

**A MODEL FOR ENHANCING TRUST IN INFORMATION SYSTEMS TOOLS WITHIN
NIGERIAN MEDIA PLANNING AGENCIES**

Olutoyin Olaitan



University of Fort Hare
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**A MODEL FOR ENHANCING TRUST IN INFORMATION SYSTEMS TOOLS WITHIN
NIGERIAN MEDIA PLANNING AGENCIES**

By

Olutoyin Olaitan

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Abstract

Media Planning Agencies (MPAs) are responsible for purchasing time and advertising space on behalf of organisations who desire to advertise or market their products and services (Kupoluyi, 2011). These agencies perform their tasks based on the evaluative factors of pricing, demographics, reach, psychographics and other factors relevant to the clients' target market which are all enabled by technology. MPAs utilise industry specific Information Systems (IS) tools in their business processes. McKnight (2005) contends that trust in IS tools directly impacts on the willingness of a user to depend on such IS tools for accomplishing their goals. The research problem exists due to the fact that the current level of trust in these IS tools employed within MPAs in Nigeria is very low (Egbonwon, 2012). This distrust has led to the non-optimisation of the available tools. Empirical findings reveal that most of the personnel in these agencies prefer to actualise their processes manually, or at best with the limited aid of Microsoft Office tools such as Excel and Word (Akharume, 2012). Thus the research problem investigated trust-enhancing mechanisms for IS tools in MPAs to improve efficient and effective use.

The study conducted an in-depth critique of the role of trust in maximizing IS tools to improve efficiency and effectiveness within Nigerian Small and Medium Enterprises (SMEs). This was done through a literature review and questionnaire. The output of the research process is the proposition of a model for enhancing trust in IS tools within MPAs. The study proposed that the enhancement of trust in IS tools will lead to optimal use of these tools, thus leading to efficiency and effectiveness in the operations of Nigerian MPAs. The model was developed by following Hevner, March, Park and Ram's (2004) Design Science research guidelines and validated through an expert review process. The outcome of the expert review was used to further refine the model and thereafter conclude the study. It is believed that the outcome of this research will empower MPAs to become competitive nationally, grow into global players in their industry and achieve efficiency with regards to how business is conducted.

Declaration

I, Olaitan Olutoyin (201013856), hereby declare that:

- The work in this dissertation is my own work.
- All sources used or referred to have been documented and recognised.
- This dissertation has not previously been submitted in full or partial fulfilment of the requirements for an equivalent or higher qualification at any other recognised educational institution.
- I am fully aware of the University of Fort Hare's policy on plagiarism and I have taken every precaution to comply with the regulations.
- I am fully aware of the University of Fort Hare's policy on research ethics and I have taken every precaution to comply with the regulations. I have obtained an ethical clearance certificate from the University of Fort Hare's Research Committee and my reference number is the following: **PID01 ISOLA01** (attached as Appendix A).

