigm (Schudson, 1989, p. 2005) in order to deeply explore technology use in journalism.

4.2   Overview of Knowledge Claims

In its overall design, this study is positioned as an exploratory research. According to Saunders, Lewis and Thronhill (2003), exploratory studies are a valuable means of understanding a phenomenon. It is conducted to seek new orientation, to ask questions, and to evaluate a phenomenon in a new light. Exploratory research comes handy when a researcher wishes to clarify and get to understand a problem from a new standpoint. As indicated in the literature, this epistemological direction possesses the capacity to open an alternative route to better understand the phenomenon being investigated (Hair, Black, Babin, & Anderson, 2010). Saunders, Lewis and Thronhill (2003) name the three ways through which a researcher can perform exploratory research: these include literature search, focus group discussion, and by surveying expert opinions on a subject of interest. Specifically this current study benefits from the last of the three ways stated by these authors. However, it shares in the merits of both descriptive and explanatory research – the two other perspectives through which a researcher can make claims to knowledge. For instance, the current study considers the merits in the descriptive research design. Descriptive research provides a measure of an activity, a concept, or event through its description. Research in this case is usually structured and specifically designed to assess the characteristics described in a research question. The structure is that the design is tied to a theoretical frame which is used to guide the process and as well as provide for the concepts to measure (Hair, et al., 2010). This procedure informs the theoretical guidance of the current study in its focus on theories of adoption and journalistic role conceptions. Explanatory study, on the other hand, establishes causal relationships between variables in order to explain the relationship between such variables or one event causing the other (Saunders, Lewis and Thronhill, 2003). However, without recourse to causal relationship, the explanatory dimension of the current study simply reflects in its assessment of the relationship

between technology adoption and journalists' role conceptions. The study maintains the premise that establishing correlation between variables does not infer causality.

4.2.1   The Research Process: Philosophical Stance and Research Strategies

The current study is hinged on the knowledge claim so informed by a combination of subjectivist and positivist philosophical standpoints. A number of literatures on research methodology describe the philosophical stances such as subjectivism (Blaike, 2007; Bryman and Bell, 2007; Creswell, 2003) and positivism (e.g. Hussey & Hussey, 1997; Johnson & Duberley, 2000; Plao, Clarkes & Creswell, 2008 among others). Creswell (2003, p.7) describes a combination of knowledge claims under the term "the pragmatic claim". According to Creswell, pragmatism is a recognised philosophical framework peculiar to mixed methods studies, where qualitative and quantitative approaches are utilised in the overall process of knowing. Pragmatism builds on pluralism and uses more than one research approaches in order to derive knowledge about a problem. In reference to this study for instance, the research involves drawing on existing theories and adapting their scales to quantitatively elicit numeric data from a sampled respondents for the purpose of statistically analyzing same and then generalised. This procedure, notwithstanding, is complemented with a series of semi-structured interviews conducted in situ. The qualitative data would be analysed following thematic analytic method. As a philosophical approach it seeks to understand the lived experiences concerning a phenomenon as described by research participants. The mixed philosophical approach is essential in the current exploratory research for the purpose of providing detailed explanation and pragmatic interpretation of the phenomenon of technology adoption in the Nigerian broadcast journalism context. The complementarity of positivism and subjective interpretivism affords the researcher the best opportunity of understanding, from a complete perspective, how the phenomenon of technology adoption in broadcast journalism operates in Nigeria.

4.3   The Research Methodology and Methods

As earlier hinted, this study is based on mixed methods research design. Mixed methods design combines quantitative and qualitative research methods to generate new knowledge (Stange et al., 2006). Surveys research, as one of the two popular strategies of inquiry associated with quantitative research and positivist perspectives (the other being experimental or quasi-experimental methods) is integrated with semi-structured interviews of phenomenological research method. Historically, this strategy of combining research methods is credited to

Campbell and Fiske (1959) in their effort to study validity of psychological traits. In spite of the fact that researchers had been using more than one methods of inquiry, these researchers were the first to truly announce a "multimethod matrix" and by so doing popularized this strategy. It has been an established research method in the past few decades to mix methodologies more commonly, by combining field methods (e.g. observations and interviews) with conventional surveys (Creswell, 2003). However the emergence of mixed methods in behavioural and social sciences, according to Tashakkori and Teddie (2003, p. 697), began in the 1980s. The rationale behind a combination of quantitative and qualitative approaches, to which this current study takes a cue, is that all methods have their limitations and through a combination of approaches the weaknesses hold the possibility of cancelling out the biases in the other. Otherwise, it is meant to capture the best of both approaches. As expected of a mixed methods approach, the researcher sees the strength in the methodology in order to address the research questions and theoretical perspective at different levels. Due to the evolving nature of the concept of new communication technologies and journalism, mixed methods is useful for developing and testing a new instrument, to explain or interpret a concept and ultimately to explore a phenomenon. According to Creswell (2003, p. 21), a researcher following mixed methods bases "the inquiry on the assumption that collecting diverse types of data best provides an understanding of a research problem." This research shares this assumption.

4.3.1 Mixed Methods: Characteristics

A number of characteristic are associated with the mixed methods research design. For instance, in mixed methods the research problems can become research questions and/or hypotheses as dictated by researcher's prior knowledge, literature or the research process. Sample size can vary depending on the methods used while data gathering can involve any technique available to researchers. More so, interpretation of data is continual and can shape phases of the research process. Creswell (2003, p. 211) however suggests a systematic framework for conducting mixed methods research. This framework involves a combination of four-grid decision and six-point strategy. The first and second decisions to take involve chosen the sequence of data gathering and determining which of the modes should take priority over the other during data collection as well as during analysis. The next is to determine what the integration stage would involve. And lastly, is the decision which involves determining whether the analysis will be theory-driven or not. Creswell (2003) goes further to highlight six

mixed methods design strategies: sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent nested, and concurrent transformative.

These strategies have further been summarised into three basic divisions of mixed methods strategies. The first is the "sequential procedures"; in which a researcher uses one method to expand the other; not minding which method comes first. Upon completion of one method, the researcher launches the other in order to examine the phenomenon from an emerging perspective. The second mixed methods strategy is termed "concurrent procedures" and with this strategy, the researcher launches the methods being mixed at the same time. The goal here is to provide a detailed analysis of the research problem. For instance, quantitative and qualitative data are collected at the same time during the study and the information generated from the data is used for the overall interpretation of the results. This mixed methods strategy involves what is called "nesting" of one form of the data with another (Creswell, 2003). This may involve using the numeric or non-numeric data to assess the different levels of units in an organisation or to analysis different questions altogether. The last but not the least is called "transformative procedure". This strategy involves a researcher working under the guidance of a theoretical framework that encapsulates both the qualitative and quantitative approaches to data collection. It equally entails evaluating the theoretical perspectives of the study at different levels of analysis. The current study employed concurrent procedures to mixed methods. The rationale for the choice of this approach was borne out of the nature of the research as underscored by limited funding and time of completion. Be that as it may, for an exploratory study concurrent procedures provide an avenue to maximise the limited resources to achieve a detailed analysis of the research.

4.3.2   Deploying Mixed Methods for the Study

In line with the *mixed methods concurrent tradition*, I began the study with broad surveys which gathered both the quantitative and qualitative at the same time and places. The quantitative data were obtained using adapted scales in relation to technology adoption and journalistic role conceptions. The numeric data collected would be used to explore the phenomenon of technology use among Nigerian broadcast journalists and also to determine the relationship between adoption variables and journalists role conceptions. It would also be used to explore the dimension of interactivity in Nigerian radio programming with the use of interactive and non-interactive technologies. The qualitative approach produced non numeric data which were collected from the research participants. The general strategy for the mixed methods approach therefore follows concurrent data gathering and analytic procedures in

which quantitative and qualitative data were used as a means of providing a comprehensive analysis of the research problem. Since the data are collected at the same time, it is better that the analyses follow sooth in order for easy integration of the information in the interpretation of the overall results.

In spite of this uniqueness, the mixed methods research design has its own weaknesses as pointed out in literature on research methods (Creswell, 2003). For instance, some researchers have noticed that mixed methods designs can generate unequal evidence, thereby jeopardizing the research aim and objectives. When data are not collected concurrently, it may also lead to time wasting.

4.4   Research Methods

Research methods describe a general plan of actions to be taken whilst conducting a research. These are strategic plan detailing how a researcher would go about answering the formulated research questions. This also includes the set out plan for data collection and any associated difficulties faced by a researcher in the course of collecting data. Stemming from the mixed methods of the current study, I shall present first, the quantitative and qualitative approaches which led to data gathering for this study. And later, in the subsequent section I will present the constraints I faced whilst gathering data during the field study.

4.4.1   Surveys Research

Like many empirical studies in the Humanities and Social Sciences, surveys research represents one of the most common methods of inquiry for dealing with human subjects. Surveys research has a rich history of usages across disciplines, subjects and fields of enquiry. It cuts across geographical and socio-economic and cultural boundaries, offering researchers across the globe different modes of collecting data when human beings are the keepers of information. Most handbooks on research methods begin with a foray into what and how of doing surveys. A quick overview offers many different definitions, from different authors and academic backgrounds. For instance, Leeuw, Hox and Dillman (2008) highlight some of the common grounds and divergent approach in authors' attempt to define and characterise surveys. These include prioritizing different components of surveys and of the survey error over and above definitions. Scheuren (2004, p. 9) defines survey as "a word used most often to describe a method of gathering information from a sample of individuals." According to Leeuw, Hox and Dillman (2008, p. 2), survey represents "a research strategy in which quantitative information is systematically collected from a relatively large sample taken from a population." Zikmund

and Babin (2010, p. 64) interpret survey as a research technique in which responses are collected from a sample using structured instrument or observing respondents behaviour and describing it in some ways. Recurring terms in these definitions are "sample", "gathering information", "systematic or organized" and "quantitative". Surveys are usually employed to collect numeric data for the purpose of quantification. The quantifiable data are collected from research participants and are used to measure, analyse and generalise the findings. Zikmund (2003) notes that over the years, survey has turned out as an accepted scientific method of inquiry among social scientists. As it is an accurate way of collecting data to quantify gathered information. In all, definitions of surveys have included elaborate and concise descriptions of criteria to do a research which involves humans and quantifying their responses to a specific phenomenon. Surveys are therefore research methods for eliciting information from human subjects. It is a multi-faceted research method with each face contributing to its accuracy and reliability as a research tool.

A number of factors are specified in the literature as militating against survey's accuracy and reliability. These include problem of sampling, awkward approach to data collection, nonresponse from sample units, questionnaire imperfections, processing errors and errors of interpretation. Leeuw, Hox and Dillman (2008) also point to inadequacies or "errors" and classify them into two: first, errors associated with "non-observation" (e.g., nonresponse from research participants), and secondly, errors stemming from data collection and processing. These types of errors are also referred to as "sampling" and "non-sampling" errors (Biemer & Lyberg, 2003). Sampling error arises during sample selection. A times selecting a sample instead of studying the whole population due turn out to be regarded as sampling error. Great care must therefore be taken during sample selection by ensuring that the appropriate techniques are employed to obtain representative samples and a reasonable size must also be involved in order to make the findings generalizable to the entire population. Non-sampling errors are traceable to mistakes and/or system deficiencies. This includes all errors that a researcher can make during data collection and data processing, such as coverage error, nonresponse error, measurement error, and coding error (Leeuw, Hox & Dillman, 2008, p.3). Addressing all these concerns contribute immensely to the quality of surveys research product. For instance to combat non-sampling errors, researchers usually result to using established scales such as Likert scales. Named after its inventor, Likert scales involve using a weighted scale to measure or record the perceptions of respondents as a way of understanding a phenomenon. Respondents are asked to choose a statement from a number of statements that ranges from strongly agree or strongly disagree (Sauders, Lewis & Thornhill, 2007). The

weighted statements allow the researcher to generate numeric data to which statistical analyses are then deployed. The choice that the respondents make means that they agree (or disagree) with the statement they have chosen which allows them to express their feelings.

4.4.2 Applying the Survey Method in this Research

In view of the aforementioned procedure, conducting a survey for this research involved a systematic plan right from the onset. The plan began with specifying the concepts to be measured after which the concepts are explicated or operationalised. In research, operationalisation involves re-defining and translating a concept from its so technical expressions to measurable variables. Failure to operationalise concepts to measurable variables often leads to specification errors. Specification error holds the potential of invalidating the constructs due to ambiguity in conceptual terminologies. Once this was achieved, the research objectives were carefully spelt out, leading to the formulation of research questions. Thereafter, survey questions stemming from the operational constructs were tailored to address and answer the research questions. For example, the initial effort involved patterning the research along the "top-down strategy" which involves moving from theory-driven constructs to observable variables to which data are collected. The key concepts of the current research are technology adoption, journalistic role conceptions and participatory programming in FM radio broadcasting. Operationalising these concepts follows a critical appraisal of the literature on these subjects to arrive at their meaningful breakdown. This goes with the mapping out of theories that give meanings to the constructs as well as the variables to which the survey questions were drafted. In addition, attention was paid to the arrangement of drafted survey questions which ensured that related items were grouped together for the sake of validity.

Furthermore other concerns such as the sample size and techniques for sample inclusion were assessed, bearing in mind the problems associated with these aspects of survey in empirical research. Sample size involves making decision on how many people need to be surveyed for a fairly accurate description of the entire group. On the hand, sampling technique is *how* – the method – through which people involved in the research are to be selected. These concerns were explicitly presented in the section devoted for it in this chapter. While all these were considered, other confounding issues peculiar to quantitative data collection in Nigerian and quantitative data in journalism in particular were looked into. For instance, researchers who share Nigeria, and by extension Africa, as their research focus have noted what constitutes the "poverty of data" and shortcomings of surveys as a research method in confronting African phenomena (Nolte, Jones, Taiyari, & Occhiali, 2016, p. 542). Apart from the nonexistence or

inadequate discussions of parametric procedures employed in some pioneer studies. Empirical framework to which one can effectively build, replicate or map out surveys and data gathering is, in most cases, limited or inordinate. The forces plaguing surveys in Nigeria, and perhaps on the continent, are either political or economic. And sometimes both interests play out as obstacles. For instance, there is the difficulty of gaining access to a cross section of the target population, social institutions or work settings all of which may deter effective qualitative data gathering. While this may not be unique to our study context (Nigeria) or African survey scenarios, however there is the peculiar problem with regards to reliability of the existing surveys and their scales due to "data falsification" and irregularities in completing questionnaires (Nolte, et al., 2016, p. 543). In the subsequent sections detailing the sample selection and data gathering for the current study, how I was able to address these "classical" issues plaguing survey research in the Nigerian contexts will be discussed later on.

4.5   Study Population, Sample and Sample Selection

In this section I shall discuss the study population and the methodology undertaken for my sampling task. This includes highlighting the procedure for obtaining population estimates from the sample data and for ascertaining the reliability of the population estimates.

4.5.1   Population

The population for this study comprises broadcast journalists in southwest Nigeria's FM radio stations. Therefore, every radio broadcast journalist directly affiliated to FM radio stations across the tiers of broadcasting (public, private/commercial and community radio stations) was the study's target population. Suffice to mention here that questions on journalism as a profession and who a journalist is in particular beleaguer many researches in journalism studies (Pihl-Thingvad, 2015) and this is twice as difficult in isolating who a broadcast journalist is. In the first instance, the "fluidity of practice" (Thurman, Cornia & Kunert, 2016, p. 1) makes the definition and identification of a journalist a worrisome and slippery concept. In line with Peter and Tandoc's (2013) judgment focusing on the "domain of scholars" (apart from the legal and industrial domains for defining the term journalist), 'radio broadcast journalists' was operationally defined in this study in line with Dan Berkowitz's (1993) normative definition. Berkowitz (1993), in his study on dialectic of work roles and news selection among television workers, uses a descriptive definition which expands broadcast journalists to include "a list of all reporters, anchors, producers, editors, news directors, and other people working at the station in a journalistic capacity" (Berkowitz, 1993, p.71).

This inclusive definition suits the Nigerian broadcast context where the word journalism or 'pressmen' is a loose term and broadcast journalism seems more like a quasi-profession, with two contrasting industry associations serving as legitimising bodies. Apart from the general umbrella association called NUJ (Nigerian Union of Journalists), which as at March, 2016 has no official website,[7] majority of Nigerian broadcast journalists operate significantly under a registered body popularly known as Radio, Television and Theatre Workers Union (RATTAWU). Membership of this media workers' union includes, but not limited, to resident/station broadcasters and non-resident broadcasters (otherwise called freelance broadcasters). More so is the inclusion, as a department or sub-department in contemporary broadcast stations, of the information and communication technology (ICT) desk and staffers who are constantly drafted unto news and current affairs department. New digital technologies and applications such as Internet web streaming, digital console operations, call management machine, non-linear editing and graphics software, among others, are operated from this sub-department. For this study and informed by Berkowitz (1993), only a population of resident FM radio broadcast journalists across the three tiers of broadcasting in southwest Nigeria are targeted.

Given the aforementioned "poverty of data" (cf. Nolte et al., 2016), there are no accurate or exhaustive lists of these journalists. Both NUJ and RATTAWU are fragmented bodies with state and zonal branches defining the national interests. Nigeria's bureau of statistics and the National Broadcasting Commission (NBC) are not as helpful in retrieving documents on statistical representation of broadcast journalists in Nigeria. An email bearing letter of introduction and request for data was answered with silence. In order to circumvent the dearth of statistics, the researcher made use of secondary sources of information. Hence, according to African Media Development Initiative (AMDI) report which was commissioned by the BBC World Service trust (as cited by Adeyanju & Okori, 2006), there were estimated 30,000 journalists practicing in Nigeria. Additional 10, 000 journalists had been added within year 2000 and 2006, making it about fifty percent increase in six years. For a job which is known not to be paying salaries, this enrolment statistics is phenomena. By simple reckoning, about 1,666 individuals could be said to have joined the profession every year! In the real scenario, there are many unregistered journalists in Nigeria and broadcast journalism is plagued

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[7] Guardian Newspaper, Nigeria on March, 9 2016 reports "a plan to open a functional website" for NUJ. https://guardian.ng/news/nuj-plans-functional-website-for-journalists/

by many false "professional" entrants. The NUJ secretariat[8] puts the number of registered journalists at between 35,000 and 40,000 – about 10,000 higher than what AMDI estimated in 2006. Women journalists were usually estimated to be a quarter of this approximated population. Access to a database of radio broadcast journalists either from the station or the regulatory agency (NBC) in Nigeria, even at the federal, state or zonal level is better imagined than experienced. There are no documents on the web site of the Commission even though web-links to that effect are included on the agency's webpage. More so, studies on broadcast journalism in Nigeria usually focus on a number of broadcast stations within a state, using nonprobability sampling technique (e.g. Ojebuyi, 2014). The overall implication of this in survey research is that the quality of newly produced data cannot be assessed precisely as it makes it difficult to ascertain the representativeness of the sampled subjects to the entire population while limiting alternative interpretation of the data (Nolte, et al. 2016, p.543).

Given the peculiar nature of the study context, an average of 15 broadcast journalists per radio station was roughly estimated. Hence, for the 61 FM radio stations in southwest Nigeria the population is evaluated at 915 broadcast journalists. As an "*en*-gendered" profession (De Bruin, 2000; Ross, 2001), this rough estimation represents a group of mixed gender and literate workforce who perform daily journalistic roles in their affiliated stations. The diversity of the surveyed population in terms of gender, age, educational status, job experience, and job status will be presented right after the discussion on sample selection.

5.5.2   Sample and Sample Selection

Sample, by its simple definition in research, indicates a cross section of population to which a research is targeted. A sample is drawn from the target population being studied. Sampling techniques are therefore methods of selecting a sample from the population by reducing it to a more manageable size (Saunders, Lewis and Thornhill, 2007). Samples yield findings with which a researcher could make predictions about the population, often by drawing inferences. In relation to research methods, two basic orientations exist, these are probability and nonprobability sampling (see Leeuw, Hox & Dillman, 2008; Zikmund, 2003 for detailed discussion on these sampling approaches).

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[8] A rough estimate given by the National President of Nigerian Union of Journalist, Alhaji Waheed Odusile, during a telephone interaction on the subject of professional database of Nigeria journalists. This estimate includes associate journalists and journalists affiliated to any media organisations. The set criteria are: 1, graduate of journalism schools; 2, affiliated to a known media establishment and membership due payment of between N6,000 – N10,000 (approximately £13 - £22).

4.5.3 Study Sample and Sample Size

In this study, nonprobability sampling technique was employed. A multi-stage sampling procedure, which involved cluster sampling, purposive and then snowballing techniques was used for the selection of study participants. In the first instance of a multi-stage sampling, FM broadcast stations were considered as the primary sampling units (PSU). Broadcast journalists were located within the PSU as the secondary sampling units (SSU), as a quota of other media workers in the FM stations, hence quota sampling technique. Thereafter, participants were then purposively drawn from the SSU as representative samples of the target population. Lastly, snowballing technique was used to include consented participants.

One sheer attribute of the multi-stage sampling is that it is possible to reach final study units using hierarchy of stages. However, while these sampling techniques may limit the study's generalisability as a quantitative empirical study, it also holds the prospect of yielding participants that are representative of the study population. This is due to its strict adherence to selection of samples which fall within the sampling frame and description.

The choice of nonprobability was informed by four crucial contextual characteristics of Nigerian broadcast media landscape. First, there was the initial problem of locating appropriate sampling frame in the existing studies focusing broadcast journalists in Nigeria. Quite a few published studies employed survey method. And where numeric survey data were utilised, the techniques were either convenience or purposive sampling or a combination of both and snowballing (e.g. Olley, 2009). In addition to this is also the difficulty of assessing a comprehensive list from which broadcast journalists can be easily drawn for a probability/systematic sampling. Nigerian journalists operate as amorphous and amphibious professionals; working almost independently and off premises except only when editorial roles are involved. This makes it very difficult to get hold of journalists as subjects of empirical research. On many occasions, journalists are restless and difficult to persuade for research. In Nigeria, a number of them operate from newsrooms lobby, staff common rooms and shared official spaces. Another peculiar characteristic which informs sample recruitment comes in the form of "network broadcasting", where a media establishment has more than one FM radio stations operating across the region under investigation. Decision would have to be made on which of these stations' journalists would be recruited and snowballing techniques proof quite useful in this regard.

In the light of the aforementioned circumstances, having journalists to complete questionnaires requires consistent personal appeal and persuasive attention of senior colleagues, even after official permission has been sought through introduction letter. In order

to fulfil the procedure of sample selection in the light of nonprobability sampling, first, grouping the operational FM stations according to primary state of broadcasting was conducted. The researcher worked with the most current list of FM stations is southwest Nigeria retrievable on the Internet. Table 5.1 presents a complete list of licensed FM radio stations operating in southwest Nigeria.

State	Name of Station/Band	Type (Tier of Broadcasting
Lagos	88.9 - Brilla FM – Sports	Private
	89.7 - Eko FM, Ikeja	Public
	90.9 - Top Radio FM	Private
	92.3 - Inspiration FM -	Private
	92.9 - Bond FM	Private
	93.7 - Rhythm FM	Private
	95.1 - Wazobia FM	Private
	95.7 - LASU Radio (Lagos State University, Ojo, Lagos)	Community/Educational
	96.1 - Traffic radio	Private
	96.3 - Urban Radio FM, Lagos	Private
	96.9 - Cool FM	Private
	97.3 - Classic FM	Private
	97.7 - Metro FM – FRCN	Public
	98.1 - SMOOTH FM, Lagos	Private
	99.3 - Nigeria Info FM	Private
	99.9 - The Beat FM, Ikoyi Lagos	Private
	100.5 - RayPower FM, Alagbado	Private
	101.5 - Star FM, Ikeja	Private
	102.3 - Radio Continental, Ikosi Ketu, Lagos	Private
	102.7 - Naija FM	Private
	103.1 - Unilag FM (University of Lagos)	Private
	103.5 – Choice FM now Radio One – FRCN	Public
	105.1 – City FM, Oregun, Lagos	Private
	105.9 – NOUN FM (National Open University of Nigeria) Victoria Island	Community/Educational
	106.5 - Faaji FM (Also of Raypower FM)	Private
	107.5 - Radio Lagos, Ikeja (Also of Eko FM)	Public
	N = 26	
Oyo	90.1 - Space FM, 136, Liberty Road, Ibadan	Private
	91.5 - Star FM, Secretariat, Ibadan	Private
	92.1 - Ajilete FM, Gambari, Ogbomoso	Public
	92.5 - Impact Business Radio, Akobo, Ibadan (Nigeria's first Business Radio)	Private
	93.5 - Premier FM (FRCN), Dugbe, Ibadan	Public
	95.1 - Raypower FM, Cocoa House Dugbe Ibadan	Private
	96.3 - Oke-Ogun FM, Alaga	Public
	96.3 - Lagelu FM (also of Splash FM)	Private
	97.9 - Beat FM, Bodija, Ibadan	Private
	98.0 - Parrot FM, Ogbomosho	Private
	98.5 - Oluyole FM, Old Ife Road, Ibadan	Public
	99.1 - Amuludun FM, Moniya, Ibadan	Public
	101.1 - Diamond FM, University of Ibadan, Ibadan	Community/Educational
	105.5 - Splash FM, Felele, Ibadan	Private
	100.5 - Inspiration FM	Private
	102.3 - Petals FM, Old Bodija, Ibadan	Private
	102.7 - Naija FM, Bodija, (Also of Beat FM)	Private
	105.9 - Fresh FM, Ibadan	
	N = 18	
	89.1 - Hope FM (Babcock University Radio station, Ilisan-Remo)	Community/Educational
	94.1 - Rainbow FM	Private
	94.5 - Paramount FM, FRCN, Abeokuta	Private
	101.9 - Rockcity FM, Abeokuta	
	90.5 - OGBC FM, Abeokuta	
	95.9 - Hebron FM (Covenant University Radio Station, Ota)	Community/Educational
	91.7 - Women FM (first Women's Radio Station) Arepo, Isheri, Ogun State	Private

Ogun	106.7 - S.M.A FM, IJAGUN-IKOFA	Community/Educational
	88.5 - Family FM (Orile- Ilugun)	Private
	N = 9	
Osun	89.5 - Orisun FM, Ile Ife	Private
	91.7 - Rave FM, Oroki Estate, Osogbo	Private
	94.5 - Great FM, Obafemi Awolowo University, (OAU Ile-Ife)	Private
	95.1 - Raypower FM, Oke Pupa, Osogbo	Private
	96.3 - Radio Osun FM, Sky Limit area, Iwo.	Private
	99.7 - Oodua FM, Toll Gate, Ile-Ife (Ready for Transmission)	Private
	101.5 - Crown FM, Eleyele, Ile Ife	Private
	103.1 - Uniq FM, Ara Station, Okesa, Ilesa	Private
	104.5 - Living Spring FM, Ile-Awiye Oke Baale Osogbo.	Public
	N = 9	
Ondo	88.9 - Adaba FM - Urban and blended Yoruba music	Private
	91.9 - Breeze FM - Urban music	Private
	93.1 - FUTA FM (Federal University of Technology, Akure)	Community/Educational
	96.5 - OSRC FM - Local MUSIC	Public
	102.5 - Positive FM (FRCN), Akure - Blend of old/new school	Public
	94.5 - Orange FM, Akure Ondo State.	Private
	96.1 - Raypower FM, Oba-ile, Akure, Ondo State.	Private
	100.9-. Eki FM Ondo city	Private
	N = 8	
Ekiti	100.5 - Progress FM (FRCN), Ado Ekiti	Public
	91.5FM - Golden Voice of Ekiti (BSES)	Public
	N = 10	

Table 4.1: List of FM radio station operating in the southwest zone of Nigeria

The process used a list of FM radio stations broadcasting in the southwest region of Nigeria (Table 1). Hence, FM radio stations founded by private and public (including community/campus) ownerships across southwest Nigeria's urban landscape served as the units of analysis for this study. In all, sixty-one (61) licensed and functional FM radio stations were named and listed. Lagos State has the highest number of FM radio stations with 26 identifiable FM bands and which also enjoy active listenership in the State. Second on the list is Oyo State with 22 identifiable FM bands and active listenership mainly in the capital city of Ibadan. Ogun State and Osun State have a combination of 18 FM radio stations with identifiable bands. Ondo and Ekiti States with lesser representation of FM radio stations were, however, not included in the final sampling frame. Their omission is deliberate primarily because of the sameness in the structure and operations of these radio stations and the repeat transmission of programmes by private radio stations which, because of increased profit, are operating a network of FM radio stations in Nigeria states to circumvent the low coverage of FM transmission. Hence, excluding these inter-land southwest States does not significantly affect the research objectives; although it may affect the sample size. To compensate for the loss, the researcher sought to increase the sample size in the other 4 States where responses were higher. It also assisted the researcher to work within the timeframe and financial budget

for the study. The similarity in structure and operations of radio stations in the region is equally attested to by the chain of radio stations spreading from Lagos to other parts of the region and beyond.

States/Locations	Radio Station/Band	Type/Tiers of Broadcasting
Lagos	95.1 - Wazobia FM	Private
	96.9 - Cool FM	Private
	102.7 - Naija FM	Private
	103.1 - Unilag FM (University of Lagos)	Community/Educational
	89.7 - Eko FM, Ikeja	Public
	107.5 - Radio Lagos, Ikeja (Also of Eko FM)	Public
Oyo	90.1 - Space FM, 136, Liberty Road, Ibadan	Private
	91.5 - Star FM, Secretariat, Ibadan	Private
	92.5 - Impact Business Radio, Akobo, Ibadan (Nigeria's first Business Radio)	Private
	93.5 - Premier FM (FRCN), Dugbe, Ibadan	Public
	96.3 - Lagelu FM (also of Splash FM)	
	98.5 - Oluyole FM, Old Ife Road, Ibadan	Public
	101.1 - Diamond FM, University of Ibadan, Ibadan	Community/Educational
	105.5 - Splash FM, Felele, Ibadan	Private
	105.9 - Fresh FM, Ibadan	Private
Ogun	101.9 - Rockcity FM, Abeokuta	Private
	90.5 - OGBC FM, Abeokuta	Public
Osun	104.5 - Living Spring FM, Ile-Awiye Oke Baale Osogbo.	Public

Table 4.2: Showing the 18 southwest Nigerian FM radio stations from which samples were drawn (Public 6, Private 9, Community 2)

For instance, Ondo State has 8 FM radio stations of which one of these stations is an extension of a Lagos-based network of broadcasting station (that is Raypower FM). This same radio station also transmits in Ibadan, the capital of Oyo State. Ekiti State has 2 radio stations. At the start of the study in May 8, 2016 a printed letter of research intention authorized by the University Research Ethics Committee was taken to selected stations in each of the state forming my sample stratum. For effective administration and management of resources (time and cost of research), a research assistant was appointed and trained to collect data in Lagos State, while the principal researcher faced the remaining 3 States: Oyo, Ogun and Osun. Of the 16 FM radio stations written to in Lagos only four (5) gave consent and proved accessible after two weeks of waiting and reminder visits. In Oyo State, six (7) FM radio stations: Splash and Lagelu FM stations, Star FM, Space FM, Oluyole FM, Fresh FM, Impact Business Radio and Diamond FM gave their consent and cooperated with the researcher. It is also worthy of note that 2 network stations belong originally to Lagos based media firms (Star FM and Space FM) were sampled in Oyo State. Consent could not be sought from other radio stations in the State.

Apart from network stations phenomenon common with privately-owned radio stations, the state broadcasting corporation and the federal government's Federal Radio Corporation of Nigeria equally own network radio stations, with similar broadcast pattern and programming and sometimes staff. For example in Ibadan, Oyo State, there is the Broadcasting Corporation of Oyo State with 3 network FM stations (Ajilete, Oke-Ogun and Amuludun) while Premier FM owned by the federal government Federal Radio Corporation of Nigeria (FRCN) extends its zonal coordination to Ogun State and Paramount FM. In Ogun Sate, two (2) radio stations: the state owned OGBC FM and Rock City FM (private) offered their assistance and responded favourably. The researcher also received warm reception at the state-owned station in Osun State (OSBC FM). With this attributes in mind, the researcher worked fairly against the imminent coverage and sampling error by replacing unresponsive stations with responsive ones, since the stations only served as the study's units of analysis and not the actual subject of research. In all, one-hundred and forty-nine (149) radio broadcast journalists were reached through a total of 18 FM radio stations sampled across the selected 4 southwest Nigerian states.

4.5.4 Adequacy of Study Sample Size

As early mentioned, how sample size accurately depicts the population is dependent on sample size (Burns and Bush, 2010). Larger sample is more likely to yield a representative data and generalisable results. Sample sizes are dependent on several factors which impinged on research during the data gathering phase. For instance, time and research budget are two most fundamental determinants of sample size and the current study shares in their effect. In the light of statistical analysis, an evaluation of sample size is also crucial. Hair (2010) informs that small or too large samples have a negative impact on statistical test. When samples are too small it impacted negatively on its capacity to draw inferences generalisable to a population. Likewise, when sample sizes are too large it tend to create an unusual scenario where making useful conclusions is impaired. To strike a workable balance, different statisticians have established benchmarks for a good-enough sample size. For instance, Tabachnick and Fidell (2007) suggest a sample size of 300 as adequate for factor analysis. Sample size for regressions, on the other hand, could be determined following a mathematical equation: $N \geq 50 + 8 * M$ where M is the number of variables. One can safely assume that the larger the sample size the more appropriate it is for factor analysis (Pallant, 2007). Some scholars have also suggested that a sample size larger than 100 is adequate for factorial analysis (Hair, 2010). In view of

this, the current sample size (N = 149) is considered to be sufficient enough to represent the population and for the projected statistical analyses.

4.6   Instrument: Questionnaire Design

The choice of instrument in survey research is determined by taking a number of issues into consideration. Primary among these is the availability of resources at the disposal of a researcher, coupled with the literacy background of the target population and their willingness to participate in research. It is equally important that a researcher considers his/her own knowledge base apart from those of the participants before launching a survey. Regarding this, I relied on the experience garnered during a preliminary study of broadcast journalists' motivations for interactive programming (published, see Appendix). In this study, I took into account these vital aspects of surveys research by employing questionnaire as the instrument of data collection for the quantitative study. In my selection of questionnaire as instrument of data collection I considered, among others, the following concerns as specified by Glassow (2005): time frame for data collection, cost implication and the extent of research assistantship that may be needed. I was able to navigate through the data collection having factored in these vital issues.

While I consider all these as important during the design of my survey instrument, I also ensured that its construction was done in tandem with the focus of the study that is to assess the relationship between technology adoption and broadcast journalists' role conceptions. I was able to follow Salant and Dillman's (1994, p. 77-78) advice in translating the study objectives into measurable factors that addressed the focus of my study. By leveraging on my initial experience of the field, I fell considerably on the relationship developed among broadcast journalists in southwest Nigeria, particular in Ibadan the capital city of Oyo State to reach a number of the responsive radio stations and for the consistent administration of questionnaires.

Expert advice is usually recommended in developing and constructing questionnaire. For the modelling and construction of instrument used in this study the researcher enjoyed active cooperation and relied on the wealth of experience of the research supervisor. The initial guidance came through the supervisor's recommendation to review the literature on technology adoption and journalists' role conception. With this I was able to map out the fundamental body of work in relation to these phenomena. The recommended texts, including Schuman and Presser's (1981) *Quantitative Studies in Social Relations,* provided insights to question formation, wording and contextualising the instrument. In order to minimize error that may

infiltrate the study through scale development and considering the time and cost implications of pretest, I sought for tested scales for the concepts. For instance, Venkatesh et al. (2003) with Sun and Bhaterchajee (2014) provided the background to scale of technology adoption while bearing in mind the differences in individual, organisational and "cultural" aspects of technology adoption. Also, Weaver and Wilhoit (2007) together with Tandoc, Hellmueller and Vos (2012) and Chung, Nah and Carpenter (2013) scales were used to measure journalists' role conceptions. Synthesising these scales into a conceptual model, developing the instrument to measure the variables, and clarifying jargons and nebulous expressions on the questionnaire were products of quality supervision.

Ascertaining the quality of the data and ensuring the instrument is conducive to easy data processing and manipulation for analysis were also considered important during the instrument development. The wordings were carefully chosen to make comprehension easy. More importantly, a close-ended, objective-focused and contextualised questionnaire was developed. In the course of instrument development for instance, the common 5-point Likert scale was extended to a 7-point Likert scale. A 7-point Likert scale yields a more flexible range of options to gauge respondents' opinions, knowledge, attitudes and perceptions. Likewise, the study preferred a 2 to 5-item constructs to the ineffective, yet popular, one-statement questionnaire item. The rationale behind this is to increase the accuracy of gauging responses to survey questions in a way that precise measurement of each construct is achieved. Moreover, if a question was omitted by a respondent during completion, there were two more in place as adequate substitutes to ensure the constructs are properly measured.

In terms of structure, the questionnaire was sectioned into 4 alphabetic parts (A-D), with 86 questionnaire items in all. The first section (A) contains 20 statements carefully worded and adapted to measure broadcast journalists' perceptions towards use behaviour of technologies for participatory programming. The questionnaire items follow from a combination of UTAUT core IT model (Sun and Bhattacherjee, 2014) constructs and statements. The UTAUT's 4-grid independent variables and two dependent variables (see Chapter 4) were reviewed in the light of literature on journalistic role conceptions studies. The section (B) contains a 20-statement questionnaire items constructed after Weaver and Wilhot (2007) and Tandoc, Hellmueller and Vos (2012). The constructs in this section were based on Chung, Nah and Carpenter (2013) recent study on journalistic role conceptions among citizen journalists in the United States.

To properly ground the measurement, a list of interactive and non-interactive technologies identified with broadcast sub-sector in this digital era and possibly being adopted by Nigerian broadcast journalists were presented as parts of the study's evaluation. This comes under sections C1 and C2 and they are meant to gauge respondents' likeliness to use and relevance of these technologies to their perceived roles. This would offer us an insight into their actual use behaviour. For section C1, 10 non-interactive and 8 interactive technologies were listed against likelihood and relevance to job role scales. There is an item labelled as "other technologies" which makes the grand total of items at this section 19. Section C2 contains 17 survey items designed to evaluate respondents' technology use behaviour. Decisions are to be made on how often the listed technologies are used in their daily practice as broadcast journalists. The final section, Section D, contains a mix of close-ended (7) and open-ended (3) survey items. Two of the open-ended items are for the instrument identification purpose. The other open-ended questionnaire item elicits from respondents' their job experience (in written numeric value), to be processed as string data. The remaining 7 survey questions are to assess respondents' demographic data. No personal data were asked to be included. This Section D is vital for two reasons: the first being that demographic variables such as age, sex, educational status, and job experience (but excluding voluntariness of use) are moderating variables in previous studies on technology adoption. These would be used in our factorial analysis. Also, due to established claims about journalists responding to external pressures (organisational and institutional) differently, the researcher included a bipolar questionnaire item for the analysis of how different job status could moderate for technology adoption and role conceptions among broadcast journalists. Secondly, the researcher assimilated some demographic variables such as gender and status to understand the 'cultural influences' under terms such as masculinity and power distance index (Nistor et al., 2014, see also Venkatesh & Zhang, 2010) in order to explore these aspects of technology use in broadcasting.

4.6.1 Questionnaire Administration

The last phase of this survey process involved the actual execution or use of the instrument. The questionnaire was self-administered by the researcher and his assistant who worked in Lagos States. The procedure for administration involved identifying a key contact person in the station and/or the Head of Programmes. In most cases, the contact person proved very useful in introducing the researcher to a member of the management who authorized distribution within the stations' newsrooms. After verbal introduction with the contact persons, official letters introducing the researcher and his mission were handed in and subsequently

filed. The inside cover page of the questionnaire also contained a letter of consent which stated the rights of participant and emphasized their confidentiality in accordance with ethical procedure. To further encourage participation, the research had carefully designed the layout and format of the questionnaire using the University of Salford colour and crest. Increasing the face value of the instrument was needed in order to make it appealing in such a way that it would justify the essence of the research and the image of the university which authorised it. At radio stations where responses were high we were able to commence distribution the very day of initiating contact. In these stations we were able to administer a minimum of seven (7) and maximum of twenty (20), depending on their newsroom staff strength. Since the researcher could not enforce participation or compel respondent to do on the spot completion of questionnaire, the retrieval rate was fair enough for an exploratory study. A maximum of two (2) trips were made to establish contact with 29 radio stations with spread across the selected 4 of the 6 southwest states of Nigeria. The distribution was: 11 stations in Lagos, 6 stations in Oyo, 6 stations in Osun and 6 in Ogun states.

After three weeks data gathering exercise, thirteen (13) out of 29 FM radio stations contacted for the research had completed a total of 149 usable questionnaires. Another three weeks was set for the collection of distributed questionnaire in the Lagos axis. With the help of a research assistant (a first year Nigerian PhD student resident in Lagos), another twenty three (23) questionnaires were returned as completed making the total number of completed questionnaires 149. Considering a list of sixty-one (61) regularly transmitting FM radio stations in the southwest region (which is about half of the entire radio stations in the country), the percentage representation for the sample size of radio stations contacted for the study is given as 37.70 percent. With an estimate of 915 broadcast journalists for southwest Nigeria, the percentage representation of study participants (N = 149) is 16.28 percent of the population.

4.7   Data Presentation and Analyses

Data analysis involves using the collected data to make sense of the study and reaching findings (Spencer, 2013). For the quantitative part of the study, both descriptive and inferential statistics were employed. Statistical package for the social sciences (SPSS v.23) was used as a tool for the analyses. The descriptive analytic data presentation was in the form of percentage frequency with corresponding central tendency scores such as mean (*M*) and standard deviation (*SD*) presented. Presentations of data would be in tabular and graphical forms to enhance comprehension of relationships between data and variables. Descriptive statistics would be used to explore the demographic data as a means of shedding light on the proportion of the

participants in relation to the target population. This would set the stage for deeper analyses where the main demographic data would later be used as moderating variables. In the same vein, the inferential statistics would be used to determine the scales' reliability and to conduct tests of associations. In addition, there will be factor analysis and hierarchical multiple regressions where SPSS software would be employed for the analyses. The next section presents an exploration of the demographic data using the descriptive statistics.

4.7.1 Analysing the Demographic Information

Section D of the study instrument (questionnaire) contained items which sought to elicit demographic information of the participants. For the analyses, descriptive statistical analysis was employed. This involved identifying frequencies and percentages in participants' responses to the questionnaire items; some of which relates to broadcast journalists' types of ownership and demography such as gender, age, job status, educational status and years of experience of participants. In survey studies involving multiple responses, there are a few observed missing cases and this study is not an exception. The missing cases in the data were however statistically factored in the overall results as they were questionnaire items left unattended by the participants. Given this scenario, the valid sample population (N) for the study is a hundred and forty-nine (149). This represents the exact number of FM radio broadcast journalists who yielded usable questionnaire items for the analyses. The confidence interval (CI) was retained as 0.05 and p value set as 0.05 both for the evaluation of statistical relationships. Table 5.1 presents a summary overview of the proportion of participants for this quantitative part of this research.

Demography	Broadcast Tiers	Percent (%)	Mean	Std. Dev.
Ownership	Public	48.3	1.64	0.69
	Private/Commercial	38.9		
	Community (campus radio)	12.8		
Gender	Male	46.3	1.54	0.50
	Female	53.7		
Age	Below 18	0.7	2.41	0.50
	18 – 35	57.7		
	36 above	41.6		
Educational Status	Undergraduates and ND	13.6	4.18	1.03
	1st degree/HND	45.6		
	Graduate (MA/MSc)	32.7		
	Other PG/PhD	6.1		
Occupational Orientation	Broadcaster	42.9	2.22	1.29
	Journalist	23.8		
	Press	2.0		
	All the appellation	31.3		
Job Status	Presenter/reporter and other non-Management staff	76.9	1.23	0.42
	Management staff	23.1		
Training	Trained as a journalist	93.9	1.94	0.24
	Not trained as a journalist	6.1		

Table 4.3: Frequency distributions of study respondents

In order to establish the proportion and representativeness of study participants working across the tiers of sampled broadcasting stations, the frequency distributions of broadcast journalists according to their station ownership were observed. To establish this, participants were asked to name the FM radio station they worked for, that is their corresponding media ownership/organisation. This is followed by the main demographic data for the study, which are gender, age range (below 18, 18-35, and 36 above), job status (whether participants are senior cadre management staffers or junior journalists/reporters/correspondents), educational background, years of experience and also whether they considered themselves as trained or untrained journalists, in view of the fluidity of journalism as a profession and the Nigerian broadcast journalism in particular.

4.8   Participants' Demographic Information

After the multi-stage sampling procedure, a hundred and forty-nine (N = 149) FM radio journalists participated in the quantitative studies. Participants from public FM stations

represent 48.3% of the sample, 38.9% were affiliated to private/commercial radio stations while 12.8% represent journalists from community/campus FM radio stations. Female broadcast journalists were more with 53.7% representation; male journalists represent 46.3% of the sample size. In relation to age, the participants were typically younger. Participants between the ages of 18-35 represent 57.7% of the sample population, while 41.6% were 36 and above. Findings also show broadcast journalists to be highly educated as nearly 78% claimed to possess First degree or its equivalent in Higher National Diploma and master's degree. Only 13.6% were undergraduates and National Diploma certificate holders. Some 6.1% claimed a higher postgraduate education, including a PhD. The average year of experience for participants affiliated to public radio stations is 9.56; that of journalist working for private radio stations in the sample is 6.60. A slightly higher average age emerged for participants affiliated to campus radio stations. Given this breakdown, male broadcast journalists emerged as having more experience compared with their female counterparts, while more female workers emerged to be affiliated to public FM radio stations when compared with participants from other tiers of broadcasting.

4.9 Tests of Association: Station Ownership Types versus Demographic Variables

Pearson's Chi square was used to explore the difference between the gender groups and ownership types. However, there is no statistical significance difference $X^2(2, N = 149) = 1.247; p - value = 0.536$ between these two. Male and female broadcast journalists are therefore favourably disposed to working in any of the tiers of radio broadcasting. In terms of age, Chi square was used to explore the difference between ownership types and broadcast journalists' age categories. It was found that there exists significant statistical evidence $X^2(4, N = 149) = 13.015; p - value = 0.011$ between these variables, as the calculated p-value is less than 0.05. Age is therefore an important factor in one working as a broadcast journalist, irrespective of gender difference. Participants in community radio stations were more male and younger compared with those in public and commercial radio stations, where there were more female participants. Finding also shows there exists no statistical significance difference between ownership types and educational status; $X^2(10, N = 147) = 3.256; p - value = 0.975$. Holders of first degree or its equivalent in HND were significantly represented across the tiers of broadcasting. Public radio stations in Nigeria are not in any way more educationally qualified than their counterparts in other tiers, namely private and community radio stations. From the initial descriptive analysis, non-management broadcast journalists

formed majority of the sampled population (76.9%) and this high representation cuts across radio station ownership types. When Pearson's Chi square was used to explore the association between station ownership type and broadcast journalists' job status, no statistical significance evidence is found to exist between the two variables, $X^2(2, N = 147) = 5.187; p-value = 0.075$. This set of non-management broadcast journalists are adequately represented across the tiers of broadcasting in comparison with the top management staffers.

4.9.1 Validity and Reliability

This section presents statistical evaluation of the appropriateness of the scales used in this research. The procedure involved obtaining Cronbach's alpha values as statistical evidence of scale reliability. In this case, four scales were tested for reliability. The first two scales have to do with technology-literacy and perceived relevance of new media technologies. The goal is assess opinions in relation to participants likelihood and actual use of listed interactive and non-interactive. The third scale, which stemmed from UTAUT model as extended by Sun and Bhattarcherjee (2014) (see chapter 4), was used to measure participants' perceptions toward adoption of technology in broadcast journalism and contextualised in participatory programming. The fourth scale adopted a recent scale to measure broadcast journalists' perceived roles as influenced by new media technologies. Cronbach's alpha coefficient is used as a measure of reliability of the scales. Establishing the satisfactory values of the study scale using Cronbach's alpha is paramount in quantitative studies of this nature. Cronbach's alpha coefficient is a statistical estimate of the internal consistency associated with the scores that can be derived from a scale through its composite scores. Hence, with the absence of reliability, when the coefficient falls below a satisfactory statistical benchmark of .60, it would be impossible for the researcher to associate any validity with the scale used in carrying out a research. Observing Cronbach's coefficients are, therefore, an indication of the statistical extent of reliability of the scale as well as the efficacy of its items in measuring the operational constructs. Cronbach's alpha as a statistical test of reliability is quite common even in journalism studies (e.g. Chung, Nah and Carpenter, 2013; Zhou, 2008). Hence, the test was equally favoured in this study over other tests of reliability. Table 5.1 presents the complete Cronbach's alpha coefficients for all the four scales used in the study.

Scales Description	Cronbach's Alpha
1. **Technology-literacy and Likelihood of Use (Scale T1)**	
a. Non-Interactive Technology Operational System and Software)	.843
b. Interactive Technology (Social Media of Internet and Mobile Phones)	.782
2. **Technology-literacy and Actual Use (Scale T2)**	
a. Non-Interactive Technology Operational System and Software)	.855
b. Interactive Technology (Social Media of Internet and Mobile Phones)	.883
3. Technology Adoption in Broadcast Journalism (20 items)	
a. Perceived Utilitarian Value (PUV)	.708
b. Perceived Hedonic Value (PUV)	.763
c. Perceived Communication Value (PCV)	.774
d. Perception Toward Audience Member (PTAM)	.353*
e. Perceived Organisational Support (POS)	.664
f. Perceived Institutional Policy Control	.726
4. Perceived Journalistic Roles as Influenced by New Media Technologies (19 items)	
a. Disseminator Role	.700
b. Interpreter Role	.750
c. Adversary Role (*Inter-item Correlation*)	.69
d. Mobiliser Role	.728
e. Civic Role	.820

Table 4.4: Showing Cronbach's alpha coefficients of the 4 scales and constructs

<u>*Note*</u>: *The low Cronbach's alpha indicates this sub-scale will not be included in the subsequent analyses.*

4.9.2   Operational Measures I:

The Integrated Technology Adoption Scale for Broadcast Journalism

In order to enhance validity, already validated constructs adapted from two recent technology acceptance and use models were used for the integrated model. Theoretical developments regarding this aspect have been presented in the subsequent chapter. Therefore, for task of this study, the 20-item statements developed as operational constructs for the evaluation of the six (6) variables in the study's adoption scale were constructed following Venkatesh et al. (2003) UTAUT scale. This scale directly informed the first 3 variables, that is: the utilitarian, hedonic and communication values, as equally used by Sun and Bhattacherjee's (2014) for their generic model of core IT usage (see Figure 4.5 in Chapter 4). These variables represent the validated constructs and prime factors of new information technology adoption. These include perceived usefulness (PU) or performance expectancy (PE), perceived ease of use (PEOU) or effort expectancy, perceived enjoyment (PNJM), and social influence (SI) or subjective norm (SN). In order to cater for technology adoption context in media and broadcast journalism specifically, the facilitating condition, which is yet another established construct from Venkatesh et al. (2003) UTAUT, was broken down into beliefs about audience need and

satisfaction, beliefs about organisational influence, and beliefs about institutional policy control. The new constructs highlight the facilitating condition variable. Together, this study's adoption constructs (variables) are operationalised in relation to prime determinants of technology adoption. The items under each umbrella term are presented in Table 5.5 below. A brief background of the operational terms is presented in turn.

Scale Constructs
Perceived Utilitarian Value
1_PUV01: Interactive technology that guarantees audience participation greatly enhances my overall professional performance as a broadcast journalist
2_PUV02: I believe my professional performance is better enhanced through the use of interactive technology
3_PUV03: New interactive technology that facilitates audience participation is the best thing that has ever happened in broadcasting
Perceived Hedonic Value
4_PHV01: I enjoy using interactive technology which allows me to engage audience on my programming
5_PHV02: I catch fun using interactive technology for programmes which involve audience participation
6_PHV03: I consider interactive technology very easy to use during programming which involve audience participation
Perceived Communication Value
7_PCV01: I have been influenced significantly by other broadcast journalists who use interactive technology for audience participation
8_PCV02: I feel proud to be among broadcast journalists who use interactive technology for programming which involves audience participation
9_PCV03: New interactive technology which allows audience participation enhances my sense of duty as a radio broadcast journalist
Belief towards Audience Members
10_BAM01: I believe audience members are always willing to use technology to contribute to discussions on radio programming
11_BAM02: I believe audience member lack the technological, education and financial capabilities to participate meaningfully on radio programming
12_BAM03: Audience expectations are always high towards technology driven programming
Perceived Organisational Support & Agenda
13_POSA01: My station generally approves the use of technology to drive audience participation in programming as a means of increasing ranking
14_POSA02: My station generally approves the use of technology to drive audience participation in programming as a means of attracting sponsors
15_POSA03: Technology driven participatory programming needs to be sponsored and supported by radio stations to be fully effective
16_POSA04: Technology for audience participation increases the power of broadcast organisations to moderate public opinion more successfully than ever
17_POSA05: Programming with audience contribution increases a station's credibility
Perceived Institutional Policy Control
18_PIPC01: Government/broadcasting commission's regulation or control is good at this time in checking broadcast journalists' use of technology for audience engagement
19_PIPC02: New interactive technology being used for participatory programming should be regulated through new policy
20_PIPC03: New set of policy control on adoption of new interactive technology is necessary to put journalism back on track.

Table 4.5: Scale items for integrated technology adoption in broadcast journalism

4.9.2.1 Perceived Utilitarian Value (PUV)

Under the utilitarian factor, this study captures participants' perceptions of *using the innovation* in its construct explication of the utilitarian variable. Although, this construct is traceable to Moore and Benbasat (1991) and extends from other scholarly contributions (see Chapter 3), the construct encompasses all related concepts which underscore "perceived usefulness" as a prime factor in innovation adoption across domains. Carefully worded statements were constructed in line with the perceived usefulness factor as used in a number of TAM and/or DIT studies on technology adoption and as summed up in the UTAUT scale. Specifically, participants were asked to rate their individual perceptions on the use of new interactive technology for audience participation along a 7-point Likert scale. Hence, the first three items on the scale were designed to measure the participants' perceived utilitarian value PUV 01 to 03. The three items tap on "professional enhancement" as the core construct which define the utilitarian value of new interactive technology in the context of participatory programming. The perceived utilitarian value scale was then created by averaging the three items.

4.9.2.2 Perceived Hedonic Value (PHV)

The study's construct for hedonic factor was deduced from "perceived enjoyment", "perceived fun" and "perceived playfulness" constructs (see chapter 3 for detailed discussions regarding this prime adoption variable). Enjoyment is operationally defined as the extent to which an activity of using a technology is perceived to be enjoyable in its own right (Davis et al., 1992). Both perceived fun and perceived playfulness share a concept in the hedonic value as a potential positive predictor of intention to use new media technologies within the context of radio broadcast journalism. This assumption is tested in this study in relation to Sun and Bhattacherjee (2014) extended UTAUT model, the core IT usage model (see Chapter 4 of theoretical framework). Three statements were used as study items to measure the hedonic construct; two of which were directed at the keywords: enjoy and catch fun within the context of technology use for participatory programming. The last item addresses the "ease of use" perspective following a theoretical assumption that easy to use new media technologies are prone to being fun or enjoyable in their uses. Perceived enjoyment is a consistent predictor of new media technology adoption across contexts.

4.9.2.3 Perceived Communication Value (PCV)

Evaluating the perceived communication value is an integral part of the erstwhile subjective norm or the more recent facilitating condition construct in many adoption studies. For effective

evaluation of journalists adoption of technology, I have decided to break the social influence construct down to its meaningful parts, the first being perceived communication value. Communication value, following Sun and Bhattacherjee's (2014) interpretation, addresses a network of users, the "other", who motivate or influence user (in this case broadcast journalists') intention to use and the actual use behaviour. This construct is explored through participants' perceived reliance on a network of users who motivate their intentions and behaviours to adopt interactive and non-interactive technologies in the context of participatory programming. Communication value as a construct was subjected to rating to assess participants' agreement or disagreement to a three-item statement. The items were focused on participants' significant influence from other broadcast journalists and self-esteem within the network of other technology users. The third item was set address participants' sense of duty in relation to social influence. Collectively, these items would serve as a measure of our subset and variable that measures the social influence dimension of technology adoption and journalism. This is a vital subset with which I hope to explore the central role of communication-oriented technologies such as Internet and mobile phone channels in contemporary radio broadcast journalism.

4.9.2.4 Perception towards Audience Members (PTAM)

The fourth subset is meant to addresses beliefs towards audience members' expectations in relation to technology use for participatory programming. However it would be excluded from the main analysis because of the low Alpha. PTAM as operational construct is informed by the literature which explicates on the centrality of audience need as one of the drivers of journalistic practice. The central assumption is that broadcast journalists' beliefs about audience expectations including audience access to feedback mechanism go a long way in influencing broadcast journalists' role play and, perhaps, adoption of new communication technologies. Broadcast journalists, as argued, would adopt technologies that aid the discharge of their roles bearing in mind their perceptions towards audience members' interpretation of their programming as well as the station's credibility. This construct sits with the social norms (SN) and facilitating conditions (FC) espoused in previous IS studies. Three questionnaire items bothering on participants' perceptions toward radio audience willingness, capability, expectations to use operational system and Internet technologies were designed to evaluate the construct.

4.9.2.5 Perceived Organisational Support and Agenda (POSA)

The other aspect of facilitating condition has to do with broadcast journalists' perception on the support received from their organisations (the media establishments and proprietors) regarding new technology use for participatory programming. This dimension is important as discussed in the literature on journalistic identity, role conceptions and professionalism. It represents the one half of external influence on journalistic role performance, the other being the institution or media system through which journalism practice is accredited. In this study, participants would respond to the sub-scale containing 5 questionnaire items and ranked their agreement or disagreement on a 7-point Likert scale to statements containing such words as station's approval to use interactive technologies for rating and sponsorship sake, agenda setting role, and perceived credibility.

4.9.2.6 Perceived Institutional Policy Control (PIPC)

The third and last aspect of social influence paradigm evaluates participants' perceived institutional policy and regulatory control coming from the government and via the media system being used in the context of study. In the case of this research the participants responded to 3 statements carefully worded to elicit participants' beliefs about influences from the government through its regulatory agency, in this case the National Broadcasting Commission (NBC). The statements were worded positively in favour of the policy or actions of the NBC regarding interactive technologies, for instance in conducting of participatory programming. And whether participants agree, disagree or neutral on the current policy drive regarding interactive broadcasting and participatory programming.

4.9.3 Operational Measure II: Journalistic Role Conceptions in the Context of Technology Adoption in Broadcast Journalism

As equally established in the previous chapter, journalistic role conceptions studies are popular area of journalism studies which is often studied from three inter-related conceptual direction (see Hanitzsch's model, Figure 4.7). In an attempt to contribute to this important area of journalism, a recent scale with focus online journalism was adopted (after Chung, Nah and Carpenter, 2013). This scale, with a battery of 19 questionnaire items, best explains role conceptions in contemporary journalism. The scale was moderated to match the reality of contemporary broadcast journalism. The goal is to evaluate participants' subjective understandings of practiced roles that are in the domain of individual journalists' self-awareness and occupational image. Reliability tests (Cronbach's alpha) for the entire scale and

each of the five role conception constructs were carried out and score presented in Table 5.1 (a-e).

Specifically, participants were asked to indicate on a 7-point scale their degree of belief ranging from 'very untrue of what I believe' to "very true of what I believe", when asked how new digital technologies assist them in their daily roles. Items measuring the prevalent roles such as: disseminator, interpreter, adversary, populist mobiliser and civic role were conceptually grouped. The grouped items were summed up and then averaged to create scales representing the five journalistic roles. Calculations leading to the findings are presented in turns.

4.9.3.1 Disseminator Role

The disseminator role was measured by asking participants to rate their beliefs about the significance of new technologies that facilitate audience participation through the following 5 items: a) getting information to the public as quickly as possible, b) providing entertainment to the public in new dimension, c) providing new forms of relaxation to the public, d) staying away from stories where factual content cannot be verified, e) concentrating more on the programmes that are of interest to the widest possible audience. The disseminator scale was then created by summing and then averaging the four items.

4.9.3.2 Interpreter Role

The interpreter role was measured by asking participants to rate their beliefs regarding the following 4 items: a) providing in-depth analysis and interpretation of complex problems, b) investigating claims and statements made by the government, c) providing in-depth analysis and interpretation of international developments, d) discussing national policy while it is still being formulated. The interpreter scale was then created by summing and then averaging the 4 items. The results also showed high reliability of the interpreter construct.

4.9.3.3 Adversarial Role

The adversarial role was measured using 2 items: a) be an adversary of business by being constantly sceptical of chief executives' actions as business (wo)men, b) be an adversary of public officials by being constantly sceptical of their actions. Participants were asked to rate on the same scale of 7; 1 being "very untrue" and 7 being "very true" of participants; beliefs about the statements. Inter-item correlation was used since the items in this scale were not more than two. The statistical results of scale reliability, using strict parallel model, indicated inter-

item correlation of $r(147) = 0.67, p < 0.01$, with scale reliability of .81(unbiased, strict parallel) and mean score of 4.23 ($SD = 1.56$).

4.9.3.4 Populist Mobiliser Role

For the populist mobiliser role, 4 items were used to measure the construct, as against the established five items in Chung, Nah and Carpenter (2013). One of the items was struck out to obtain a significant Alpha. The reaming items for mobiliser role are: a) developing intellectual and cultural interests of the public, b) setting the political agenda, c) giving ordinary people a chance to express their views on public affairs, and d), motivating ordinary people to get involved in public discussions of important issues. The scale for this construct was also created by summing and then averaging the four items.

4.9.3.5 Civic Role

Lastly for the civic role, four statements assessing perceptions of civic journalism within the broadcast media sector after Weaver et al. (2007) study were included. Using the same response scale as other 4 role conception statements, the civic role was measured by asking participants to rate their perceived beliefs that new digital technology truly assist them in a) conducting polls to learn about citizen's priorities on issues, b) providing forum where citizens and community leaders discuss public issues, c) creating opportunity that motivate ordinary people to get involved in decision making on public issues, d) creating an avenue for the previously un-heard voices of ordinary citizens as sources in public affairs stories. The data for civic role construct was also generated by averaging the 4 items.

4.10   Qualitative Data Presentation and Analysis

The prime target of qualitative research is to elicit the experiences, perceptions and feelings of the research participant(s). In view of this, the research was conducted by gathering data from radio broadcast journalists in southwest Nigeria. The goal is to analysis the non-numeric data as part of an exploratory study on technology adoption in broadcast journalism. The broad aim is to explore how perception towards adopting new synchronous and asynchronous technologies could influence broadcast journalists' conceptions of their roles or how perceived established journalistic roles are, at best, shaped in the light of the available synchronous and asynchronous technologies. It is in the light of this that the researcher employed a qualitative research design.

The qualitative part of this study was conducted using semi-structured interviews. To put this appropriately, this approach resides with the qualitative research given that more use of "structured interviews" is quantitative survey approaches (Byman, 2001). Semi-structured interview is at the mid-point of qualitative research continuum (with unstructured interview at the end). Qualitative interviews (semi-structured and unstructured) are characterized by increasing levels of flexibility and lack of structure. The terms peculiar to qualitative interviews are in-depth, non-directed, informal, conversational, naturalistic, biographical, narrative, oral or life history, and ethnographic which is coming with research on newsrooms practices and technology (Mabweazara, 2010). As part of the marks of qualitative interviews, the interactions with participants would take place in face-to-face (or other) contexts and thematised conversations are involved. Also, this type of interview would involve the researcher bringing in relevant contexts for the production of situated meaning (Mason, 2002: 62). Qualitative research interview seeks to describe by making meanings of the central themes located in the recorded and transcribed speeches of the subjects. It is very useful in getting the story behind a participant's experience whilst digging deep to out information around the topic (McNamara, 1999).

4.10.1 Rationale and Sampling

The choice of this approach is to complement the initial quantitative research where questionnaires (close-ended) were used to elicit information from the subjects. It is believed that the weaknesses that may arise in the process of conducting quantitative research would not undermine the results of the study based on the expectation that the choice of another approach holds the possibility of strengthening the conclusion. The goals of qualitative interviews either used alone or in a complementary sense are many. Details are very much included in basic literatures on research methods. In the course of this research, the researcher found that personal contact established during the interviews was very useful in understanding the contexts of the study. The interviews were very informative on contextual and historical dimensions to the study of technologies used in broadcast stations/newsrooms. More importantly is the potential of this research approach in complementing the shortcomings identifiable with representative probability random sampling technique which is stressed as inevitable in following positivist research designs. Giampietro Gobo's remark regarding the adequacy (or inadequacy) of probability research is worth noting. He holds the view, which is also echoed by qualitative researchers alike, that probability samples are very rarely achieved (Gobo, 2008). Hence, rather than focusing too much on sampling techniques, qualitative

researchers concentrate more on ensuring that the context of the research is right. Nature and design of the study are prime factors in making decisions regarding what methods to use. In view of this, the researcher ensured that only the subjects that fit the study were included as interviewees. And given that the focus of data generation in qualitative research is on the process rather than endpoint numeric value. Ensuring that "only reporters, anchors, producers, editors, news directors, and other people working at the station in a journalistic capacity" (after Berkowitz, 1993, p. 71) were used was vital to the researcher. This "participant gatekeeping" of sort in qualitative research was sustained by ensuring that interviews were conducted face-to-face and in situ – in offices and reclusive premises of the selected radio stations where the participants work.

Also, following in the tradition of qualitative research, this study is theoretically grounded (detail in Chapter 3). The place of theory in qualitative research ensures that theories are used to guide the research process, including the construction and selection of samples. In view of this, the research followed the tradition of theoretical sampling; hence sample selection was based on the relevance of the subjects to the specificities of the theories being adopted (cf. Corbin and Strauss, 2008). Theoretical sampling benefits a qualitative researcher in such a way that he is able to produce samples that fit the study and that will afford him the opportunity of testing emerging ideas whilst analysing the data. In this technique, there is no cut-line in sample selection as samples are included on the basis of theoretical development. Given this background, the research ensured that samples were both theoretical and purposive: which involved the selection of exemplary subjects for the needs of the study. In this study these were identified as managers or heads of news and current affairs desks, head of programmes, director of programmes, editors and station managers.

Snowballing, a nonprobability and ethnographical sampling technique was used in reaching the sample size considered appropriate after three weeks of field exercise across thirteen (13) radio stations in southwest of Nigeria. In total, 18 interviews were granted with representations from public/state-owned broadcasting corporations (6), private/commercial stations (5), and educational/community radio stations (2). The interviews were conducted in Ibadan-Oyo state, Abeokuta-Ogun state, Osogbo-Osun state – all the capital cities of southwest states in Nigeria. Contact was first established with one of the senior managers of Diamond FM (a campus-based/community radio station) in Ibadan, Oyo State, who provided contact information of a number of other colleagues in broadcasting. His over two decades experience in the industry and across the tiers of broadcasting in southwest proved quite significant in reaching and attaining a reasonable size of sample. Journalists and media houses are one of a

kind as they often maintain closed doors. Most receptionists were cold and unresponsive. Their attitudes to researchers seeking access depend on who one knows in the station, not minding where or what informs the visit.

4.10.2 Interview: Type and Tools

For the task of data gathering, we used standardized open-ended interview. What this means is that the same open-ended questions were posed to all research subjects. This approach was considered suitable considering the nature of the research and availability of resources. Standardized open-ended questions are faster to conduct and the data obtained from this procedure tend to be more easily analysed and compared. Since the researcher is relying on its outcomes for complementary purpose, this procedure was considered to be sufficient.

The main tools for conducting interviews are questions. The researcher carefully drafted six core questions around the topic of technology use in broadcasting in order to access the perceptions of the subject regarding the use of technologies and their beliefs about interactive technologies within the context of participatory programming and professionalism. Question asking followed typically the convention of standardized open-ended interview session. A topic guide of six questions was handy and with this the researcher was able to structure the inquiry. With the interview guide, the researcher was able to redirect when the trajectory of responses were going off course. And due to time constraint, the researcher was able to manage the interviews with the aid of the topic guide. The general attitude of subject (journalists) in relation to time and availability was poor. However, more than average of the sample size dedicated more than 10-15 minutes specified in their letters of consent. Overall, 8 hours, 26 minutes and 28 seconds worth of interview-time was recorded using Sony MP3 IC recorder.

4.10.3 Qualitative Data Analysis

According to Miles and Huberman (1994), the nature of qualitative data is usually that data is not directly accessible for analysis not, not before such data go through a process of encoding. Inaccessibility of data stems from a researcher's difficulty in achieving a direct access to, or immediate interpretations of, facts and events which serve the research purpose from the transcripts of interviews. It is also traceable to interviewees' near constant position of always providing representations of their experiences rather than their bare views and opinions (Xu, 2015, p. 168). Overcoming this concern is therefore paramount in undertaking qualitative analysis of the interview data. Using semi-structured interviews represents the first step in

overcoming inaccessibility of data for analysis. A researcher must therefore look beyond the raw transcripts of the interviews as these alone cannot provide enough evidence to support the arguments of a research study. In the light of this, finding an appropriate approach for interpreting and analysing the qualitative data is essential for this study. In this study, qualitative analysis of data is conducted in line with Silverman's (2006) classifications which provide three philosophical perspectives to abstracting meaning from raw interview transcripts. These are positivism, emotionalism and constructionism. Positivism follows from the scientific orientation to data and focuses on the potential of an interview to generate data from known facts about the world. The approach is to use close-ended questions in a reductionist tradition. Emotionalism with its open-ended questions focuses on extracting "authentic accounts of subjective experience", while constructionism addresses both claims of these sides seeking to balance the extremism in the two analytic approaches. From this interpretations and to avert the ideological pitfalls of these approaches, it is better to align with an approach that connect the theoretical framework based on existing studies on the subject being investigated with the encoded but never the raw data obtained from the field work.

Following this concept, audio data that were obtained for this qualitative research were transcribed into written (textual) data in a question and answer format. And in line with Seale's (2006) suggestion a coding scheme based on "pre-existing concerns" and the uniqueness of the data itself was developed to elicit themes and sub-themes from the interview data. Thematic analysis is therefore employed as the main qualitative data analysis technique used in this study. Thematic analysis as an interdisciplinary approach to qualitative data analysis is popular in media studies as well as in psychology (Boyatzis, 1998). Thematic analysis allows a researcher's constructed themes (based on existing studies and a rich knowledge of the data at hand) to be used in such a way that prior theoretical constructions are tested while new findings are included to extend the frontier of academic knowledge in the discipline being studied. It is a pragmatic approach which combines the merit of positivism with that of emotionalism. Given that this research is based on Western theories (of adoption and role conceptions), both deductively theory-driven and inductively data-driven approaches are important to explore the applicability of extant theories of adoption and role conceptions in a specific Nigerian context with the hope of finding new concepts from newly collected data.

4.10.4 The Interview Data

The interview data comprise transcribed responses of 18 broadcast journalists or interviewees interviewed across public, private/commercial and community/educational FM radio station

located in four southwest Nigerian states. The composition of the interviewees reflects the diversity of broadcast journalists in terms of job status, experience and gender. While there seems to be no gender limitations to role performance in broadcast journalism, citing the gentlemen of the press mantra, there is an observed slant in the composition of broadcast journalists at the top management level. For instance in public/government-owned broadcast corporations visited, there were more senior management staff in the cadres of director, producer, and senior reporters and presenters compared with other two tiers of broadcasting put together.

	Public		Private		Community (Campus)	
	Male	Female	Male	Female	Male	Female
Gender	7	2	5	2	1	1
Role Status	Senior	Mid-level	Senior	Mid-level	Senior	Mid-level
	8	1	1	6	1	1
	Stations Names		Stations		Stations	
Oyo, Ibadan	BCOS/Oluyole FM		Splash FM, Fresh FM	Star FM, Impact Business Radio FM	Diamond FM (UI)	
Ogun, Abeokuta	OGBC 2/FM					
Osun, Osogbo	OSBC					
Southwest Zone (Ibadan)	FRCN/Radio Nigeria/ Premier FM					

Table 4.6: Demography of interview participants

4.10.5 Schemes of Thematic Coding: A Synthesis of Theory and Data-driven Themes

As earlier mentioned, schemes of thematic analysis will be derived both from the literature and theories and the new data gathered in situ among Nigerian broadcast journalists. The discussions in Chapters 2 to 4 provide the theoretical basis for deriving the theory-driven scheme of thematic analysis while "patterns, themes and categories" present in the collected data would serve the purpose of data-driven scheme of thematic analysis (Patton, 2002, p. 453). Data-driven inductive thematic analytic process follows from asking questions and comparing responses from different interviewees (Patton, 2002). Patton also suggests conducting inductive thematic analysis "after or alongside deductive phase of analysis" (p. 454). This hybridised scheme of thematic coding involving the use of deductive and inductive thematic analysis together as an approach will ensure that findings from this qualitative study are not only theory-driven but also contextualised. Contextualisation is significant in the process of inductive thematic analysis as context can ensure fair and accurate interpretation of interview data (Wolcott, 1994).

In view of the exiting literature on the impact of technology on journalism, the clusters of theories mainly featured centre on: the promotion of journalism values and roles through

new avenue for participation and introduction of new labour-intensive news model. These theoretical positions are explicated using Boyatzis' (1998, p. 31) 5-part structure for thematic coding: 1) a label, 2) definition of theme, 3) a description of theme occurrence, 4) a description of any qualification or exclusion to the identification of the theme, and 5) examples to eliminate possible confusion when searching for the themes. Labels and definitions emerge from the planning stage and they are developed to guide the interviews. Given that there is little data at this stage, exclusions and examples cannot be developed prior to the conduct of interviews, description of themes can however be assumed and predicted. This can be used to guide the researcher and ensured that only relevant data are collected in the interviews.

In the light of the aforementioned approach, both the theories and data reflect the dual nature of interactive technologies which engendered positive and negative perceptions of the attributes of these interactive tools. Positive perceptions of technological attributes reflected in how production practices are enhanced, how communications and feedback are enhanced, how journalistic roles are re-energised, reconstituted newsroom with IT personnel taking positions in newsrooms and lastly, any individual or organisational gratifications that may be derived in the cause of using interactive technologies. On the other hand of the "double-edged sword" attribute of interactive technologies use in journalism are negative perceptions which (may) indicate dysfunctional uses of interactivity such as relying on social media's unverified stories. Others are incompetence/deficiency of audience as a result of educational and socioeconomic background, technical glitches, technical incompetence of journalists, and such things as journalists' indolence and organisational factors such as political interference, poor funding/mismanagement and over commercialisation of air-time:

Theme 1

Label: Perceived Utilitarian Value: New Communication Technologies in Newsgathering and Sourcing

Definition: The capacity of new digital tools to enhance journalistic production practices. These are indicated in the improvement of sourcing/newsgathering practice, story idea generation, broadcast content promotion via social network sites, extension of broadcasting reach/coverage and lastly, improvement of output.

Description: In order to explore this aspect, thematic coding would be directed towards interviewees' responses regarding the capacity of new digital tools to enhance broadcast journalism production practices.

Theme 2

Label: Perceived Communication Value - Using New Digital Technologies for Interactivity and Audience Engagement

Definition: This indicates all utilitarian outcomes of new communication practices engendered by new digital interactive technologies use especially in the context of participatory programming.

Description: In order to explore this aspect, thematic coding focus would be on outcomes of interactivity in and outside the newsroom and on and off the programming.

Theme 3

Label: Reconstructing and Enhancing Journalistic (Normative) Roles

Definition: References to how new digital interactive technologies engendered certain role performances, convention traditional roles modelled in the study and, perhaps new ones as mentioned in the interview data set. Particular attention will be paid to normative roles such as agenda-setting, gate-keeping, and surveillance roles

Description: In order to explicate this theme, attention will be paid to mentions regarding how normative roles are performed in view of the availability/access to new communication technologies.

Theme 4

Label: Facilitating Conditions/ Environmental Factors

Definition: References to objective factors in the environment that interviewees believed to make adoption of interactive technologies easy or difficult to do. In the conceptual framework for the study, beliefs about organisational support and institutional policy control are assumed to directly influence actual use of new interactive technologies.

Description: instances of environmental factors influencing intention and actual use of new interactive technologies in broadcasting were explored in the responses of the interviewees.

Scheme of thematic coding for this study are directed at the aforementioned themes in order to instantiate trends and pattern of interactive technology adoption and appropriation in broadcast journalism in the Nigerian context. This analytic procedure follows from Xu (2015, p. 203) where he highlights the steps leading to construction of themes in line with a constructionist

theoretical perspective. This involves repeatedly reviewing the data to understand the meaning of the respondents' thoughts and to gain an awareness of significant expressions related to the research, especially those related to the thematic codes developed from the existing literature and pilot interviews; by developing open themes based on the significant expressions extracted in stage 1; and finally by refining and categorizing the open themes into core thematic codes for further discussion. These steps were kept in mind for the analyses.

4.10.6 Validating the Qualitative Study

The qualitative part of this mixed methods research was validated using three approaches in what this researcher call "validating by triangulation" or "multi-perspectivial validation." First, a pilot study was conducted in Nigeria using Splash 105.5 FM in Ibadan, Nigeria a case to study motivations for broadcast journalists' use of technology for participatory programming.[9] Following over six months of constant monitoring of the station's flagship interactive programmes, seventeen (17) broadcast journalists in the station were surveyed in situ, using close-ended and Likert scaled items. The scale ranked the participants' perceptions on the use of interactivity for participatory programming by adapting Jack (2009) study on the social evolution of citizen journalism.[10] This initial study provided the useful insights into the perceptions of Nigerian broadcast journalists in their use of interactive technologies for participatory programming and served as a springboard to a broader exploration of the phenomenon.

Secondly and bearing the findings from the Nigerian study in mind, a fresh pilot study was conducted in the UK at the BBC Salford Quays radio personnel. Three different visits were made to the BBC facility at Salford Quays where non-participant observation and interview sessions were undertaken. As interviewees were three (3) broadcast journalist from Radio 4 and Radio Manchester, and a social media expert from Radio Cumbria who was hired to train staff and direct online activities of the BBC. The researcher was privileged to attend the in-house training of BBC radio presenters in the use of Facebook as broadcasters. This pilot study in one part helps underscore the significance of the BBC as the flagship of broadcasting and interactivity in Nigerian broadcasting. As earlier mentioned in this thesis, the Nigerian

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[9] A paper on this pilot study was first presented at the Media, Communications and Cultural Studies Association (MeCCSA) Postgraduate Network Conference held at University of Leeds, in June 2014. It was accepted and published in MeCCSA's Networking Knowledge journal, http://ojs.meccsa.org.uk/index.php/netknow/article/view/363

[10] Canadian Journal of Media Studies, Vol 5(1): Available online at http://cjms.fims.uwo.ca/issues/06-01/jack.pdf

broadcasting was modelled after the BBC. It has also been established in this thesis that the first ever phoning-in programme as their earliest form of interactivity in radio is traceable to the BBC's pioneering initiative in this area. Both the observation and interview sessions enable the researcher to test the effectiveness of the qualitative method designed as a part of the mixed methods research into the internal perspectives of Nigerian broadcast journalism professionals. The responses of participants were used to moderate the semi-structured interview questions later used in the larger study.

The third approach in validating the qualitative study involved mapping the literature pertaining to the influence of technology and interactivity on journalism for themes on the subject, with particular reference to journalism and broadcast journalism practices in the West (e.g. Pavlik, 2000, 2001; Zoellner and Lax, 2015;), Asia (Xu, 2015; Zhou, 2008) and in the African contexts (e.g. Aborisade; 2015; Agboola, 2014; Akinbobola, 2015; Akinfemisoye, 2014; Berger, 2011; Chari, 2001; Talabi, 2011; Obijiofor, 2015; Okon & Eleba, 2013; Okoth, Tetey & Banda, 2009; Mabweazara, 2010, 2015; Moyo L, 2011, 2013; Moyo D, 2007, 2009; Mudhai, 2011; Paterson, 2013). It is important, in the context of this study, to establish journalism practices in Africa without losing track of the potential gains in the theoretical and epistemological traditions in the West (Atton & Mabweazara, 2011; Berger, 2000; Kupe, 2004; Nyamjoh, 2005, 2009). It falls within the merit of this research to familiarize the qualitative scheme of thematic analysis with the current and recurring themes in journalists' adoption and appropriation of new communication technologies on a global plane. Rather than falling in the ontological and methodological pits of adopting western professional norms and practices "awkwardly" (Ibelema, 2008, p. 36) and "out of context" (Atton & Mabweazara, 2011, p. 668), with regards to the influence of western social regulatory processes on the practice of journalism in the West. This critical approach to deductive thematisation has ensured that performance of the media in Africa is not measured solely on the backdrop of western professional values and standards, but that local contextual factors that shape and underlie practices in Africa are not overlooked. As Atton and Mabweazara suggest, "we need to reconnect accounts of journalism in Africa with western research" (2011, p. 670).

4.10.7 Using the NVivo™ for Coding and Thematic Analysis

The Nvivo 11 software was employed for the thematic coding, analyses and visualizations of interview data. Nvivo 11 (Pro version) offers a powerful yet easy to use tool for organizing and discovering patterns in participants' responses to interview data set. It offers a computer-assisted platform to explore trends, themes and patterns in the data set. It affords an automatic

approach of grouping and categorising interviewees' responses on the same topic/question and to quickly referenced meanings from grouped discussion. To enhance the use of this software for systematic organisation of interview data, initial formatting of the semi-structured interview questions and participants' responses would be done; with interview questions fonts highlighted under Heading 1 while responses are left in the Normal font mode. Codes and sub-codes would then be developed based on the theoretical framework and bearing in mind the study's research questions, following Braun and Clarke's (2006) flexible thematic analysis. Initial exploration of key terms/words in the interviewees' responses through the "word frequency query" is appropriate in getting the general sense of trends. It helps to quickly identify the key words in the text, who is saying what among the subjects and the frequency counts of the terms/words. The "word tree" option helps to identify prominent words and phrases by using the text search query of the software. Nodes were also created to make sense of the emerging data and ideas and explore their relationships within the body of interview data.

4.11   Conclusion

In this chapter, I have discussed the epistemological and methodological directions of this study. I considered the rationale behind the choice of mixed methods research design and gave insights into the advantage it would bring to the research. In the first instance, considering the need in this research to explain and ultimately explore the concept of technology adoption following an integrated scale modified from extant studies on the subject was an invitation to consider qualitative research. And after considering the field of sociology of news work and technology use in journalism, it has become clear that the study would be a shift from the popular methodological approach which often study technologies use in newsrooms through the lenses of qualitative ethnographic research. Even in Nigeria and Africa as a whole, there seems to be a preference for this direction and less triangulation or mixed methods in relation to technology use in journalism studies. Justification was made from the literatures on research methods in media studies, pointing to the uniqueness of mixed methods and why it should be considered in interdisciplinary research of this nature. I believe this mix of quantitative and qualitative approaches will bring a fresh angle and a new dimension to the study of technology adoption in journalism on the one part, and broadcast journalism production studies on the other. As mentioned in this chapter, the study is hinged on tested scales as a means of increasing the reliability of the study, not minding its exploratory approach. The study also benefitted from the laid precepts of qualitative designs in its use of semi-structured interviews as the

instrument of data gathering. Even with the highly evasive tendency of journalists and their seemingly uncooperative attitude to research and researcher "in whom they are not well pleased", the field work still produced useable data and sample size fair enough for quantitative analyses and that may be considered representative of the population. In the next chapter, I shall go on to present and analyse all the data obtained through the quantitative and qualitative methodologies. The overall idea is, to establish the perceived relevance of new media technologies and their relationships with journalistic role conceptions among southwest Nigerian broadcast journalists.

CHAPTER 5

DATA ANALYSES AND PRESENTATION OF STUDY FINDINGS

5.1 Introduction

This chapter presents results of quantitative data analyses conducted to explore the relationship between perceived attributes of technology and journalistic role conceptions in relation to participatory programming in southwest Nigeria. The chapter presents three statistical studies conducted as an aspect of the mixed methods that was employed for the research. The qualitative aspect of the research is, however, reserved for the next chapter. Chronologically, the findings are presented as "studies" even though they are encapsulated within the same body of research. To this end, the first analytical approach provides the appropriate contexts by using descriptive statistics to explore southwest Nigerian broadcast journalists' degree of likelihood and relevance of new media technologies being adopted for participatory programming. A fore knowledge of participants' perceptions of potential impact and attributes of new technologies on journalistic roles is considered important prior to the exploration of motivation factors that may shape their adoption. The second analytical approach uses factor analyses to investigate constituent motivators of broadcast journalists' adoption of interactive technology for participatory programming. It also explores broadcast journalists' beliefs toward journalistic role conceptions as influenced by new digital technologies. The significance of this analysis is in two folds: (1) to examine what factors motivate broadcast journalists' use of interactive technologies as a means of determining the extent to which variables under individual, organisational and institutional characteristics motivate or hinder technology adoption in the context of participatory programming. And (2) to examine what journalistic roles are being influenced by digital technology adoption. The third analytic approach focuses on determining the relationship between technology adoption and journalistic role conceptions, bearing in mind the role of the moderating variables such as gender, age, job status, and experience as well as media ownership types. The next chapter is devoted to the presentation and analyses of semi-structured interview data gathered from mid-level and management staffers of broadcasting corporations/radio stations in southwest Nigeria. Meanwhile, the background and

analytic methods for each of the approaches are briefly stated just as the results of these analyses are presented.

5.2   Background

Previous studies on new media technology use in journalism have reported extensively on pattern of technology adoption in Western newsrooms (e.g. Spyridou, 2013). Familiar areas in the literature include changing production practices, professionalism and role conceptions, changing business model and user consumption behaviour (Gillmor, 2004; Rosen, 2006). In terms of technology literacy and new skill sets, journalism professionals irrespective of the media they work for are passively and actively requiring technical capabilities to sustain their roles. Proficiency in computer technology and the Internet tools has become central to journalists role performance. Apart from conventional skills peculiar to journalistic practice, possessing or acquiring new technical skills, including maintaining active presence on Internet's social media networks, have become a measure of individual journalist's competence and news organisation's relevance in terms of value-creation (Skoler, 2009). Although, no consensus has yet been reached regarding the motive for new technology adoption in journalism among the two most common suggestions – whether to serve a new labour intensive news business model or to promote journalism values and roles through new avenue for participation (Singer, 2011; Quinn, 2004). The scenario of technology adoption in journalism becomes more problematic given the few and lopsided coverage which favours the print and online media, not to talk of the limited geographic focus of studies on technology and journalism.

More so, in societies like Nigeria where there is uneven diffusion and use of technological resources, little or no report exists on how pattern of adoption could shape journalistic roles or vice versa. For instance, the so-called digital divide prevents journalists in Nigeria, and by extension Africa, from measuring up in terms of production practices, distribution, and reception of journalistic products. Yet, in spite of economic uncertainties and uneven diffusion of technological innovations, journalists in developing economies of Africa, where Nigeria also belong, still struggle to improve their profession. They strive to incorporate or appropriate available technological devices, using localised creativity and adaptation (Mabweazara, 2015), so as to align themselves with the best professional practices in the world. A few studies have attempted investigating how new media technology impacts on Nigerian journalism, but with focus on print journalism routed through familiar ontological and

epistemological approaches (e.g. Aborisade, 2015; Akinfemisoye, 2014; Olley, 2009; Talabi, 2011).

For instance, trailing the global debate on the subject, Aborisade (2015) observes that technology adoption by Nigerian print journalists' impacts positively on the democratic culture and journalism curriculum of the country. Akinfemisoye (2014) however questions the impact of technology on journalism profession; irrespective of widespread adoption in mainstream newsrooms and claims that new media technologies provide a breeding space for 'alternative' journalistic practices (Aton, 2013). Her study investigates whether (or not) the adoption of digital technologies in Nigerian mainstream (print) newsrooms and the oft-quoted UGC in newspaper reporting are really redefining the institutional practices of Nigerian journalists and creating "new" journalistic cultures. Her findings corroborate the "gatewatching" culture of the Nigerian journalists and sheds light on "subtle economic motive" behind Nigerian print media adoption of new ICTs. Journalists, she claims, continue to maintain their professional routines in the face of new media technology use.