12th June 2014

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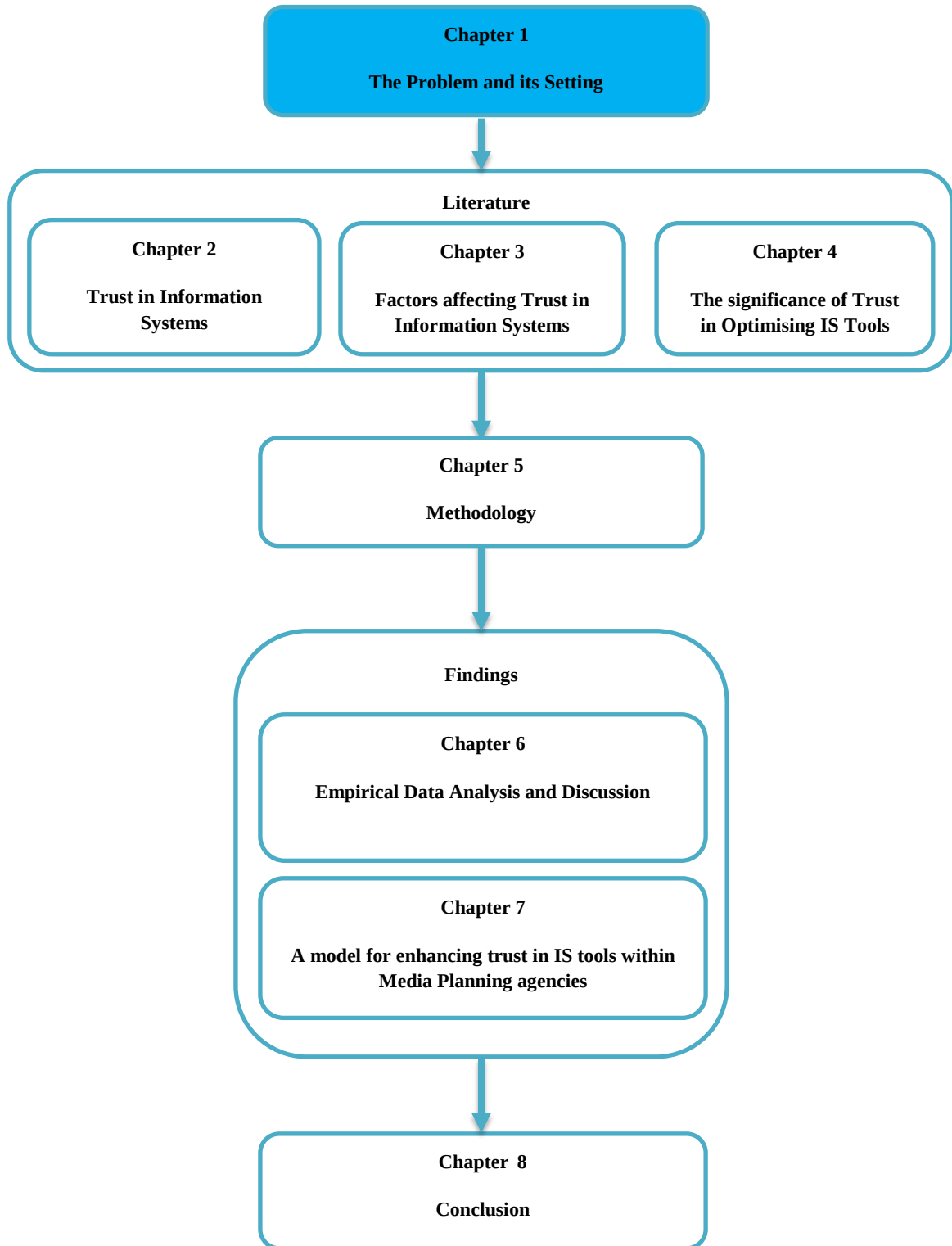
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Abbreviations and Acronyms

AMPS	All Media and Product Surveys (Products, Brands and activities)
APCON	Advertising Practitioners Council of Nigeria
ASAI	Average Service Availability Index
CAIDI	Consumer Average Interruption Duration Index
DOI	Diffusion of Innovation
EVID	Electronic Voter Identification Device
FDI	Foreign Direct Investment
GNI	Gross National Income
GNP	Gross National Product
IDRC	International Research Development Centre
IS	Information Systems
IT	Information Technology
MMS	Media Monitoring Services
MPA	Media Planning Agency
MPS	Media Planning Services
NEPA	National Electric Power Authority
PHCN	Power Holding Company of Nigeria
RAMS	Radio Audience Measurement Survey
ROI	Return on Investment
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SMEs	Small and Medium Enterprises
SMEDAN	Small and Medium Enterprises Development Agency of Nigeria
TAMS	Television Audience Measurement Survey
TI	Transparency International
TIST	Trust in Information Systems
TOE	Technology-Organisation-Environment
TSDE	Trust-Supporting Design Elements

Chapter 1:

The Problem and Its Setting



1.1 Introduction

The significance of trust in the Information Systems (IS) domain has been a topic of increasing interest in IS research in recent years (Li, Hess, & Valacich, 2008). The criticality of trust in IS tools is based on divergent arguments. McKnight (2005) argues that the desire to adopt a particular IS tool is predicated on the trust reposed in the system to deliver the expected end results. McKnight, Carter, Thatcher and Clay (2011) contend further that trust situations arise whenever one becomes vulnerable to a person or an object and depends on it to perform tasks with the aim of achieving a particular goal in spite of the trustee's volition or consent. Thus, trust is described as a belief in the dependability of an external party to deliver on its promises, whether this promise is explicit or implicit in a relational context (Arnott, 2007). In this vein, trust in an IS tool can be regarded as the belief that it will behave as expected, be fit for the intended use and will achieve the desired end goal (Mayer, Davis & Schoorman, 1995).