While Akinfemisoye's (2014) study was routed through the usual ethnographic tradition of a typical journalism study, Aborisade (2015) anchors his study on the Task-Technology Fit theoretical framework (Goodhue & Thompson, 1995) of the IS research. The basic assumption is that journalism is likely to receive a boost when technology that matches the task that journalist perform is adopted. Although, Task-Technology Fit theory as well as TAM and DIT represents one of the IS theories being adapted to journalism studies, it would be in IS field that about 50-60% of one's intention to use IT and 30-35% of their actual usage behaviour have been explained (Venkatesh, et al., 2003). A few studies have explored this direction in journalism studies focusing on Nigeria. While it is worthy to stress that the pace and direction of scholarship in technology adoption and concomitant organisational change is dominated by IS researchers in North America and Europe. In the past few years, there have been increasing contributions to IS research from researchers in developing regions of the world, including Africa (Avgerou, 2008). This development is rubbing on recent scholarship on the impact of new media technologies on African journalism. According to Bob Franklin, the Editor of *Digital Journalism*, the new attention being paid to African digital journalism could address the lop-sidedness and provide "interpretive sensitivity" of socio-cultural and historical complexities of technology use in journalism using different African nations and organisational contexts. It would also fill the "scarcity" of studies in this area of research (Mabweazara, 2015). While Mabweazara (2015, p. 1) calls for detailed "'qualitative explorations of newsrooms and their journalists' in view of how they are adjusting to the new

digital context of practice." This thesis extends the call to include a mixed methods approach using quantitative data to understand journalism field of practice (Dickinson, 2008) in the digital era. Since Aborisade's (2015) study on Nigerian journalists is lacking in theoretical depth expected of a theory-driven research as specified in the study's conceptual framework based on Task-Technology Fit theory. This current research addresses the situation by exploring the theoretical realm of technology adoption with an integrated theoretical framework that guides both quantitative and qualitative study of technology adoption phenomenon in broadcast journalism. As earlier mentioned at the introduction chapter, the focus on radio broadcast journalism is informed by the scalability of the medium in terms of social development and information dissemination. The series of study presented in this chapter attend to this concern by focusing on the Nigerian context.

5.3   Analytic Approach I

5.3.1   Method

Given the aforementioned background, a hundred and forty-nine broadcast journalists (N = 149) were surveyed across public, commercial and community FM radio stations in southwest part of Nigeria. Participants' perceptions of operational systems, software and social media platforms of the Internet and mobile phones intention were evaluated to determine their level of knowledge, likelihood and actual use of technology. The procedure involved listing some new digital technologies being used in the context of broadcast journalism, as reflected in the literature on new media use in journalism. Questionnaires were administered across tiers of FM radio stations in southwest Nigeria, where participants' perceptions regarding their intention to use and actual use of the technologies were measured using a 7-point Likert scale ranging from 1, "very unlikely" to 7, "very likely." The technologies listed were grouped into two following the criteria of whether the technologies are interactive or non-interactive in order to adequately cater for the participatory focus the research. As interactivity is operationalised in view of the affordance of new digital technologies which facilitates feedback, hence, these technologies are classified in view of this affordance. Operational system and software with no feedback structure are considered non-interactive technologies (and labelled Technologies or T1) while Internet social media networks and mobile phone channels (voice and text messages) constitute the interactive technologies (labelled Technologies 2 or T2). In the first instance, participants were asked how likely is it that they would adopt T1 to support perceived journalistic roles. Likewise, how often participants use these technologies is assessed based on participants' perceived relevance of these technologies in relation to their daily journalistic

practice. In this case, participants were asked to respond along a 7-point Likert scale ranging from 1 being "not at all" to 7 as "very often". The percentage frequency, mean and standard deviation scores were recorded against participants' perceptions of these technologies, as indicated in Tables 5.1 and 5.2.

5.3.2 Results[11]

	Non-interactive Technologies (T1)	VU (1)	U (2)	SUL (3)	Neutral (4)	SL (5)	L (6)	VL (7)	Mean	SD
Operating System and Software	Editing	2.7	2.0	2.7	4.1	8.8	27.9	51.7	6.05	1.425
	Studio Playlist™	2.8	2.8	3.5	14.8	8.5	28.9	38.7	5.65	1.558
	Adobe Photoshop/CorelDraw	2.1	7.6	9.7	17.9	12.4	26.2	24.2	5.06	1.680
	Word Processor (MS Word)	0.7	2.8	6.2	9.7	10.3	26.2	44.1	5.81	1.443
	Call Management System	1.4	4.1	4.8	15.2	15.2	29.7	29.7	5.46	1.491
	Personal Digital Assistant	2.1	2.9	6.4	18.6	17.1	25.0	27.9	5.32	1.523
	Computers – PCs/Tab/iPad	0.7	0.7	4.1	2.1	8.3	24.1	60.0	6.29	1.160
	Web-cam (Streaming)	4.9	1.4	6.3	6.9	15.3	23.6	41.7	5.64	1.654
	Podcasting	4.8	4.8	6.1	12.2	11.6	25.9	34.7	5.37	1.756
	Other newer technologies	2.2	3.7	0.7	16.2	14.7	25.0	37.5	5.63	1.500

Table 5.1: Showing descriptive scores of participants' intended to use non-interactive technologies

Up-skilling and multi-tasking have been used as terms to describe journalists' knowledge levels and skill acquisition in the digital age (Singer, 2011). In view of the increase in diffusion and adoption of new digital technologies in Nigeria's media space, majority of the study participants indicated their willingness to adopt specific operational systems and software along with social media platforms of the Internet and mobile phones to support their perceived roles as broadcast journalists. Of all the operational systems listed under non-interactive technologies, participants, in their majority, indicated prevalent familiarity with personal computers such as laptops, tablets/ipads to support their journalistic roles. Other prominent technologies which emerged in the context of broadcast journalism and participatory programming in Nigeria include sound editing software like Adobe audio editing suite, MS-Word for processing texts, Station Playlist software, web-cam and podcasting. There's consistence in their perceptions of these technologies in support of journalistic roles. It is however remarkable that participants reckon more prominently with web-cam, an Internet-enabled visual hardware, alongside other typical broadcast technologies like Adobe's

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[11] Notes for interpreting the abbreviated scale: VU (very unlikely), U (unlikely), SUL (somewhat unlikely), SL (somewhat likely), L (likely), and VL (very likely)

Audition^TM and Station Playlist software. Using a web-cam to stream nearly all programmes is fast becoming an integral part of broadcast production in Nigeria (M = 5.64; SD = 1.65), not minding its default use in interpersonal communication context. Whether this is new production culture is to further serve radio audience or an aspect of a station's competitive edge amidst competitive airspace and market is still unknown.

In addition, it is important to note from the results that 34.7% participants affirmed positively to their willingness to adopt "other new technological devices" in spite of their not being available yet (M = 6.29, SD = 1.16). Perceived relevance of newer technologies is also significant with mean score of 5.91 (SD = 1.45). This is an indication of Nigeria's broadcast journalists' readiness to adopt newer technological tools perceived to facilitate their journalistic roles.

	Interactive Technologies (T1)	VU (1)	U (2)	SUL (3)	Neutral (4)	SL (5)	L (6)	VL (7)	Mean	SD
Social Media Platforms of internet & Mobile Phones	Email	1.5	1.5	2.2	5.2	7.4	24.4	57.8	6.20	1.280
	Station's Website Disqus^TM	3.4	1.4	2.0	4.8	8.2	25.9	54.4	6.08	1.441
	Social Media Networks (Facebook, Twitter, etc.)	1.4	0.0	0.7	4.8	6.2	19.2	67.8	6.43	1.076
	Landline Telephone (voice-call)	2.1	0.0	1.4	1.4	4.9	28.5	61.8	6.40	1.104
	Mobile Phone (voice-call)	2.7	0.0	0.7	2.7	5.4	27.7	60.8	6.34	1.182
	SMS/Text Messaging	2.0	0.0	0.7	4.7	4.1	30.4	58.1	6.32	1.132
	Smartphone Apps (BBM)	2.0	1.4	2.0	6.1	9.5	24.3	54.7	6.11	1.338
	Internet phoning	1.4	2.7	2.7	12.9	6.8	23.8	49.7	5.91	1.452
	Other newer telecom technologies	4.9	2.1	3.5	13.9	12.5	28.5	34.7	5.51	

Table 5.2: Showing descriptive scores of participants' intended use of interactive technologies

Regarding the participants' knowledge levels of social media platforms of the Internet and mobile phones, willingness and perceived relevance of the new media technologies (T2) are significantly high. Participants responded overwhelmingly and positively in their opinion regarding intention to use interactive social media networks such as Facebook and Twitter to their journalistic roles, with percentage representation reaching 67.8% (M = 6.43, SD = 1.07). Perceived relevance of the social media platforms to participatory journalism is also very strong at 63.3% (M = 6.29, SD = 1.16). The significance of mobile phones' voice call and short message service was also acknowledged by the participants who claimed in their majority that they are "very likely" to use these interactive technologies to support their journalistic roles. Majority, that is 60.8% claimed they are "very likely" to use mobile voice calls and regular telephoning (61.8%). In terms of relevance to journalistic role, findings also indicate perceived usefulness of mobile and traditional telephone in broadcast journalism 56.1% (M = 6.13, SD =

1.38) and 44.9% (M = 5.52; SD = 1.38) respectively. More importantly, text-based platforms such as mobile SMS, social network sites and email emerged with higher mean scores and percentage frequencies when compared with voice calls, even as they are easily aired as a part of live programming.

Apart from these operational system and software for writing, participants also indicated relevance and familiarity with sound editing software like Adobe's Audition (M = 5.54, SD = 1.82). Perceived relevance of email with 54.6% was considered almost as important as mobile phone voice call 56.1%. Participants did not consider their stations' website interactive platforms (e.g. Disqus™) as relevant as any of the listed interactive technologies. All these further suggest text-based interactive platforms of social media and SMS as highly relevant to journalistic roles.

Taken together, these results (Tables 5.1 and 5.2) clearly show that in spite of economic circumstances and associated digital gap, new media technologies have become an integral part of broadcast journalism in Nigeria. The knowledge levels are high, as there is significant willingness among the participants to adopt available and yet to be available non-interactive technologies (operational systems and software as well as interactive technological tools (e.g. social media platforms of the Internet and mobile phones). These interactive and non-interactive technologies are perceived to be useful and relevant to their roles. How this may contribute to value-creation or serve a new, labour intensive working model will be determined in subsequent aspect of this thesis.

5.4   Analytic Approach II

5.4.1   Broadcast Journalists' Motivation Factors of New Media Technologies Adoption for Journalistic Roles

5.4.1.1 Background

In the literature, the popular opinions with regard to changes in technological devices range from positive implications on functional aspects of production practices (Pavlik, 2001), professional role performance expectancy - such as to gain production speed or enhance sourcing practice and analysis methods (Spyridou, et al. 2013) - to aspects of structural changes which initiate new orientation about participation or democratisation potential of new technology (Kawamoto, 2003). These changes have influenced both media production and consumption practices while they bear significant organisational and institutional implications for their media content producers as well (Robinson, 2011). Early assessment of the impact of technology adoption in journalism focused on the increased potential of new media technologies to enhance participatory communication with a view to provide the anticipated "alternative" to mainstream media through "multiperspectivality" (Gans, 1980, 2005). Other studies focused on the growing awareness that technological changes are more than simple or straightjacketed. Rather they present complex consequences for journalistic work settings as they affect both practices and established relationships in newsrooms. Robinson (2010) focuses on this relationship and notes how technological innovations shape the professional and personal relationships of news workers within and outside the newsrooms. These transformations are viewed from both optimistic and pessimistic lenses (Lim, 2012) and are contingent upon the varied organisational and institutional strategies that contextualise different newsrooms (Boczkowski, 2004). While the optimists reflect on the good side of the flexibility affordance of technological innovations in newsrooms, especially regarding content transmission (multi-platform delivery) and speed in relation to information access and sourcing practice (Lim, 2012). The sceptics counter this flexibility and raise serious concerns regarding technological innovations in newsrooms. For instance, Preston (2009) points to this flexibility as a mere reflection of the seemingly un-ending familiar loop of managerial themes in negotiating new working practices in order to remain financially relevant in the news marketplace rather than a much desired transformation of journalism practice or profession.

A more familiar narrative of the flexibility has to do with the consequence of journalists becoming multitasking and multi-skilling in the face of new digital technologies in newsrooms. The argument is that digital innovations would result in role convergence between technicians

and journalists and this holds negative potential of distracting journalists from the reportorial responsibilities (Ursell, 2011). Cottle and Ashton had earlier pointed out the increased in journalists workload while more pressure could be added as journalists negotiate multiple deadlines. Deuze and Bardoel (2001) harp on the stress and apprehension caused by the imperative to be multi-skilled, while Klinenberg (2005) report "frustration" as journalists contend with imposition of additional responsibilities. In addition, Nygren (2007) mentions marked shifts in journalistic routines and production processes that conflict with established journalistic roles, accompanied by the emergence of new designations. Deuze (2008) reveals how demands of role convergence forced journalists to increase their technical know-how pointing out that such development is detrimental to high-quality journalism. The idea is that increased skill sets caused repositions of specialists into a more general roles and this portends danger for professional autonomy of journalists.

In spite of the richness of the debate surrounding technological innovation in newsrooms, no clear consensus has been reached on whether innovations would lead to value creation or serve a new labour-intensive working model for newsroom managers. Exploring motivation factors could provide insights into the perceptions of broadcast journalists with regard to value of technological innovation in Nigerian newsrooms. It is anticipated that when motivation factors are known a better working model that serves not only the business interests of broadcast managers but also advances social developmental agenda of journalists and media organisations in the digital era could be formulated. Given this background, the focus of next study is to evaluate broadcast journalists' perceptions of new interactive digital technology being used in the context of participatory programming in Nigeria. This will help in exploring motivation factors for technology adoption and ultimately help in determining the extent to which perceptions of these factors shape adoption of technology in the Nigerian context.

5.4.2 Method

For this aspect, two factorial analyses were conducted using two different scales. In the first part, study participants (N = 149) responded on a 7-point Likert scale to a measure based on a combination of Venkatesh et al. (2003) UTAUT model and extended by Sun and Bharttarcherjee (2014). The procedure involved participants having to rate their agreement or disagreement to the 16 items from the initial 20-item questionnaire[12] which was developed

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[12] The 20-item scale which includes perception towards audience member (PTAM), with three (3) questionnaire items was removed because of its low Alpha (see Table XX in Chapter 5).

from the model of adoption. These questionnaire items were positively worded with 1 = Strongly Disagree (SD), 2 = Disagree, 3 = Somewhat Disagree (SWD), 4 = Neutral, 5 = Somewhat Agree (SWA), 6 = Agree, and 7 = Strongly Disagree (SD). Analysis was therefore performed using the 16 items which were tipped to reflect technological innovations in relation to participatory programming. The items were placed under five umbrella constructs: perceived utilitarian value (PUV) has three items, perceived hedonic value (PHV) has three items, perceived communication value (PCV) has three, and perceived organisational support (POSA) has four items, while perceived institutional policy control (PIPC) has three items. While the first three sets of construct capture broadcast journalists self-reported motivators of technology adoption, the last two constructs focus on journalism main axes of influence, such as perception of support gained from organisation which a journalist works for and the degree of control from institution regulator. Apart from the beliefs toward audience that was taken off the scale, these last two constructs confirm the position of prior studies on journalists' technology adoption (e.g. Zhou, 2008). The resulting questionnaires were administered by hand to the participants across 18 radio stations representing the tiers of broadcasting in four southwest Nigerian states. The second part of the analysis used Chung, Nah and Carpenter (2013) 19-item journalistic role conceptions scale to examine broadcast journalists' perceived role performance. This analysis follows the tradition of using journalists' subjective understanding of their practiced roles that are bound to the individual journalists' self-awareness and self-image. Hence, participants were requested to rate positively worded statements which capture their role conceptions as believed to be influenced by new technologies in the context of participatory programming. The 7-point scale has 1 = very untrue of what I believe (VU), 2 = untrue of what I believe (U), 3 = somewhat untrue of what I believe (SWU), 4 = neutral (N), 5 = somewhat true of what I believe (SWT), 6 = true of what I believe (T) and 7 = very true of what I believe (VT). Tables 6.3 and 6.4 present the descriptives for the scale; Cronbach's Alpha is .83.

Constructs		SD (1)	D (2)	SWD (3)	N (4)	SWA (5)	A (6)	SA[13] (7)	M	SD
Perceived Utilitarian Value	PUV_01	2.0	1.3	1.3	2.0	14.1	38.3	40.9	6.03	1.216
	PUV_02	0.7	0.7	1.4	4.1	11.6	37.4	44.2	**6.14**	**1.053**
	PUV_03	2.1	3.4	3.4	4.8	13.7	37.0	35.6	5.78	1.421
Perceived Hedonic Value	PHV_01	1.4	1.4	2.7	2.0	8.8	34.5	49.3	**6.16**	**1.201**
	PHV_02	0.7	2.0	0.7	4.7	10.7	32.6	43.6	6.10	1.132
	PHV_03	2.0	0.0	3.4	4.1	12.1	35.4	42.2	6.01	1.241
Perceived Communication Value	PCV_01	0.7	3.4	4.7	7.4	17.4	37.6	28.9	5.66	1.334
	PCV_02	0.7	1.4	2.7	2.7	13.7	32.9	45.9	**6.10**	**1.159**
	PCV_03	1.4	1.4	0.7	8.1	12.2	36.5	39.9	5.97	1.212
Perceived Organisational Support	POS_01	2.7	0.0	2.4	5.4	24.2	36.9	28.9	5.74	1.242
	POS_02	4.0	2.7	2.7	8.1	18.1	36.9	26.8	5.55	1.513
	POS_04	0.7	2.0	0.7	5.4	19.6	36.5	35.1	5.91	1.148
	POS_05	0.0	1.4	1.4	11.5	12.2	36.5	37.2	**5.93**	**1.137**
Perceived Institutional Policy Control	PIPC_01	2.7	7.4	2.7	12.8	23.0	28.4	23.0	5.23	1.583
	PIPC_02	0.7	5.4	6.7	18.1	15.4	33.6	20.1	5.23	1.463
	PIPC_03	0.7	5.4	7.4	14.1	18.8	26.8	**26.8**	**5.33**	1.509

Table 5.3: Descriptives for integrated technology scale in broadcast journalism[14]

5.4.3 Results: Descriptives and Factor Analyses

The aims for this part of analyses is to test the validity of scales developed to investigate dimensions of technology adoption in relation to interactive technology use in broadcast journalism and to explore what motivate broadcast journalists' use of interactive technologies for participatory programming. This approach was used as a means of determining the extent to which established technology adoption variables shape technology adoption in the context of participatory programming in Nigeria. The following part contains the results of statistical tests conducted to validate journalistic role conceptions scale and to ultimately examine what journalistic roles are being influenced by new interactive technologies being adopted in broadcast journalism.

5.4.3.1 Part 1: Technology Adoption in Broadcast Journalism

Descriptive statistics were first used to provide insights into the proportion of participants' responses in relation to each of the items measuring broadcast journalists' perceived influence of new digital technologies in broadcast journalism. Based on the findings presented in Table

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[13] Questionnaire items were positively worded with 1 = Strongly Disagree (SD), 2 = Disagree, 3 = Somewhat Disagree (SWD), 4 = Neutral, 5 = Somewhat Agree (SWA), 6 = Agree, and 7 = Strongly Disagree (SD)
[14] The 7-point scale has 1 = very untrue of what I believe (VU), 2 = untrue of what I believe (U), 3 = somewhat untrue of what I believe (SWU), 4 = neutral (N), 5 = somewhat true of what I believe (SWT), 6 = true of what I believe (T) and 7 = very true of what I believe (VT).

6.3, majority of the participants affirmed positively to the influence of new interactive technologies in broadcast journalism. Results show that individual journalist ascribed the prime motivations for interactive technology adoption to a combination of attributes of these technologies such as their hedonic, utilitarian and communication values respectively. For instance, majority of the participants claimed they "enjoy using interactive technology" (M = 6.16, SD = 1.20). While at the same time believed that their "professional performance is better enhanced through the use of new interactive technology" (M = 6.14, SD = 1.05). Participants also considered their professional network as constituting a source of motivation to adopt interactive technology. They claimed that they "feel proud to be among broadcast journalists who use interactive technologies for participatory programming" (M = 6.10, SD = 1.15). The least motivation claimed by the participants bothers on perceived influence of the regulatory agency. They however strongly agreed that interactive technologies in the context of participatory programming should be regulated through new policy (M = 5.23, SD = 1.46).

However, for a deeper understanding of broadcast journalists' perceptions toward interactive technology use in the context of participatory programming, a principal components factor analysis was conducted using Promax rotation.[15] The analysis yielded three (3) factors accounting for about 57 percent of the variance.[16] The factors were then subsequently summarised in three interactive technology adoption scales. The scales were labelled following the themes constituted by the items in relation to established factors of adoption.

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[15] Choice of an orthogonal rotation was determined using the initial component correlation matrix which indicated values < 0.3.

[16] Parallel analysis calculator was used to determine the number of factors to keep by comparing the Eigenvalue with the calculated value.

		Factor Loadings		
Established Factors	**Factors**	1	2	3
Perceived playfulness	PHV_01: I enjoy using interactive technology which allows me to engage audience on my programming	.90		
[Hedonic Value]	PHV_02: I catch fun using interactive technology for programmes which involve audience participation	.82		
Performance expectancy	PUV_03: New interactive technology that facilitates audience participation is the best thing that has ever happened in broadcasting	.78		
[Perceived Utilitarian Value]	PUV_01: Interactive technology that guarantees audience participation greatly enhances my overall professional performance as a broadcast journalist	.73		
	PUV_02: I believe my professional performance is better enhanced through the use of interactive technology	.68		
Social influence*[17]	PCV_02: I feel proud to be among broadcast journalists who use interactive technology for programming which involves audience participation	.67		
[Perceived Communication Value]	PCV_03: New interactive technology which allows audience participation enhances my sense of duty as a radio broadcast journalist	.66		
Perceived playfulness	PHV_03: I consider interactive technology very easy to use during programming which involve audience participation	.61		
Social influence*	PCV_01: I have been influenced significantly by other broadcast journalists who use interactive technology for audience participation	.49		
	POS_02: My station generally approves the use of technology to drive audience participation in programming as a means of attracting sponsors		.87	
Facilitating conditions**[18]	POS_01: My station generally approves the use of technology to drive audience participation in programming as a means of increasing ranking		.82	
[Perceived Organisational Support and Agenda]	POS_04: Technology for audience participation increases the power of broadcast organisations to moderate public opinion more successfully than ever		.52	
	POS_05: Programming with audience contribution increases a station's credibility		.50	
&	PIPC_02: New interactive technology being used for participatory programming should be regulated through new policy			.88
	PIPC_03: New set of policy control on adoption of new interactive technology is necessary to put journalism back on track			.87
[Perceived Institutional Policy Control]	PIPC_01: Government/broadcasting commission's regulation or control is good at this time in checking broadcast journalists' use of technology for audience engagement			.61
Eigenvalues		5.40	2.06	1.61
Variance Explained (%)		33.8	12.9	10.6
Reliability (Cronbach's alpha)		.87	.68	.72
Mean (SD)		6.032 (0.879)	5.779 (0.810)	5.374 (1.042)

Table 5.4: Pattern matrix of the factor analysis including items from the 5-construct integrated technology adoption constructs: perceived hedonic, utilitarian, communication values including perceived organisation support and perceived institutional policy control. Factor loadings below .40 have been suppressed.

As reflected in the results of factor analysis, the first nine (9) items loaded strongly on the perceived hedonic, utilitarian and communication values constructs. This 1-Factor loading confirms the efficiency of Venkatash et al. (2003) and Sun and Bhattacherjee (2014) models of technology adoption in predicting technology across contexts. It shows the primacy of extant

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[17] * Social influence is interpreted alongside perceived communication value following the significance of communication system to facilitate communication and collaboration network (see Rogers, 1995; Spyridou, et al., 2013, p. 4).

[18] Facilitating conditions is also interpreted alongside "environmental factors" in line with Venkatesh et al. (2003, p.454) summative construct which is also derived from extant behavioural theories such as perceived behavioural control (Ajzen, 1991; Taylor and Todd, 1995a, 1995b) and facilitating conditions construct of Thompson et al., 1991)

technology adoption variables across cultures and institutional contexts in relation to broadcast journalists' perceptions of technological innovations in the Nigerian context. The synthesis of the perceived hedonic value (PHV) construct with other variables such as perceived utilitarian (PUV) and perceived communication value (PCV) further establishes the unique attributes of social media platforms of the Internet and the mobile phones which endeared their use in broadcast journalism beyond participatory programming.

Apart from this, a set of four (4) items also loaded satisfactorily on the 2-factor while another three items loaded on 3-factor. In view of extant technology adoption models, these were items devoted to measure participants perceptions toward such influences summarised under UTAUT's facilitating conditions. In this study facilitating conditions has been operationalised to reflect the primacy of organisational support and institutional policy control in journalistic practice in view of Venkatesh et al (2003) summative model of adoption (see chapter 4 of the thesis). Perceived organisational support and agenda (POSA) and perceived institutional policy control (PIPC) were both confirmed as independent set of motivators in broadcast journalists' adoption of interactive technologies in the Nigerian context.

In order to establish that each factor is independent of one another, Pearson's correlation was conducted. The results show that all the three factors are moderately correlated with one another. For instance, there was a positive correlation between Factors 1 and 2, r = 0.399, n = 149, p < 0.01; Factors 1 and 3, r = 0.202, n = 149, p < 0.05 and between Factors 2 and 3, r = 0.219, n = 149, p < 0.01. A repeated measures analyses of variance ANOVA was conducted to determine if there are significant differences in the extent to which each factor is endorsed by participants. The analyses indicate there were significant differences in the way broadcast journalists perceived the adoption constructs $(Wilk's\ \lambda = .76, F(2, 147) = 22.47, p < .01, \eta^2 = .23)$. Follow up comparisons (adjustment, Bonferoni) indicate that each pairwise difference was significant, all $p < .01$. There was a significant difference in perception, suggesting that each set of adoption factor is independent of another. Taking all the results together, the results show the significance of broadcast journalists' extrinsic motivation and intrinsic motivation as co-drivers of interactive technology use in the Nigerian broadcast context. Participants' expectations of benefits resulting from interacting with the technologies such as their perceived playfulness, performance expectancy and social influence/subjective norm (Factor 1 loadings) surface with the external expected benefits such as those attached to perceived organisational supports, and agenda (Factor 2 loadings) as well as institutional policy control (Factor 3 loadings).

Table 5.5: ANOVA descriptives with indications of significant differences in the extent to which factor is endorsed by respondents.

	VU (1)	U (2)	SWU (3)	N (4)	SWT (5)	T (6)	VT (7)	M	SD
Disseminator									
Diss_01: Getting information to the public as quickly as possible	5.4	2.0	0.7	5.4	10.8	16.9	58.8	6.00	1.633
Diss_02: Providing entertainment to the public in a new dimension	2.7	2.7	3.4	3.4	12.9	36.7	38.1	5.84	1.434
Diss_03: Providing new forms of relaxation to the public	2.7	3.4	4.1	17.7	16.3	30.6	25.2	5.34	1.515
Diss_04: Staying away from stories where factual content cannot be verified	12.0	5.6	14.1	13.4	21.1	16.2	17.6	4.45	1.926
Diss_05: Concentrating more on programmes that are of interest to the widest possible	2.8	4.1	2.1	12.4	17.2	32.4	29.0	5.50	1.505
Cronbach's alpha = .70									
Interpreter									
Intp_01: Providing in-depth analysis and interpretation of complex problems	2.7	2.0	3.4	17.6	22.3	25.7	26.4	5.37	1.453
Intp_02: Investigating claims and statements made by the government	8.3	3.4	6.9	17.2	20.7	19.3	24.1	4.93	1.805
Intp_03: Providing in-depth analysis and interpretation of international developments	2.7	2.0	4.1	13.6	24.5	22.4	30.6	5.45	1.477
Intp_04: Discussing national policy while it is being formulated	3.5	4.9	6.9	11.8	22.3	31.9	18.8	5.15	1.566
Cronbach's alpha = .70									
Adversary									
Adv_01: Be an adversary of business by being constantly sceptical of chief executives	8.8	9.5	17.0	27.2	14.3	13.6	9.5	4.07	1.705
Adv_02: Be an adversary of public officials by being constantly skeptical of their actions	6.8	9.5	9.5	26.5	18.4	17.7	11.6	4.39	1.698
Inter-item correlation = .69									
Mobiliser									
Mob_01: Developing intellectual and cultural interests of the public	2.8	1.4	4.8	7.6	23.4	30.3	29.7	5.57	1.418
Mob_02: Setting the political agenda	4.9	4.9	4.2	17.5	15.4	22.4	30.8	5.24	1.728
Mob_03: Giving ordinary people a chance to express their views on public affairs	3.4	0.0	3.4	6.7	7.4	25.5	53.7	6.06	1.425
Mob_04: Motivating ordinary people to get involved in public discussions of important issues	2.7	0.0	3.4	7.4	11.4	26.2	49.0	5.99	1.373
Cronbach's alpha = .72									
Civic									
Civ_01: Conducting polls to learn about citizens' priorities on issues	2.1	2.1	4.1	13.0	14.4	30.8	33.6	5.62	1.444
Civ_02: Providing forum where citizens and community leaders discuss public issues	6.1	2.0	6.8	5.4	17.0	27.9	34.7	5.48	1.717
Civ_03: Creating opportunities that motivate ordinary people to get involved indecision making on public issues	4.8	1.4	4.1	12.9	15.0	25.9	36.1	5.54	1.614
Civ_04: Creating an avenue for the previously un-heard voices of ordinary citizens as sources in public affairs stories	3.4	2.0	2.7	8.8	20.3	22.3	40.5	5.70	1.515
Cronbach's alpha = .80									

Table 5.6: Showing descriptives for role conceptions including subscales' *Alpha* coefficients.

5.4.3.2 **Part 2: Analysing Perceived Role of New Media Technologies and Journalistic Roles**

This part of Study II provides results of journalists' subjective understandings of their practised roles that are bound to the individual participants' self-awareness and self-image in work settings. Table 5.4 presents the outcome of a descriptive analytic procedure. In the pool of established journalistic roles, participants affirmed to the significance of new technology in facilitating their populist mobiliser role through such action as 'giving ordinary people a chance to express their views on public affairs' (M = 6.06, SD = 1.42) and also to 'motivate ordinary people to get involved in public discussions of important issues' (M = 5.99, SD = 1.37). While this emerged as the prevailing role perception (M = 5.81, SD = 1.62), participants also affirmed that new interactive technologies enhance their civic role such that they help in "creating an avenue for the previously unheard voices of ordinary citizens as sources in public affairs stories" (M = 5.70, SD = 1.51), as they also claimed it assist them in "conducting polls to learn about citizens' priorities on an issue" (M = 5.62, SD = 1.44). Both disseminator and interpretive roles were also considered by participants to be receiving some degree of boost in the adoption of new interactive technologies. New interactive technologies were perceived to be useful in "information dissemination" (M = 6.00, SD = 1.633) and for "providing entertainment to the publics in a new dimension" (M = 5.84, SD = 1.43). Participants perceived new interactive technologies as tools which aid their interpretive role; helping them more to "providing in-depth analysis and interpretation of international developments" (M = 5.45, SD = 1.47), but less of "investigating claims and statements made by the government" (M = 4.93, SD = 1.80). Remarkably, new interactive technologies were also less valued for playing adversarial role (M = 4.07, SD = 1.70), as participants doubted the significance of new technologies in this regard.

	1-Factor		2-Factor		3-Factor	
Role Items	Civic_01	.63	Mobiliser _02	.62	Disseminator _01	.65
	Civic_02	.81	Adversary _01	.82	Disseminator _02	.72
	Civic_03	.73	Adversary _02	.77	Disseminator _03	.53
	Civic_04	.75	Interpreter _02	.49	Disseminator _04	.45
	Mobiliser _01	.61	Interpreter _04	.55	Disseminator _05	.62
	Mobiliser _03	.71			Interpreter _01	.57
	Mobiliser _04	.81			Interpreter _03	.59
Eigenvalue		*6.15*		*2.36*		*1.82*
Variance Explained (%)		*32.3*		*12.4*		*9.35*
Reliability (Cr. Alpha)		*.86*		*.78*		*.77*
Mean (SD)		*5.75 (1.06)*		*4.78 (1.24)*		*5.43 (1.02)*

Table 5.7: Pattern matrix of the factor analysis exploring dimension of journalistic role conceptions in the context of participatory programming
Note: Principal Component, Varimax with Kaiser Normalisation, 54.2 percent of variance explained. KMO = 0.799, Bartlett's test p < 0.00.1.

Likewise, Pearson's correlation was conducted to find out whether each factor is independent of one another. The results show that all the three factors are correlated. For instance, there was a positive correlation between Factors 1 and 2, r = 0.470, n = 149, p < 0.01; Factors 1 and 3, r = 0.421, n = 149, p < 0.01 and between Factors 2 and 3, r = 0.483, n = 149, p <0.01. A repeated measures ANOVA was also carried out to investigate whether participants showed significantly different perceptions of their role conceptions as they are influenced by technologies. The analyses indicate participants perceived significant differences among the role conceptions $(Wilk's\ \lambda = .54, F(3, 145) = 41.03, p < .01, \eta^2 = .45)$. Follow up comparisons (adjustment, Bonferoni) indicated that each pairwise difference was significant, $p < .01$.

The alignment of more than one role per factor highlights the assumption that even within the Nigerian broadcast journalism context, journalists do observe multiple roles (Weaver et al., 2007) and that these roles do coexist or conflict with one another (Tandoc & Takahasi, 2013). In the case of Nigerian broadcast journalists as seen in the results, the convergence of populist mobiliser and civic role goes to show how journalists project multiple roles while deploying new media technologies. The pattern of "collaborative role" (Christians et al., 2009) also supports the assumption that journalistic roles exist in a hierarchy. For

instance, while the mobiliser role serves as the gateway to perform civic role (as reflected in the role convergence on 1-factor). The disseminator role could also be conceived of as the gateway that leads to the interpretive roles. The extent to which this coalesce roles influence journalistic content and how accurately these roles are received by journalists' audience could be explored further in future studies. The focus of the current study is to establish the relationship between new digital technologies adoption and journalistic role conceptions in the Nigerian context. And in order to achieve this aim, multiple regressions were further employed. The analytic exercise for the regressions would be the focus of the next section.

5.5   Analytic Approach III
5.5.1   Relationship between Technology Adoption and Role Conceptions (Results from the Multiple Regressions)

A plethora of studies have been conducted on the subject of technology adoption which, in general, has resulted in several theoretical models that routinely explain over 40 percent of the variance in individual intention to use technology (Venkatesh et al., 2003). Recent contributions within the field of journalism studies have also focused on the growing awareness of changing media landscape and the complex consequences it poses for journalistic work and relationships thereof (e.g. Holton, 2012; Jordaan, 2013; Parmellee, 2013; Singer, 2005; Saldana et al. 2016). Zhou (2008) reports that a combination of DIT and TAM account 30 percent of the total variance in journalists' Internet adoption. This current study takes technology adoption scenario in journalism further by simulating two theoretical models (discussed in Chapter Four) to explore the relationship between journalistic role conceptions and perceived attributes of new technologies including aspects of social influence, facilitating conditions under what is otherwise known as environmental factors.

5.5.2   Method

Two scales, each with five constructs, were adapted from recent studies (Chung, Nah and Carpenter, 2013; Sun & Bhattacherjee, 2014; Venkatesh et al., 2003) on technology adoption and journalistic role conceptions. These were used to evaluate subjective understandings of 149 broadcast journalists in relation to their practised roles and beliefs toward technology use in the context of participatory programming. The scales, after satisfactory tests of reliability, were summed and averaged in anticipation of hierarchical multiple regressions to determine what role conceptions variables account for a significant amount of unique variance above and beyond variables of technology adoption in explaining intentions and actual use of both non-

interactive and interactive new media technologies. A total of nine hierarchical multiple regressions were performed in two sets of four regressions. The first set of four regressions produced four models. In Model 1, demographic variables (age, gender, job status and job experience) were entered in order to control for the subsequent variables that would be added. Then, journalistic role conception variables with five constructs were entered with the demographic variables as Model 2. Role conception variables comprise five constructs which assessed the predictive power of disseminator, interpreter, adversary, populist mobiliser and civic roles in intention and actual use of new technologies. Technology adoption variables were added as Model 3. Three of the five constructs describe attributes of technology such as perceived utilitarian value, perceived hedonic value and perceived communication value. The other two constructs explored aspects of facilitating (environmental) conditions, as adapted to broadcast journalists' organisational and institutional influences/policy control. The three initial models were controlled for by station ownership types (public, private and community) as the fourth regression model (Model 4). This procedure was repeated for the second set of five regression models which determine actual use of non-interactive and interactive technologies among Nigerian broadcast journalists. In view of this approach, the following tests were carried out:

1. Do role conception variables account for a significant amount of variance above and beyond demography, technology adoption variables and ownership in the case of intention to use non-interactive and interactive technologies?

2. Do technology adoption variables account for a significant amount of variance above and beyond demography, role conception variables and ownership in relation to intention to use non-interactive and interactive technologies?

3. Do demographic variables – interpreted as a measure of individual journalist's characteristics as well as station ownership types significantly contribute to broadcast journalists' intention and actual use of:
   (a) Non-interactive technologies, and
   (b) Interactive technologies?

5.5.3 Results:

5.5.3.1: Test 1: Exploring Nigerian (Radio) Broadcast Journalists' Intention to Use Non-Interactive and Interactive Technologies

As earlier mentioned, a stepwise regression analysis was used to test four models including: controlling for demographic variables (individual characteristics) and participants' station

ownership types (measured as tiers of broadcasting). Based on the Model Summary results, not all the models performed well. However, predictors of intention to use non-interactive technologies emerged for journalistic roles and technology adoption variables as they were added into the models.

5.5.3.2 Intention to Use Non-Interactive Technologies as Dependent Variable

To start with, Model 1 with demography as predictors of intention to use non-interactive technologies did not yield a statistical significant model. The four demographic variables (age, gender, job status and job experience), with which the study assessed individual characteristics of the subjects, altogether contributed just three (3) percent of variance that explained broadcast journalists' intention to use non-interactive technologies ($R^2 = .030$). Given this output, demography alone does not possess sufficient statistical capacity to predict intention to use non-interactive technologies. However, gender approached significance and surfaced as a potential predictor$(\beta = -.15, \ p = .087)$[19]. This is an indication that male broadcast journalists appeared to be more favourably disposed to the use of non-interactive technologies than their female counterparts[20].

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE (B)	β
Gender	-0.31	0.18	-.15#	-0.29	0.16	-.17	-0.30	0.16	-.15*	-0.28	0.16	-.13**
Age	-0.10	0.22	-.05	-0.13	0.21	-.07	-0.20	0.20	-.10	-0.14	0.21	-.07
Experience	-0.00	0.02	-02	-0.00	0.01	-.06	-0.00	0.01	-.05	-0.00	0.01	-.03
Job Status	0.20	0.26	.08	0.15	0.24	.06	0.08	0.24	.03	-0.04	0.24	.02
Disseminator				0.18	0.10	.17#	0.13	0.10	.13	0.12	0.10	.12
Interpreter				0.18	0.09	.20#	0.10	0.09	.11	0.11	0.09	.12
Adversary				-0.03	0.05	-.06	-0.04	0.05	-.07	-0.04	0.05	-.07
Mobiliser				-0.01	0.05	-.02	0.00	0.05	.01	0.01	0.05	.02
Civic				0.15	0.07	.18**	0.10	0.07	.12	0.08	0.07	.10
PUV							0.12	0.11	.11	-0.11	0.11	.11
PHV							-0.17	0.11	-.17	0.15	0.11	-.16
PCV							0.35	0.10	.36**	0.35	0.10	.35**
PIPC							0.23	0.07	.02	-0.03	0.07	.03
POSA							-0.71	0.09	-.06	-0.08	0.10	-.08
Ownership (Broadcast Tiers)										0.13	0.12	.09
Incremental R²	.03			.16**			.08*			.00		
R²	.03			.19			.28			29		
Total R²	.17			.44			.53			.54		
Adjusted R²	.00			.14			.20			.20		
F	1.06			3.57**			3.61**			3.45**		
F Change	1.06			5.43**			3.15*			1.22		

Table 5.8: Summary of Hierarchical Regression Analysis for Variables Predicting Intention to Use Non-interactive Technologies
Note: * *p < .05, ** p < .01, # p value above .05 for coefficients that are marginally significant*

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[19] β scores were taken from the models' Standardized Coefficient matrix.
[20] Male = 1, Female = 2; as variable entry in the spreadsheet.

But with the introduction of the five role conceptions, technology adoption variables and media ownership into the regressions, Model 2, 3 and 4 were statistically improved, with Models 2 and 3 emerged as highly significant. For instance, Model 2 yields a statistical significant result, which indicate that about 20 percent of the total variance is explained by a combination of all the five journalistic roles and demography, $R^2 = .196$, *ANOVA* results for Model 2: $F(9, 132) = 3.571, p < .005$. Incremental $R^2 = .166$, (from Model Summary Change Statistics – Model 2); ANOVA results for Incremental R^2 for Model 2: $F(5, 132) = 5.43, p < .001$. This is an indication that role conception variables accounted for a significant amount of variance (16 percent) above and beyond demographic variables. Three (3) journalistic role conceptions approached significance; these are civic role($\beta = .18, p < .05$), interpreter role($\beta = .20, p = .059$), and disseminator role ($\beta = .17, p = .074$) respectively. With civic role as the strongest predictor, together these were the role conceptions that made significant contributions to predicting broadcast journalists' intention to use non-interactive technologies. In sum, journalistic roles accounted for a significant amount of variance above and beyond individual characteristics as portrayed by demographic information such as job status, gender, age and job experience.

In Model 3, where technology adoption variables, such as perceived attributes of technologies, perceived organisational support and perceived institutional policy, control were added alongside demography and role conception variables, the model proves to be statistically significant, $R^2 = .285$, ANOVA results for Model 3: $F(14, 127) = 3.61, p < .001$. This means that 28 percent of variance in broadcast journalists' intention to use non-interactive technologies could be explained by the trio of demography, role conception and technology adoption variables. Incremental $R^2 = .089$, hence a small but significant contribution (8 percent) is made with the addition of technology adoption variables to demographic and role conception variables. ANOVA results for change in R^2 for Model 3: $F(5, 127) = 3.15, p < .010$ (from Model Summary Change Statistics-Model 3). Gender remained a potential negative predictor ($\beta = -.17, p = .072$) of intention to use non-interactive technologies. Technology adoption variables did make a significant contribution over and above demography and role conception variables as predictors of intention to use non-interactive technologies. Perceived communication value emerged as the single most important predictor of broadcast journalists' intention to use non-interactive technologies ($\beta = .36, p < .001$).

When ownership type was entered into the fourth regression as a moderating variable, the resultant Model 4, prove to be statistically significant, but with relative improvement to the

model, $R^2 = .292$; ANOVA results for Model 4: $F(15, 126) = 3.45$, $p < .001$. This shows that 29 percent of the variance is explained by the overall model, including broadcast station ownership. The addition of Ownership in Model 4 lead to an Incremental $R^2 = .007$ (from Model Summary Change Statistics-Model 3), $F(1, 126) = 1.22$, $p = .271$. Media ownership such as public, private, and community radio stations made marginal contribution to broadcast journalists' intention to use non-interactive technologies. Media ownership did not account for a significant amount of variance above and beyond demography, role conceptions and technology adoption variables. From the foregoing, the significance of journalistic role conceptions and technology adoption variables as predictors of intention to use non-interactive technologies in the Nigerian context is established. Altogether they accounted for about 30 percent of variance which explained broadcast journalists' intention to use non-interactive technologies. Perceived communication value (PCV) emerged as the strongest predictor of intention to use non-interactive technologies ($\beta = .35$, $p < .001$).

5.5.3.3 Intention to Use Interactive Technologies as Dependent Variable

The same procedure was followed to determine the predictors of broadcast journalists' intention to use interactive technologies such as social media platforms of the Internet and mobile phones (SMS and voice calls). Also, four models emerged from testing the predictive powers of demography, role conceptions variables, technology adoption variables and media ownership. Not all the models performed well.

For instance, the first regression with demography (as individual characteristics) did not yield significant predictors. But addition of role conceptions variables significantly improved the regression model, $R^2 = .213$; *ANOVA* results for Model 2: $F(9, 132) = 3.97$, $p < .001$. With this result, 21 percent of the total variance in intention to use interactive technologies can be attributed to journalistic roles conception variables. Incremental $R^2 = .201$, (from Model Summary Change Statistics – Model 2); ANOVA results for Increment in R^2 for Model 2: $F(5, 132) = 6.73$, $p < .001$ (from Model Summary Change Statistics – Model 2). Two (2) journalistic role conceptions emerged as strong positive predictors of broadcast journalists' intention to use interactive technologies; these are civic role ($\beta = .32$, $p < .05$), disseminator role ($\beta = .24$, $p = .010$). Adversary role also emerged as a significant negative predictor ($\beta = -.17$, $p < .05$). These journalistic role conceptions altogether accounted for a significant amount of variance (20 percent) that explained intention to use interactive technologies, above and beyond individual characteristics.

	Model 1			Model 2			Model 3			Model 4		
Variable	B	SE B	β	B	SE B	β	B	SE B	β	B	SE (B)	β
Gender	0.02	0.17	.05	0.63	0.16	.03	0.03	0.15	.01	0.03	0.16	.01
Age	0.21	0.22	.01	-0.47	0.20	-.02	-0.12	0.19	-.06	0.12	0.20	-.06
Experience	-0.00	0.01	-00	-0.00	0.01	-.06	-0.00	0.18	-.04	0.00	0.01	-.04
Job Status	0.25	0.25	0.11	.0.20	0.23	.08	0.16	0.23	.07	0.16	0.23	.07
Disseminator				0.25	0.09	.24**	0.03	0.15	.19*	0.20	0.09	.19**
Interpreter				0.04	0.09	.05	-0.12	0.19	-.05	-0.05	0.09	-.05
Adversary				-0.10	0.05	-.17*	-0.10	0.01	-.16*	-0.10	0.05	-.16**
Mobiliser				-0.00	0.05	-.01	0.00	0.23	.01	0.10	0.05	.01
Civic				0.25	0.07	.32**	0.19	0.09	.24**	0.19	0.07	.24**
PUV							0.05	0.11	.05	-0.05	0.11	.05
PHV							-0.06	0.11	.06	-0.06	0.11	-.06
PCV							0.37	0.10	.39***	0.39	0.10	.39***
PIPC							0.01	0.06	.01	0.10	0.06	.01***
POSA							-0.06	0.09	-.06	-0.70	0.09	-.06
Ownership (Broadcast Tiers)										0.00	0.11	.00
Incremental R²	.01			.20***			.10***			.00		
R²	.01			.21			.31			.31		
Total R²	.11			.46			.56			.56		
Adjusted R²	-.01			.15			.24			.23		
F	0.42			3.97***			4.25***			3.94***		
F Change	0.42			6.73***			3.96**			0.00		

Table 5.9: Summary of Hierarchical Regression Analysis for Variables Predicting Intention to Use Interactive Technologies
Note: * $p < .10$, ** $p < .05$, *** $p < .01$

Model 3 had technology adoption variables added to the regression equation. The model was significantly improved, $R^2 = .319$; ANOVA results for Model 3: $F(14, 127) = 4.25$, $p < .001$. The overall model, including technology adoption variables in the regression equation contributed 31 percent of the variance that explained broadcast journalists intention to use interactive technologies. Technology adoption variables accounted for a significant amount of variance (10 percent) above and beyond demography, and role conception variables (Incremental $R^2 = .106$; (from Model Summary Change Statistics – Model 3), $F(5, 127) = 3.96$, $p < .005$. Perceived communication value (PCV) surfaced as a strong positive predictor of intention to use interactive technologies ($\beta = .39$, $p < .001$).

When ownership type was added into the fourth regression, the resultant Model 4, prove to be statistically significant, but with no improvement to the model, $R^2 = .319$; ANOVA results of Model 4: $F(14, 127) = 4.25$, $p < .001$. Media ownership types or tiers of broadcasting to which a journalist belong do not contribute in any way toward explaining broadcast journalists intention to use interactive technologies.

5.5.4. Test 2: Exploring Nigerian (Radio) Broadcast Journalists' Actual Use of Non-Interactive and Interactive Technologies

In this aspect, regression analysis was conducted to further explore the relationship among individual broadcast journalists' characteristics (demography), journalistic role conceptions, technology adoption variables and broadcast station ownership types in predicting actual use of non-interactive and interactive technologies. The same analytic procedure of hierarchical regression analyses was followed in exploring the predictive capacities of the aforementioned variables. The results are presented in turn for each of the category of technologies being deployed.

5.5.4.1 Actual Use of Non-Interactive Technologies as Dependent Variable

Based on the Model Summary results for the first sets of regression analyses, not all five models performed well. Three models (Model 2, 3, and 5) appeared significant. For instance, Model 1 with demography as determinant of actual use of non-interactive technologies did not yield any predictors. However, with the addition of role conception variables into the regression equation, Model 2 appeared significant; $R^2 = .149$; ANOVA results of Model 2: $F(9, 132) = 2.56$, $p < .001$. Role conception variables therefore accounted for 14 percent of variance which explained broadcast journalists' actual use of non-interactive technologies. Incremental $R^2 = .127$ (from Model Summary Change Statistics – Model 2); ANOVA results for Incremental R^2 for Model 2: $F(5, 132) = 3.94$, $p < .05$ (from Change Statistics in Model 2). Role conception variables alone accounted for about 13 percent of the total variance in the second model. Two (2) journalistic roles; disseminator ($\beta = .19$, $p = .056$) and interpreter ($\beta = .19$, $p = .087$) approached significance as potential predictors of actual use of non-interactive technologies. Journalistic role conception variables can be said to account for a significant amount of variance above and beyond individual characteristics such as gender, age, job status and job experience.

	Model 1			Model 2			Model 3			Model 4			Model 5		
Variable	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β	B	SE (B)	β
Gender	0.03	0.22	.01	0.05	0.21	.02	0.16	0.21	.06	0.20	0.21	.08	0.29	0.20	.12
Age	-0.05	0.27	-.02	-0.07	0.26	-.03	-0.23	0.25	-.09	-0.13	0.26	-.05	-0.09	0.25	-.03
Experience	0.02	0.02	.11	0.01	0.02	.07	0.03	0.23	.20#	0.03	0.02	.21#	0.04	0.02	.22#
Job Status	0.18	0.32	.06	0.14	0.30	.05	-0.01	0.30	-.04	-0.19	0.30	-.06	-0.20	0.29	-.07
Disseminator				0.24	0.12	.19*	0.08	0.12	.06	0.06	0.12	.05	0.02	0.12	.01
Interpreter				0.20	0.12	.19*	0.14	0.12	.13	0.16	0.12	.15	0.12	0.11	.11
Adversary				-0.08	0.07	-.11	-0.11	0.06	-.14	-0.11	0.06	-.14	-0.09	0.06	-.12
Mobiliser				-0.03	0.07	-.04	0.00	0.07	.00	-0.01	0.07	.02	0.01	0.07	.01
Civic				0.12	0.09	.12	0.03	0.95	.03	0.00	0.09	.00	-02	0.09	-.024
PUV							-0.15	0.14	-.12	-0.15	0.14	-.12	-0.19	0.14	-.15
PHV							-0.28	0.14	-.02	-0.13	0.14	-.01	0.04	0.14	.03
PCV							0.28	0.13	.23**	0.27	0.13	.22*	0.15	0.13	.12
PIPC							0.23	0.08	.23**	0.23	0.08	.23**	0.22	0.08	.22**
POSA							0.18	0.12	.14	0.16	0.12	.12	0.19	0.12	.14
Ownership (Broadcast Tiers)										0.21	0.15	.12	0.17	0.14	.09
Intention to Use													0.34	0.10	.28**
Incremental R²	.02			.12			.09			.01			.05		
R²	.02			.14			.24			.25			.31		
R	.14			.38			.49			.50			56		
Adjusted R²	-.00			.09			.16			.17			.22		
F	0.74			2.56*			2.97**			2.92**			3.57***		
F Change	0.74			3.94**			3.30*			2.01			10.08**		

Table 5.10: Summary of Hierarchical Regression Analysis for Variables Predicting Actual Use of Non-interactive Technologies

Note: * $p < .10$, ** $p < .05$, *** $p < .001$, # p value above .05 for marginally significant coefficients

Technology adoption variables were added to the regression equation as Model 3. The model appeared significant, $R^2 = .247$; ANOVA results of Model 3: $F(14, 127) = 2.97$, $p < .05$. This shows that about 25 percent of total variance in actual use of non-interactive is explained by the addition of technology adoption variables to the model. Incremental $R^2 = .098$ (from Model Summary Change Statistics – Model 3); ANOVA results for Incremental R^2 for Model 3: $F(5, 127) = 3.30$, $p < .05$ (from Change Statistics in Model 3). This shows that technology adoption variables accounted for 9.8 percent of the total variance in Model 3. In this model, perceived institutional policy control (PIPC) emerged as a strong positive significant predictor ($\beta = .23$, $p < .05$), while perceived communication value (PCV) was significant as a positive predictor ($\beta = .23$, $p < .05$). With these results, technology adoption variables accounted for a significant amount of variance above and beyond role conception variables.

When media ownership types were added to the regression equation, the resultant model (Model 4) proved to be significant with a slight improvement to the model, $R^2 = .259$; ANOVA result of Model 4: $F(15, 126) = 2.92$, $p < .05$. Incremental $R^2 = .012$, shows a

marginal improvement on the model. However, neither of the three media ownership types surfaced as a significant predictor.

The last model added intention to use non-interactive to the same regression equation which had demography, role conception, technology adoption, and media ownership types as variables for predicting actual use on non-interactive technologies. Model 5 proved to be significant, $R^2 = .314$; ANOVA results of Model 5: $F(16, 125) = 3.57$, $p < .001$. These results further established the linear relationship between intention and actual use of technology, as reported across literature on technology adoption. As indicated in the results, it means that all the independent variables accounted for 31 percent of the total variance in predicting actual adoption of non-interactive technologies. Incremental $R^2 = 0.06$ (from Summary Change Statistics – Model 5); ANOVA results for Incremental R^2 for Model 5: $F(1, 125) = 10.08$, $p < .05$ (from Change Statistics in Model 5). Intention to use non-interactive technology surfaced as strong positive predictor of broadcast journalists' actual use of non-interactive technologies, $(\beta = .28, \ p < .05)$. From the results, marginal significant improvement to Model 5 is recorded (about 6 percent).

5.5.4.2 Actual Use of Interactive Technologies as Dependent Variable

Another series of models were tested in a stepwise regression to explore the predictors of actual use of interactive technology among broadcast journalists. Following the same procedure, Model 1 with demographic variables proved not to be significant. However, with the addition of the role conception variables, the model (as Model 2) was improved, $R^2 = .163$; ANOVA results of Model 2: $F(9, 132) = 2.85$, $p < .05$. Incremental $R^2 = .123$ (from Summary Change Statistics Model – Model 2); ANOVA results for Incremental R^2 for Model 2: $F(5, 132) = 3.86$, $p < .05$ (from Change Statistics in Model 2). This is an indication that role conception variables accounted for 12 percent of variance in explaining interactive technologies over and beyond demography variables. Disseminator role was highly significant as a positive predictor $(\beta = .19, \ p < .05)$.

Technology adoption variables were added to the regression equation as Model 3. The model appeared significant, $R^2 = .244$; ANOVA results of Model 3: $F(14, 127) = 2.92$, $p < .05$. This shows that 24 percent of total variance in actual use of interactive is explained by the addition of technology adoption variables to the model with role conception variables. Incremental $R^2 = .081$ (from Model Summary Change Statistics – Model 3); ANOVA results for Incremental R^2 for Model 3: $F(5, 127) = 2.71.30$, $p < .05$ (from Change Statistics in

Model 3). This shows that technology adoption variables accounted for just 8 percent of the total variance in Model 3. In this model, perceived institutional policy control (PIPC) was marginally significant as a predictor $(\beta = .17, \ p = .055)$, while job experience also surfaced as a strong positive moderating variable $(\beta = .26, \ p < .05)$. With these results, technology adoption variables accounted for a significant amount of variance above and beyond role conception variables.

Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β	B	SE (B)	β
Gender	0.01	0.17	.00	0.03	0.16	.01	0.13	0.17	.06	0.13	0.17	.06	0.12	0.16	.06
Age	-0.20	0.22	-.10	-0.24	0.21	-.12	-0.34	0.20	-.17	-0.35	0.21	-.17	-0.30	0.20	-.15
Experience	0.03	0.19	.20	0.02	0.01	.16	0.03	0.01	.26*	0.03	0.01	.26*	0.04	0.01	.28*
Job Status	.15	0.25	.06	0.11	0.24	.05	-0.08	0.24	-.03	-0.08	0.25	-.03	-0.13	0.23	-.05
Disseminator				0.20	0.17	.19*	0.08	0.10	.08	0.08	0.10	.08	0.01	0.10	.01
Interpreter				0.12	0.20	.14	0.07	0.09	.08	0.07	0.10	.08	0.09	0.09	.10
Adversary				-0.7	0.05	-.11	-0.08	0.05	-.13	-0.08	0.05	-.13	-0.04	0.54	-.07
Mobiliser				-0.00	0.05	-.00	0.02	0.58	0.04	0.02	0.05	.03	0.02	0.56	.03
Civic				0.11	0.07	.14	0.03	0.07	.04	0.03	0.07	.04	-0.03	0.07	-.04
PUV							0.10	0.11	.10	0.10	0.11	.10	0.08	0.11	.08
PHV							-0.12	0.11	-.12	-0.12	0.12	-.12	-0.10	0.11	-.10
PCV							0.17	0.10	.17	0.17	0.11	.17	0.04	0.11	.04
PIPC							0.14	0.07	.17#	0.14	0.07	.17#	0.13	0.06	.16#
POSA							0.14	0.10	.13	0.14	0.10	.13	0.16	0.09	.15
Ownership (Broadcast Tiers)													-0.00	0.11	-.00
Intention to Use													0.35	0.09	.35***
Incremental R²	.04			.12**			.08**			.00			.08***		
R²	.04			.16			.24			.24			.32		
Total R²	.20			.40			.49			.49			.57		
Adjusted R²	.01			.10			.16			.15			.24		
F	1.44			2.85**			2.46**			2.30**			3.80***		
F Change	1.44			3.86**			2.71*			0.00			15.54***		

Table 5.11: Summary of Hierarchical Regression Analysis for Variables Predicting Actual Use of Interactive Technologies

Note: * $p < .10$, ** $p < .05$, *** $p < .001$, # p value above .05 for marginally significant coefficients

When media ownership types were added to the regression equation, the resultant model (Model 4) proved to be significant with a slight improvement to the model, $R^2 = .244$; ANOVA result of Model 4: $F(15, 126) = 2.70, \ p < .05$. The model failed to yield a significant predictor in broadcast station ownership, otherwise referred to as tiers of broadcasting. However, job experience surfaced again as a moderating variable pointing to the effect of individual characteristic, $(\beta = .26, \ p < .05)$. Likewise, perceived institutional policy control (PIPC) emerged as a significant predictor of actual use of interactive technologies, $(\beta = .16, \ p = .05)$ while perceived organisational support and agenda (POSA) is marginally significant $(\beta = .15, \ p = .085)$.

The last model (Model 5) added intention to use interactive technologies as a variable to the same regression equation which had demography, role conception, technology adoption, and media ownership types as variables for predicting actual use on interactive technologies. Model 5 proved to be significant, $R^2 = .327$; ANOVA results of Model 5: $F(16, 125) = 3.80$, $p < .001$. Again, the results re-established the linear positive relationship between intention and actual use of technology, as reported across literature on technology adoption. As indicated in the results, the overall model accounted for 32 percent of the total variance in predicting actual adoption of interactive technologies. Incremental $R^2 = 0.84$ (from Summary Change Statistics – Model 5); ANOVA results for Incremental R^2 for Model 5: $F(1, 125) = 15.54$, $p < .05$ (from Change Statistics in Model 5). Intention to use interactive technology surfaced as a strong positive predictor of broadcast journalists' actual use of interactive technologies, ($\beta = .35$, $p < .001$). From the results, highly significant improvement to Model 5 is recorded (8 percent). Job experience also emerged an important variable over and above other demography measuring the effect of individual characteristics ($\beta = .28$, $p < .05$).

5.6   Conclusion

So far, the quantitative findings in this chapter have helped in establishing a strong association between perceived technological attributes and journalistic role conceptions. Role conception variables accounted for a significant amount of variance above and beyond individual characteristics (demography) and station ownership with regard to intention and actual use of non-interactive and interactive technologies in the Nigerian broadcast media landscape. Likewise technology adoption variables accounted for a significant amount of variance above and beyond individual characteristics and ownership types in relation to intention and actual use of non-interactive and interactive technologies. Perceived institutional policy control (PIPC) emerged in the data analyses as a significant positive predictor of actual use of interactive technologies while perceived organisational support and agenda (POSA) approached significance. Only gender and broadcast journalists' job experience approach significance as indices to the marginal effect of individual characteristics in the models.

In sum, there is a strong mutual, rather than linear relationship between journalists' role conceptions and technology use behaviour in the Nigerian broadcast technology adoption context. Certain technology adoption variables such as perceived communication value and perceived institutional policy support when considered within the broadcast journalism setting coalesce with civic, disseminator and interpreter roles to predict intention and actual use of

interactive and non-interactive technologies with gender and experience as moderators. Broadcast station ownership types or tiers of broadcasting have no statistical significance in the models. These quantitative findings are further investigated in the next section within the paradigm of qualitative data analytics using a series of semi-structured interviews. It is hoped that this procedure will enrich the focus of this study while at the same time complement the methodological shortcomings associated with each of the approaches.

CHAPTER 6

PRESENTATION AND ANALYSIS OF QUALITATIVE INTERVIEW DATA

6.1   Introduction

This chapter presents the results of qualitative study used as a part of mixed methods research designed to explore relevance of new media technologies and their relationship with broadcast journalists' role conceptions in the Nigerian context. The qualitative results in this chapter serve to complement the quantitative findings presented in the previous chapter. The aim is to further shed light on adoption and use of new media in the context of participatory programming which may have been overlooked in the methodological and analytical approaches to the quantitative research. As discussed in chapter 5 of this thesis, semi-structured interview data were collected from 18 broadcast journalists drawn purposively from three tiers of broadcasting and located in 4 out of 6 southwest states of Nigeria. These broadcast journalists belonged to public or state-owned broadcasting corporations, commercial/private FM radio stations and a campus-based community FM radio station. This representation included a caste of broadcast professionals (5 females and 13 males) who held various managerial and mid-level cadre roles in the stations. Scheme of thematic coding was developed and used to analyse the transcribed interview data. The Nvivo 11 (Pro version) software was engaged to map out the emergent referents of themes in the interviewees' responses.

Thematic analyses were routed through a constructionist theoretical orientation of qualitative interviews (see Chapter 3 & 4 for details), which involved a combination of extant literature operationalised under the study's conceptual framework without losing track of the research questions (Braun & Clarke, 2006). Based on this approach, two broad areas manifest in Nigerian broadcast journalists' discussions on the relevance of new media technologies and their relationship with journalistic role conceptions. The bifurcation tallies with the universal perceptions of interactive technologies as a "double-edged sword:" one with perceived utilitarian value and dysfunctional uses. The dysfunctionalities are however traceable to the attributes of technologies on the one hand and individual broadcast journalist's ethical responsibility on the other hand. The double-edged perception is contextualised to uniquely

understand new technology adoption scenario in the Nigerian setting. Three broad themes were identified in line with the conceptual framework of this study. These themes were used to explore broadcast journalists' perceptions of new communication technologies, bearing in mind the research questions. Together, the themes and sub-themes establish that Nigerian broadcast journalists, just like their Western counterparts, considered new technologies, and in particular interactive technologies of the Internet and mobile phones, as being very relevant to contemporary journalistic practices. But this relevance is underscored by situated challenges observable in the interviewees' responses to the emergent themes and sub-themes.

The chapter begins with a short presentation of the interview data and proceed to create a clear background for the analyses of the qualitative interviews. The analyses open with a presentation of general findings on pattern of new communication technologies use in Nigerian broadcasting considering its significance in setting the right context for understanding new digital technology adoption in the Nigerian setting. To this end, themes and sub-themes are used to ensure mutual exclusivity and exhaustiveness of the underlining categories. The chapter later concludes with a paragraph which summarises the key findings.

6.2 Exploring the Extent of New Technologies Use for Participatory Programming in the Nigerian (Radio) Broadcasting

As earlier mentioned in the review of literature, different types of system had been examined in studies on technology adoption. Lee et al. (2003) group these technologies into four categories: communication systems, general-purpose systems, office systems, and specialised business systems. In view of adoption pattern in journalism, these technologies are grouped into two: interactive and non-interactive technologies. Given the research focus on participatory programming and having focused on these two dimensions with the quantitative study, special attention is paid to new interactive technologies of the Internet and mobile phones alone in this qualitative part. This would make exclusive Lee et al. (2003) "general-purpose" and "communication systems" which has both Internet and systems primarily used for communications, such as mobile-based technologies, instant messaging, under different categories.

A number of new digital technologies are associated with interactivity and participatory programming in broadcast journalism the world over. An examination of how Nigerian broadcast journalists perceive these technologies was carried in a bid to understand trends and pattern of adoption in the context under investigation. Based on the interview responses, these interactive technologies can be grouped into two; whether it is text-based or whether it is audio-based. For the text-based interactive technologies, these are synchronous or quasi-synchronous

social network sites of the Internet and the short message service (SMS) of the mobile phone. In this category, Facebook, Twitter, Email, WhatsApp and mobile phone SMS are popular among Nigerian broadcast journalists. Based on the literature and initial exploration of the study's qualitative interview data, using these technologies for participatory programming is both universal and context-specific.

While studies have established the fact that technological artefacts are not always universal in their adoption (e.g. Caroll, Howard, Peck & Murphy, 2002a, 2002b; Isaac, Besseyer, Des Horts & Leclercq, 2006), the analyses here is hinged on the assumption that technology adoption is both an open or universal and closed or context-dependent concept. Appropriation is about technology use in circumstances. Appropriation signifies how technology is used, adapted and fitted in the users' daily activities (DeSanctis & Poole, 1994; Ansari, Channar & Syed, 2011). Given this background, the context of use and the perceptions toward attributes of the technologies and outcome of use are considered under the broad concept of adoption. The rational to investigate this broad perspective is borne out of the blurriness in journalists' adoption scenario, where no clear cut demarcation exists between individual and media organisation's use of interactive technologies, especially in relation to deploying communication system such as mobile devices and Internet technologies (general-purpose system) for journalistic roles.

Interactive Technologies	Tiers of Broadcasting			Total	
	Public	Private	Community	Total Sources	Total References
Mobile Phone	61	21	19	18	101
Facebook	29	19	12	18	59
Twitter	16	15	11	14	42
WhatsApp	11	00	2	5	13
Email	06	01	00	5	7

Table 6.1: showing word query results of interactive technologies mentioned in the interview data

The data in Table 6.1 show the significance of interactive technologies as indicated in the interviewees' responses on the subject. The two channels of mobile phone (SMS and voice call) appeared to be the predominant technology for interactivity in the Nigerian context. This is followed by Facebook and Twitter which are both social network sites popular among Nigerian broadcast journalists. At least a mention of "mobile phone" and "Facebook" appeared in the responses of all the 18 interviewees with varied degrees of frequency and in relation to the interview questions. While 101 references were made by the interviewees in connection to the word mobile phone, 59 instances of the word Facebook were recorded in their transcribed

interview data. Email appeared not to be popular as a technological tool for interactivity among Nigerian broadcast journalists. Using the NVivo software, the relevance of Facebook as the most adopted social media platform was explored by visualising the pattern of discussion as expressed by the interviewees on the subject of interactive technologies (see chapter 5). Table 7.1 also shows that government-owned broadcasting corporations preferred mobile phone interactivity to social media interactivity with social media platforms more popular among private/commercial broadcast stations and campus-based community radio stations.

6.3   Interpreting the Scheme of Thematic Coding for the Study

This section introduces the theoretical framework of the study and how the framework connects with the qualitative interview data to drive thematic analyses. The study recognises that attributes of technologies in relation to broadcast journalism are premised on anecdotal reference to the "double or two-edged sword" (see also Lee, 2015). The double-edged description means that new digital technologies possess both utilitarian and detrimental/disruptive values for journalism practice. In the light of this duality of purpose, analysing the relevance of new communication technologies in the Nigerian broadcast journalism would mean to consider the perceived utilitarian value of the technologies alongside the "situated" challenges mentioned by the interviewees. Perceived utilitarian value is a core construct in technology adoption in workplace. In the framework of analyses it underscores the interviewees' beliefs about new media technologies' capabilities to enhance productivity (and role-play) in broadcast journalism as a profession and business. Central to the theoretical interpretation of this construct are extant theories of adoption such as perceived usefulness, outcome expectations, extrinsic motivation, relative advantage, and summarily in performance expectancy construct of the UTAUT (see Chapter 2). As the strongest and the most consistent predictor of technology usage intentions in the work setting, this construct is thematised to include effort expectancy construct by focussing on "external goals" such as work performance rather than "user-system interaction" as defined in TAM (see van der Heijden, 2004; Sun & Bhattacherjee, 2014, p. 3). Hence, central to this first theme are technologically-motivated improvements associated with journalism practice such as newsgathering and interactivity. It also extends to influences of technologies on journalistic roles such as gatekeeping and agenda setting.

The second theme addresses perceived communication value that represents another important construct in relation to technology use in the workplace. The significance of this theme can be interpreted against the Core IT model. The model suggests that communication

value moderate the effects of subjective norm on technology adoption. This theme is also considered in relation to Venkatesh et al. (2003) social influence construct. Communication-oriented technologies are linked with increased interactivity in broadcasting and as such they are perceived as utilitarian even with their hedonistic features. It follows from a combination of related constructs in the core IT model, as well as subjective norm, social factors and image (see Chapter 2 for in-depth explanation). In the analyses, perceived communication value captures the capabilities of new interactive technologies in facilitating all forms of interactional exchanges within and outside broadcast newsrooms, chief among which is journalist-audience and journalist-expert interaction with utilitarian values for feedback and maintaining contact (see Figure 7.1).
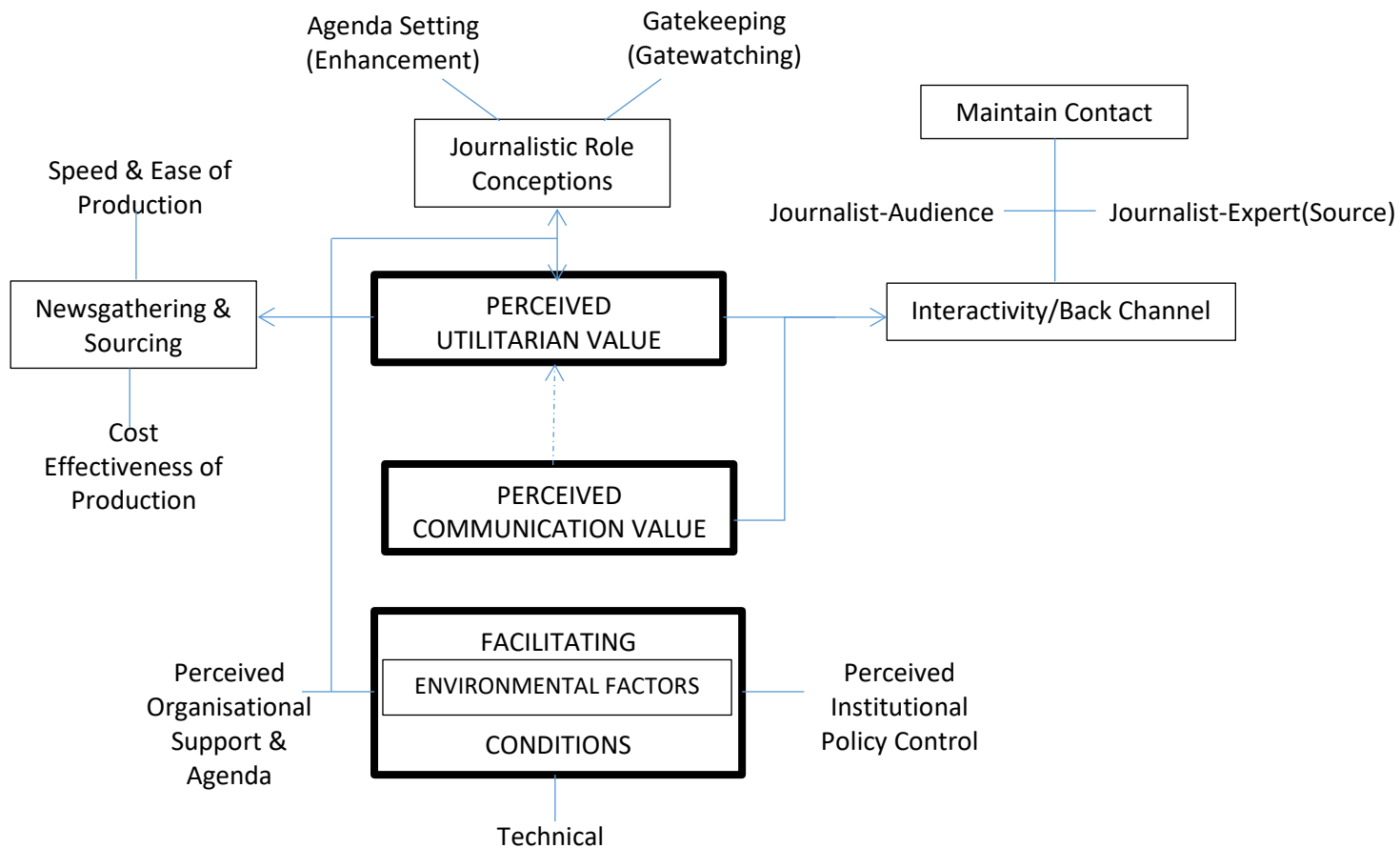
Figure 6.1: Thematic map showing the pattern of adoption in broadcast journalism

The third and final theme focuses on a combination of environmental factors that influence new technology adoption in broadcast journalism in the Nigerian context. With reference to Venkatesh et al. (2003), the theme captures the degree to which adoption of new interactive technologies is believed to be influenced by organisational, technical and institutional policies.

However, the theme is considered in view of the perceived hindrances to adoption traceable to lack of organisational support, institutional control (policy regulations) and technical problems militating against adoption. In fulfilment of the universality of the double-edged sword perspective, each of these aforementioned themes are analysed alongside their perceived challenges as expressed in the responses of the interviewees. Taken together, the findings would prove sufficient in exploring the relevance and establishing the relationship between radio journalism in Nigeria and new digital technologies use. It will also prove sufficient as insight into whether adoption drives value creation in broadcast journalism or serve another labour-intensive purpose, even as the medium overcome its spatial and visual limitations in the digital era.

6.3.1 The Double-edged Sword Metaphor: The Perceptions of Nigerian Broadcast Journalists

As earlier hinted, the double-edged sword concept explains the duality of purpose which defines the positive and negative perceptions of the impacts of new communication technologies. According to Lyntinen and Yoo (2002, p. 384) this notion represents attributive reference to digital technologies in newsrooms as "equivocal and indeterminate" innovations. Helen Boaden captures the centrality of the double-edged sword metaphor in relation to technology and journalism in her speech at the 2013 Radio "The Resilient Medium" Conference in London where she stated that:

> Digital technologies have disrupted our listener's habit, our business models and many of our approaches to broadcasting. And we could easily be put off our stride. Now more than ever it seems important to face the world as it is, understand and marshal our strengths, understand our vulnerabilities, and begin to adapt for a changing future. Because in amongst the disruption and challenge, lie great potential opportunities.

In explicating this concept, the study explored interviewees' responses to a fundamental question which sought to determine whether new digital interactive technologies hold any significant benefits for broadcast journalism practice in the Nigeria context.

An overview of the qualitative interview data yielded six direct instances of the double-edged referent in the transcripts, all traceable to journalists/interviewees across the tiers of broadcasting: public or state-owned, private/commercial and campus/community FM radio stations. A journalist in the service of a private local station provided an insight into this phenomenon in the Nigerian broadcast journalism context:

> Well…, it's a double edged sword. …, it has done very well in boosting information gathering and as such people have access to information. But here in lies the challenge; do they [journalists] have access to the right information? By the same social media which is supposed to be an advantage, now you see what is called a highly indolent broadcasting practice whereby one broadcaster simply see one of the research someone may have done and the next thing you see everybody just making adaptation of that. As such we can't have the core investigative journalism when you get information in that way. What you see on social media most times is just a replication a duplication or a watered down exaggerated version of an original story.

The interviewee's response above affirms to the centrality of the dual attributes of new communication technologies even in the Nigerian setting. It goes to show that while broadcast journalists are significantly empowered by new digital technologies, there is the perceived dumbing down effect of technology usage among broadcast journalists in such a way that certain normative roles are jeopardised and professional ethics violated. In spite of this common perspective, this study goes a step further to establish that there is context-dependent adoption behaviours evidenced in the socio-economic and political dynamics which shape new technologies adoption in the Nigerian context. These dynamics are explored in the interview data using the following three themes and their sub-themes.

6.4 Theme 1:

6.4.1 Label: Perceived Utilitarian Value: New Communication Technologies in (Newsgathering and Sourcing) Radio Production

Description: By keeping sight of the first research question, the study seeks to determine perceived relevance of new digital technologies to journalistic roles. In order to explore this research question, thematic coding was directed towards interviewees' responses regarding the capacity of new digital tools to enhance journalistic production practices. Specifically, instances in the interviewees' responses pertaining to "perceived usefulness", "perceived goal-directed ease of use" and other positive perceptions of new interactive technologies in relation to newsgathering and sourcing practices were identified. Two sub-themes are used to further explicate the perceived utilitarian value construct.

Based on the analyses, majority of the interviewees across the tiers of broadcasting responded convincingly regarding the relevance of new interactive technologies to journalistic routines. A senior level private broadcast journalist with a portfolio as a producer-presenter of some flagship participatory radio programmes in Ibadan axis explicitly confirmed that interactive

technologies "have assisted the radio man in performing his roles." The broadcast journalist attributed relevance through perceived utilitarian value of new communication technologies to be a mutual goal between a broadcast journalist and his organisation, suggesting that use is a product of broadcast journalists' intention as well as the operational policy and mission of their organisation: "I've embraced most of the social media aspects, Instagram, Facebook, Twitter, text messages. As a station we believe that's the way to go." Fifteen other interviewees made a total of 31 references which buttressed the "progressive", "transformative" and "revolutionising" perceptions of new digital interactive technologies in Nigerian broadcast journalism. A senior cadre journalist from a state government-owned broadcasting corporation also added that:

> …we discovered that this has actually given life and credibility to the expression: mass communication… I want to believe information communication technologies has taken mass communication to another level, which in a nutshell has assisted very immensely in actuating freedom of expression, freedom of association and what have you in furtherance of the UN Constitution.

In the same vein, another senior level broadcast journalist who worked with the zonal headquarters of the Federal Radio Corporation of Nigeria (FRCN/Radio Nigeria) also subscribed to the wave of optimism in the perceptions on new interactive technologies use in broadcasting, stating that: "…the modern technology has helped a great deal in advancing the work of journalist and journalism practice." A mid-level broadcast journalist of the same establishment (that is FRCN/Radio Nigeria), equally affirmed to the utilitarian value of interactive technologies with regards to the overall practice of broadcast journalism: "I will say that interactive technology today in one way has enhanced our job – it has also enhanced this profession that is journalism profession. There is progression." Scheme of thematic coding indicates that perceived utilitarian value in relation to production in radio newsrooms is explicated under two sub-themes: speed and ease of production and cost effectiveness of production. These are presented in turn.

6.4.2   Sub-theme 1

6.4.2.1 Label: Speed and Ease of Production in Newsgathering and Sourcing Practices

In explicating this dimension of perceived utilitarian value with respect to improvements in newsgathering and sourcing practices, the focus of the thematic coding was on speed (time spent) and ease of completing the tedious journalistic task. These were found to enhance productivity in broadcast journalism with respect to newsgathering and sourcing practices. In

the analyses, 11 interviewees who responded positively to the question seeking to know broadcast journalists' perceptions of interactive technologies mentioned speed in relation to news production and sourcing practices. For instance, a mid-career female broadcast journalist stressed that:

> [New interactive technology] has enhanced even our performance. Let's look this scenario: before you are using 3-4 hours before you come back to package your report for the public, but now under 30 minutes before the completion of the assignment something is already going on-air. Are we going to say that is retrogression? No. we are progressing.

Another journalist who worked with a private/commercial FM radio station gave a positive response to why he perceived interactive technologies as important and relevant in contemporary newsgathering and sourcing in Nigerian broadcast journalism practice. He said:

> If you ask me, I think it's one of the finest things that has happened to broadcast journalists or journalism as a profession. It is helping in the area of sourcing information; …We can virtually get information at our fingertip. What requires a tedious process in the past – having to go round, before you travel and time constraint – it's all been taken care of with the social media. Now you can do everything within a second, within split second you can achieve results in minimum time. Technology has actually assisted, the assistance is enormous. Social media for instance is enormous to the media [broadcast] at the moment.

In the cause of newsgathering and sourcing, web activities such as browsing Internet search engines such as Google for word meaning, sifting through social network sites like Facebook and Twitter for news stories and for finding eye-witnesses' accounts of a news worthy event are now very common newsgathering and sourcing practices in Nigeria. Majority of the study respondents explicitly confirmed the centrality of Internet technology in broadcast journalism in Nigeria. One of the senior broadcast journalists in the service of FRCN/radio Nigeria claimed that: "It [Internet] has helped in the area of research, particularly when you need to have a global view of a particular issue."

Also in view of newsgathering and sourcing practices such as on-the-spot and remote interview sessions with experts/news personalities, there were significant utilitarian value claims in the interviewees' adoption of new interactive platforms of the Internet. The improvement is such that time and geographic limitations are completely removed. With this, broadcast journalist can circumvent the risk of travelling to record expert opinions and rushing back to edit and include same in news bulletin. A senior broadcaster and director of productions at one of the southwest Nigeria's FRCN/Radio Nigeria zonal offices provided an insight into this

phenomenon in Nigerian broadcast journalism, adding that "the risk of having to travel has been gradually reduced; so it is much easier…"

While interviewees' responses addressed perceived transformation in newsgathering and sourcing practices, the interpretation of this theme is that perceived utilitarian value of new media touches directly on reduction in production time (speed) and ease with which journalistic activities are carried out in the digital era. To this end, one of the interviewees, a senior broadcast journalist who happened to be the station manager of a state-owned FM station claimed that there is "dependency of mind" stemming from the ability to be able to work with speed without wasting time that has come with the Internet. In their conceptualisation, a number of interviewees' responses reminisce the "slow old days" and ways of doing broadcast journalism. They cited instances of the deadline pressure and having to rush from the field to newsroom in order to prepare news bulletin. From all indications, the time taken to execute journalistic tasks has been greatly reduced leading to rest of mind and minimal deadline pressure as a result of new technology use in Nigerian broadcast journalism. The summary of this is that new communication technologies in the Nigerian context are significant and considered to be relevant as they enhance productivity.

This account equally compares well with that of a mid-level journalist with a private/commercial radio station who, notwithstanding the differences in ownership or job role, agreed to the improvement in newsgathering and radio programme production in the digital era, due to the availability of latest mobile technology for outside broadcast production and contemporary phone-in programme:

> Now we are technologically driven, unlike the days of yours when you have to record somewhere then rush back to the station to relay the message…, So that has even eroded the era of the OB [Outside Broadcast] Van, you don't necessarily need the van to have a life coverage. A reporter can have the Comrex and speak live from just about any part of the world, so we've moved; there is a progression. Even the call management system is different nowadays. Now you can record calls, now you can see the numbers, you can even see the personalities that are calling you if you subscribe to True Caller, unlike in the past when you didn't even know the identity of the person calling you, when perhaps you couldn't also record because no recording device is put in front of the telephone machine.

From the foregoing, one can only imagine the circumstance in which broadcasting was practised prior to the proliferation of digital interactive technologies such as the Internet and the mobile telecommunications in Nigeria. The extent to which these new technologies with several affordances have improved productivity in the Nigerian broadcast journalism is further

attested to in the ease with which some journalistic procedures are carried out.

Apart from the aforementioned improvement in time spent on production, majority of the interviewees also specifically mentioned what could be called "effort expectancy" dimension of new communication technologies use in broadcasting. This perceived ease of use however complements speed of production to truly establish the significance of perceived utilitarian value as a prime theme in technology adoption in journalistic work setting. A top manager of a campus-based "community" radio station gave insights into the technical aspect of broadcast production and how having access to new technologies have come to mean ease of production in editing for news bulletin or other radio programmes:

> You find out that with digital it is easier, it is faster, it is easier, things are done smoother, the finesse is much better. You can be precise with the digital – this is where I want to cut the audio, this is what I want to do - and you get it. Unlike with the analogue, analogue there is no precision; there will still be some off-cut so you know this thing was actually edited from somewhere.

Apart from deploying new communication technologies to speed up time spent on producing for broadcasting, there were also indications of perceived utilitarian value in using interactive technologies to conduct live opinion polls otherwise called *vox pop* as an instance of newsgathering and sourcing in broadcast journalism.

6.4.3 Sub-theme 2:
6.4.3.1 Label: Perceived Cost Effectiveness of News Production and Sourcing Practices

This aspect focuses on interviewees' beliefs toward the cost effectiveness of adopting new communication technologies. To this end, instances of reduction in cost of production as a result of deploying digital tools were coded for analyses in the responses of interviewees across the tier of broadcasting.

Given that systems such as Internet and mobile telephoning hold the capacity to reduce the overhead cost of broadcast production. According to the interviewees, new communication technologies have provided that opportunity for journalists and their news organisations to operate without incurring as much cost as they used to do not so long ago. For instances, Internet and mobile phone technologies have reduced the cost of maintaining correspondents and liaison offices in the major cities of Nigeria. A senior cadre broadcast journalist with a public broadcasting corporation in Abeokuta recounted what it used to be before the Internet and mobile phones:

when I joined the service we had nearly all the major towns and cities we had reporters; Ibadan, Osun, Southwest, all the towns, Lagos – we had about 3 or 4, Ibadan 2, Osun, Ondo State, even as far as Kwara State. But now with the help of technology we get whatever we want to get within a twinkle of a minute. So you don't even need to deploy your reporters, equip them with all the gadgets or other things. Just get what you want to get… you can link up with other stations, through technology you get what you want to get within a twinkle of an eye. These technologies have really assisted us, reducing the cost of production.

At the same time for the journalists working on beats, the cost of transportation during newsgathering exercise has been greatly reduced if not totally eradicated due to these new technologies. With the dwindling advertising resources consequent upon competition and persistent economic downturn, broadcast journalists and their organisations have fallen on new technologies to save production costs. New interactive technologies have proven to be extremely useful tools for radio stations and their journalists in order to maintain their relevance as information sources and discharge their roles to the people. This aspect of perceived utilitarian value of digital technologies is crucial considering the fact that radio is central to information and entertainment needs of urban and rural Nigerians. The cost effectiveness of using new communication technologies in broadcast journalism is also hinted in the response of one of the interviewees, adding that:

> If you need to interview people without the use of the Internet in the olden days you have to travel. For instance you have to travel; you spend money, you spend time traveling and energy doing the beat and of course the risk of traveling to that place is also to be considered. But now, you get your assignment down on time, the Internet makes such assignment faster, makes it easier and with no sweat at all…

6.5   Theme 2

6.5.1 Label: Perceived Communication Value - Using New Digital Technologies for Interactivity and Audience Engagement

Description: This theme addresses perceived improvements in broadcast journalism practice stemming from the adoption of digital versatile communication systems. It complements the perceived utilitarian value in its focus on outcome expectancy of increased interactivity and ultimately in answering the research question on relevance of new technologies to broadcast journalism practice in Nigeria. The analyses were aimed at identifying forms of engagement in relation to increased interactivity. Against this backdrop, the analyses were geared towards finding out from the interviewees' responses instances of transformation in broadcast journalism as a result of using new interactive technologies. Although a number of such instances are referenced in extant literature under "maintaining contact". What this study is

interested in is to explore this dimension a bit further with a view of locating unique categories and effects adopting new communication technologies for maintaining contact driven by professional and/or business interests.