The trust construct is central in IS because organisations rely on IS tools to make decisions on a managerial level (Bannocks, 2005). These decisions encompass the strategic plans to grow the company, decipher customer requirements on a marketing level and actualise all the processes necessary to ensure the right decisions are made and the business runs efficiently on a process level (Stair, Reynolds, & Chesney, 2008). It is therefore imperative that such a vital tool engenders trust in both the users and other stakeholders. This is to ensure that when decisions are implemented based on usage of these IS tools they generate appropriate and expected results that will make users loyal to the implemented technologies.

Furthermore, trust in IS tools has become a crucial construct because of the vital role played by these tools in everyday living (McKnight, 2005). The Internet has made IS an indelible part of life for millions based on its Web 2.0 abilities and the dynamism of various software applications which has made a profound impact on daily living (Luiz, 2010). Thus, it becomes critical that these IS tools be analytically surveyed to ensure that those dependent on its capabilities are not put at risk and are able to achieve their objectives with the aid of these IS tools. These concepts are relevant in the context of this study, which is based on the Nigerian Media Planning Sector.

Nigeria is considered as one of the fastest growing users of IS and new technologies in Africa (Akpan-Obong, 2009). However, there are questions as to whether Nigerian Small and Medium Enterprises (SMEs) are maximising the value of IS tools in their business processes (Apulu & Ige, 2011). According to Apulu and Ige (2011), IS tools are already playing an important role in enabling Nigerian SMEs to improve their processes, store and retrieve information and reposition themselves for competitive advantage. In spite of this fact, there is a dearth of literature regarding the disposition of users towards the IS tools they interact with on a daily basis (Apulu & Ige, 2011). This study aims to close this gap by doing an in-depth critique of the role of trust in IS tools and how this trust can improve efficiency and effectiveness within Nigerian SMEs, using Media Planning Agencies (MPAs) as the context for the research.

MPAs are responsible for purchasing time and advertising space on behalf of organisations who desire to advertise or market their products and services (Kupoluyi, 2011). These agencies perform their tasks based on the evaluative factors of pricing, demographics, reach, psychographics and other factors relevant to the clients' target market (Kupoluyi, 2011). All of these tasks are enabled by IS tools. MPAs in Nigeria are challenged to employ IS tools that will ensure that the strategic and marketing objectives of their clients are met. IS tools also play a pivotal role in enabling successful marketing campaigns for the clientele of Nigerian MPAs.

The use of IS tools within MPAs in Nigeria has evolved over the years. MPAs have progressed from manual planning to the use of Excel spreadsheets, and more recently to IS tools such as Mediastar, Espri, Zplan and Ariana. A detailed description of the functionalities of the aforementioned tools and their relevance to the media planning process is done in section 1.7 of this chapter. Mediastar is the most widely used of the aforementioned IS tools developed for the industry (Akharume, 2012). Over 80% of Nigerian MPAs rely on Mediastar for their pre-campaign demographic and media habits information (Thorpe, 2008). The IS tool is also employed for post-campaign analysis (Egbonwon, 2012; Thorpe, 2008).

To this end, this study aims to propose a model to improve trust in IS tools such as Mediastar, thus leading to maximisation of the functionalities of the IS tools in the operations of Nigerian MPAs. The building of trust is a critical factor if media planning practitioners in these agencies are to maximise usage of the available IS tools. Optimal usage will in turn empower them to become competitive nationally, grow into global players in the industry and achieve efficiency with regards to how business is conducted (Jones & Tilley, 2003). Improved IS trust will further ensure that the MPAs have the buy-in of both its clientele and the internal stakeholders in fulfilling their mandate successfully.

The research problem is outlined in the next section. This is followed by the research question and sub-questions. The objective of the study is stated, thereafter, the significance of the study is discussed, followed by a comprehensive review of secondary literature in the field of study including theories relevant to this research project. Subsequently, the research design, methodology and limitations of the study are provided. This is followed by a brief description of the contents of the chapters of this dissertation.