Based on the analyses, perceived communication value of new technologies manifests in two forms identifiable as an aspect of audience engagement and contact maintenance. The two forms are perceived communication value expressed in the context of whether engagement is on-air during programming and off-air outside programming. In the former category is what is termed: "journalist-to-audience" commonly expressed as audience engagement. In the later, that is, outside programming is two other dimensions namely: "journalist-to-expert sources" and "journalist direct-to-newsroom". However, before explicating these unique categories, it is important to first explore the extent of interactivity in the Nigerian broadcast journalism in order to properly situate the interviewees' perceptions of interactive technologies in relation to radio as a medium of mass communication. Hence, when a question was asked to the extent of interactivity in interviewees' media establishments, it was found that in spite of the socio-economic and political situation in Nigeria, interactivity in broadcast journalism is typically high. In relation to the extent of interactivity in this sector of media, all the journalists provide insights into the degree of interactivity in their stations by appraising the content of their stations' programme schedule.

Among the 18 broadcast journalists interviewed for this study, 15 interviewees offered verbal responses that afforded the researcher to empirically determine the extent of interactivity of FM radio stations. For instance, three journalists (2 male and 1 female) belonging to private broadcast stations explicitly confirmed that their radio stations are very interactive and that they themselves are technology savvy, producing and presenting one form of participatory programming or the other. A senior male broadcast journalist in this group declared that "All our programmes are interactive except the recorded one… We should say we have 80 percent interactive programmes and the other 20 percent are recorded programmes…" A mid-level female interviewee in this group also corroborated this assertion, claiming that:

> Many of our programmes are interactive. Interestingly we have at least something for one person in this station whether you are elderly or young or active or inactive, we have programmes for you. So, how programmes are shaped to cut across just about every segment of this society, so we have something for somebody at least so you can be sure that many people listen to us, to what extent I don't know.

Another journalist who offered insight into his station's interactivity also buttressed high interactivity claim with a response that his station:

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…is perpetually online and all our content go online and then I believe that we give equal attention to all that we generate from our station. …Whenever we go online and we put our content online we discovered that more engagement, more concentration, more attention from the audience are on those matters.

Two broadcast journalists interviewed at a private FM radio station in Ibadan declared 80 percent and 88 percent interactivity respectively. This means that 2 out of 10 programmes being aired by the station are recorded programmes. Other programmes are aired live and include segments for audience engagement. One of the two interviewees added that "even if some presenters don't go through the whole social media thing they still get to do phone-in." She added that the station's idea of interactivity includes leaving the official mobile telephone line open to maintain contact with the public "so people still get to speak to us even after the programme." In this sense that some journalists claimed that interactivity provides a way through which journalists can "meet" and get to know their audience without physically seeing them. For instance, by using engagement indicators on social network sites, journalists can evaluate audience acceptance of their news posts and build a relationship with engaging audience. Social presence through interactivity compensates for radio's lack of visual as a mediated communication. One of the female journalists in the service of a campus/community radio station in Ibadan expressed her opinion in relation to using interactive technologies of the Internet to establish personal connection with audience:

When I do programmes and I communicate with my listener, we interact via Facebook or Twitter or any other social media… you know it shows that the media these days have opened a wider door for people to participate we now have audience participation for real in the media. It's something that I will say has helped me as a person because I get to talk with people, I get to feel people's pain, to feel their pause, I get to talk with them directly not that so-so person said and that I am quoting people – no. it is based on I for one knowing exactly what is going on in the minds of people because I am able to reach out to them directly during programme.

In general, all the respondent broadcast journalists claimed no less than 60 percent of interactivity for their stations or corporations. In spite of these claims, there are noticed differences in the perceptions of interviewees in relation to the media organisation they work for. For instance, there was an air of hesitance in the responses coming from respondents in the workforce of government-owned broadcasting corporations and the campus-based community radio station. These respondents (from the FRCN/Radio Nigeria, Osun State Broadcasting Corporation and Diamond FM), although claimed between "50 percent" and "80 percent" interactivity, however situations in these public FM stations show these claims may not be as

representative as it appears. A senior journalist at FRCN/Radio Nigeria provided a critical appraisal of interactivity in the government-owned public broadcast stations and claimed the station "don't take up to 30 percent" even as the flagship of broadcasting in Nigeria. The respondent gave his reasons for such low adoption is intentionally driven by the top management staff of these public radio stations who, according to him, "pander to the government's interest to the detriment of interactive programming." However, with the plurality of radio stations, some private/commercial radio stations have gone a step further to claim the domain of interactivity for their station by offering listeners different flavours of interactive programming. However, the increased uptake of interactivity seems to be dumbing down the quality of programming in the private FM radio stations. An interviewee with a private FM radio station recounted his experience in view of the worrisome and unprofessional side of interactivity in some private stations:

> Recently, something happened I had an experience which I have shared with colleagues at work. I was in a cab and I was listening to a radio station, in an attempt to gain audience how can you run a programme without content? You just start a programme, you say welcome to the programme and then you just call out your phone number and ask people to call on who he is better, Ronaldo or Messi, is that broadcasting? And that's what radio stations particularly in this generation want to do because they are trying to catch audience. They just push in "thrash", that's the down side of it on the part of practitioners. I think it is watering down [production] content and initiative.

Given the extent of interactivity in the Nigerian radio-sphere as reflected in the interviewees' responses, the analyses further establish the different forms of interactivity being experienced by broadcast journalists in the Nigerian context. These are presented as sub-themes under the perceived communication value.

6.5.2   Sub-theme 1

6.5.2.1 Label: Journalist-to-Audience Interactivity (Audience Engagement)

Otherwise known as audience engagement, journalist-to-audience interaction represents one of the most referenced forms of journalists' adoption of new interactive technologies. The analyses of this aspect of perceived communication value revealed that interactivity can either take place on-air during a live interactive programme or off-air, at any other time apart from when a live programme is being aired. Both text-based quasi-synchronous technological system of the Internet and mobile phone technology are commonly engaged to facilitate interlocution between journalists and audience.

The responses of the interviewees are replete with significant evidence of journalist-to-

audience interactivity. For instance, all the 18 interviewees had something to say regarding the significance of Internet's social network sites like Facebook, Twitter, Skype, IMO, WhatsApp and the mobile phone in relation to interactive programming. Based on the analyses, perceived communication value of this form of interactivity ranged from audience cognitive assessment, contact maintenance to performance assessment of individual journalist with regards to their participatory programming. It also represents a new modality for station rating and brand awareness. In view of these value claims, a senior cadre broadcast journalist who is affiliated with a private FM radio station in Ibadan commented that:

> The listeners react to my comment. I use that to judge perception of the listeners: okay, this's the way they are thinking! So sometimes from that information gathered you want to change stereotype – the way people think – oh, this is the way they think on this subject, or I don't think they are right. So you want to change stereotype. [And]… I intend to get some very, very critical and encouraging statements about some of the things I say.

For a broadcast journalist, on-air audience engagement can be a veritable tool for audience analysis; a kaleidoscope for evaluating the cognitive potential of the listening audience. Broadcasters can analyses the interaction and use the findings to reposition the theme of the programme or adjust the presentation style or format.

Two dimensions of journalist-audience interaction are noticeable in the interview data, 1) interaction within the programme, that is while the programme is ongoing, and 2) interaction behind the programme, where engagement with audience goes beyond the programme. While on-air, broadcasters use new digital technologies to observe multiple perspectives through which a topic could be understood. Apart from this, engaging audience while radio programme is on also serves as an avenue through which broadcast journalists evaluate the programmes, the station, the self. Identity being projected by broadcaster is evaluated in the comments coming from audience members. In relation to programming, evaluation of geographic reach or transmission coverage is possible with audience engagement. Broadcasting stations latch on this communication value to sustain their brand and court advertisers for ad revenue. In addition, journalist-audience interaction provides broadcasters the opportunity of assessing the diversity of participation as they get to know which gender and age brackets and group are the active listeners. This perceived usefulness is succinctly captured in the detailed interview response of a senior broadcast journalist and station manager of one of the FM stations:

> Now, the feedback you get what do you do with them? It's to check yourself what kind of issues, contents am I dishing out to my listeners, that is one. Two, how far is the reach of the station, are you reaching out… sometimes people call [the

station's programme] us from Ilorin and I keep wandering, "are we really, are you sure you are calling from Ilorin, where are you in Ilorin?" They will say ah, "they are calling from Gambari." This is to show that truly they are calling from there. On a good day, we are not expected to reach that far. But for you to check your reach, to check that are you really getting information out to people…, you know. And the feedback is also for you to actually look inward and put your house in order, things that you feel you are doing well, [but] that people feel you are not doing right. And they say, "ah this is not it," they call to say, "hello, is it that station…? Yes. This programme should not be in the afternoon, it should be in the evening." For you own, in your own thinking you feel afternoon is the best time you can put it out to people, but people are telling you no. by the time you are getting about 30 to 40 percent of the people saying it is wrong timing, it means that your timing is wrong, you just have to shift to suit the timing of the listeners. The feedback helps you to adjust yourself, to be able to know and balance your content. Sometimes your content might be imbalance; you might be one-sided with your content.

On the other hand, off-air audience engagement serves as an avenue to extend the conversation beyond the limitation of time as applicable to radio programming. Off-air journalist-audience interaction serves to build and maintain contact leading to a symbiotic relationship between broadcast journalists and their radio station on the one part and their teeming listening audience on the other part. This type of relationship holds the possibility of creating a new wave of opportunity for broadcast journalists. Journalists all together are known to engage in "moonlighting", that is engaging in other private businesses while on the staff list of a media organisation (Hanitzsch and Wahl-Jorgensen, 2009) leading to personal gains for some business-minded broadcast journalists in the Nigerian context. For instance, a male journalist in the service of a private radio station confirmed this personal gain aspect of audience engagement in his interview response that:

> Well to a large extent, you know the job of a broadcaster is only 5-7% on radio or TV. His job, the larger part of his job really is the show outside the show. So I can tell you personally, I have been able to achieve a huge conversion outside, converting fans into customers and it has actually jacked up my level of income. So if I didn't have access to social media, I may just be on a pay roll and that's it. But having the advantage of a social media gives you another stream of income, directly or indirectly.

While it is not immediately clear how widespread this practice could be, however there are other instances of what seems to be individual journalist psychological benefit derived by broadcast journalists as a result of extending conversations beyond the echo-lagged walls of the studios or broadcast newsrooms. A senior cadre broadcast journalist from a public FM radio

station in Ibadan shed light on some form of psychological gratification and personal fulfilment that could be derived from journalist-audience interaction:

> I have one popular programme where people refer to me as … [name omitted] the programme is titled Ololufe; it is in Yoruba and I go by the appellation … [name omitted] You see, I give ample opportunities to my audience to send in text messages, I would have worked on the messages then I would relay my response. At a time, I gave my audience the opportunity of asking [calling] me when you [they] are distressed concerning your [their] love relationship: call me on phone I will attend to you and I have been doing that and I so much enjoy it.

Though this managerial level broadcast journalist is already mooting an idea of how to make a financial prospect of establishing a love relationship counselling platform based on the success of this radio programme. However, he is not oblivious of the civil service deterrence to such action. He explained his predicament of reaping immediate financial benefit from his relationship with audience as facilitated by audience engagement:

> There is one condition why I cannot start it. You see civil service is cumbersome. It is bedevilled with a lot of problems. If the management of my station discovers that I am doing that, and I am earning income from another source they will raise eyebrow. That is when they will be using big grammar, 'divided loyalty' and things like that.

On a general level, audience engagement, whether on-air or off-air, has also helped in providing a new learning platform for broadcast journalists. Journalists claimed to now have opportunity to learn from the audience as much as the audience are also learning from them. As a matter of fact, journalists claimed to now being kept perpetually on their toes with regards to information as they are expected "to know something about everything and everything about something." One of the interviewees, a long serving broadcaster and now the station manager of a state-owned FM station, confirmed this reorientation:

> For instance now, if you want to discuss an issue on television or radio now you have the opportunity to google something you don't really understand to find out more. It really helps your preparation. Unlike in the past when journalists or broadcasters believe that they are teen-god that whatever they say is the final. No, you can't say anything that you are not sure of today because of the advent of these latest information technologies.

And when journalists falter in their role, either as an individual or collectively as members of a local media organisation, they are not spared bombardment of messages across social media platforms in order to correct or scold the goofing journalists. Broadcast journalists are no more the all-knowing personalities they used to be. They are now open to criticism due to the availability of interactive platforms through which they continuously engage even while there

is no programme ongoing. A broadcast journalist in the service of a private radio station in Ibadan shared her personal experience regarding audience using interactivity to correct journalists and to register their displeasure:

> I think that technology has empowered the listener unlike before, because now if you are on-air as a broadcaster and you are making some serious mistakes, the listener is there on your social media platform he's calling your attention to it. I made a mistake on radio last year, I talked about President Jonathan saying he was going to eradicate Boko Haram and I was reading a comment on social media, I read about 3 comments and people were saying he didn't say he was going to exterminate them, that he said he was going to reduce the occurrence of terrorism. And immediately because of course the technology has its advantages even for the broadcaster as well as it does for the listener, and immediately I tinkered with that post and I told the audience that I already tinkered with my post on social media. So that way technology has empowered the audience. It has also empowered the broadcaster to correct his or her mistakes.

6.5.3   Sub-theme 2:
6.5.3.1 Label: Direct-to-Newsroom Interactivity

At least two other forms of interactivity emerged during the analyses of qualitative interview data. These are instances of direct to newsroom interactions, where journalists speak directly to the expert sources/news personalities. The other form is where broadcast journalists speak among themselves on an interactional yet professional scale. While these categories may be viewed as aspects of improved production, it is important to properly situate it within the social influence confine of the perceived communication value. Several accounts of these forms of interactivity as exemplified in the narratives of interviewees. For instance, journalists speaking to sources could manifest in the potential of interactive technologies to facilitate, as backchannel, synchronous and quasi-synchronous communications with non-journalism actors. Sources in this case are resource or news personalities. Interactions with regards to contribution on radio programmes, clarifying technical or industry-related concerns and analysing socio-political and economic policies may present situations where "experts" could be interviewed on/off-air as part of, for instance, news/current affairs programme. A top management staff at a state-owned broadcasting corporation in Osun State provided an insight:

> In those day news used to be a straight-jacketed thing: you compile your bulletin, the newscaster is there to read whatever he's given and go home. But today even in the news of 30 minutes or one hour you can have as many as you want guests coming, you can throw the line open for calls. For instance, you can set three guests speaking with you while the news is on, you get across to them one after the other, the newscaster interacts with them, ask questions from them, they respond... The viewers, the listeners are better educated,

A senior broadcast journalist and director of programmes in a state-owned media corporation in Abeokuta, Ogun State expressed an instance of

> Now, you can easily fast-track what you are doing in the newsroom down to the just to the studios, just use some simple ICT equipment, transfer the whole thing to the studio, the same person that produced the news can now read the news, rather than having the reporter, all these proof-readers, and the messenger who will take it by road transport all that… Now that we are having more studios and stations, like OGBC, we have two stations the FM stations and the AM station, our transmitter is far – more than 20 kilometres to this place. Then we have other studios, we don't even need to move down, just send the whole thing through ICT, we'd just get it. So it doesn't matter the time of number and all other thing…

Interactivity becomes particularly useful for across all newsroom communication scenarios. A scenario could present itself whereby a journalist working on a beat outside the newsroom/studio would have to correspond with their editors in newsrooms. Also as a matter of urgency, especially during emergencies journalists do turn newsrooms/studios to control room where government agencies are called to action. In the case of a journalist interacting directly with his colleague in the newsroom, a situation like this demands that a journalist who come across a newsworthy event especially during off-duty period would urgently seek interaction with their superiors in the newsroom in order to relay the urgent information. The news item may be included in the bulletin. And in some extremely urgent situation such newsworthy interaction could be aired live as public service announcement. Two senior reporters with the FRCN/Radio Nigeria in Ibadan provided instances that corroborate direct-to-newsroom interactivity with regards to a network radio station, "it [interactive technologies] also assists professionals in getting their feedback and stories to the headquarters probably from correspondents outside where the stations are located." In another instance "It also helps us to keep in tune with the correspondent outside because there are situations whereby some correspondents may be faced with a difficult situation." Another journalist added that:

> Sometimes I text my *oga* [boss] that I am working on this [particular news story] and he would just text me back, "go ahead", when I give him the synopsis of whatever I am working on. So that's an example of interaction.

In the case of emergencies, two instances of direct-to-newsroom interactions facilitated by mobile phone through WhatsApp platform were presented in the interviewees' responses of senior reporters at the zonal headquarters of FRCN/Radio Nigeria in Ibadan

> There was a time when one of my correspondents, he was actually going home – he had closed for the day and he came across a very terrible situation and a community

was put under siege. He himself had to take cover; his life was at risk, I just saw a message on my WhatsApp it said: "I need help." Immediately I had to him, he was speaking in such a low voice because he should not even been seen and he said he needed to be put life in order to relay what was exactly happening. I had to rush to the studio I took the phone to the studio. Immediately we were able to link her with the announcer in the studio that we have news to break and he relayed what he could say within a few seconds later for him to follow up. These are the beauty of social media for us as journalists.

A similar experience was also shared by a senior-cadre broadcaster in the service of Ogun State Broadcasting Corporation, OGBC (Radio) 2 FM, while stressing the importance of interactive technologies in contemporary journalism practice in Nigeria:

There was a day we were running an interactive programme and bank robbery was going on at Union Bank here [indexing with a finger]… if not for the station, I am telling you those guys could have gone, they almost escaped but because of our own intervention, what we were transmitting here, because we used the medium to alert the authorities – the law enforcement agents. So they mobilise immediately, covering all ends so by the time they finish and they were moving out with the loot they got to this point, it was blocked, that Quarry end it was blocked by the time they got to other point it was blocked, what they did was they run for their dear lives. They just took off leaving their loot. Because people would phone: please we enjoying your programme but this thing is happening right now, which will help them during emergencies because the service we render is social, especially when we talk about this type of station – public radio station.

The value of interactive technologies and its backchannel affordance in radio journalism in the Nigerian context could be appreciated in view of the country's socio-economic situation. For instance the Nigerian public is unaware of emergency short-codes like 999 or 121 and would rather call-in to radio stations when faced with emergency situations. There's virtually little or no effort from government agencies to sensitise the public toward responsive citizenship. In a situation whereby government agencies like the police, road safety corps, fire service, or natural disaster management agencies at state and federal levels are perpetually unresponsive, act or react unprofessionally and in total disregard for their statutory duties, journalists' interactions with audience provide a unique alternative to mobilise public service agencies as quickly as possible. Through interactivity, radio journalists have helped the Nigerian people to call government attention to specific areas of concerns, such as public menace, dilapidated social infrastructure and neglect

6.6   Theme 3

6.6.1   Label: Reconstructing and Enhancing Journalistic Roles

Description: This theme addresses the second research questions which seek to determine the nature of relationship between interactive technologies and journalistic role conceptions. Instances of how new interactive technologies engendered certain role performances were sought in the interview data. Particular attention was paid to the discharge of normative roles such as agenda-setting, gate-keeping, surveillance/social responsibility and other roles as may be expressed in the responses of the interviewees.

For the instances of normative roles engendered by interactive technologies, 21 references were generated from 10 sources as indications of broadcast journalists' responses to how they perceived interactive technology and their normative roles as journalists. On the other hand, 17 references emerged from 8 sources within the interview data as instances of some new approaches to traditional role-play brought about by the adoption of interactive technologies in broadcasting. These responses not only confirmed the reinforcement of traditional media roles such as the agenda-setting, gatekeeping and other journalistic roles. But they also, appeared as indications creative approaches of circumnavigating conflict zones created by new interactive technologies. New roles such as gate-watching are clearly represented in broadcast journalists' use of the Internet's social network sites (e.g. Facebook and Twitter). Journalists deploy new skills and different layers of censorship to circumnavigate both organisational and institutional policies whilst keeping faith with the ethics and professionalism. The first significant observation is that broadcast journalists perceived all roles as important even as a number of them chose to identify with one. This is a common position in the literature on journalistic role conceptions. For instance, a famous investigative journalist who worked in a private/commercial radio station (Splash FM) responded that:

> I perform all the roles. I disseminate information, I educate, I use radio for social mobilisation, I am also a critic of policies. That is why I have my Twitter account, my Facebook account, I have my website, I have Soundcloud account where I can record some of my commentaries and put online.

The above response is not different from the perception of a senior male journalist in a state-owned radio station like the FRCN/Radio Nigeria who equally responded to the interview question on perceived role conceptions of broadcast journalists in the age of interactivity. His opinion was that:

> A journalist supposed to be a critical analyst, a disseminator, a mobiliser, a news conveyor, an enlightened person because he has to inform the public. I think every

journalist should play those roles. But within the purview of the role technology can play, I think technology can assist to help a journalist play the role effectively.

In spite of the general approach to role conceptions, there are traces of journalists still trying to locate themselves within certain role. Some of the interviewees also claimed that they fit into a certain role better than the other ones, as indicated in their responses to the interview question that probed this line of discussion. For instance, a middle level female journalist with a private radio station (Splash FM) said this of her conception of journalistic roles:

I think I would stand in the gap between information disseminator and mobilising the ordinary people because really if you look at the way Nigeria is structured now in spite of the proliferation of all the gadgets we have and people subscribing to social media site, in spite of the television station that we still have, people still listen to radio more and, as a journalist who operate using that medium it behoves of me not only to relay information, but also to educate people and I try to do that as a journalist.

6.6.2   Sub-theme 1
6.6.2.1 Label: Agenda-setting Reconstructed
It is important to observe how normative role such as agenda-setting is interpreted given the overbearing power of interactive technologies in broadcasting and how known structures within the media have been disrupted by these technologies. While some of the interviewees believe the journalists' power to set agenda is irrevocably theirs, some journalists believe these roles have been taken over by the multitude of people on Internet's social media. The quantity and speed of information flow via the social media for instance are reported to have challenged the news breaking power and opinion moulding role of the legacy media and their journalists. But when asked how agenda setting and other traditional roles faired in the interactive technology era, a female journalist at the FRCN/Radio Nigeria gave an account of how she tried to sustain her position as an agenda setter with her own class of journalism in broadcasting:

You just set it on social media as a journalist as an agenda setter we can use it to set an agenda because a reporter is expected to set agenda for the public, they are not the one to set agenda for us. We are supposed to be the one to set agenda. Once you use it well, it's ok, I don't want to see anything wrong in it.

From this account, it is obvious that the power to set agenda is being contested in broadcast journalism by the presence of social media. Social media is challenging radio's power as a vital mass communication platform for setting agenda and moulding of public opinion in the Nigerian setting. Recently, the term "influencers" has evolved within marketing communication to describe individuals with considerable number of followers on their social

network platforms such as Twitter and Facebook. Apart from the fact that these new breed of agenda setters are often times involved in news break and initiating trends, they have challenged the business model of mainstream media for advertising revenue. With regards to the role of journalists as agenda setters, a senior broadcast journalist and vibrant user of social media for two flagship participatory programmes on Splash FM offered his candid opinion regarding agenda setting role of journalists in social media era, he said:

> So what the technological platform has done is to put a lot of resources before the news man. So what you need to do is to go there and grab them, craft them into news, craft them into programmes, use them not to set agenda any more, but to enhance the agenda because somehow I feel the citizens, to a very large extent, now are setting the agenda.

From this accounts on agenda setting, we can infer how agenda setting as a normative role is being reconstructed into "agenda enhancement" in the digital era. Radio audience rather being passive now wield considerable power to influence what journalists are doing, by talking to them directly, either through the social media or phoning-in programmes. What is now left as role for broadcast journalists is to key into the pattern of information flow on social media and re-establish this role as a credible information source. It could mean that broadcasters and their stations learn to readapt the social media to make radio production more organic, at least with some sense of participation from the audience while they play their traditional roles. In the Nigerian context, this often involves journalists using their private social media "handles" for professional tasks and roles. With the anticipated clash between social media and traditional journalistic norms, journalists may need to develop a new strategy of sustaining their conventional roles.

6.6.3   Sub-Theme 2:
6.6.3.1 Label: Gatekeeping or "Gate-watching"

Another normative role what investigating in the account of interviewees is the gate-keeping role. There is "disintermediation" concept in new media narrative that talks about the shifting gate from the traditional news makers' domain to the ends of new breed of news makers on the web (including social media) and to the end-users of these new news technologies who are expected to be their own information/content gatekeepers (Kovach and Rosenstiek, 1999, p. 6-8). Studies such as Axel Bruns' (2003) have reported how this normative role could be/is being challenged by the new communications technologies and how journalists in the legacy media are unyielding or evolving strategic approach to "man" the news gate in the digital era. We investigated how Nigerian broadcast journalists are to deal with this shifting role in the era of

multiple gates and information overload. In the account of one of the interviewees who was a senior broadcast journalist with a private radio station, he narrated how new communications technologies, mainly the social media, have opened a new paradigm of dealing with sources of information and news emanating from the Internet while still practicing the gatekeeper role:

> What these platforms have provided is the opportunity for you to study a trend. There are times I want to know what the Senate President said, what I do basically sometimes is to go on his Twitter handle and read up most of his tweets, sometimes I look for discrepancies. So that gives me an easier platform… on a very good day you might want to go meet him, but with the Twitter handle you can meet him without seeing him, so you can know what is going own with him. You can judge his perception, you get information… There are times I go to the [Twitter] handle and Facebook account of Minister of Information, there I know what the government is saying – that's the mouthpiece of the government. It can be on the website, but now the problem arises when you take it out and you know read it out. But if it's there on the station website as comments from the audience… there're times we also go out and delete, you say the Governor is a criminal then put some fact there, you don't just say that, so you delete. You can delete such comment. But if you say you feel because this government is not working and so much money has accrued to the government in four years, therefore where is the money? Yes that's a legitimate question, you might not want to edit that, you need that. There is a level of censorship; that is just the point.

Listening to participatory programmes however brings different other encounters of how broadcasters in Nigeria employ linguistic strategy to gate-keep comments made in response to participatory programmes being aired. In this other encounter as stated by one of the interviewees, gatekeeping may require using one or two other members of staff to screen and peruse messages before being given to the presenter to read out. While these two aforementioned approaches may work for text-based user-generated contents culled from Facebook posts and mobile phone SMS, it could be problematic in the case of voice call or phoning-in programmes when contributors are aired directly into the live transmission. A senior broadcast journalist with the FRCN/Radio Nigeria responded to the question on how they manage this difficult gatekeeping situation:

> One, you need to have thorough understanding of whoever is coming in, if you are bringing in a guest. When you are allowing audience to call in, to send it messages on WhatsApp, on SMS you know you would have been reading, maybe there are 2 people or 3 that are there to help review the comments, and there times we spell out rules that when you call in no abuse, no vulgar expression, just go straight to the point. So we would have spelt out the rules of engagement, so you'd know that we are not trying to shout anybody out but make sure that you follow our rules. You

know people can be unruly… you know there is tension in town now, somebody can just call in and say that your president he doesn't know jack…

However, in the event that screening, linguistic strategy, or pre-engagement warnings fails broadcast journalists do result to a hostile approach of severing/cutting the phone connection or fading out the conversation to prevent heating up the polity by a non-compromising audience "we would have given guidelines; don't abuse anybody, no name calling, there are programmes we handle like that. But if peradventure we have anybody calling in and trying to break engagement rules of course we know how to caution or cut off the individual." Another interviewee explained the procedure for gatekeeping:

> You can control in voice call, before you engage the audience, you tell them exactly "I want this", so keep your limit to this. If they are not going out of line you think they are overstepping there boundaries or going to areas you believe are dangerous of course you fade in the call, the music comes in, or you break their call.

And they in the case of eventuality, there is the technical way perfecting the screening so that only the "tested and trusted" contributors are allowed participation, most especially for politically controversial subject during electioneering and campaigns. An interviewee with a state-government owned Broadcasting Corporation, said:

> Of course there are. Everybody is now digital, we are digital. On the switch board of the… on the console, the studio manager is there, the producer is there ready to come to come in: "I don't want this"… there are technologies on the console to keep an unwanted conversation out, allowing only those ones you want.

But a times the situation may not be as smoothly as anticipated and unguarded contributions from audience member would slip into live transmission, bringing the station into conflict with the NBC, the agency in charge monitoring the Nigerian broadcast airwaves. The penalty is usually huge payment of fine payment and it seems the agency enjoys doing that to generate fund in the most controversial circumstance. An instance of this situation was narrated by one of the senior cadre level journalist in the service of a public radio station:

> In most cases when we run afoul of those rules and regulations, it's not because presenters and producers are not doing what is expected of them but because of the fluidity of the interaction that you have on-air. I recall a particular one that we are asked to pay about N200, 000 (two hundred thousand naira; apprx. £450.00) in OSBC, somebody called in and started calling another person names even when he was being put on the right track he refused. And that was recorded and we got sanctioned for it. that is part of the danger. Never mind that even the NBC we are talking about, the watchdog, nobody watches the watchdog in this wise.

Through timeless flow of conversations on the social media, the fixed time-slot for radio programmes is no more. It is noteworthy to add that new communications technologies have also opened new avenues for Nigerian broadcast journalists to enhance their surveillance role through information giving in multiple channels and to also improve their teacher-educator role. Social media has introduced the hub concept, where broadcast journalists can link audiences with experts beyond the programme time-slot. According to one of the female interviewees from a private radio station (Impact Radio), social media has helped her to "feel the heartbeat of those who are at the grassroots and making it easier for them to perform certain social responsibility roles like educating and mobilising them for action and for building new "communities of interest" based on local and national subjects.

> Personally I would say social media and technology generally has really helped me a lot really, because it's good to know that people you are talking to out there are not just ghosts, they are people that you can actually relate to and share diverse opinions. Definitely, educating people goes beyond just coming on the radio, just having 30 minutes or one hour radio it's over. From time to time you still have to go back to the social media [to connect resource persons with the audience] because some of this resource people that come to the programme, you still have to pass messages across to them [audience] through social media. They can still ask you questions concerning that particular thing person [the resource person], like I do say, "if you like to meet this particular person you still get to pass the contact details of that particular person to the audience. So technology has helped me to inform and educate people more. It goes just beyond after you end the programme, no. You still have to do follow up.

It is important to point out that responses of the interviewees indicated that gatekeeping as a normative journalistic role is practised differently among public and private/commercial broadcast stations. Public broadcast stations tend to be stricter with gatekeeping than private/commercial broadcast stations. For instance, interviewees from the state-owned public radio stations such as FRCN/Radio Nigeria, OGBC 2 Abeokuta, BCOS Ibadan, and OSBC Osogbo indicated in their comments some degree of censorship that helps them keep-off controversial engagement which may push them against the interest of their financiers, which are their government owners (state and federal). An interviewee in this group stated confirmed the strict procedure for gatekeeping in his public radio station:

> Of course, it goes without saying you have some no go areas. Even when the audience… if they are twitting you know you look at the content of the tweet very well before you bring it forward. If they are the one you think it's not conducive or it goes against the interest of the power that be in your state, or the owner - that's the owner… you leave those ones out

We here [public broadcast station], we insist on limiting not even limiting, scrutinising very well the number of programmes that use this interactive devices because such programmes could be live. We encourage people to use the Facebook, let them react, you keep on with the programme, you now bring their reactions into the next programme, you record their reactions. Let them be phoning-in, tweeting, but you record them for next programme. We want to have more recorded programmes than live

6.7   Theme 4

6.7.1   Label: Facilitating Conditions

Description: The facilitating conditions theme addresses the third research question. It centres on the degree to which adoption is perceived to be influenced by organisational, technical and industry-related policy control. The idea is to locate objective factors in the environment that interviewees believed to make adoption of interactive technologies easy or difficult to do. In the conceptual framework for the study, beliefs about organisational support and institutional policy control are assumed to directly influence actual use of new interactive technologies. Given this explication, instances of environmental factors influencing intention and actual use of new interactive technologies in broadcasting were explored in the responses of the interviewees. This led to the emergence of three sub-themes with which aspects of the facilitating conditions were explored. First in this category is the perceived organisational support. This dimension focuses on perceptions about conducive working environment for journalists and it includes beliefs about poor funding and infrastructural decay as well as over-commercialisation of broadcast air-time. These are considered as factors limiting rather than facilitating conditions to intention or actual use behaviour of new interactive technologies for journalistic practice. The second theme focuses on the perceived institutional policy control. And likewise, this aspect was explored in relation to political interference and actions of the regulatory agency. The third theme addresses technical factor such as glitches and perceived technological incompetence of broadcast journalist. The last theme addresses perception towards audience members as it is believed that how broadcast journalists think of audience would go a long way in influencing their decision to adopt technologies. In a bid to contextual the findings under these four themes analyses of interviewees' responses were geared towards ownership type. Sub-themes categories were used to present instances of the limiting conditions to effective adoption of new interactive technologies. All of these themes and their sub-themes are analysed in turn below.

6.7.2 Sub-theme 1

6.7.2.1 Label: Perceived Organisational Support and Agenda

Nearly all the interviewees believed adoption of new interactive technologies is a function of the technical support, incentives and enabling environment available at the work place. The condition of service or practice, as the case may be, goes a long way in effective adoption of technologies. A mid-level broadcast journalist in the service of a private FM radio station indicated the significance of organisational support in his response, adding that adoption of social media for participatory programming is an extension of his station's management decision on how contemporary broadcast journalism should be practised in the station: "As a station we believe that's the way to go." Journalists who are fortunate enough to enjoy good condition of service and enabling environment perceived themselves as privileged. According to a mid-career female journalist in the service of a private FM radio station, having the platform to express oneself as a journalist should go along journalist's "own ideas and ideals" and his personal willingness to equip himself with the necessary gadgets:

> And sometimes you don't also find a journalist who has all these ideas and ideals about how great the country is and such a journalist will have a platform to relay those ideas so it's two things at once; having the platform itself and the same time having access to some of these things that can aid your reportage or daily news.

Two groups emerged in relation to comments about organisational support available to broadcast journalists, these are fortunate and deprived broadcast journalists. Fortunate broadcast journalists operate in a conducive atmosphere and under a relatively fair condition of service. Deprived journalists operate in less conducive atmosphere and are often times left to forage for survival using the organisational identity. The organisations of deprived broadcast journalists provide the platform to operate. Basic equipment for reportage is provided by individual journalists. However, a female interviewee with a private FM radio station claimed she may not count as "deprived" because unlike many journalists, she provided herself with gadgets to work with. Another female journalist in the service of public radio station claimed that "Some of these little things [technologies] that we use they are from us. It's not from the organisation because of our job and the passion we have we just have to get the technological tools by ourselves.

But, having the platform to operate should not only be seen from a technical point of view. Platform, as seen in the interviewees' responses, can also be interpreted against the Nigerian socio-political landscape which influences how journalism is practised in the country. Media establishments in Nigeria are passively partisan even though the National Broadcasting

Code is strongly against broadcast organisations' active political representation. This situation affects broadcast journalism practice in their adoption of technologies. An interviewee explained this favouritism and the need for a media organisation to provide an enabling environment that support professionalism even in the face of political and economic adversaries:

> In Nigeria most media institutions owe allegiance to one particular bloc in the society, so you cannot be objective in your reportage. But some of us have found ourselves in places that are run by businessmen who are driven by business, so they are not interested in whether Party A wants me to report it like this or Party B wants me to report it like this, they report it the way it is. And that is why I say many Nigerian journalists are deprived. Where I work, I mean xxxx FM, we speak it has it is. I can as well tell you that the owner the station is as much a listener as the ordinary listener on the street. All he does is to fund it. And also arms many of his journalists with the needed tools that other journalists wouldn't have; like giving them vehicles so that they can go to just about any other place to conduct interviews, by paying for air tickets for interviews, by giving them standard state of the art equipment that can help them report. But many journalist and broadcasters in Nigeria do not have such leverage. But I am also constrained by some challenges of course, challenges that the system will also pose at you.

6.7.2.2 Poor Funding and Infrastructural Decay

Closely associated with this dimension of facilitating condition is poor funding and mismanagement leading to infrastructural decay in broadcast organisations, typically the public broadcasting stations owned by federal or state government. These stations are supposed to be the flagship of broadcasting and setting pace in the industry. But that seems not to be the case. Without fund to properly run the stations and equip broadcast journalists with the necessary technological tools, the station managers are left with little or no choice in improving broadcasting in a way that rivals the privately-owned stations. A senior male broadcast journalist in the service of FRCN/Radio Nigeria lamented the situation in his work place:

> So poor pay, poor quality of journalists, then poor working environment… At least you were in my office there, we are trying to organise that place, we are supposed to be three, but the place can only take two tables. And you see that office is not too clean in terms of what should be there. So the poor working environment, sometimes we don't have water, the toilets are bad, they will take electricity the generator will not come up because of high price of diesel, transport may not be available to take reporters to assignment. So the working environment is equally poor, what again… the libraries are out of stock, you can't see current books in our libraries. In those days we have records, we have books – current books, they were purchased but now… [he sighs]

In the event of poor funding and mismanagement, journalists are left with no choice than to comprise their ethical and professional guidelines. It is either these journalists

moonlight by taking other jobs to support their career or they take gratifications for writing sensational or slanted news stories in favour of the news client. There is the popular "Brown Envelope Syndrome" as mentioned by a senior journalist who writes for FRCN/Radio Nigeria, "because of poor pay, many journalists are tempted to take gratitude from people that they interact with – particularly politician – which may affect their balance in terms of news reportage." He lamented the situation in the FRCN/Radio Nigeria that is supposed to be the flagship of broadcasting in Nigeria due to the station's historical antecedence:

> Government gives grants to all these stations every year. But like every other thing in Nigeria the people at the top they mismanage it. The money will not come to zonal stations to use in terms of getting modern equipment to help them [the stations]. They [top managers] will just say, but you have that is still working continue, go and manage that for a while; you know the attitude of an average Nigerian man or leader. If the old equipment is still working, they will say go and manage it. And this attitude is affecting the work.

6.7.2.3 Over-commercialisation of Air-time

While the public broadcast stations are grappling with the issue of poor funding and lack of modern equipment, private/commercial radio stations are dealing with too much advertorial in their programme schedule. Instances of excess advertisement as a challenge to participatory programming were explored in the interview transcript. An interviewee in the service of a private FM radio station in Ibadan, confessed to his station airing too many advertisements which takes the shine off the beauty of his developmental participatory programming. This is not minding the fact that the programme runs for 3 hours. "There are times we have to advertise…, we have too many adverts." Quality programmes, when they exist on private radio stations, are pre-loaded with advertisements. An award winning broadcast journalist in the service of a private FM station in Ibadan expressed his concern regarding over-commercialisation and how he strives to balance and exhaust the programme content in such a way that the presentation would run smoothly and effective

> There's [a] lot to discuss, a lot to discuss; a lot of information to give out but before you know it you have denied your listener the space to be part of that programme, you have a lot to discuss, in fact that is my own biggest problem. If I come into the studio with twenty pages of script to deliver there are times I don't even open the phone line, the best I can do most of the time is to look at the Facebook for what you [audience] are saying so I read out some of the messages but on a good day I would prefer to combine all of them: text messages, Twitter messages, Facebook messages, but I hardly have the time.

6.7.3   Sub-Theme 2
6.7.3.1 Label: Institutional Policy Control and Political Interference in Broadcasting

The National Broadcasting Commission is saddled with the responsibility of regulating the Nigerian broadcasting landscape. The Agency has a document in the NBC Code to regulate broadcasting practice in the country. In the advent of new communication system adoption by broadcast media and in order to meet up with the challenges of the emerging trend in the broadcast industry, the Agency has come with a few policies to ensure ethical and good practices. A few additions is noticeable in the Code with regards broadcasting mode/format, Internet broadcasting, using scroll bars, live broadcast and unconventional reportage involving user generated content (UGC) and the use of handheld devices and social media. Concerning the use of social media and UGC a senior-cadre broadcast journalists in the service of a state government-owned public broadcasting corporation confirmed the regulation behind the use of social media and audience materials:

> Of course, it goes without saying you have some no go areas. Even when the audience is right… If they are twitting, you know you look at the content of the tweet very well before you bring it forward. If they are the one you think it's not conducive or it goes against the interest of the power that be in your state, or the owner - that's the station's owner… you leave those ones out.

Given this circumstance, broadcast journalists have learnt to approach social media content with great caution. Even though broadcasters are encouraged by the NBC "to provide feedback channel through the deployment of communication system of the digital media and mobile phones", the Code explicitly warned them about indiscriminate use of unconventional methods of sourcing for programme content from the Nigerian citizens on social network sites and online sources. A senior-level broadcast journalist in the service of a public broadcasting station commented on the fear of the NBC and highlighting some worrisome aspect of social media use in broadcast journalism:

> It is becoming, in most cases, a situation of garbage in, garbage out. Why because almost everybody wants to be on that platform without cross checking the credibility of their story, the source of their story and what have you. Times without number we have had a situation whereby sooner than later retractions would be coming up. Then the quality of content being dished out or disseminated is becoming very watery, because quite a lot of those who exploit those platforms, every minute are either sub-professional, quasi-professional or absolutely non-professional who are not trained and as such not equipped with the ethics of the profession.

In spite of the utilitarian value of communication system being adopted in broadcasting for interactivity and feedback, the provisions in the NBC Code do not fully describe the pattern of

adoption expected of broadcast journalists and their stations. Broadcast stations are simply made aware of their social responsibility. Stations would be held responsible for any content found offensive and parallel to the Code. Majority of the interviewees agreed that adopting new interactive technologies must be done in tandem with the stipulations in the Code to guide against unethical practices and dumbing down of the profession. One of the public broadcast journalists commented with regards to the radio station in her workplace, adding that:

> Because in Radio Nigeria, as we try as much as possible to break news, we also don't want anything that will create disunity. That is why our slogan is uplifting the people and uniting the nation. We always look at conflict management when we are reporting crisis situation. But someone that just wants to post some news and want people to comment will not look at it like that, they will just break it as it happens. They just give people everything – sensationalism. We don't do sensationalism, we give the people what happened but at the same time we want to take care of their lives, we want to take care of their feelings, we want to watch out for what will be the end results of whatever we are giving out. That is the only area that I see that it [new technology] is not helping matters. And if there could be any regulatory body or agency that will look into I would not know.

But as public broadcast stations approach new technology adoption too strictly, as hinted in the comments of some of the interviewees, it goes to show that broadcast journalists put a lot of thinking into: 1) the choice of interactive technologies to deploy for participatory programming; 2) the category of audience and contributions to allow on-air; and 3) decision as to whether to produce a programme as live or recorded. The consequence of this would be that participatory journalism is not truly democratising and multiperspectival. While the government-owned public broadcasting stations approach adoption of interactive technologies for participatory programming with strictness of practice. Private/commercial stations, in the absence of quality programming, engaged more of live programming and engage in interactive programmes. This circumstance may bring private broadcast organisations in violation of the NBC Code more than the public counterparts.

6.7.3.2 Political Interference

The NBC recognises the need to provide conducive atmosphere for political culture to thrive through broadcasting in Nigeria. According to the regulatory agency, broadcasting in Nigeria is positioned to contribute to the development of national unity and participatory democracy. Against this backdrop, all broadcast stations are charged with civic responsibility with regards to political programmes. In fairness to the principles of pluralism equal airtime must be provided to all political parties or views, especially during political campaign periods. And all

partisan political broadcasts are expected to be recorded at transmission point. Conversely, majority of the interviewees in the service of government-owned public broadcasting corporations mentioned political interference from their owners as a form of environmental factor which hinders the quality of support they receive from organisations to practise broadcast journalism. A public broadcast journalist at the managerial level lamented to broadcast journalists' powerlessness and struggle to balance professionalism and ownership pressure:

> And in an evolving democracy like our in Nigeria we have the issue of the opposition party not knowing that after elections governance starts. We even have the ruling party still behaving after winning elections as if they are preparing for elections. By then they shouldn't even be preparing for governance, they should be in the business of governance. Not to talk of the opposition party.

Another interviewee in the service of one of the government-owned public radio stations commented on the extent of political interference at the public broadcasting corporations as against private/commercial radio stations. He spoke about how political interference is affecting professionalism and limiting the practice of journalism as it should be, given the availability of resources to develop the industry in the digital era.

> Of course that is a big challenge. When you talk of a public broadcast station as against private, it is he who pays a piper that calls the tune. Whereas because of our peculiar social political environment in this part of the world unlike in the so called advanced or developed world, it is not easy to…, you don't bite the finger that feeds you. So there is a limit to how much you can criticise your those you work for, if you are a state government owned station, there is a limit to how far you can criticise your employer so to say, your state government, even nationally if you are a national broadcast station, there is a limit to …[laughs and giggles]

On the part of private/commercial radio stations, broadcast journalists identified discriminatory interference from the regulatory agency, the NBC, as one of the issues they deal with as a part of environmental factor. An interviewee with a background in one of the private/commercial FM radio stations cited an instance of her colleague's dilemma with the regulatory agency and the Body's arbitrariness:

> Personally I have not had a personal issue with them but XY has on different occasions, where he would relay a particular news and then you have a letter to he effect that the station's mast is erected in a residential area. And you ask yourself what is the meeting point between the news that they are complaining about and the mast being in a government approved residential area! So sometime the regulators do try, you know, to stifle some materials from getting to the public.

6.7.4 Sub-Theme 3

6.7.4.1 Technical Factor: Glitches, Bad Connectivity and Poor Call Quality

The analyses for this theme sought out references in the interview transcript in relation to challenges posed by accessing fast and reliable Internet and quality telecom services. The analyses also paid attention to words/expressions that described technical incapacitation such as speed of upload or download. It is anticipated that the socioeconomic and political situation in Nigeria, like in many other developing countries of Africa and beyond, would definitely throw up some technical challenges that may undermine innovation adoption in media organisational settings.

In the Nigerian broadcast sector, quality participatory programming is but a function of access to perfectly working communications technology infrastructure and competence in handling them. Instances of frustration associated with technical glitches were cited in the interview data to establish this dimension of facilitating conditions. According to one of the interviewees, "sometimes when you use Skype, if the network is poor you will hate yourself. Sometimes your programme might not be so neat, it might not be tight when all these things malfunction or when you have poor network. It limits the beauty sometimes." And when confronted with this kind of situation, a broadcaster must find a way out to keep the programme on. For this reason, some journalists have adopted multiple platforms for engagement, combing text-based sources and phoning-in. Another interviewee in the service of a public radio station suggested that: "A times you cannot get through on the phone so you use your Twitter, use your Facebook, use whatever technology you want." And for some station such as the FRCN/Radio Nigeria the best approach to avoid public technical glitch and public embarrassment is to limit programming to recorded, it comes with less trouble after all, a senior journalist working with the network radio station said,

> In FRCN we don't have much of interactive programmes because of technology. If you want to do it now by the time you start, the next five minutes, the signal may be off, the line may be fading and then the programme becomes messed up. And people tune off.

For private radio stations with better equipment, the frustration comes from both the telecom and Internet service providers. A journalist in one of the private radio stations in Ibadan axis narrated the situation with service providers:

> Sometime the [mobile] phone calls are not clear; there is network problem; that is a big challenge on our radio. Most of the time you hear [me saying to my audience]: 'Ok, I can't hear you clearly so I have to let you go.' Then, another is the quality of Internet; there are times you want to upload certain audio file you're struggling with

it.

Nigerian radio journalists considered poor connectivity as a greater challenge to technology adoption over poor mobile phone call quality. According to an interviewee, "I think the more serious is [long pause] the quality of the technological platform especially Internet, it's a big problem here." A senior broadcast journalist in the service of the FRCN/Radio Nigeria summed up the dichotomous circumstances in broadcast journalism with respect to technicality of the radio station and programming in the digital era. He explained that:

> Private radio stations have better equipment, even though they don't have better programming. But because the average listener is interested in output, if you tune to the stations you get better signal compared with a station which has good programmes but once you move there what you have is noise. We have good programmes but mismanagement and poor quality of signals are affecting us in the area of programming.

Based on the analyses of interviewees' reactions to this theme, there were comments that point to perceived differences between public and private radio stations and which jeopardise their functional use of interactive technologies for quality participatory programmes. There were comments pointing to non-availability of technical equipment and poor quality of participatory programming offered by public FM radio stations. Probably, because public FM radio stations are owned by state and federal governments, broadcasters in this tier perceived themselves as conservative and stricter in the management of interactive programmes. An interviewee in the service of public FM radio station explained the disparity and impact on quality of programmes:

> Ah, you cringe when you listen to some of their [private FM radio station] stations… you see many of the state-owned and federal-owned stations, maybe because they are conservatives they are stricter, they are more professional than most of the private-owned stations. They […] private man does have time to train, they just bring in anybody that can speak very well, that can interact with the public. They want volume, to them it is business, they want money. They think more of business than the prime media functions; education, information, they have more of entertainment than any other things. And if you dwell more on entertainment than other aspects – the information and education roles of the media, I think journalism is going down the drain. I think it behoves us all – the media practitioners to … you don't allow yourself to be run over by unbridled use of social media by money conscious private stations.

An interviewee from private radio station agreed to poor programming in the private radio station, making remarks about his station he added that "there is paucity of programmes…" And the fact that they run some programmes as time/slot fillers, "there are

other programmes that are just an ego massage." And the temptation to fill time-slot would definitely bring about recruiting just anybody as presenters of participatory programming. This particular situation is exemplified in the response of one of the interviewee who heads a campus/community radio station as manager, he explained further that:

> More often than not you hear a lot of people saying ok, 'we want to do a programme on your station sir …it has to do with love and divorce.' And when you asked this people, 'how old are you?' they are twenty, what does a twenty years old girl know about divorce or about love? Who and who will listen to such programme when they hear a tiny young voice talking about divorce? So, it will be people between the ages of 21 and 22 or 18-19 that would call-in on the programme. Adults that need the information, that need the advice would not call because they must have sized up the voice of the person they are hearing on the radio, the person must be around 20, 'what does she know, jargons,' and they tune off.

6.7.5   Sub-theme 4

6.7.5.1 Incompetent Use of Technology among Some Broadcast Journalists

Reflecting in some of the interviewees' responses to the impacts of technology on journalism is the incompetent and lazy attitude of journalists to technology adoption resulting in unethical use behaviour such as "copy-and-paste": taking contents from the Internet and hasty dissemination of unverified information in news bulletin. A senior broadcaster in the service of OSBC in Osogbo threw more light on this aspect, he said:

> Most broadcast journalists are not in the real sense of it ICT compliant. It will baffle you that most just carry the phone and you see them carrying iPad, just for Facebook and WhatsApp and that is all. The challenge that threw to most establishments most especially like ours, OSBC, was training upon training. In-service training should be a continuous one. But it takes self-development, no matter how well the establishment is ready to do it one also needs to develop oneself so that one will be compliant with whatever is en vogue because technology is not static and what we use for interactive purposes in the media is not also static.

Another broadcast journalist with a private radio station shed more light on the perceived technological incompetence of some journalists and how they wrongfully apply the Internet as a newsgathering tool, she explained further:

> Most of the journalist we have now glory in the copy-and-paste system. But for some of us we do not find anything fascinating in that, so we've moved beyond reportorial, we don't report, we leave the news casters to report, but what we do with our programmes, we drive conversations that are ongoing on social media, website, even conversation that an ordinary man holds on the street. So that is what we do now, so much so that you don't have programmes that just tell what is, but the making (to) understand what is happening and what can happen.

In the rush to publish exclusive news stories after having encountered newsworthy event on social media page like Facebook, some broadcast journalists have dragged the reputation of their organisation in the mud and have caused them to pay huge fines to the NBC. In a situation whereby the story is defamatory, it may lead to a rejoinder, threat of litigation and sanctions from the regulatory body, the NBC. A female journalist with the FRCN/ Radio Nigeria informed that the intrusion of interactive technologies into broadcasting has led to the worrisome increase in number of quack journalists, she explained that:

> It's not about getting it first alone; it's about get it first, get it right. Everybody wants to break, you want to have an exclusive that is coming from your station alone but as news personnel, as a professional to the core you must get it right because in Radio Nigeria there is no rejoinder, we don't do that. We don't come back to say what we carried [sic] we are sorry is not what is should be, no! Although it may take time to verify. We know that on social media people post anything.

6.8   Conclusion

In sum, public radio stations seemed to have better trained personnel working as broadcast journalists. Their staff appeared to be more conscious of the ethical and social responsibilities than broadcast journalists of the private FM radio stations. Given this circumstance, they appeared to have better programming. What is lacking is the quality of output as it seems they are bedevilled with poor management and funding. The media system in Nigeria allows them to source for revenue from advertisers just like the private broadcast stations. Apart from this, they also appeared to be overstaffed. On the contrary, the private radio stations have better equipment to work with, but the quality of staff and programmes seems not to match those of the public broadcast stations.

CHAPTER 7

GENERAL DISCUSSION OF FINDINGS

7.1   Introduction

In the past two chapters 5 and 6, I presented a series of statistical tests and thematic analyses aimed at investigating how Nigerian broadcast journalists' beliefs about new digital technologies are shaped by journalists' role conceptions or how their perceptions towards normative roles drive technology acceptance and use behaviour. By building on the analyses and findings of these chapters, I will here summarise and discuss the main findings of this research project by considering more deeply the empirical work and how this connects to the study's theoretical framework and extant studies.

The chapter begins by highlighting the main contribution of the study, which is understanding the relationships between journalistic role conceptions and technology use behaviour in the Nigerian broadcast (radio) journalism context. Emerging models of new digital technology adoption are presented and discussed against the backdrop of the research objectives and the research questions. The chapter highlights the dynamics in the relationships between journalistic role conceptions and technology adoption by using the findings from both statistical tests and thematic analyses to illustrate the importance of this contribution to the field of journalism and the evolving African newsrooms. The approach is to discuss the quantitative research findings in relation to the emergent themes from the qualitative data. In this way, both statistical and thematic findings are used to complement each other to form the basis as well as guiding instrument of the discussion, bearing in mind the study objectives which are:

1. To explore what drive Nigerian broadcast journalists' adoption of new technologies for participatory programming

2. To evaluate the relationship between Nigerian broadcast journalists' role conceptions and perceived technology acceptance and use in the context of participatory programming

3. To examine the extent to which perceived journalistic roles, perceived attributes of technologies, social influences including organisational and institutional beliefs predict intention and actual use of new technologies in the Nigerian context

4. And, to assess the extent to which individual characteristics and broadcast ownership types influence intention and actual use of new technologies in the Nigerian context.

7.2 Evaluating the Relationships between Journalistic Role Conceptions and New Digital Technologies Adoption in Nigerian Broadcast (Radio) Journalism

Figures 8.1 and 8.2 depict the new models of technology acceptance and use developed during this research.

Figure 7.1: Mutual cyclical relationship between technology adoption and journalistic role conceptions with regard to intention to use non-interactive and interactive technologies in broadcast journalism

The main contribution of the study is its identification of factors driving Nigerian broadcast journalists' adoption of new digital technologies and relationships between technology adoption and journalistic role conceptions. Specifically, the study's findings provide insights into the associations between journalistic role conceptions, perceived attributes of technologies (such as their perceived utilitarian, hedonic and communication values) and facilitating conditions. These variables were assessed as predictors of intention and actual use of new digital technologies in the Nigerian broadcast journalism context. Two factorial analyses and three statistical tests (stepwise multiple regression analyses) were conducted (see Chapter 5) in order to provide answers to the core research question that asked whether Nigerian broadcast journalists' role conceptions are shaped by their beliefs towards adoption of new digital technologies or whether perceptions of these professional journalists about new digital technologies are influenced by their role conceptions. Emerging themes (Chapter 6) from the

interview data and literature were used to complement the quantitative findings. Conclusions drawn from this procedure provide the information that led to a multi-perspective evaluation of the relationships between journalistic role conceptions and new digital technologies adoption in Nigeria broadcast media.

Hence, the first regression test was conducted to determine if journalistic role conception variables, with or without other variables in the conceptual model, drive broadcast journalists' intention and actual use of new digital technologies. The second test was performed to assess whether technology adoption variables help predict broadcast journalists' intention and actual use of new digital technologies. The third test investigated the role of moderating variables such as individual characteristics of broadcast journalists and media ownership they work for in predicting intention and actual use of new digital technologies. The regression test examined whether individual characteristics (such as age, gender, job status, and years of experience on the job) and broadcast ownership types (state-owned, private and community FM radio stations) have statistical significant impact on the independent variables, such as journalistic role conceptions and beliefs about technology adoption. The assumption was that individual characteristics and ownership types would moderate the relationships between journalistic role conceptions and new digital technologies adoption (the independent variables) in driving broadcast journalists' intention and actual use of new digital technologies (non-interactive and interactive).

Based on these tests, findings reveal that both journalistic role conceptions and technology adoption components of the conceptual model accounted for a statistical significant amount of variances more than individual characteristic and ownership types in predicting broadcast journalists' intention and actual use of technologies. This result was significant for both non-interactive (that is, operational system hardware and software) and interactive technologies (e.g. Internet's social media, email and mobile phones) used by Nigerian radio (broadcast) journalists (see Chapter 5, Tables 5.8 to 5.11). Journalists' individual characteristics (IDC), role conceptions (RC), perceived technological attributes (PTA), and ownership types all accounted for 31 to 32 percent of the total variance which explained Nigerian broadcast journalists' adoption of non-interactive technologies and interactive technologies.

In addition to this, the research has also shown that journalistic role conceptions and technology adoption are mutually co-related. Hence, a cyclic rather than linear relationship has emerged for the new models. Nigerian radio journalists' beliefs about their normative roles (that is what roles they should do) are found to be shaped by the journalists' perceptions of

available and relevant technological innovations. Perceived technological attributes such as the technologies' utilitarian value (that is, how the technologies were perceived as being useful), perceived hedonic value (that is, how fun, or entertaining or easy-to-use the technologies were perceived) and perceived communication value (that is, how adopting the technologies were perceived to be influenced by "social forces" or significant other) emerged as primary factors motivating broadcast (radio) journalists to adopt new digital technologies in the Nigerian context. Perceptions about these technological innovations are, in turn, shown to be driven by a set of normative roles these journalists believed they perform in the course of participatory programming.

Furthermore, the research has also shown that Nigerian broadcast journalists' beliefs about adopting new digital technologies are a product of the support granted by and the agenda of their respective media organisations. And, this is further influenced by the journalists' perceptions of institutional policy and regulatory framework in place for broadcast practice in Nigeria. These findings confirm the significance of "environmental factors" of the extant models and theories of technology adoption (Venkatesh et al., 2003). Taken together, the research has shown that perceived attributes of technology (PTA), social influence (SI) and facilitating conditions (FC) (otherwise, environmental factors) – are the three primary factors of technology adoption (TA) that correlated with journalistic role conceptions (RC) to predict Nigerian broadcast (radio) journalists' intention and actual use of new digital technologies.
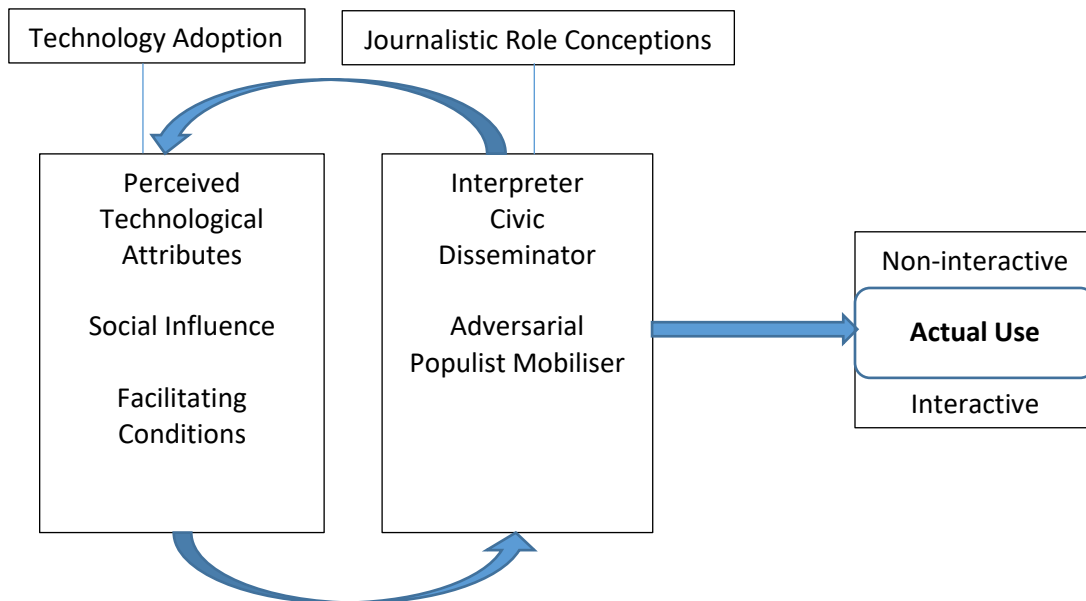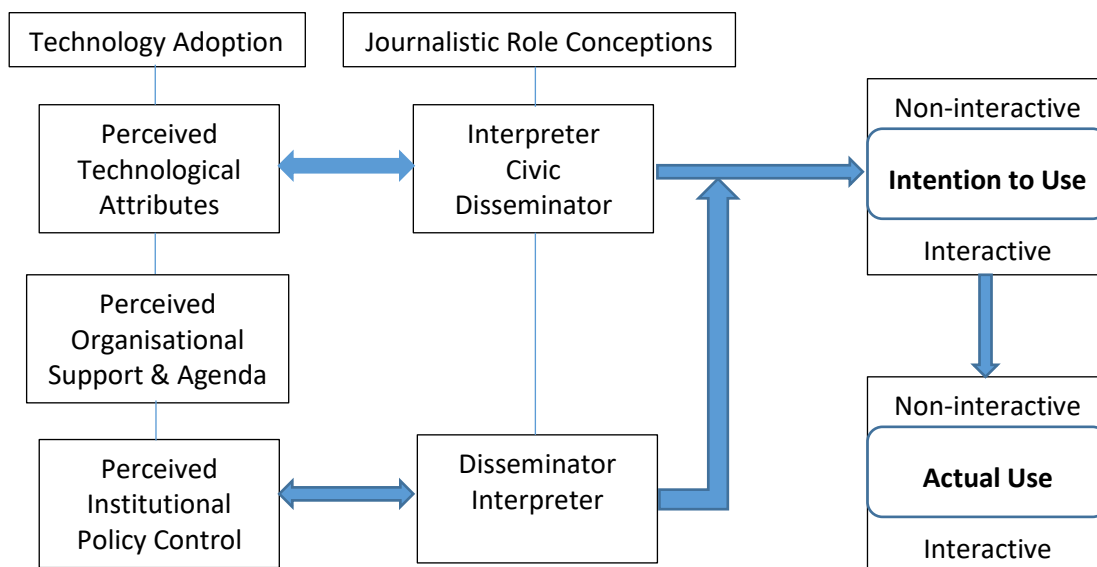
Figure 7.2: Relationships between technology adoption and journalistic role conceptions with regards to intention and actual use of non-interactive and interactive technologies in broadcast journalism

7.3 Journalistic Role Conceptions as Predictors of Intention and Actual Use of New Digital Technologies

Having empirically established that journalistic role conceptions and technology adoption in Nigerian broadcast journalism are mutually related, the study used statistical tools to examine the dynamics of this relationship. Hence, factor analyses were conducted to identify the underlying factors driving journalistic role conceptions while regression tests assisted in evaluating how the journalistic roles together with adoption variables independently and collectively predict intention and actual use of technological tools available to radio journalists in Nigeria.

The results of factor analysis confirmed existing reports in the literature about journalists identifying with multiple roles (Weaver et al., 2007). The analysis showed two journalistic roles loaded together on a 3-factor basis (see Chapter 5, Table 5.7). With this finding, the research has shown that journalistic roles in the Nigerian context also appear to coexist or conflict with one another; "not mutually exclusive and sometimes conflicting" (Tandoc & Takahasi, 2013; Hellmueller & Mellado, 2015; Mellado, 2015). A senior journalist at a public radio station in Ibadan confirmed this in his response adding that:

> I perform all the roles. I disseminate information, I educate, I use radio for social mobilisation, [and] I'm also a critic of policies. That is why I have my Twitter account, my Facebook account, I have my website, I have Soundcloud account where I can record some of my commentaries and put online. Now, I discover how

powerful technology has guided… helping me disseminate my role as journalist especially for Nigerians living outside the country.

Therefore, Nigerian broadcast journalists, like in other parts of the world with reported cases on journalistic role conceptions, may have to "choose among, balance, and combine these roles in various ways" (Hallin, 2017, p. xii). For instance, civic and populist mobiliser roles coalesced together as the factor with the highest statistical significance (32.3 percent variance). A combination of adversarial and interpretive (investigative) roles emerged as the second converged factor (with 12.4 percent variance). The informant-disseminator also tap on two items on the interpreter role construct. Together they coexisted to act as the third factor with 9.35 percent variance.

With these findings role conceptions factors in the Nigerian context deviate from that of the United States as reported in Chung, Nah and Carpenter's (2013) study. In their study of US citizen journalists, "while the interpretive function remains the strongest among the professional journalistic community, citizen journalists were more inclined to ascribe prominence to the populist mobilizer role" (p. 87). The difference in the two studies which used the same scale could be attributed to contextual differences such as the genres of journalism studied and nationality. While it is important to point to this marked difference which, according to Ngomba's (2010, p. 40), supports the claim that journalists' role conceptions are a reflection of both the societal and institutional demands, shaped by a country's media system and rooted in the history and relationship between the media, the government/state and journalists' audience. It is also expedient to state that these findings represent another proof that there is no pure archetypal role conception. "A journalist can have parts of all the ideal role types but has to a *higher degree* [emphasis as in original] a certain approach" (Melin-Higgins, 1996, p. 4).

In relation to context, this research has also supported the notion that there is a central and dominant occupational ideology of journalism that underlies journalists' professional perceptions and praxis but which is interpreted and applied differently among journalists across media genres (Deuze, 2005b; Shoemaker and Reese, 1996). While drawing from the pool of Western studies using established scale of journalistic role conceptions (Chung, Nah, and Carpenter, 2013, see also chapter 4 for detailed discussions). This research has also confirmed the assumption that African journalists tend to uphold role conceptions that are similar to the ones held by journalists in the West (Kanyegirire, 2006 cited in Ngomba, 2010, p. 44). The similarities in socio-political, economic, technological uptake in sub-Saharan Africa suggest

that not too significantly different role conceptions are inevitable. For instance, Ngomba's (2010) study of Cameroonian journalists in both the English-speaking and French-speaking parts of the country found that both interpretive and analytical roles were perceived together just as it emerged in the current research.

In addition to this, the current research also reaffirm another findings in Ngomba's study which stated that there is some level of shared experience in the extent of political interference witnessed by broadcast journalists working for state-owned broadcast media (Cameroon Radio and Television Corporation – CRTV and Cameroon Tribune). Just like in the Nigerian scenario, Ngomba (2010, p. 52) points out that "there is a kind of conflict between the state's exigencies and our [Cameroonian journalists] role as journalists." To this end, Cameroonian journalists were reported to have evolved circumventive strategies for handling "tight" editorial control, or, at best, they have learnt to refrain from performing any conflicting role, like the investigative and adversarial roles. The adversarial role aims to perform the watchdog function specifically over public officials and businesses. When journalists refrain from interpretive role, they mutate to "teacher-educator-informant" role and "reassign" the interpretive/critical analytic role to the public (Ngomba, 2010, p. 53). As pointed out by Ngomba, public media journalists "often feel loyalty to professional principles even though they have "little power to change their organisation's priorities" (McDevitt, 2003 cited in Ngomba, 2010, p.53).

Using the regression equation, five normative roles namely: disseminator, interpreter, adversarial, civic and populist mobiliser were each tested as independent variables of journalistic role conceptions (see Chapter 2). The test proved that these journalistic role conceptions altogether accounted for 16 percent of the total variance that help explained broadcast journalists' intention to use non-interactive technologies. Three distinct journalistic role conceptions emerged as predictors of intention and actual of non-interactive (NIT) and interactive technologies (INT). Thus, the exact normative roles facilitated by the non-interactive technologies (such as PCs, Word processor and editing software), are civic role, interpreter role and disseminator role. Of these roles, civic role, such as "creating an avenue for the previously unheard voices of ordinary citizens as sources in public affairs stories" appeared strongest in predicting intention to use non-interactive technologies among Nigerian radio broadcast journalists. The reason for this is not far-fetched.

For instance, central to Nigeria broadcast journalists' role conceptions and performance are concerns about the audience members. Journalists project professional identity which audience members are expected to respond to through a process of role legitimisation. Benson

(2015) discusses this concern towards audience by journalists in relation to modes of ownership power in the form of "allocative" or "operational" power (Ohlsson, 2012). Owners' allocative power manifests when media organisations sanction goals and priorities to derive from journalistic practices and to the overall level of resources available. Operational control refers to the specific implementation of policies already determined, which is likely delegated to top editors/managers. Even at this level, owners may still intervene in decision making which may directly or indirectly contravene the established policy (Chomsky, 2006). More importantly, journalists' concerns about the audience members may be traceable to a mode of ownership power described by Benson (2015) as "audience adjustment"; that is the "strategic effort to increase revenues or profits by identifying a target audience and responding to perceptions of this audience's interests or preferences" (Benson, forthcoming, p.6). Audience adjustment shares its concept with Pierre Bourdieu (1984) "homologous circuits of production and reception" but differs from Bourdiue in emphasising conscious strategic decision-making.

This research was able to use its qualitative findings to deeply interrogate how new digital technologies are adopted in the Nigerian journalism context. Majority of the interview participants claimed that final decision to use interactive technologies for participatory programming or content thereof rests on the willingness or interest of the managers: such as directors of programmes and top management staff. A senior broadcast journalist at a private radio station in Ibadan highlighted this shade of organisational instrumentalism when he stated that: "as a station, we believe [using interactive technologies] that's the way to go." New technologies, it was learnt "allows for wide audience participation without any restriction." Technologies allow a station to shore up its content in a highly competitive "mediasphere." A senior broadcaster at a state-owned radio station in Ibadan opined that, for a station to survive in a very competitive environment certainly requires upping one's "antics otherwise you are left behind and you are lost and confined in the dustbin of oblivion." In one of the interviews, a participant claimed that on-air personalities and radio journalists now use a host of interactive elements to boost the kind of programmes that they have. Whilst presenting many pre-packaged (otherwise called recorded) programmes, the participants claimed that she ensured that a lot of element – interactive element was used because "[she] believes by doing that there is an instant dialogue between the listeners as well as the presenter or the person handling the programme." With regards to new interactive communication technologies such as the Internet's social media, email and mobile phones – operationalised in the research as interactive technologies (INT), 20 percent of the total variance that help explained broadcast journalists' intention to use these interactive technologies could be attributed to journalistic role conceptions. However,

apart from civic and disseminator roles that also emerged as strong positive predictors of intention to use the interactive technologies, "adversarial role", which has to do with journalists being sceptical of business elites and public officials/politicians surfaced but as a significant negative predictor. The negative predictor outcome of adversarial role seems to be common in journalistic role conceptions studies (Hellmueller, Tandoc & Vos, 2012). This situation, has shown in the current research, suggests that radio journalists in Nigeria were less likely to view elements of the adversarial role as very important. And the reason for this can be found in the country's socio-economic and political climate.

Nigeria belongs to those parts of the world where journalists sell their services to politicians or business elites, whilst promoting their political and economic interests. In this situation, being critical of government/politicians and the business people is not what any broadcast journalists would like to do using radio. Nigeria practise quasi-liberal media system where government and friends of government in power are extremely influential. Apart from the fact that these individuals are directly and indirectly the owners of public and private broadcast stations. Politicians and business executives are also the major revenue sources of broadcast stations, either as advertisers of good and services or election campaign sponsors. One of the research participants, a senior public broadcast journalist, confirmed the situation, adding that: "…it is he who pays a piper that calls the tune… because of our peculiar socio-political environment in this part of the world… it is not easy to… you don't bite the finger that feeds you. So there is a limit to how much you [Nigerian radio journalists] can criticise those you [they] work for…" In Nigeria, any attempt at adhering to adversarial role is often misconstrued as an affront on the government and the ruling political party, punishable by fines or sanctions or both using the instrument of the state. One of the interview responses from a journalist at a private-owned FM radio stations in Ibadan provided an instance of harassment from the Federal regulatory agency (NBC). Her senior colleague who aired the station's flagship socio-political programme was summarily advised through a memo to be suspended by the regulatory agency whilst performing adversarial role. Her account provided a solid background to understand why Nigerian broadcast journalists have not (and cannot) been too keen to perform adversarial role. In her response during the interview, the journalist narrated how the NBC had stifled an attempt at performing the adversarial role:

> "NBC had come with a letter that we shouldn't air the promo [of a forthcoming political programme] and that in fact, the journalist in question should be suspended. And before we knew what was happening, there were report about the mast being erected in a residential area, about if our tax papers are correct, things that you couldn't even correlate with the

particular accusation of the regulatory body. So, sometime we have such problems with the regulatory body, but this is Nigeria at other times we also resolve through the backdoor."

And in the case of business people, adversarial role for a broadcast journalist may put a lid on a station's revenue. Some of the big corporate businesses in Nigeria do pay for a year-long advertisement, so being critical of the "heavy spenders" may spell doom for a radio station. Another dimension for interpreting the negative predictor outcome of the adversarial role can be seen in the suggestion of Jeong et al. (2008), quoting Weaver & Wilhoit (1996) that those more likely to report adhering to adversarial role were journalists at larger print organisations. This seems to be a valid conclusion when viewed against the historic role played by the Nigerian established print media brands during the last phase of the almost 30 years military rule (1985 to 1999), and more recently, during the Internet era barely two months after Nigeria returned to civil democracy in May, 1999. The News magazine had deployed the Internet, then a new tool for Nigerian journalists, to conduct investigations into a certificate forgery and perjury (age falsification) of Alhaji Ibrahim Salisu Buhari, a newly elected speaker of the House of Representatives and by law the fourth citizen of the country. Desperate attempts by his aides and other powerful politicians to stop the story in the printed edition of the magazine failed because the magazine chose to publish the story captioned "The Face of a Liar" on the Internet. The magazine also shared the news content with the AllAfrica.com (news) website with which it had a content sharing arrangement.[21] Eventually the whole world read the story. The sheer power of new media tools such as email, search engines, and file transfer protocols was demonstrated for the first time in Nigeria (Dare, 2010).

7.4   Technology Adoption Variables as Predictors of Intention and Actual Use of New Digital Technologies

Going by the conceptual framework, this research has shown that three technology adoption factors are involved in the adoption process of Nigerian broadcast journalists, these are: perceived technological attributes (PTA), social influence (SI) and facilitating conditions (FC) (Chapter 5, Table 5.4). Rather than using the three factors predictors of intention and actual use of technologies, each of the component variables of technology adoption were tested independently in a series of regression equations in order to explore their predictive power. Based on this procedure, this research has established a significant model with technology adoption variables as predictors. These technology adoption variables altogether accounted for

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[21] All Africa.Com, Nigeria-The Buharigate Special. https://allafrica.com/stories/199908090170.html

8 percent of the total amount of variance which help explained broadcast journalists' intention to use non-interactive technologies (such as PCs and software). Technology adoption variables equally contributed 10 percent to the total amount of variance that explained broadcast journalists' intention to use interactive technologies (such as social media and mobile phones). In addition, technology adoption variables accounted for 9.8 percent of the total variance that predicted actual use of non-interactive and 8 percent of the total variance that predicted actual use of interactive technologies.

Of the five independent variables tested under technology adoption construct, perceived communication value (PCV) emerged as a strong positive predictor of intention to use non-interactive and interactive technologies (Tables 5.8 & 5.9). In the conceptual model, perceived communication value was operationally constructed to cover aspect of social influence (or subjective norm construct of previous theories and models of technology adoption). It builds on the idea that "a person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Fishbein & Arjen, 1975). Since communication-oriented technologies (such as the Internet and mobile phones) in the vanguard of broadcast journalism in Nigeria are used to facilitate communication, cooperation and collaboration among group of users in and outside newsrooms, the assumption was that there will be some degree of reliance on a network of other users to motivate broadcast journalists' intentions and actual technology use behaviours. Hence, irrespective of its utilitarian or hedonic value broadcast journalists' social group may exert overt influence on usage of new digital technologies. Emergence of perceived communication value as a strong positive predictor has validated this assumption. Findings further reveal that intention to use non-interactive technologies by Nigerian radio journalists is traceable to certain external pressures which may include radio journalists' and their stations' need to calve a niche for their brand in a highly competitive broadcast space. While this points to a market-driven motivation, it may not be unconnected with the need to be seen as trendy by audience members. This likely informs Nigerian broadcast organisations' rat race towards technology assisted programming and social media streaming. Motivation for interactive technologies use in radio programming appeared to be driven more by a need for relevance in a highly competitive environment and less for professional value-creation.

Communication-oriented technologies, though they are mostly acquired by broadcasts journalists as privately owned devices, they are often deployed in work settings (such as broadcast newsrooms and studios) where their utilitarian value is recognised. This research has shown that perceived communication value coexist with perceived utilitarian and hedonic

values of new digital technologies to drive new digital technologies use among Nigerian radio journalists. The perception that new digital technologies will enhance different aspects of radio production, the demonstration of this capability by early adopters in the profession, and the perceived ease with which the technologies can be deployed on- and off-air all contributed significantly as a factor influencing Nigerian broadcast journalists' intention to adopt new media technologies. Prior innovation diffusion research has demonstrated that communication and social influence from prior adopters are primary drivers of new innovation adoption among late adopters (Sun & Bhattacherjee, 2014). Communication from prior adopters help persuade potential users of the utilitarian value of a communication-oriented technology, thereby influencing their technology usage intention via perceived usefulness beliefs. Social influence help later adopters identify with their social group, even if they are not convinced of the instrumentality of the technology. These statements have been confirmed with the emergence of perceived communication value as a predictor of intention and actual use of new digital technologies in the Nigerian broadcast journalism context.

Zhou (2008) explores social influence dimension in her study of the Chinese journalists' adoption of the Internet. The argument was that various institutional norms will influence journalists' intention to adopt the Internet along Kelman's (1958) tripartite processes of compliance, internalisation and identification (see also Spyridou, et al., 2013). Findings from this study also support Zhou's. Just like professional journalists in China, Nigerian broadcast journalists are motivated to adopt interactive technologies following processes of social compliance and identification. Identification process is established in broadcast journalists' perceptions that interactive technologies could be used to build and maintain a satisfying self-defining relationship with their co-journalists within the same newsroom. More so, there is the "bandwagon effect" tonality in some of the interview responses which suggest that broadcast journalists are motivated to adopt technologies on account of not wanting to be "left behind… lost and confined in the dustbin of oblivion" in the race toward interactivity and participatory programming. This submission underscores the labour intensive angle to technology adoption suggesting that the race towards increased interactivity and/or participatory programming and community building is also as market-driven as it is for professional value creation. The professional value creation is however mitigated by host of environmental factors which have been identified in this research.

Perceived communication value as a theme provided the basis for understanding the utilitarian value of new digital technologies. Perceived communication value also sheds light on the social influence and interactivity dimension of new digital technologies adoption in radio

production. Prominent utilitarian value identified in the qualitative research include newsgathering and sourcing practice. This value touches on three vital areas of broadcast production: (1) speed of production, (2) ease of production and (3) cost effectiveness of production. Perceived communication value, on the other hand, further indicates the significance of communication-oriented technologies in facilitating two types of interactivity that are consequent on social influence. These are: (1) journalist-to-audience interactivity and (2) journalist-to-source/(expert) interactivity. These are discussed in turn.

7.4.1 Perceived Utilitarian Value – For the Sake of Speed, Ease and Cost-Effective Radio Production

The Internet and mobile phones technologies are central to the realisation of the utilitarian value of new digital technologies in Nigerian broadcast journalism. Web activities such as browsing the search engines for quick "word meaning" in order to effect translation and proper pronouncement of words were mentioned in the interview data as instances of how new digital technologies are enhancing radio production among Nigerian broadcast journalists. In terms of news production, the general belief is that new digital technologies have made things easier. According to a senior broadcast journalist at a public radio station in Abeokuta, "the news [production] is so simple now, you can easily get your stories within a second from [the] US, London, in every part of the country through the use of this ICTs." Unlike before when broadcast journalists in the field relied on fixed telephone to transmit their stories to newsrooms, the journalist said, "you can have stories sent down from the source down to the office [newsroom]" even bypassing the journalists. And there is no need for maintaining a pool of correspondents in nearly all the major cities like before. With the help of technology, radio journalists "get whatever we [they] want to get within minutes." "There is no need for multiple reporters equipped with all the gadgets, what the station now do is to link up with other stations and share resources." In this way, new digital technologies have assisted Nigerian broadcast stations to reduce the cost of production and the number of reports that come into the newsroom. Only correspondents attached to the government are left as beat reporters. One may wonder if this drastic reduction in staffing has added to the level of unemployment in the country and journalism sector. However, it is believed that some of these journalists have found new roles in many media outlets that emerged as a result of the deregulation of broadcasting. Several others have also latched successfully on opportunities thrown open by the new ICTs in order to develop their private businesses.

Apart from this, browsing the social network sites for new story ideas and for other perspectives on developing stories were also mentioned in the interview data as common approaches to newsgathering and sourcing practices which have aided radio production in Nigeria. In their interview responses, some radio journalists claimed they adopt social media, for instance, to find eye-witnesses for actuality pertaining to human interest stories. However, given that Nigerian media is directly linked to strong elite ethno-regional exclusionist politics (Ikiebe, 2017) and a tendency to rely on a concentrated group of empowered elite voices when gathering information (Berkowitz & Beach, 1993) rather than invest time in approaching a diversity of individuals or materials. The political class regarded the press as partners in progress. The tendency for such cordial relationships to compromise certain journalistic roles (e.g. watchdog, investigative and adversarial) has always been espoused (Ikiebe, 2017). This research explored this perspective a bit further by critically analysing themes in the interview participants' responses to questions about using new digital technologies for newsgathering and sourcing.

With the proliferation of newer ICTs, there is certain optimism in the capacity of these technologies to democratise traditional media space for multi-perspectival news and sourcing (Gans, 2011). Some interview participants did mention increased participation from and representation of some previously marginalised social groups in radio programming. They agreed that social media and mobile phones have revolutionised their approach to newsgathering and the shades of opinion on their interactive programmes have been diversified to include unknown voices. Unlike before when the few elite callers to phone-in programmes were known. But what is considered a revolution has come with fresh challenges which suggest that the revolution is but a hype. For instance, in the interview data, the "revolution" was mostly attributed to the proliferation of mobile phones with its two channels and availability of the Internet technology which can be accessed via the mobile phones. Although, Internet and social media have found increased use among broadcast journalists in Nigeria. However, accessing quality Internet connectivity over the mobile phones is still rife with socioeconomic and technical challenges. Not many journalists can afford the costly monthly Internet subscription. Those who can mentioned the frustration behind using Internet to connect sources during live programmes. Voice calls remain the ideal approach to interactive programming on radio. With the audio format, it is expected that phone calls would not place too much literacy demands on the audience. But with the preference for mobile phone SMS and social media text messages, Nigerian radio audience are further digitally divided and fragmentised to make any democratised contributions on broadcast airwaves. English language had been the language of business and instruction in Nigeria for more than a century. As such, its speakers are inexorably

tied to Western education and literacy including the ability to write (or text). However, only about 25 percent of Nigerians fall into the Western education (English) literacy category. As such as bout 75 percent of Nigerians are potentially isolated from the SMS culture on radio. Given these findings, the research has shown that perceived ease of use (or performance expectancy) complements perceived utilitarian value to truly establish the significance of these constructs in predicting intention and actual use of new digital technologies in the Nigerian broadcast media context. The effect of perceived hedonic value is suppressed by perceived utilitarian and perceived communication value. Nigerian broadcast journalists' technology adoption is, therefore, a product of their beliefs about the communication attributes of new digital technologies. Beliefs about the technologies usefulness for newsgathering and sourcing are driven by the share experience of successful adoption in the industry. The next section discusses perceived communication value in relation to interactivity and the influence of journalists' social group on new digital technologies adoption beyond newsgathering and sourcing practices.

7.4.2 Perceived Communication Value – Interactivity and the Influence of "Other" in New Digital Technologies Adoption

Perceived communication value buttresses the significance of interactive communication technologies in facilitating two types of interactivity: (1) journalist-to-audience interactivity and (2) journalist-to-source/(expert) interactivity. In the case of journalist-to-audience, interactive technologies hold the possibility of serving as "back channel" and for "maintaining social contacts" within and outside the newsrooms. Within newsroom adoption of technologies, Nigerian broadcast journalists claimed they engage interactive technologies in order to communicate with junior colleagues, senior colleagues or management staff (in the case of state-owned stations). The concept being communicated by "within newsroom" classification does not necessarily mean the use of these new technological tools is restricted to the four walls of the newsrooms. It however covers interactions between journalists in the field and their editors in the newsrooms or vice versa.

Apart from this collaborative use, interactive communication technologies are deployed in order to maintain social contact completely "outside the newsroom." This technology adoption behaviour goes beyond the context of participatory journalism and audience interaction. It is an indication of appropriation rather than adoption behaviour in which Nigerian broadcast journalists deploy new interactive technologies to keep track of online contacts who can reach out to them for social event management or as masters of ceremony, in

what can be described as a new approach to moonlighting. While moonlighting as MCs (masters of ceremony) is peculiar among Nigerian broadcast journalists, using new digital technologies have been found to enhance this behaviour. Nigerian broadcast journalists have, therefore, become digitally versatile in moonlighting.

"Digital versatile moonlighting" occurs when broadcast journalists engage interactive technologies such as social media and mobile phones persistently in order to project their professional identity for other role performances beyond the newsroom or broadcasting in general. Nigerian broadcast journalists give out their private social media handles together with the stations' during programme presentation. While the action appears as if it is to invite or attract audience contribution, the intent is that audience members who are willing to engage outside the frame of the programme can also reach out to the presenter for whatever reasons including business proposals. One of the interview participants who worked for a private radio station provided an insight into this new form of moonlighting. To him, the job of a broadcaster is only 5-7 percent on radio or TV. The larger part of the job, according to him, is "the show outside the show." "So, I can tell you personally, I have been able to achieve a huge conversation outside, converting fans into customers and that has actually jacked up my level of income. So if I don't have access to social media, I may just be on a pay roll and that's it. But having the advantage of social media gives you another stream of income, directly or indirectly."

Unlike before when audience feedback was limited to letter to the editor or the occasional use of fixed telephone lines, communication-oriented technologies such as Internet's social media, email and mobile phones have created additional means through which broadcast audience can evaluate, gauge, analyse and size up their audience's cognition. At the same time, new interactive technologies have empowered audience members too, and in turn, they have become evaluators of broadcast journalists' performance. With interactivity, audience members can now evaluate the performance of broadcast journalists, their programmes as well as the relevance of their media organisations as public enterprise. According to a broadcast journalists at state-owned radio station in Abeokuta,

> Now, IT has helped a lot in getting the voice of the audience heard, because without the audience, sorry we are nowhere. First, how well am I doing, you need people to, in a way, criticise you to make sure… because you must give the audience what they want, not what *you* [interviewee's verbal emphasis] think the audience want. We make that mistake many times, we think we want to give the audience what they want, instead of what do the audience want to hear. Are you meeting their needs, are you satisfying that goal for which you [the station] are set up: you want

to educate them, you want to inform them, and what do they want to hear? Now in the interaction, people tell me what they feel about my programme.

This particular finding confirms a recent research on how radio stations in Lagos, Nigeria deployed interactive communication technologies. Alabi (2014) reports that text messages are used across multiple platforms by broadcast stations as audience feedback channels. He finds that television stations more than radio and public more than private stations use feedbacks interactive communication technologies (e.g. mobile phone voice and SMS, social media, and email) to improve broadcast programming. His study however fails to account for how external or environmental forces contributed to the disparity between state-owned and private broadcast stations' deployment of new technologies-assisted feedback system. Findings in this research has revealed that state-owned broadcast stations focus more on text-based interactivity due to managerial pressure. As such, there is more pressure on state-owned broadcast journalists/stations in order to safeguard government and sponsors from public embarrassments that usually come with live phone call interactive programmes. State-owned broadcast station managers, therefore, consider text-based interactivity as a more manageable approach given their affordances such as recordability and opportunity for message screening before they are read out.

The prevalence of text-based interactivity for feedback was acknowledged by a number of interview research participants. For instance, according to a campus-based radio station manager in Ibadan, social media complement the radio as communication-oriented technologies. He said:

> If you talk about social media, you are talking about Whatsapp, you are talking about Facebook, you are talking about Instagram, talking about We-chat, etc. They all have one thing in common: communication, either through visual, either through audio, either through pictures, they are communicating something out.

In relation to how these interactive technologies are deployed in radio broadcasting, the senior broadcast journalist claimed that radio stations used social media devices to attract or invite more listeners to their stations and onto a live programme for more participation. "So when presenters are on a programme they invite listeners – you can reach us on Twitter, you can reach us on Instagram, you can reach us on social media, you can also reach us on Facebook to contribute on the programme that is ongoing."

The immediacy of audience engagement has empowered Nigeria broadcast journalists to gain access into the cognitive base of audience members and assess them in order to change

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stereotype or certain preconceived notion while the programme is ongoing. On-air and online audience interactions therefore serve as a veritable tool for audience analysis; a kaleidoscope for evaluating the cognitive potential of the listening audience. Nigerian broadcasters claimed they use communication-oriented technologies to analyse audience interactions in order to reposition the theme of their programmes or adjust the presentation style of programme presenters or programme format. Likewise, Nigerian broadcasters claimed they engage new digital technologies in order to observe multiple perspectives through which a given topic could be understood by them.

Apart from the aforementioned findings, Nigerian broadcast journalists also revealed that new digital technologies have added to their power as change agents especially in their surveillance role. With news stories now being promoted on social media and gaining traction among a new breed of cyber-based audience, government and their agencies are spurred to respond and act on public affair issues in almost an unprecedented rate. With Nigeria having one of the Africa's largest Internet and social media subscriber base, the confluence of broadcasters and this new breed of online but off-air audience has relatively become a force of change. Accounts of how government and their agencies have been "forced" to act during emergencies and in order to arrest urban menaces were presented as evidence change agent and surveillance role in some of the interview responses.

Rather than all positive, findings also point to some negative aspects of audience-journalists interactions. There were accounts of online audience hostility towards broadcasters or broadcast stations. According to one of the interviewees, "audiences are able to interact with the stations means that they can influence our actions more than ever before." Some broadcast journalists however stated that they are open to corrections from the audience, and are willing to relinquish their omniscient position. According to one of the interview participants, "journalists are expected to know something about anything and anything about something." But this all-knowing position has since changed with increased interactivity and audience empowerment facilitated by the use of new media technologies.

Aside these, new technologies have also provided platforms for Nigerian radio journalists to reach and know their heterogeneous audience. Social media, as described by one of the interview participants, is more like an interface, which allows interaction to continue outside listening to radio. Such interactions however include those who listen to radio online but not on-air in the traditional sense. A campus-based radio station manager added that:

So there is an interface and one thing about that is that with the radio you have you can tell who is not listening or who just got a signal that you are discussing an issue

on radio and he's not listen to radio. But from what you are sending through the Twitter he can reply you and still contribute even without listening to radio.

Social media therefore facilitate radio content distribution beyond the airwaves. Interactivity through the Internet's social media ensures that audience interactions are sustained beyond the allotted airtime and local geographic boundaries of terrestrial radio. How this recent technological affordance is reinvigorating traditional normative roles of Nigerian broadcast journalists will be discussed in the next section.

7.5   The Agenda-Setting and Gatekeeping Roles: Old Wines in New Bottles

These two normative roles were also frequently articulated by Nigerian broadcast journalists as reflected in the thematic analyses of the interview data. Findings show that broadcast journalists maintain their traditional role-play just as they have learnt to shift ground to the changing model of broadcasting as a result of increased interactivity. Hence, there is both contestation and reinforcement of traditional media roles such as the agenda-setting and gate-keeping roles. The qualitative findings indicate clear evidence of creative approaches that underscored how new digital technologies reinforce the performance of these roles. While some of the interviewees believed that journalists' power to set agenda is irrevocably theirs, others believed that this role as well as the power to break news has been taken over by the multitude of people on Internet's social media. A cross section of broadcast journalists believes the agenda-setting should be contested claiming that a reporter is expected to set agenda for the public; "they are not the one to set agenda for us. We are supposed to be the one to set agenda." However, some broadcast journalists also believed that what is leaf to practice is no more setting the agenda but enhancing it. Audience members, citizen journalism and independent online news media are the new breed of agenda setters. In relation to new digital technologies, one of the interviewees said:

> So what the technological platform has done is to put a lot of resources before the news man. So what you need to do is to go there and grab them, craft them into news, craft them into programmes, use them not to set agenda any more, but to enhance the agenda because somehow I feel the citizens, to a very large extent, now are setting the agenda.

Recently, the term "social media influencers" has evolved to describe individuals with considerable number of followers on their social network platforms such as Twitter and Facebook. These new breed of agenda-setters are often times involved in news break and

campaigns using blogs, Twitter and Facebook. They have also challenged the business model of legacy media through advertising revenue. Hence, agenda-setting is being contested and reconstructed: while legacy media seem now to be agenda enhancer, the Net people and independent online news media are taking over the agenda setting role. Nigerian radio audience are no more passive listeners, they now wield considerable power to influence what broadcast journalists do through social media. What is now left is for broadcast journalists to key into the pattern of information flow on social media and re-establish their role as credible sources of information by providing alternative perspectives to news or deploy resources for insightful interpretive analysis of news.

7.6   Gatekeeping and Gate-watching in the Context of Broadcast Journalism in Nigeria

Another normative role worth discussing from the findings is the gate-keeping role. It is important to discuss how this in relation to the concept of "gate-watching" as formulated by Bruns (2003, 2005). According to Bruns, gate-watching involves the observation of the "output gates" (Bruns, 2005, p. 17) of news sources with the intention of identify(ing) important material as it becomes available. Gate-watching thus becomes an antidote to the traditional journalism practice of gatekeeping, which according to Bruns represents a "regime of control over what content is allowed to emerge from the production process of news media" (Bruns, 2005, p. 11).

Findings reveal that Nigerian broadcast journalists practice gate-watching as much as they do gatekeeping even in the digital era. It is clear from the interviewees' responses that Nigerian broadcast journalists are equally under the influence of new media technologies and the avalanche of newsworthy information on the Web (Keshvani and Tickle, 2001). "Disintermediation" has been used in the literature to explicate the continuous flow of information on the Internet due to the involvement of ordinary citizens with the new technologies of self-web publishing (Kovach and Rosenstiek, 1999, p. 6-8). The qualitative findings in this study support Bruns' (2003) studies with interviewees' accounts of how Nigerian broadcast journalists have creatively learnt to practise the gatekeeper role even with the incessant flow of newsworthy information online. Practices such as selective surfing of social media accounts of prominent individuals, following public office-holders on social media, tweet reading for discrepancies in public office-holders' utterances, chosen sources among many other sources, and for setting up an interview meeting were reported as practices that underscores gate-watching rather than gatekeeping.

Social media provides the alternative to press releases. Broadcast journalists can know what is going on with politicians for instance, judge their perceptions and get information about certain issues with relative ease and resources. The situation however becomes worrisome when the "newsworthy" information is from unrecognised sources – probably ordinary citizens using fake blogs or Facebook posts. In this way, one of the interviewed broadcast journalists claimed that "problem arises when you take it [contributor's message] out and you now read it out." To avoid embarrassment and unethical broadcasting, broadcast journalists result to message vetting and deletion. Deletion happens when unsubstantiated comments are made pertaining to an individual but without a substantive proof of wrongdoing. To avoid libel or sedition, the messages would have to be removed from whatever the platform the station or journalist is using. Participatory programmes however bring different encounters of how broadcasters in Nigeria employ linguistic strategy to gate-keep comments laced with insults. During this encounter, as stated by one of the interviewees, gatekeeping may require using one or two other members of staff to screen and peruse messages before airing them and using sarcasm whilst reading them out on-air.

While these two aforementioned concepts find relevance with text-based user-generated contents, it has become quite difficult for broadcast journalists to gate-keep audience's voice during phoning-in programmes. Some radio journalists, mostly the ones with private/commercial radio stations did claim they leverage on the affordance of call management system to perfect their gate-keeping of phone-in programmes. As mentioned in the interview, "there is the technical way perfecting the screening so that only the 'tested and trusted' contributors are allowed participation." Public broadcasting station would rather refrain from airing live participatory programme that may end up embarrassing their sponsors and patrons or result to monetary sanctions to the tune of N200, 000 (two hundred thousand naira; apprx. £450.00). With the private radio stations, some of their lacklustre interactive sections often fall short of broadcasting standard in terms of quality of programme content and delivery. What do we call a participatory programming asking audience to call-in to establish "who's the greatest between Messi and Ronaldo." State-owned public broadcast stations, in their gate-keeping approach, have learnt to spell out "rules of engagement" to make audience member comply with broadcasting ethics, knowing "people can be unruly" in their phone calls. As indicated in the findings, "we would have given guidelines: don't abuse anybody, no name calling, there are programmes we handle like that." But if the rule is flouted "we know how to caution or cut off the individual." Among public broadcasting stations, controversial subjects that cannot be pre-recorded are usually text-based interactive programmes where audience

could have been prompted, well ahead of the airing time, to leave or send comments on the topic of discussion. Gatekeeping could then be applied to select the most newsworthy of audience contributions. These activities equally negate the Gansian concept of multiperspectival news and that of mass media democratisation fully discussed (see chapter 4 of this thesis), with regard to technology literacy and skillsets in the Nigerian broadcast journalists' adoption of new media technologies.

7.7 Facilitating Conditions: Organisational and Institutional Forces as Predictors of Intention and Actual Use of New Digital Technologies

The research has also shown that facilitating conditions appeared as a factor and predictor of broadcast journalists' intention and actual use of new digital technologies. As earlier mentioned, this construct was used to investigate the relationships between perceived organisational support and agenda as well as perceived institutional policy control and actual technology use behaviour. In the literature on technology adoption, facilitating conditions are defined as the degree to which an individual believes that an organisational and technical infrastructure exists to support (or mitigate) use of the system. This construct was first introduced by Thompson et al. (1991) in the model of PC utilisation (MPCU) where it was eventually adapted by Venkatesh et al. (2003) into the unified theory of acceptance and use of technology (UTAUT). The construct also captures the significance of perceived behavioural control (Ajzen 1991; Mathieson, 1991; Taylor & Todd, 1995) and Rogers (1995) compatibility construct of the diffusion of innovation theory (DIT). In line with Venkatesh et al. (2003) suggestion, facilitating conditions was included in the conceptual model to cater for aspects of the technological and/or organisational environment that are designed to remove barriers to new technology use in broadcast journalism. Specifically, the technology adoption construct was operationally constructed to address issues relating to support infrastructure and in-house agenda in relation to broadcast journalists' new technology use in the context of radio broadcasting. Facilitating conditions was therefore conceptualised as a two-sided coin with enabling and inhibiting points of view. According to Venkatesh et al. (2003, p. 453), facilitating conditions "are largely captured within the effort expectancy which taps on the ease with which that tool can be applied." But since effort expectancy is not present in our model, just like in the theory of planned behaviour and since adoption is generally voluntary in the context being studied (work-related). The working assumption was that facilitating conditions would become predictive of intention and actual use of new digital technologies. The current research has proved this assumption to be valid in the Nigerian broadcast media context.

The empirical evidence presented in Table 5.4 and Tables 5.8 – 5.11 clearly confirm and establish facilitating conditions as a positive predictor of intention and actual use of new digital technologies in Nigerian broadcast journalism. The implication of this is that Nigerian broadcast journalists believed, to a greater extent, that their intention and actual use of new digital technologies are dependent on organisational and technical support that exist in or made available by their respective media organisations. Accessing new digital technologies for participatory programming is, therefore, consequent on the stations support and the corresponding agenda driving the use of technology in the stations. Findings reveal that organisational agenda such as attracting sponsors and increasing stations' rating for advertisers were identified as prominent motivators. Although, the first set of regression equations failed to yield these constructs (POSA and PIPC) as predictors of intention to use non-interactive technologies. Only perceived institutional policy control emerged, although marginally, as a positive predictor of actual use of non-interactive (Table 5.10). While the outcome may have resulted from the pressure on broadcast stations by the NBC in preparation for digitalisation, the finding also lend credence to the assumption that new technology adoption in journalism, rather than being value driven, is shaped by organisational interests and possibly market-driven.

In addition to the above outcome, the research has also shown that Nigerian broadcast journalists, showed preference for institutional regulation of new interactive technologies deployed in the context of participatory programming. Research participants believed having a new regulatory framework is essential "in order to put journalism back on the right track." Nearly all the interview participants acknowledged the double-edged sword narrative surrounding new technology use in journalism. On the one hand, Nigerian broadcast journalists believed new technologies have done very well in "boosting information gathering and access to information." They however queried the quality of information readily accessible through these technologies especially on social media. New technologies have exposed broadcast journalists to criticism from the audience. A senior broadcaster at a state-owned broadcasting corporation in Ibadan spoke on the negative aspect of technology adoption adding that broadcasters now must do a very extensive and painstaking verification of their sources of information before they can take it to the public domain so that at the end of the day you will not goof, which might necessitate a retraction – a thousand of which cannot measure up to the first and actual story because it is a form of medicine after death. The broadcaster also recognised the low standard of programming, a situation which he believed stemmed from

hasty use of online content and unprofessionalism in the approach of some broadcast journalists when handling news stories that are trending on social media. According to him,

> Almost everybody wants to be on that platform without crosschecking the credibility of their story, the source of their story and what have you. Times without number, we have had a situation whereby sooner than later retractions would be coming up. Then the quality of content being dished out or disseminated is becoming very watery, because a lot of those who exploit those platforms are either sub-professional, quasi-professional or absolutely non-professional who are not trained and as such not equipped with the ethics of the profession.

In September 2008, Channels Television, Nigeria's foremost private television station, was spoofed through the email which emanated from national news agency. The TV station had erroneously aired the news bearing the resignation of President Umar Yar'adua who was then receiving treatment in an overseas hospital. The broadcast station was swiftly penalised and its license temporarily revoked, an action which was believed to be politically motivated.[22] Nearly all research interview participants in the service of state-owned broadcasting corporations mentioned covert political interference through administrative sanctions and the NBC in relation to new digital technologies use in the context of interactive programming. In order not to offend their sponsors, identified by one of the broadcast journalists as the "power-that-be", broadcast journalists consciously refrain from performing both investigative and adversarial role and would rather not be critical or sceptical of public officials and advertisers/chief executives. Top management staff of public broadcast stations also reported consciously discouraging live phoning-in programmes on sensitive or controversial subjects especially during elections. As a strategy, public radio stations covertly promote text-based audience contributions over audio-based phone-in programmes. This is to avoid embarrassing moments where a contributor could hijack the airwaves during a phone-in session in order to score major political points against the stations' patrons and sponsors. While this aptly described the situation with the state-owned broadcast stations, new digital technologies have also taken the script away from most private radio stations in Nigerian. According to an interviewee at a private radio station in Ibadan, he said:

> I can tell you. An average broadcaster does not have a clue of what he wants to do until he gets on the mic. And so he does something we call ad libbing for the first 5 minutes then goes on social media, "what is trending … what is trending," then look

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[22] 18 September 2008, Nigeria: NBC Suspends Channels TV License, https://allafrica.com/stories/200809180026.html

17 September 2008, The Drama Behind Closure of Channels Television, http://saharareporters.com/2008/09/17/drama-behind-closure-channels-television

for stuffs and then he twists everything… Few years ago, the ethic of broadcasting demands that you painstakingly gather information and the information you gathered would be scrutinised by the authorities that are in charge. So, as such, if there's anything contrary to the originality, then there's problem. We don't even see script right now [laughs], the funny thing is I don't remember the last time I saw a prepared script. You ad lib, so what you do most times is speaking at your own discretion really.

Given this finding, new digital technologies have led to the emergence of "Net freaks" that is journalists who deploy and depend solely on mobile phones and Internet for everything journalism. This brings to mind how the Internet has led to the promotion of a culture of laziness and emergence of "copy-and-paste", "armchair journalist/journalism" in some part of Africa (Mabweazara, 2010, p. 171). In the Nigerian context, broadcast journalists agreed in their responses that relying on new interactive technologies, such as social media, could lead to reduction in the quality of programming. One of the interview participants stated that, "what you see on social media most times is just a replication, a duplication or a watered down exaggerated version of an original story. One broadcaster simply sees one of the research someone may have done and the next thing you see everybody just making adaptation of that."

Based on the quantitative results, there seems to be a consensus among Nigerian broadcast journalists about the role of state agencies (such as NBC) in checking broadcast journalists' excessive use of interactive technology for audience engagement. Both perceived institutional policy control and perceived organisational support and agenda surfaced in the regression equation (Table 5.11) as significant predictors of actual use of interactive technologies. With the quantitative data, the research has shown that facilitating conditions is underscored by (1) the extent of support enjoyed by broadcast (radio) journalists from their media organisation, (2) the technicalities involved in deploying new digital technologies together with the skill-set and training, and (3) the enabling environment created by government through policy and state control including political interference in broadcasting.
In the first instance, the support enjoyed by broadcast journalists from their organisations is marginal and relative to the type of broadcast station ownership. Nearly all the interview participants believed adoption of new digital technologies rests on the support and the enabling environment made available by media organisations. The general condition of service goes a long way in facilitating adoption of new digital technologies in broadcast media. It also underscores journalists' normative role performance, since idea about what role to play is driven by attributes of the available technologies. Three aspects emerged in the study as

dominant perspectives from which enabling environment is interpreted by Nigerian broadcast journalists. The first is the poor funding and infrastructural decay in these broadcast stations. Nigerian broadcast journalists are poorly paid and this situation affects access to technology as much as journalistic role performance. Poorly paid journalists cannot perform the watchdog role. They would rather evolve another role as "public relation journalists" and paid agents of the political class. Nigerian broadcast journalists operate from inadmissible office spaces with resources mostly shared.

Apart from poor condition of service, Nigerian broadcast journalists across ownership types also lamented over-commercialisation of air-time which left them with little or no time to engage productively on participatory or interactive programming. Excessive advertisement, it was reported, hold the tendency to reduce the quality of interesting programming. As reported in the interview data, too many commercial breaks in the course of participatory programming leave radio journalists with no quality time to open the phone lines or read out as much text messages as they wish across multiple platforms. And lastly is the issue of political interference which, as earlier stated, emerged as being tied to ownership and revenue generation.

In terms of access to new technologies, private radio stations are better placed compared to state-owned radio stations. Private radio stations have access to and deploy new technologies more than the poorly funded public/state-owned radio stations. Broadcast journalists at private radio stations considered themselves as "fortunate" because the support to deploy technologies is greater for them than their counterparts who work for state-owned broadcast stations, who thought of themselves as "deprived." Moving out of the deprived zone would mean that journalists at state-owned broadcast stations are ready to provide the unavailable technologies by themselves. In Nigeria, most broadcast journalists equip themselves with the digital tools of the trade. The situation is even worse among broadcast journalists who work for state-owned broadcast stations. "Some of these things [technologies] that we use, according to a journalist at a state-owned radio station, are from us. It's not from the organisation. Because of our job and the passion we have, we just have to get the technological tools by ourselves."

The research looked beyond the immediate organisational and institutional forces bearing on broadcast journalists' adoption of technologies. The study assumed that socioeconomic and political situation in Nigeria, like in many other developing countries of Africa, would undermine new digital technologies adoption in organisational settings. Findings have shown this to be valid. Technical factor, such as glitches, bad Internet connectivity and poor call quality were found to be sources of frustration for Nigerian broadcast journalists. Technical glitches associated with standard of available technological infrastructure have been

found to inhibit role performance. Quality participatory programming is a function of access to perfectly working telecommunication infrastructure. Instances of such technical frustration were cited in the interview data in order to establish this dimension of contextually relevant challenges under facilitating conditions. One of the interview participants lamented, "Sometimes when you use Skype, if the network is poor you will hate yourself." To avoid embarrassment, broadcast journalists have learnt to deploy multiple platforms and combining text-based interactive devices and platforms with phoning-in. While this seems to be popular among private broadcast stations, public broadcast stations like the FRCN/Radio Nigeria have learnt to limit their programming to pre-packaged format only. This comes with no embarrassment and consequences from top management staff or government.

7.8 Individual Characteristics and Ownership Types as Predictors of Intention and Actual Use of New Digital Technologies

As earlier stated in Chapter 3, it is unclear in journalism research as to who is pioneering new media use in newsrooms between the young and old journalists. This makes it difficult to categorically establish how adoption takes place in newsrooms considering the perception that older journalists are high ranking staffers with more resources at their disposal in a typical news organisation and whether this is so across national contexts is relatively unknown. While age is beyond organisational influence, job status are within an organisational realm of influence and both age and job status have been found not to correlate. Two other important individual characteristics that are often theorised into technology adoption research are gender and job related experience. Previous research has pointed to the dominance and task-accomplishment of males in technology related tasks; that men tend to be highly task-oriented (Minton & Schnider, 1980). Similar to gender, age is also theorised to play a moderating role. Younger workers may place more importance on extrinsic rewards as a result of technology use (Morris & Venkatesh, 2000; Venkatesh & Morris, 2000). These assumptions were incorporated into the conceptual model and were explored using the data. Therefore, in its contribution to knowledge in this direction, the research examined the moderating effect of individual characteristics such as gender, age, job experience (that is length of years in service) and job status on broadcast journalists' intention and actual use of new digital technologies. It also investigated the moderating effect of broadcast station ownership types on intention and actual use of technologies, as this will assist in understanding forms of media ownership and their modes of power in relation to technology use in broadcast journalism.

Findings reveal that individual characteristics did not emerge as a statistically significant moderator of broadcast journalists' intention and actual use of new digital technologies. But certain unique moderating effects emerged. For instance, while gender remained a potential negative predictor moderating the effect of technology adoption but not journalistic role conceptions, it did not surface as a statistically significant predictor of intention and actual use of interactive technologies. The research has found no statistically significant relationship between men and women in broadcast (radio) journalism in relation to their willingness to adopt new digital technologies in the context of participatory programming. The negative predictor outcome (Table 6.8) is an indication that Nigerian male broadcast journalists tend to be technologically savvy compared to their female counterparts. And this situation speaks more to the situation in public broadcast stations than private/commercial broadcast stations. Age did not emerge as a significant moderator. However, job experience (that is, the number of years spent on the job) emerged as a moderating variable pointing to the effect of technology adoption and strengthening the effect of broadcast station ownership types on technology adoption. Perceived institutional policy control (PIPC) and perceived organisational support and agenda (POSA) both received the moderating effect of job experience to predict intention and actual use of interactive technologies (Table 6.11).

Although, broadcast journalists in state-owned rather than private-owned organisations considered experience to be significant in the context of interactive technologies use. Independently, ownership types, whether state-owned, private or community radio stations, though with marginal statistical effect, did not account for a significant variance which could help predict broadcast journalists' intention to use non-interactive technologies. Given this finding, adopting non-interactive technologies could be said to have little or nothing to do with the ownership types or broadcast journalists' individual characteristics. Although quantitative findings did not yield any predictor for individual characteristic and media ownership. However, findings from qualitative interview data have helped reveal the latent insights into the contributory impact of media ownership on new digital technologies adoption. Hence, interview data provided deeper insights into how perceptions towards new digital technologies can help make sense of the relationship between institutional forms of media ownership and their modes of power (Benson, 2015).

Journalists are known to be constantly under the influence of media ownership. The extent of this influence is however a function of journalists' ownership modes of power. According to Benson (2015), ownership modes of power vary according to ownership institutional logic, social location of the news organization and its audience, and national

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journalistic field and field of power. These have been found to be the forces underlying Nigerian broadcast journalists' adoption of new technologies, professional norms and possibly their practices. Technology adoption and professional roles have been found to exist in the shadow of external influences and media logics, all of which can be interpreted based on forms of ownership and their power relations (Hallin & Mancini, 2004).

Benson (2015, forthcoming) provides insights into these media logics and modes of ownership power stating four categories of such external control including political instrumentalism and economic or business instrumentalism. While political refers to overt or covert attempts to use a media outlet to promote or attack politicians, social movements, and/or issues of special concern to the media owners. Business instrumentalism, on the other hand, is the strategic use of a media outlet to achieve owners' short-term or long-term profit goals, either by publicising or failing to publicise events or topics related to media organisations' own business concerns or those of their competitors. Managerial decisions, according to literature on modes of ownership power, is related to public service commitment of journalists and by extension their media organisations. Media owners and management team make key decisions to allocate resources based on their narrow interests, which in turn affect public service commitment of journalists. Findings have also shown how willingness to adopt new technologies by Nigerian broadcast journalists are underscored by organisational support granted by their stations and agenda for which the technologies were to be deployed. This relates to the allocative power or media ownership (Benson, 2015, forthcoming).

Sociology of media ownership (Chapter 3) points to four modes of ownership power of which public service orientation and commitment are stated. Given this theoretical background, technology adoption for public service is a function of this perceived organisational support and agenda. Though Nigerian broadcast (radio) journalists make significant attempt to use new digital technologies, the extent to which their technological investment shape normative roles like adversarial remains negligible. Adversarial role appeared as negative predictor, an indication of radio journalists' unwillingness to use new digital technologies to criticise government and business executive. The emergence of perceived institutional policy control shows that Nigerian radio journalists are very conscious of how the deploy new media technologies without violating the Code of the regulatory agency (NBC). It is an extremely rare situation for a Nigerian terrestrial FM radio station to publish news or views with a potentially high economic or political downside for the organisation. Therefore, public service in its truest form is rare in Nigeria.

Experience surfaced as a predictor and this is understandable since resources are allocated based on job status which has been found to correlate with years of experience. This, among others, also ensures that the status quo is maintained with adversarial and investigative roles perpetually suppressed among Nigerian radio journalists, while disseminator, civic, interpreter roles are mostly favoured. Based on findings from qualitative research, one can see how political instrumentalism is noticeable among state-owned broadcast stations with their journalists claim that "who pays the piper calls the tune". And because they are partially commercial in their business model, with sponsorship coming both from the government and the business people, state-owned media are not particularly excluded from the effect of business/economic instrumentalism. Based on the claims of radio journalists in private/commercial radio stations, there is evidence of both political and economic instrumentalism operating in Nigeria broadcast media space. The two ownership types in Nigeria have no public service commitment in the true sense of the concept. Public service commitment, according to Benson (2015) is most strongly indicated when owners make choices to support journalistic professional excellence even when it has no clear economic upside and may even entail a potentially dangerous downside (such as loss of audiences or advertisers, including costs of defending against a lawsuit). It entails not only day-to-day allocation of resources but also rare moments of courageous decisions to air news items that go against prevailing elite or public opinion. There is no evidence of any of these stations and their journalists engaging technologies for public service commitment as it should be. There are indications of investment in interactive technologies to achieve diversity and public participation. But these are undermined by over-commercialisation and profit-making interests of the media organisations.

7.9 Technological Features, Proficiency and Skillsets: Looking into the "Black Box" of Technology Adoption in Nigerian Broadcast Journalism

Proficiency in computer technology and the Internet has become an integral part of broadcast journalism the world over. In spite of the problems confronting African journalists on account of new technologies, it is clear, from the Nigerian example in this study, that African journalists are equally making every effort to use new media technologies for professional purpose. Recent studies have reported how African journalists from different geographic contexts deploy new technologies. For instance, Berger (2005, p.1) opines that (Southern) African journalists "are far from being mired in 'backwardness' or passively awaiting external salvation in regard to attempts to use ICTs." Likewise, Mabweazara (2010, p. 26) and Nyamnjoh (2005a, p.4)

believes that Africans are determined to be part of the technological revolutions of the modern world and are creatively finding a way to "merge their traditions with exogenous influences to create realities that are not reducible to either but enriched by both." Mchakulu (2007) is also of the opinion that portability affordance of new communication technologies have resulted in the transformation of the journalism profession. These streams of studies and their findings go to show the universality of technology and journalism and the perceived transformative impacts of new technologies on all genres of journalism.

However, there are select skillsets in the Nigerian broadcast journalists' engagement of new technologies which suggest that as one moves away from the basic skills to general convergent journalism skills, knowledge levels drop significantly. For instance, it was found that familiarity with some general-purpose system such as Adobe Photoshop or CorelDraw and digital organisers (PDA) is markedly low compared with technology literacy and skillsets attributed to PC, word processing and using the Internet or mobile (smart) phones. This is a clear indication that non-interactive technologies bear little or no relevance to radio/broadcast journalism practice.

In addition, Nigerian broadcast journalists exhibited more familiarity with text-based platforms of the Internet and mobile phones in comparison to operational/ general-purpose system (see Table 6.2 in chapter 6). Regarding broadcast journalists' access and knowledge levels of social network sites such as Facebook and Twitter and the mobile phones, perceived relevance of communication system is high. Text-based platforms such as social network sites', mobile phones SMS, and email emerged as the prominent interactive technologies of broadcast journalism. Perceived relevance of text-based interactive platforms is stronger compared to that of audio-based (phone-in) interactive technology. The dominance of text-based quasi-synchronous interactive platforms (social media and mobile phones' SMS) over voice calls, as indicated in the interviewees' statements, remains a subject of interest. This is considering the fact that voice calls – in the context of radio broadcasting – should suit radio's audio production format better than text-based contents. Interpreting this dominance from the technical and socio-economic points of view may provide the reason behind this adoption trend among Nigerian broadcast journalists. For instances, on the technical bases, the recordability and quasi-permanence affordances of text messages help broadcast journalists to exercise some degree of control over the delivery of user-generated contents in the context of participatory programming. Having significant control over audience materials in the form of text is important as a gatekeeping measure (to be discussed later). The political climate in Nigeria is such that broadcast journalists must be weary of the extent of organisational support and agenda

as well as institutional regulations in including audience materials as part of programming contents. On the one part is the professional/ethical consideration while on the other is the curtailing power of the regulatory agency, the NBC, through its sanctions. This new empowerment is linked to the concept of "gate-watching" where broadcast journalists have learned to "cherry-pick" audience materials on the basis of their suitability for airing. Broadcast journalists mention their preference for audio-based UGC as live actuality on interactive programming.

However, the situated challenges evident in wilful disobedient of some audience members who often cease the opportunity of a live radio programme to air political or religious grievances or to insult radio guests serve as hindrances to intention and actual use of interactive technologies for participatory programming. In a highly regulated broadcast media landscape like Nigeria, it is important for broadcast journalists to be active gate-watchers in addition to their normative gate-keeping role in order to safeguard their broadcasting license. Audience materials, otherwise called user-generated contents are better scrutinized and filtered in conformity with the broadcasting ethical standard, in-house rules and institutional regulations driving broadcasting in Nigeria. In addition to the aforementioned hindrances is the perception towards audience member. Audience member are perceived as not being literate enough to engage in text-based interactivity. With these technical and literacy biases, majority of adult and young non-literate audience members are secluded from participating in interactive programming beyond phoning-in. This category of audience members are the local language speakers. Although English had been the language of business and instruction in Nigeria for more than 100 years, only about 25 percent of Nigerians could communicate with each other in English (or in its bastardised for; Pidgin (Ojebode & Adegbola, 2007). According to Olorunisola & Amadi (2007, p. 25) programmes presented in the English language would potentially isolate about 75 percent of the Nigerian population. The Nigerian situation calls to question the multiperspectival and new media democratisation claims with regard to recent scholarship in technology and journalism.

While Nigerian broadcast (radio) journalists in their majority were confident that operational system hardware and software (see Chapter 6, Table 5.1). It is important to mention that these technologies, as reported in the interview data, were mostly personal technological tools, utilised in workplace setting as part of the job. These technological tools include personal computers such as laptops, tablets/ipads and audio editing software. The utilitarian value of these technologies in the context of producing content for radio has been established in this study. While this research reaffirms the notion that new technologies offer journalists a wide

range of resources and tools to work with (Pavlik, 2000). It also supports the assertions in previous studies focusing on ICT in African newsrooms that the impact of new technologies on journalism in economically developing non-Western contexts should not be underestimated. Lin (2003) uses the term "technology fluidity" to describe how some technologies are adapted to different usages. The term, expressed as theory of technology fluidity, highlights the "transmutability of a medium and its influence on audience's technology adoption decision. It posits that when the technical attributes of a medium possess a greater capability to transmogrify between or simultaneously operate in multiple communication modalities or task platforms, the technology is a more fluid communication medium (Lin, 2003, p. 355). Given the above statement, the research has shown that new digital technologies have an impact on the attitude of Nigerian broadcast (radio) journalists towards their normative roles. While the scope of this research does not include exploring the actual performance of these roles, an exploration of the tie between these normative roles and the actual practice of journalism is possible in future studies. There is also the possibility of testing the impact of new technologies on the content produced by broadcast journalists (role enactment), the structure of their work environment, and their relationships with sources and audience members.

7.10   Conclusion

So far, this chapter has been able to discuss in great details the findings presented chapters 5 and 6. Findings discussed include a series of statistical tests and thematic analyses aimed at investigating how Nigerian broadcast journalists' beliefs about new digital technologies are shaped by journalists' role conceptions or how journalists' normative roles drive technology acceptance and use behaviour. The chapter discussed how the main findings of this research project connect with the conceptual framework for the study and the implications of these findings on extant empirical research on role conceptions, technology adoption and journalism in the digital era.

The chapter highlighted the main contribution of the study, which is understanding the relationships between journalistic role conceptions and technology use behaviour in the Nigerian broadcast (radio) journalism context. Emerging models of new digital technology adoption were presented and discussed against the backdrop of the research objectives and the research questions. The dynamics in the relationships between journalistic role conceptions and technology adoption were discussed using the findings from the statistical tests and thematic analyses. The importance of this contribution to the field of journalism and the evolving African newsrooms were highlighted the discussions.

The significance of the models presented in this chapter rests in their support of existing claims in the communication and information system literatures that information-technology tools should be regarded as "social tools" because they are utilised for transfer, manipulation, storage, and retrieval of human symbols, cognitive products, and interactive relations (Qvortrup, 1994, p. 377). Lin (2003) in her interactive technology adoption (ITA) model points to the need to build on the principle of "dynamic interactivity", one that interconnects a number of reciprocal social, technological, and human communication factors (Lin, 2003, p. 346) in dealing with technology adoption in journalism. The new models, while they confirm the relationships between journalistic role conceptions and technology acceptance and use behaviour among Nigerian broadcast journalists, also indicate that their components hold the possibility of serving as the basis for mediated communication technology adoption research in the African context and beyond. Like the Lin's ITA model, which provides for six independent components (system factors, technology factors, audience factors, social factors, use factors and adoption factors), the current models with three confirmed components (technological attributes [perceived utilitarian and hedonic values], social influences [perceived communication values], and facilitating conditions (or environmental forces) can further serve as a research framework for studying factors that influence adoption of various new media technologies and the potential impact of these technologies on African social system, audiences, and use patterns.

The summary of this is that the values embedded in new digital tools such as their utilitarian, hedonic and communication values facilitated the beliefs among Nigerian radio journalists that these digital tools are transformative and revolutionising. And also that these technological tools are needed for speedy, easy and cost effective radio production as well as to build relationships within and outside newsrooms. While new digital technologies did facilitate broadcast journalists' attitudes towards certain normative roles, the technologies also spur the emergence of newer ones (like gate-watching). Roles such as adversarial and investigator are directly influenced by facilitating conditions (or environmental factors). Given these findings, the research has shown that far from becoming technologically backward or lacking in critical perspectives towards the technologies, Nigerian broadcast (radio) journalists have found relevance in new digital technologies for journalistic role performance. Nigerian radio journalists are active participants in the digital transformation of radio as a site of production. And just like their counterparts in other regions of the continent, they have appropriated communication-oriented technologies to suit their specific needs and day-to-day journalistic routines.

CHAPTER 8

CONCLUSION

8.1   Introduction

This chapter concludes the thesis by providing an overall appraisal of the study's findings in relation to the questions it sought to investigate. The chapter starts by presenting the main crux of each chapters along with other vital information embedded in the thesis as it progresses. More importantly, it reiterates and evaluates the significance of the study's main findings in an attempt to present its overall implications. This it does by identifying areas of possible strengths and weaknesses as well as areas of possible future investigations.

8.2   Summary of the Thesis

The study set out to investigate how Nigeria broadcast (radio) journalists deploy new digital technologies in the context of participatory or interactive programming. Specifically, the study focused on how these digital technologies shape professional (normative) roles or how these roles influence intention and actual use of new technologies among radio journalists. The introductory chapter provides the necessary background to the study of technology and journalism by providing an overview of research that has been conducted in this line of inquiry aptly located as a growing sub-genre of Journalism Studies. The chapter informs that even though significant academic effort had gone into this line of research, specific areas of research are conspicuous as reflected in the body of literature on this subject. For instance, Pavlik (2000) provides a clear mapping of the field during its peak period, these include how journalists do their work, the nature of news content, the structure and organisation of newsrooms/news industry, and the relationship between or among news organisations, journalists, and their heterogeneous audience. The chapter then diverts into a cursory mapping of the digital technologies and the evolving African newsroom. The message is that in spite of socioeconomic and political forces which hamper access to newer ICTs in Africa, African newsrooms are not in any way immune from the disruptive impact of new digital technologies as there are observations and formal reports of localised adoption and appropriation by journalists to the changing and challenging African media landscape. A number of research has

been conducted on the "localised" and "creative" adoption of new media technologies by African journalists in different contexts and genre of communication. Qualitative ethnography studies appeared to be the favourite approach deployed by African media scholars whilst exploring the implications of developments in digital technologies on the routine practice of African journalists. The chapter, therefore, makes a case for the study as a cross-disciplinary approach which combines the traditional sociology of journalism approach with the quantitative research tradition of the information system (IS) and social psychology. The chapter locates the study within an emerging body of research which attempts to follow the social constructivist approaches to technology adoption rather than the common techno-determinist tradition which undergird early research on the phenomenon. The chapter presents four distinct objectives which drive the study. Apart from setting out understand what drive Nigerian broadcast journalists' adoption of new media technologies for participatory programming, the objectives provided in Chapter 1 also clearly set out to evaluate the relationships between Nigerian broadcast journalists' role conceptions and perceived technology acceptance and use in the context of participatory programming. In its focus to understand the extent to which attributes of new digital technologies and other contextual forces drive technology use behaviour among radio journalists, another objective in tune with this dimension of research was presented among others. The last objective set out to assess the extent to which individual characteristics and forms of ownership influence new digital technologies use behaviour in the Nigerian context. The objectives, of course, draw on the study's research questions.

In addition, the chapter contains a section that discusses the rationale behind the study which, among others, the interest to further explore the blurriness associated with media convergence and how it has affected technology adoption in broadcast journalism on the one hand, and radio as a site of production and space of socio-cultural struggle. The rationale for the choice of radio, as the chapter presents, is borne out of radio's scalability and attractions as a medium of mass communication still relevant in Nigeria, and by extension, Africa. Yet, another section provides an overview of the study design and methodology employed for the study and highlights the significance of a mixed method of qualitative and quantitative research – a shift from the dominant epistemological tradition in journalism studies. A section in Chapter 1 also discusses, albeit briefly, the study's conceptual framework and underlying theoretical assumptions such as the sociological approach to impact of technology as it relates to journalism. Lastly, the chapter presents research context and study background as a means of setting the stage for the contextual exploration of new digital technologies adoption in Nigeria.

Chapter 2 is dedicated to the coverage of published work on technology and journalism with particular attention paid to the concept of media convergence, the umbrella term for technology adoption in journalism. The chapter presents a critical review of literature on this topic in an attempt to cover as broadly as possible the important aspects of this multifaceted phenomenon. Four distinct areas were covered and these include a detailed discussion on media convergence, which covers Western scholarship and African media researchers' interrogation of the concept in contemporary media landscape. How media convergence was narrowed down to a more important perspective which focuses on the impact of convergence on newsroom practices, journalistic roles and culture (Dupagne & Garrison, 2006) represents a turning point in the chapter. Several studies with a focus on African news media have followed this "digital turn" to critique the role of digital media in African journalism (Moyo L, 2013a). Another important section maps the theoretical landscape of technology adoption research, focusing on the developments of extant theories and model of technology adoption from the technology acceptance model (Davis, 1989), diffusion of innovation theory (Rogers, 1995, 2003) and the uses and gratifications theory (Katz et al. 1974).

More importantly, the chapter goes on to discuss how each of these existing theories were adapted to a few quantitative journalism research where a combination of these models determinants were validated in studies focusing new media technologies in Western newsrooms. Furthermore, the chapter proceeds to review the unified theory of acceptance and use of technology (Venkatesh et al., 2003) as a backbone model for the current study. The chapter shows how UTAUT as an assembler model was synthesised into the core information technology model (Sun & Bhattacherjee, 2014) for task of this research. The new constructs with which the model interrogates aspects of the perceived attribute of new digital technologies were operationally constructed as sub-heading of an important section. The two other sections which concludes the chapter focuses on professional norms and journalistic role conceptions in the digital era, especially how new media technologies are challenging professional practices and role-play. Burnett and Marshall's (2003) observation provides a working assumption that illuminates the discussion. According to the author, the "vast, fluid, ongoing, multi-voiced discourse of the online space has provided the platform for the merger of traditional communication dichotomies, adding that "the Internet has fostered a new environment in which definitions of professional concepts are open to reinterpretation and in which oversight of professional behaviour is shared" (p. 79). Singer (2007, 2011) provides the backbone for explaining the contestation between "professional" journalism and citizen journalists on matters relating to occupational routines, traditional norms (gatekeeping and agenda-setting),

including the notions of accountability, autonomous claim, transparency, truth, social responsibility and public need. Some of the implications of new digital technologies on professionalism are further put into perspectives following the work of Tompkins (2003), Cooper (1998) as well as Gunkel and Hawhee (2003).

The literature review chapter also offers a deconstruction of journalistic role conceptions from the social psychology role theory. In one of its sections, the chapter discusses how journalists' technology usages are invariably tied to performance expected of the tools and how easy the tools are to the quality of output, the goal of an organisation, its corporate identity among competitors and audience members in general. The section follows Bourdieu's (1998) argument that in order to understand and grasp the explanatory mechanism of journalistic practice one has to understand that journalism, as a social institution, has very little autonomy, and subject to a whole series of pressures. The main crux of the section is the realisation that journalistic role conceptions emerges from one's perception of what society and the sub-groups within it expect. How journalists' vary in their role conceptions are, therefore, linked to how these expectations are internalised and integrated into roles. The review here assist in formulating our assumption that there is a relationship between technology adoption and journalists' conceptions of their roles. This has so far been established in this study. The chapter concludes with a section that looks into the trajectory of developments in journalistic role theory from Western scholarship to African contexts where the work of Ngomba (2010) and a host of others such as Ebo, (1994), Kanyegirire (2006), Kirat (1998), Lederbogen (1992), Ramparasad (2001, 2003), and Mwesige (2004) are foregrounded. The critical review of literature therefore provides the theoretical background that underpins the schema presented as Figure. 2.3.

Chapter 3 is devoted to the study's theoretical underpinnings. A metatheoretical approach (Hjorland, 1998, Mabweazara, 2015b) provides an insightful dimension to appraise how African journalists are adapting to new media technologies. The chapter begins its theoretical discussion by first acknowledging the voices of several theorists and leading authors such as Atkin et al. (2015), Lin (2001, 2003) and Mabweazara (2010, 2015a, 2015b) who have noted the inadequacies of extant theories of technology adoption in representing the complexities of technology adoption in converged environment. The argument is that in order to understand the impact of new digital technologies on radio journalism in Africa, we must situate journalists into a critical and analytical context that draws on "old" approaches to both technology and journalism, and from where we begin to interrogate the social relations within which the journalists operate (Mabweazara, 2010). The chapter proceeds to discuss the core

theoretical background of the study as a synthesis of social constructivist approaches and sociology of journalism. The chapter remain focused in its metatheoretical approach by enlisting a set of other micro-concepts and assumptions which underpin research in new digital technology adoption. Theories and metatheories are used to contextualise technology adoption in African journalism with specific reference to Nigeria as the context of study. The chapter is a clear departure from "ethnocentric" call to "de-Westernise" African journalism in favour of "home-grown" approaches derived from African cultural belief systems and experiences (Mabweazara, 2015b). Neither does it follow technological determinism which underlies several technology and journalism research. It therefore discusses the relevance of Western theories to interrogate new digital technologies adoption in line with African realities. In its treatment of social construction of technology, it takes into account the social and cultural realities that impact on the deployment of technologies in specific contexts (Bijker, 1995; Lievrouw & Livingstone, 2002). The principle of "dynamic interactivity" (Lin, 2003) is foregrounded in the chapter in an attempt to contextualise the new digital technologies adoption in Nigeria.

The chapter also identifies the need to follow "moderate heuristic approach" in theorising technology adoption. This approach is about identifying with relevant Western theoretical understandings while at the same time foregrounding the realities of contexts in which African journalists operate (Mabweazara, 2014, p. 5). Nigeria as the context of study is foregrounded as an example of African realities in the face of technology adoption. The chapter also devotes a section to the unpacking of "critical theory of radio convergence (Moyo, 2013a). Apart from metatheories such as media convergence there others include: theory of fluidity, functionally similar technologies/technological cluster, media logic and forms of ownership power. All these have implications on how new digital technologies are adopted in Nigeria, so the y should be considered in theory building and model of research. Other important theories reviewed in this chapter include the structuration theory, actor network theory and sociological theory of media ownership.

Chapter 4 is where the study discusses its research design and methodology. The chapter begins by acknowledging the need to challenge the "naïve" tradition that seems to have defined communication research (Lin, 2003). The chapter presents the research design as a mixed methods which uses exploratory as well as explanatory approach as its overall knowledge claim. This approach is termed "the pragmatic claim" (Creswell, 2003, p. 7). According to Creswell, pragmatism is a recognised philosophical framework peculiar to mixed methods studies, where qualitative and quantitative approaches are utilised in the overall

process of knowing. Pragmatism builds on pluralism and uses more than one research approaches in order to derive knowledge about a problem. The rational for the choice of a mixed methods is presented, being that that all methods have their limitations and through a combination of approaches the weaknesses hold the possibility of cancelling out the biases in the other. Otherwise, it is meant to capture the best of both approaches. A detailed description of mixed methods including its characteristics and how it is deployed in line with "concurrent tradition" (Creswell, 2003) are discussed. The chapter also provides a section where survey research is discussed in detail, including its merits and demerits and how it is applied in the current research. The chapter does not forget to raise its concern about deploying survey in a country like Nigeria. It therefore shares its concern with what Nolte et al. (2016, p. 542) called "poverty of data," a term which describes dearth of data, inability to gain access to public data housed by government agencies, complicity in reporting surveys in previous studies as well as data falsification and irregularities in completing questionnaires. The chapter goes on to present how the researcher hopes to combat this "classical" issues plaguing survey research in Nigeria.

Given this situation, the chapter identifies the study population and discuss how samples are drawn from the universal population using multistage purposive sampling method and snowballing. Snowballing has become important as a way to circumvent the difficulty of gaining access to an official setting. It requires a research having a contact person within an organisation or group of organisations to be studied. While it identifies the study population as broadcast journalists in FM radio stations across southwest part of Nigeria, the study operationalises its definition of broadcast journalists to include "a list of all reporters, anchors, producers, editors, news directors, and other people working at the station in a journalistic capacity" (Berkowitz, 1993, p.71). As widely noted, questions on journalism as a profession and who a journalist is in particular beleaguer many researches in journalism studies (Pihl-Thingvad, 2015) and this is twice as difficult in isolating who a broadcast journalist is. In the first instance, the "fluidity of practice" (Thurman, Cornia & Kunert, 2016, p. 1) makes the definition and identification of a journalist a worrisome and slippery concept. From a list of 61 FM radio stations in southwest part of Nigeria, 18 FM radio stations were purposively identified and consulted for the distribution of questionnaires. Interviews were also conducted in these stations. A section is devoted to explain the procedure for data presentation and analyses. A combination of descriptive and inferential statistics are discussed in this section as the preferred approaches.

Chapter 5 is devoted to the presentation of quantitative results conducted to explore the relationship between technology adoption determinants and journalistic role conceptions and how these could help predict Nigerian radio journalists' intention and actual use of new digital technologies. The chapter begins with descriptive results (Analytic Approach I) that point to the relevance of new digital technologies among Nigerian broadcast (radio) journalists. The chapter records the relevance of operating system and software among radio journalists under non-interactive technologies. These technologies include personal computers, tablets and iPads as well as word processing and editing software. On the part of interactive digital technologies, the chapter records the prevalence of social media and mobile phones' SMS as significantly relevant new media technologies. Taken together, these results clearly show that in spite of economic circumstances and associated digital gap, new media technologies have become an integral part of broadcast journalism in Nigeria. The knowledge levels are high, as there is significant willingness among the participants to adopt available and yet to be available technologies (operational systems and software as well as social media platforms of the Internet and mobile phones). These interactive and non-interactive technologies are overwhelmingly perceived to be useful and relevant to their roles.

The chapter moves to the sections where inferential statistics is used to analyse the quantitative data. Three analytic approaches are presented as a means of providing information about the relationships between the main constructs and how the constructs help predict intention and actual use of new digital technologies. Therefore, for analytic approach II, the chapter presents two sets of factor analyses for exploring the underlying factors of new media technologies adoption. Three different factors emerged from the test following a principal components factor analysis (Promax rotation). The analysis yielded three (3) factors accounting for about 57 percent of the variance. The other two factors indicate the significance of facilitating conditions (or environmental factors) in new digital technologies adoption in Nigerian broadcast journalism.

The other part of factor analysis presented in Chapter 5 provides results of Nigerian radio journalists' subjective understandings of their practised roles. Five normative roles which were tested using principal component factor analysis (Varimax with Kaiser normalisation) yielded 54.2 percent of variance. The roles however loaded under three factors with two roles aligning with each factor. The alignment of more than one role per factor highlights the assumption that even within the journalistic context, journalists do observe multiple roles (Weaver et al., 2007) and that these roles do coexist or conflict with one another (Tandoc & Takahasi, 2013). In the case of Nigerian broadcast journalists as seen in the results, the

convergence of populist mobiliser and civic role goes to show how journalists project multiple roles while deploying new media technologies. The pattern of "collaborative role" (Christians et al., 2009) also supports the assumption that journalistic roles exist in a hierarchy.

The chapter moves on to the results of multiple regressions which provide statistical coefficients with which the study evaluates the relationships between the independent variables (technology adoption and role conceptions) and dependent variables intention and actual use of non-interactive and interactive new digital technologies. Hence, with the regression tests, the chapter presents useful information regarding the relationship between technology adoption and role conceptions as mutually dependent variables. Overall results show that role conception variables did account for a significant amount of variance above and beyond demography, technology adoption variables and ownership in the case of intention to use non-interactive. Role conceptions variables accounted for a significant amount of variance (16 percent) that helped predict intention to use non-interactive technologies. Three (3) journalistic role conceptions approached significance; these are civic role, interpreter role, and disseminator role respectively. Therefore, journalistic roles accounted for a significant amount of variance above and beyond individual characteristics as portrayed by demographic information such as job status, gender, age and job experience.

When technology adoption variables, such as perceived attributes of technologies, perceived organisational support and perceived institutional policy, control were added alongside demography and role conception variables, the model proves to be statistically significant. The result shows that 28 percent of variance in broadcast journalists' intention to use non-interactive technologies could be explained by the trio of demography, role conception and technology adoption variables. Technology adoption variables did make a significant contribution over and above demography and role conception variables as predictors of intention to use non-interactive technologies. Perceived communication value emerged as the single most important predictor of broadcast journalists' intention to use non-interactive technologies. Perceived communication value emerged as the single most important predictor of broadcast journalists' intention to use non-interactive technologies. Tiers of broadcasting such as public, private, and community radio stations even though they made marginal contribution to broadcast journalists' intention to use non-interactive technologies do not account for a significant amount of variance above and beyond demography, role conceptions and technology adoption variables.

Ultimately, Chapter 5 provides records of statistical results that help us understand the relationship between the variables and how strong they are as predictors of intention and actual use of technologies (non-interactive and interactive) among Nigerian broadcast (radio) journalists. There is a strong mutual, rather than linear relationship between journalists' role conceptions and technology use behaviour in contemporary Nigerian broadcasting. Certain technology adoption variables such as perceived communication value and perceived institutional policy support when considered within the broadcast journalism setting coalesce with civic, disseminator and interpreter roles to predict intention and actual use of interactive and non-interactive technologies with gender and experience as moderators. Broadcast station ownership types have no statistical significance in the models. While the effect of individual characteristic is negligible with job experience as the only significant moderator of intention and actual use of interactive technologies.

Chapter 6 of the study is devoted to the presentation and analysis of qualitative interview data. The qualitative results in this chapter serve to complement the quantitative findings presented in the previous chapter. The aim is to further shed light on adoption and use of new media in the context of participatory programming which may have been overlooked in the methodological and analytical approaches to the quantitative research. Thematic analyses were routed through a constructionist theoretical orientation of qualitative interviews (see Chapter 3 for details), which involved a combination of extant literature operationalised under the study's conceptual framework without losing track of the research questions (Braun and Clarke (2006). Based on this approach, the chapter presents two broad areas which manifest in Nigerian broadcast journalists' discussions on the relevance of new media technologies and their relationship with journalistic role conceptions. The bifurcation tallies with the universal perceptions of interactive technologies as "double-edged sword:" one with perceived utilitarian value and dysfunctional uses. The dysfunctionalities are however traceable to the attributes of technologies on the one hand and individual broadcast journalist's professional judgement and ethical responsibility on the other hand.

The chapter begins with an overview of the interview data with a term frequency analysis of the most prevalent interactive technologies mentioned by the participants. Mobile phone, Facebook and Twitter appeared as the most referenced interactive technologies in the data. These findings show the significance of these text-based technological innovations in Nigerian broadcast newsrooms. However, for the thematic analysis, the chapter reports three themes developed from the model of technology adoption. Interview data was used to contextualise the experience of Nigerian broadcast journalists in relation to the model. Going

by this approach, the first theory-driven theme has to do with perceived utilitarian value, which is the extent to which Nigerian broadcast journalists perceive new digital technologies as useful to their roles as journalists. The next theme has to do with perceived communication value, which is the extent to which broadcast journalists consider influences coming from within and outside newsroom as sources of motivation for adoption of new digital technologies. The last theme focuses on facilitating conditions (or environmental factors) and this theme was used to capture all manners of organisational and institutional pressures or bureaucracies enhancing or militating against new digital technologies adoption among Nigerian broadcast (radio) journalists. With reference to Venkatesh et al. (2003), the theme captures the degree to which adoption of new interactive technologies is believed to be influenced by organisational, technical and industrial policies.

The chapter launches the qualitative results with a presentation of data on how Nigerian broadcast journalists construct their double-edge sword experience of new digital technologies. Hence, while broadcast journalists affirm to the utilitarian value of new digital technologies, they did not shy away from mentioning the inordinate but counterfactuality of information accessible on the Internet. New digital technologies have also been identified as promoting indolence among broadcast journalists which to have affected their investigator role. Overall, the chapter reports perceived utilitarian value of new media technologies in the context of newsgathering and sourcing as a prevalent theme. This touches on enhancement of speed, ease of production as well as cost effectiveness in deploying the new media technologies as tools. Other utilitarian values include browsing the Internet search engines such as Google for word meaning, sifting through social network sites like Facebook and Twitter for news stories and for finding eye-witnesses' accounts of a news worthy events. The second theme presented in the chapter discusses the significance perceived communication value which stems from using new digital technologies for interactivity and audience engagement.

Furthermore, the third theme presented in Chapter 5 discusses how new media technologies have led to the reconstruction and enhancement of normative roles like the agenda-setting and gate-keeping roles. Radio journalists are reportedly deploying new language skills and different layers of censorship to circumnavigate both organisational and institutional policies whilst keeping faith with the ethics and professionalism. While some of the interviewees believe the journalists' power to set agenda is irrevocably theirs, some journalists believe these roles have been taken over by the multitude of people on the Internet's social media. The quantity and speed of information flow via the social media for instance are reported to have challenged the news breaking power and opinion moulding role of the legacy

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media and their journalists. Rather than lost, it is stated that the power to set agenda is being contested in broadcast journalism by the presence of social media. Social media is challenging radio's power as a vital mass communication platform for setting agenda and moulding of public opinion in the Nigerian setting. From the interview data presented in Chapter 5, there are instances of how agenda-setting as a normative role is being reconstructed into "agenda enhancement" in the digital era. Radio audience now wield considerable power to influence what broadcast journalists will do or are doing. Broadcast journalists appeared to be struggling to key into the pattern of information flow on social media. So rather set agenda, they wait by the flank to enhance the agenda being set by the social media people on Facebook, Twitter and WhatsApp.

The chapter also features a sub-theme that discusses the reconstruction of gate-keeping into "gate-watching." This sub-theme reflects on Axel Bruns' (2003) notion about how journalists in the legacy media are unyielding or evolving strategic approach to "man" the news gate in the digital era. Instances presented in the chapter help contextualised gate-watching among Nigerian radio journalists.

One of the uniqueness of Nigerian journalists' interactive engagement discussed in the chapter highlights how new communications technologies have opened new avenues for Nigerian broadcast journalists to enhance their surveillance and teacher-educator roles. This is achieved through information giving in multiple channels. Social media has introduced the hub concept, where broadcast journalists can link audiences with experts beyond the programme time-slot. According to one of the interviewees, social media has helped journalists to "feel the heartbeat of those who are at the grassroots and making it easier for them to perform certain social responsibility roles like educating and mobilising them for action and for building new "communities of interest" based on local and national subjects. The extent to which Nigerians online are part of the grassroots remains questionable.

The last theme that is featured in the chapter discusses facilitating conditions. It centres on the degree to which adoption is perceived to be influenced by organisational, technical and industry-related policy control. The idea was to locate objective factors in the environment that interviewees believed would enhance adoption of interactive technologies or frustrate the effort to do so. Firs in this category are perceptions about conducive environment for radio journalists. This includes beliefs about poor funding and infrastructural decay as well as over-commercialisation of broadcast air-time. These are considered as factors limiting rather than facilitating conditions to intention or actual use behaviour of new interactive technologies for journalistic practice. The second theme focuses on the perceived institutional policy control.

And likewise, this aspect was explored in relation to political interference and actions of the regulatory agency. The third theme addresses technical factor such as glitches and perceived technological incompetence of broadcast journalist. The last theme addresses perception towards audience members as it is believed that how broadcast journalists think of audience would go a long way in influencing their decision to adopt technologies.

The chapter informs that nearly all the interviewees believed adoption of new interactive technologies is a function of the technical support, incentives and enabling environment available at the work place. The condition of service or practice, as the case may be, goes a long way in effective adoption of technologies. Private/commercial stations are more supported and incentivise than public radio stations. While the public broadcast stations are grappling with the issue of poor funding and lack of modern equipment, private/commercial radio stations are facing too much advertorial on their interactive programmes. An instance of excess advertisement as a challenge to participatory programming are presented in the chapter.

The chapter concludes its thematic analyses by using the available data to discuss the position of NBC as a regulatory agency in controlling how new digital technologies are deployed by broadcast journalists for interactive programming. . In the advent of new communication system adoption by broadcast media and in order to meet up with the challenges of the emerging trend in the broadcast industry, the Agency has come with a few policies to ensure ethical and good practices. A few additions is noticeable in the Code with regards broadcasting mode/format, Internet broadcasting, using scroll bars, live broadcast and unconventional reportage involving user generated content (UGC) and the use of handheld devices and social media.

Chapter 6 builds on the analyses presented in chapters 5 and 6. It discusses the main findings of the research project by considering more deeply the empirical work and how it connects to the study's theoretical framework and research objectives. The chapter begins by highlighting the main contribution of the study, which is understanding the relationships between journalistic role conceptions and technology use behaviour in the Nigerian broadcast (radio) journalism context. Emerging models of new digital technology adoption are presented and discussed against the backdrop of the research objectives and the research questions. The chapter highlights the dynamics in the relationships between journalistic role conceptions and technology adoption by using the findings from both statistical tests and thematic analyses to illustrate the importance of this contribution to the field of journalism and the evolving African newsrooms. Following the pragmatic approach, the chapter discusses the quantitative research findings in relation to the emergent themes from the qualitative data without losing sight of the

four main objectives that drive the research. The presentation of results in the chapter is void of statistics to enhance general reading and understanding.

8.3   Summary of the Main Findings

The last few years have witnessed a stream of research which explored the value of new communication technologies on African journalism. The sustaining interest, among others, is to determine the extent to which these technologies enmesh with old media to provide a new creative approach to doing journalism in an era of digital disruption. As rightly observed by Mabweazara (2010) and a host of other scholars exploring the social construction of digital technology, technology alone does not account for the changes taking place in newsrooms, whether in Africa or elsewhere. This study uses the perceptions of Nigerian broadcast journalists to further affirm that new digital technologies is an integral part of intertwined multi-dimensional factors that shape journalistic practices and roles. Rather than interpreting journalism as a uniform practice and journalists as homogenous community of professional within a national space, the study concentrates its focus on radio journalism as a genre of journalism practice adjudged to be significant to African development narratives. The Nigerian broadcast journalists' conceptions of how technologies impact on traditional broadcast journalism roles and how these roles are being reconstructed, due to digital technologies, were thoroughly examined. Here are the main findings form this study:

8.3.1   Role Conceptions and Technology Adoption are Mutually Dependent

Statistically, this study has proved that there exist a relationship between role conceptions and technology adoption. Journalistic roles in the likes of civic, interpreter and disseminator roles are driven by journalists' perception of technological attributes, perceived influence of other adopters as well as organisational and institutional pressures. Journalists' perceptions of technology also turned out to shape the notion of roles being hold by broadcast journalists. These variables accounted for between 31-32 percent of variance that predict Nigerian broadcast (radio) journalists' intention to use non-interactive and interactive technologies. Intention also proved to be a strong positive predictor of actual use of non-interactive and interactive technologies.

Likewise, broadcast journalists identified increased interactivity as a means to explicate audience engagement and role performance both stressing the centrality of communication-oriented technologies in contemporary broadcast journalism. The study established a strong positive predictor of technology adoption in perceived communication value, and confirmed a

cyclic association between technology adoption and role conceptions. There is statistically significant evidence pointing to an association between perceived communication value and three traditional civic, disseminator and interpreter roles. The most significant, in the context of interactivity, being the relationship between perceived communication value and disseminator role. The significance of audience engagement for feedback purpose and for maintaining contact within and outside the newsrooms remain central to broadcast journalists' conceptualisation of communication-oriented technologies like the Internet's social media and mobile phone communications.

More so, two dominant normative roles emerged from the qualitative study that suggest a shift in the performance of agenda-setting and gate keeping roles. While new interactive technologies afford a reconstruction of the agenda-setting role with broadcast journalists queuing behind active online audience to enhance rather than set agenda as the newsbreak power is lost to social media users and independent online news media. There is substantial evidence in the interview responses that supports the devolution of old "news" gate and evolution of independently motivated gates that need to be constantly monitored for news. Nigerian broadcast journalists have joined the fray of other journalists who deploy linguistic and technical creativity to sustain professional ethics and avoid official sanctions.

8.3.2   Effects of Individual Characteristics and Media Ownership Types

There is no statistically significant evidence of the moderating role of demography such as age, gender, and job status. But job experience surfaced as a moderating variable with effect on perceived organisational support and agenda and perceived institutional policy control. Gender as a variable also approached statistical significance suggesting that male broadcast journalists are more likely to engage non-interactive technologies for the performance of traditional roles.

Ownership as another moderating variable does not make any statistical significant contribution to new models of technology adoption and journalistic role conceptions. Although in a bid to locate their competitive edge in an era of media pluralism, government-owned public broadcasting corporations claimed they maintain stricter regimes of gate-keeping by resulting to more of pre-recorded programming and text-based participatory programming in lieu of live audio-based interactivity of the phoning-in programme which is popular among private/commercial radio stations. With this slight disparity, interview evidence further suggests quality programming is aired by public broadcast stations, while improved output, more interactivity with the use of live-streaming feature of social media are common among the newly licensed private/commercial broadcast stations.

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8.3.3   Perceived Utilitarian Value of New Media Technologies

With regards to the impacts of new media technologies, there is an acclaimed transformation in radio programme production. This transformation is perceived in relation to three technological attributes all deduced from extant theories of technology adoption and coalesced as a primary factors in broadcast journalists' intention and actual use of technologies. These attributes are interpreted along Sun and Bhathacherjee (2014) core IT model as the utilitarian, hedonic and communication value of technologies. The vital roles of perceived usefulness or perceived utilitarian value and perceived social influence or communication value of these technologies are significantly emphasised. Categorically, the utilitarian value of the new technologies have enhanced Nigerian journalists' newsgathering and sourcing practice, leading to reduced time for background research and newsgathering, including ease and cost effective means of production.

8.3.4   Social Influence and New Digital Technologies Adoption in Nigerian Broadcast Journalism

In addition, the study established the significance of social influence or subjective norm as an off-shoot of broadcast journalists perceived communication value. The study shares its findings with Zhou's (2008) work on Chinese journalists, stressing that Nigerian broadcast journalists are motivated to adopt interactive technologies following Kelman's (1958) socio-cognitive processes of compliance and identification. Identification process is established in broadcast journalists' perceptions that interactive technologies could be used to build and maintain a satisfying self-defining relationship with their co-journalists as well as with a new breed of online but not on-air audience. There is the "bandwagon effect" in the perceptions of some broadcast journalists which suggest that they are motivated to adopt interactive technologies such as the Internet' social media on account of not wanting to be "left behind… lost and confined in the dustbin of oblivion" in the race toward increased interactivity and deployment of participatory programming. This submission underscores the labour intensive angle to technology adoption suggesting that the race towards increased interactivity and/or participatory programming and community building is also as market-driven (for brand awareness) as it is for professional value creation. The professional value creation is however mitigated by host of environmental factors.

8.3.5 Environmental Factors: The Impacts of Media Ownership and Institutional Policies on New Digital Technologies Adoption in Nigerian Broadcast Journalism

It is noteworthy to add that technology adoption in the newsrooms is influenced by a host of environmental factors. There is statistical significant evidence of perceived intuitional policy control emerging as a strong positive predictor of actual use of non-interactive and interactive technologies. With this, the study's findings further stress the need to qualify substantially any suggestions of technological determinism. This line of thought is currently being aligned with the notion of journalism as a social network (Hemmingway, 2005) with significant influence from technological, professional, organisational, economic and political factors (Preston, 2009). The idea is to interrogate the impact of technology on journalism by using a social constructivist approach such as Latour (2005) and Law (1999 [1992]) actor network theory (Anderson, 2009; Fioravanti and Vehlo, 2010). The qualitative findings establish institutional, socio-political, as well as technical infrastructural factors as tripartite facilitating (and inhibiting) conditions meditating against technological innovations in the Nigerian broadcast newsrooms.

Apart from the problems associated with technical glitches such as poor connectivity and quality mobile telecom service, a number of external socio-political factors are mentioned as inhibitors. For instance, nearly all interviewees in the service of national and local broadcasting stations mentioned covert political interference through administrative sanctions when it comes to interactive programming. And in order not to offend their sponsors/patrons, (that is the power-that-be), broadcast journalists consciously refrain from performing both investigative and adversarial role and would rather not be critical or sceptical of public officials and advertisers/chief executives. The findings here explain, once more the universality of journalistic field and the bipolar attractions between autonomy and "heteronomy" (i.e. the extent to which journalists are free of political or economic constraints) (Dickinson, 2008, p. 1387). According to Dickinson, (2008), at the heterogeneous pole are forces external to individual journalists that influence what they do; at the autonomous pole are internal forces (cognitive-base aspirations). The degree of attraction between public and private/commercial broadcast stations as presented in the findings exemplified clearly the Nigerian situation, pointing to irresistible influence of both the ownership for the public, government-owned broadcasting corporations and market forces for the private/commercial stations.

So far, the study has established, in line with existing literature, that technology itself is not a sole explanatory variable of practices in broadcast journalists' adoption of new

technologies. Rather, it is embedded in an adoption process where journalists "make conscious or unconscious decisions" on how they deploy the technologies (Paterson, 2008, p. 1). The study's argument that technology and journalistic role conceptions are mutually dependent finds a place in the social construction of technology and supports the perception of journalism as a social phenomenon rooted in and shaped by professional, organisation, and economic factors (Fenton, 2009). The Nigerian broadcast journalists' perceptions of the impacts of technology on journalism shares the universal concept of adoption but draws unique context-dependent experience in how certain roles are enhanced/reconstructed and how innovations are shaped by environmental conditions. This also attests to the position hold by Mabweazara (2015, p. 107) and a host of other scholars (e.g. Atton and Mabweazara, 2011; Mabweazara, Mudhai and Whittaker, 2014; Obijiofor, 2015; Paterson, 2013) with respect to how journalists are "localising and creatively adapting new digital technologies" in African newsrooms. As Spyridou et al. (2013, p. 78) argue: "the adoption of technology and newsroom innovation has emphasised different agents and conditions influencing the manner in which new technologies are embedded into journalistic practices. Therefore, there is a need to consider the interplay of technological and human agents in a complex network of professional, institutional and socio-political forces bearing upon new technologies use in an African newsroom and beyond. As Ursell (2001) points out, the use of technological applications is contingent upon the goals and judgements of executive personnel and political regulators. As established in this study, broadcast journalists acknowledge the utilitarian and communication value of new technologies with regard to increased interactivity and participatory attributes of Internet's social media in spite of their socio-political and economic background. The adoption outcome seems not to be totally for journalistic value creation but exists as an integral part of a market-driven and relevance seeking approach in an increasingly pluralistic "mediasphere".

8.4 Study Weaknesses, Strengths and Scope for Further Research

The inherent weaknesses in this study are traceable to its pragmatic approach to knowledge claim which combines a range of research perspectives for its overall exploratory design and mixed methods approach. According to According to Saunders, Lewis and Thronhill (2003), exploratory studies are a valuable means of understanding a phenomenon. It is conducted to seek new orientation, to ask questions, and to evaluate a phenomenon in a new light. The research design comes handy when a researcher wishes to clarify and get to understand a problem from a new standpoint. Although this epistemological perspective possesses the capacity to open an alternative route to better understand the phenomenon being investigated

(Hair, et al., 2010). Its general overview of the phenomenon being investigated bears upon the outcomes and makes the findings not to be specifically helpful for decision-making. The choice of exploratory design for this study above the duo of descriptive and explanatory perspectives is informed by the lack of consensus yet on the pattern of new technology adoption in African newsrooms at large. It equally follows from the dearth of empirical research focussing on the impacts of new technologies on Nigerian broadcast journalism with specific focus on radio journalists as a vital community of news workers with developmental roles in a saturated media ecosystem. More like elsewhere, the concept of technology use in Nigerian broadcast newsrooms is an ongoing phenomenon requiring diagnosis. Given this situation, alternative strategies still need to be considered in order for the researcher to contribute to the discoveries of new ideas bothering on the relationship between new technology and journalistic role conceptions and value in the digital era. Hence, the study is exploratory in its attempt to provide alternative route to understand the subject area. In its mixed methods approach, the study combines quantification of data with qualitative interview method. But due to a number of constraints such as inadequate resources to cover the large scope of the study; as it is not possible within the time frame and budget to complete a study with findings generalisable enough for decision-making. The quantitative part therefore followed the objective philosophical process of the social science research and ensured that the data for inferential statistics were collected from the target subjects for objective results and conclusions. It is expected that with this scientific research orientation the proportions of the population sampled would at least be representative of the study population and findings objective, if not generalisable. Considering the available resources, the sample size was just about right to conduct an exploratory study rather than a large corpus based on detailed descriptive or explanatory design.

In order to further increase the strength of the study in view of the limitations of exploratory design, the researcher made sure the following guideline processes were strictly followed. First, the researcher ensured that the sample size was truly representative of the population. The subjects of research (that is broadcast journalists in southwest part of Nigeria) were operationally defined in line with Berkowitz (1993) study. The sampling procedure involved a non-probability procedure. But this was consequent upon a number of factors that emerged in course of conducting the research. For instance, journalists in Nigeria, the United Kingdom and possibly elsewhere represent one of the most difficult communities of professionals to investigate. The nature of their job is such that they are difficult to locate within a definitive work setting. They go about with an aura of being extremely busy with looming

deadlines, even when they appear as doing nothing in the newsrooms. They are difficult to persuade, restless and ever inpatient during questioning. Many of them operate far away from the newsrooms as beat reporters and correspondents and would only appear in their respective newsrooms/stations on schedule visits, as it is "much of journalists' work goes on outside [it]" (Zelizer, 2004, p.68). This is perhaps one of the reasons that some methodologists suggest a different approach to study extremely mobile subjects through the deployment of "netnography" or "virtual ethnography" or "digital ethnography" (see Hine, 2000; Howard, 2002). Be that as it may, the situation in Nigerian broadcast journalism is a bit different from what obtains in the mainstream print newsrooms. Radio is a site of production. And because of this, broadcast journalists are often present in their respective stations and departments playing the role of editors preparing news bulletin, producers of programmes, directors of programmes, on-air presenters/personalities, as well as reporters (those on internship and senior colleagues). This situation makes it possible for this group of news workers to be susceptible to in-situ research and on-the-site data collection more than their counterparts, the print journalists. Therefore, given the nature of the problem at hand, the availability of resources and accessibility of the subjects, the researcher followed a non-probability sampling route for the exploratory research. Multi-stage, purposive and snowballing techniques were combined to ensure that the sample for the study is representative of the population. The study was able to achieve this; hence its reliability should be considered high enough at least for an exploratory research. Second, the study ensured that only validated scales were used in the quantitative part of the study. This also followed two previous pilot studies, one in Nigeria and in the United Kingdom, developed to test the appropriateness of approach and methods of data collection. These two procedures were meant to avoid epistemological pitfalls of the quantitative survey research as well as to minimise errors that may invalidate the results and conclusions.

The qualitative semi-structured interview data provided the epistemological tradition of the sociology of journalism that is "how journalists come to perform and inhabit their work roles" and practices (Dickinson, 2008, p.1384) in a digitally changed environment. It ensured that the study is not shallow and monolithic in its findings using the quantitative or qualitative approach alone. With public broadcasting corporations, private and community FM radio stations applied as the "journalistic field" (Bourdieu, 1998; Benson, 2004), the study was able to strengthen the weaknesses of the exploratory design and quantitative data with in-depth descriptions (semi-structured interview data) of the broadcast journalists' daily experiences and uses of new digital technologies.

The study's main focus on radio side of broadcast journalists may be considered as being too narrowly focused on a group of subjects who are not necessarily representative of the Nigerian mainstream journalists or broadcast journalism for that matter. The researcher reiterates the significance of radio as a developmental medium of mass communication in Nigeria despite the availability and growing popularity of television, social media and the mobile phones. The researcher also advocates the main concern of the study was to understand particulars rather than to generalise to universals in keeping with the traditions of investigating an ongoing phenomenon (Spyridou, 2013, Mabweazara, 2015). The narrow focus of the study has important implications for understanding technology adoption practice in tech-savvy nation states underscored by threats with regard to digital divide, internationalisation and globalisation. The context-specific nature if the study creates additional avenue to contribute to the global debates on the influence of new technology on journalism and the understanding of the association between new technologies and mainstream journalism practice in Africa.

It is important to point out that the audience aspect of this study is as essential as the conducting a fuller version of this study focussing on both radio and television broadcast journalists. Broadcast audiences are significant stakeholders in journalism; the psychology of radio is in fact, the psychology of audience (Cantril and Allport, 1935). It will therefore be noteworthy to include the perceptions of audience members into future researches looking into the roles of new technologies on broadcast journalism. As broadcast journalists project certain identities in their role conceptions and/or performance, how these roles are received in non-Western contexts with peculiar socio-cultural, political, and economic backgrounds will add to what is known about journalism in Africa in the digital era? This will further serve as a means of testing and supplementing the predominantly Western examples and theoretical frameworks on which African researchers continue to rely.

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Appendices

Appendix A

Questionnaire adopted for the quantitative study

To Whom It May Concern,

Introduction and Consent to Approach Research Participants

I am a student undertaking a doctoral programme in media and cultural studies at the University of Salford. As part of my course I am undertaking a research titled: **An Exploratory Study of New Media Adoption for Participatory Programming in Southwest Nigeria's Radio Stations**. This is to determine how broadcast journalists' technology adoption is shaping journalistic role conceptions in Nigeria.

Prior to undertaking the study I need your agreement/consent to approach all broadcast journalists in news/current affairs, programming, and production/presentation departments within your organisation to take part in the study. I will recruit people to the study, with your permission, using your direct communication to staffers in these departments and my displayed posters at the reception and/or notice boards. I hope to recruit as many staffers as possible who are willing to participate. I intend to do this via interview and questionnaire (traditional) purposively designed as a scale for measuring technology adoption in journalism.

I can assure you that I will make every effort to ensure the study does not disrupt the working environment in any way and any data collected will remain confidential. I have gained ethical approval for the study from the University of Salford, College of Arts and Media's Ethics Committee.

My research is supervised by Dr Sharon Coen, a Senior Lecturer in Media Psychology. She could be reached at s.coen@salford.ac.uk

Yours Sincerely,

o.oni1@edu.salford.ac.uk
ONI O. Patrick | Doctoral Researcher

Participant Invitation Letter:

Study Title: **AN EXPLORATORY STUDY OF NEW MEDIA ADOPTION FOR PARTICIPATORY PROGRAMMING IN NORTHWEST ENGLAND'S RADIO STATIONS**

Dear Participant,

My name is ONI Olawale Patrick. I am a doctoral candidate in the Arts and Media School at the University of Salford, Manchester. I am conducting a research on how technology adoption is shaping journalistic role conceptions in England's radio broadcasting as part of the requirements of my degree in media and cultural studies, and I would like to invite you to participate.

If you decide to participate, you will be asked to complete some surveys about your ideas concerning the relationships between technology and radio journalism, especially for participatory programming or meet with me for an interview about the phenomenon. Completing the survey is at your discretion and should not take more than 15 minutes. If you are selected for interview instead, the meeting will take place at a mutually agreed upon time and place, and should last about 15 minutes. The interview session will be audio taped so that I can accurately reflect on what is discussed. The audio file will only be reviewed by members of the research team who will transcribe and analyse them.

Participation is confidential. Study information will be kept in a secure location at the University of Salford and then will be destroyed at the completion of the study. The results of the study may be published or presented at professional meetings, and since your identity is not any way important in the study, you are assured of anonymity and responses. So, please do not write your name or other identifying information on any of the study materials.

Taking part in the study is your decision. You do not have to be in this study if you do not want to. You may also quit being in the study at any time or decide not to answer any question you are not comfortable answering.

We will be happy to answer any questions you have about the study. You may contact me at (+⬛⬛⬛⬛⬛⬛ and o.oni1@edu.salfor.ac.uk) or through my supervisor, (Dr Sharon Coen, 0161 295 7031, and s.coen@salford.ac.uk) if you have study related questions or problems. If you have any questions about your rights as a research participant, you may contact the Director of Postgraduate Research, School of Arts and Media at the University of Salford 01612956062.

Thank you for your consideration. If you would like to participate, please pick a questionnaire at the Reception or at the News/Current Affairs Department and begin completing the study materials. When you are done, please return to same place.

With kind regards,

ONI Olawale Patrick
School of Arts and Media (MediaCityUK)
⬛⬛⬛⬛⬛

o.oni1@edu.salford.ac.uk

SECTION A:

This section of the questionnaire asks you to rate your beliefs about the significance of new technologies that facilitate audience participation. Please indicate from scale of 1 being "<u>very untrue of what I believe</u>" to 7 being "<u>very true of what I believe</u>."

New digital technology truly assists me in...	VERY UNTRUE OF WHAT I BELIEVE	UNTRUE OF WHAT I BELIEVE	SOMEWHAT UNTRUE OF WHAT I BELIEVE	NEUTRAL	SOMEWHAT TRUE OF WHAT I BELIEVE	TRUE OF WHAT I BELIEVE	VERY TRUE OF WHAT I BELIEVE
Getting information to the public as quickly as possible							
Providing entertainment to the public in new dimension							
Providing new forms of relaxation to the public							
Staying away from stories where factual content cannot be verified							
Concentrating more on programmes that are of interest to the widest possible audience							
Providing in-depth analysis and interpretation of complex problems							
Investigating claims and statements made by the government							
Providing in-depth analysis and interpretation of international developments							
Discussing national policy while it is still being formulated							
Be an adversary of business by being constantly skeptical of chief executives' actions as business(wo)men.							
Be an adversary of public officials by being constantly skeptical of their actions							
Developing intellectual and cultural interests of the public							
Setting the political agenda							
Giving ordinary people a chance to express their views on public affairs							
Motivating ordinary people to get involved in public discussions of important issues							
Pointing people toward possible solutions to society's problems							
Conducting polls to learn about citizen's priorities on issues							
Providing forum where citizens and community leaders discuss public issues							
Creating opportunity that motivate ordinary people to get involved in decision making on public issues							
Creating an avenue for the previously un-heard voices of ordinary citizens as sources in public affairs stories							

SECTION B:

Please rate your agreement or disagreement to the following statements on your perception of new interactive technology being used for audience participation

	STRONGLY DISAGREE	DISAGREE	SOMEWHAT DISAGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT AGREE	AGREE	STRONGLY AGREE
Interactive technology that guarantees audience participation greatly enhances my overall professional performance as a broadcast journalist.							
I believe my professional performance is better enhanced through use interactive technology that facilitates audience contributions							
New interactive technology that facilitates audience participation in programming is the best thing that has ever happened in broadcasting							
I enjoy using interactive technology which allows me to engage audience on my programming /show							
I catch fun using interactive technology for programming involving audience participation							
I consider interactive technology very easy to use during programming which involves audience participation							
I have been influenced significantly by other broadcast journalists who use interactive technology for programming which involves audience participation.							
I feel proud to be among broadcast journalists who use interactive technology for programming that involves audience participation							
New interactive technology which allows audience participation in programming enhances my sense of duty as a radio broadcast journalist							
I believe audience members are always willing to use technology to contribute to discussions on radio programming.							
I believe audience members lack the technological, educational and financial capabilities to participate meaningfully in radio programming.							
Audience expectations are always very high towards technology driven programming.							
My station generally approves the use of technology to drive audience participation in programming as a means of increasing ranking.							
My station generally approves the use of technology to drive audience participation in programming as a means of attracting sponsorship.							
Technology driven participatory programming needs to be sponsored and supported by the station to be fully effective.							
Technology for audience participation increases the power of broadcast organization to moderate public opinion more successfully than ever							
Programming with audience contribution increases a station's credibility as news source							
Government/broadcasting commission's regulator control is good at this time in checking broadcast journalists' use of technology audience engagement.							
New interactive technology being used for participatory programming should be regulated through new policy.							
New set of policy control over adoption of new interactive technology for audience participation is necessary to put journalism back on the right track.							

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SECTION C1:

If you could choose any of these under-listed technologies to support your perceived roles as a broadcast journalist, how likely is it that you would adopt the technologies?

	VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	NEUTRAL	SOMEWHAT LIKELY	LIKELY	VERY LIKELY
Technologies 1							
Editing Software Packages (e.g. Adobe Audio Editing suites)							
Station Playlist™ or other Studio Playlist Software Packages							
Adobe Photoshops/Corel Draw and/or other graphic software							
Word Processor (MS-Word or other word processing application software)							
Call Management System							
Personal Digital Assistant (PDA)/Digital Organizers							
Computers - Laptops/Tablets/iPads							
Web-cam live studio streaming							
Podcasting							
Other new technologies							
Technologies 2							
Internet Emailing							
Studio websites with interactive feedback for audience commentaries (e.g. Disqus™)							
Internet Social Networks (Facebook/Twitter/Skype etc.)							
Telephone (Voice) Call							
Mobile phone voice call							
Mobile Phone SMS/ Text messaging service							
Smartphones mobile Apps							
Other Internet Phone-call applications							
Other new internet-based and/or mobile telecommunication technologies not mentioned here							

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SECTION C2:

In your daily practice as a broadcast journalist, how often do you use the following technologies?

	NOT AT ALL	RARELY	SOMETIMES BUT NOT VERY OFTEN	NEUTRAL	SOMEWHAT OFTEN	OFTEN	VERY OFTEN
Technologies 1							
Editing Software Packages (e.g. Adobe Audio Editing suites)							
StationPlaylist™ or other Studio Playlist Software Packages							
Adobe Photoshops/Corel Draw or other graphics application							
Word Processor (MS-Word)							
Call Management System							
Personal Digital Assistant (PDA)/Digital Organizers							
Computers – PCs/Laptops/Tablets/iPads							
Web-cam live studio streaming							
Podcasting							
Technologies 2							
Internet Emailing							
Station websites with interactive feedback (e.g. Disqus™) for commentaries							
Internet Social Networks Sites such as (Facebook/Twitter/Skype etc.)							
Land-lineTelephone (Voice) Call							
Mobile Phone Voice Call							
SMS/ Text Messaging (Mobile Phone)							
Smartphones Mobile Apps							
Internet Phone-calls							

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DEMOGRAPHIC DATA: PLEASE TICK THE APPROPRIATE OPTION AND WRITE ON THE LINES WHERE IT IS APPLICABLE TO DO SO.

STATION NAME/DIAL; ....

LOCATION.............................

STATION OWNERSHIP: Public [ ]   Private/Commercial [ ]   Community [ ]

GENDER: Male [ ]   Female [ ]

AGE: Below 18 [ ]   18-35 [ ]   35 and Above [ ]

EDUCATIONAL STATUS: Post-Primary School/College [ ]
Undergraduate [ ]
Diploma [ ]   1st Degree/Higher Diploma Holder [ ]
Graduate (MA/MSc) [ ]   Other PG/Ph.D [ ]

How best would you describe your professional role?
Broadcaster [ ]   Journalist [ ]   Press [ ]
All [ ]

Do you have a broadcasting or journalism training?
YES [ ]   NO [ ]

JOB EXPERIENCE: How long have you been working as a (radio) broadcast journalist? ....

STATUS/ROLE: PRESENTER/CORRESPONDENT/NEWSGATHERER [ ]

Appendix B

Interview questions used for the qualitative study

Q 1:   What is your perception on the use of new communication technologies such as the Internet, mobile phones, computers, etc. in broadcasting especially for audience engagement?

Q2:   Based on your experience, would you say there is progression or retrogression in broadcast journalism practice with the use of new technologies for interactivity in your station's programming?

Q3:   How have technologies impacted on the profession (broadcast journalism) – from your own perspective – what would you say about your roles and how technologies have affected theories you play as a broadcast journalist?

Q4:   Literatures have put journalistic roles into 4 or 5 different categories: as disseminator of information, as teacher/educator, as investigator, as critical analyst or interpreter, as populist mobiliser/public sensitizer, and socially responsible professional. In view of these roles, which of these roles would you say best suits you and do you think new commination technologies have impacted in the discharge of these roles you play?

Q5:   In terms of gender and job status (as …. Officer), is there any way you believe technologies have been influential or restrictive?

Q6:   If you assess your programming in this station, kindly rate your extent of interactivity. You may put this in percentage if you don't mind, having looked through your weekly programme schedule for the station?