1.2 The Problem and Its Setting

MPAs need to utilise IS tools in their business processes (Thorpe, 2008). The research problem exists due to the fact that the current level of trust in IS tools employed within MPAs in Nigeria is very low (Egbonwon, 2012). McKnight (2005) contend that trust in IS tools directly impacts on the willingness of a user to depend on such IS tool for accomplishing his goals. Most of the agencies have approached the use of IS tools for their business processes in an ad-hoc manner (Akharume, 2012). There are several media planning and analysis IS tools procured by these agencies for planning, executing and monitoring their campaigns (Egbonwon, 2012). In spite of this, most of the personnel in these agencies prefer to actualise

their processes manually, or at best with the limited aid of Microsoft office tools such as Excel and Word (Akharume, 2012).

The general belief amongst media planning practitioners in the industry is that the IS tools cannot be trusted to speedily deliver required output, are not flexible to customisation and thus makes it difficult to ensure that clients' deadlines are met timeously (Akharume, 2012). Akharume (2012) argues further that a media planning practitioner proficient in the use of Microsoft Excel will spend about 50% less time planning and deploying a marketing campaign than if he depends on the use of IS tools purchased for the purpose. ***It is therefore surmised that lack of trust in IS tools is the major reason why these employees do not fully utilise the media planning tools that are at their disposal.***

The research problem is interrogated to determine the areas where IS trust can be enhanced in these agencies to ensure effective and optimal usage. McKnight (2005) states that trust is typically based on the characteristics of the trustee. Following from this premise, this study investigates the effect of systems trust in the context of Nigerian MPAs. The study further discusses the vital role trust in IS tools plays in enabling these MPAs to fulfill their mandate to their clients in the most effective and efficient manner. In order to investigate the problem stated above, the following research questions were investigated:

1.3 Research Question and Objectives

1.3.1 Primary Research Question

How can trust in IS tools be enhanced in Nigerian Media Planning Agencies in order to ensure optimal usage of the available tools?

To assist in answering this research question, the following secondary research questions were investigated:

1.3.2 Secondary Research Questions

1.3.2.1 How is Trust in Information Systems Tools Currently Perceived in Nigerian Media Planning Agencies?

The study investigates the current IS tools in MPAs and the level of trust reposed in them by employees. According to Egbowon (2012), there is sub-optimal usage of IS tools in a qualitative way that can serve to markedly improve the processes and procedures of these MPAs to deliver services efficiently and effectively. The IS tools available in Nigerian MPAs include: Mediastar, Media Express, Media 2010, Zplan, Espri, Able and Ariana. However, research into the use of the available IS tools reveal that the level of trust in their ability to carry out the assigned tasks is considerably low, hence employees, account executives, account planners and other relevant stakeholders prefer to use other tools like Excel to get their

work processes accomplished (Akharume, 2012). This sub-question therefore made an in-depth analysis of how the subject of trust in IS tools is regarded in the industry.

1.3.2.2 How Does Trust Impact on the Use of Information Systems Tools Within Media Planning Agencies?

This sub-question critically examined the literature on trust. Definitions and concepts of trust were discussed, with a focus on the trust concept from a person to technology point of view. An analysis of the McKnight theory of trust (McKnight, 2005), the Diffusion of Innovation (DOI) theory (Rogers, 1995) and the Technology-Organisation-Environment (TOE) framework (Tornatzky & Fleischer, 1990) was carried out. This is for the purpose of grounding the research on a sound theoretical basis. The sub-question discussed the criticality of enhancing trust in IS tools within Nigerian MPAs by employing the McKnight trust theory and the DOI theory to analyse the impact of trust on the adoption, usage and optimisation of IS tools.

The importance of MPAs to the Nigerian economy was discussed, with facts and figures to show the exponential growth being experienced by the industry in recent years. A diagram depicting the relevance of trust in IS tools was used to show the relationship between trust in IS tools and its increased capabilities and maximum usage. The sub question also discussed the difference in interpersonal trust and human to technology trust. This was done with a view of relating the impact of human to technology trust with the usage of these IS tools. In addition, the contention that the available IS does not allow changes to media plans and revisions without going through a rigorous process was discussed. The lack of trust arising from the perceived complexity of these IS tools were also discussed.

1.3.2.3 What are the Factors that Affect Trust in Information Systems Tools Within Media Planning Agencies?

This sub question critically examined the factors that affect stakeholder trust in the current IS tools employed within MPAs in Nigeria. Based on the TOE framework discussed in chapter 2, the developmental challenges of sub-Saharan Africa, the impact of infrastructural failures and the so called digital divide on the use of technology in Nigerian SMEs were discussed. This was crucial in order to contextualise the factors affecting trust in IS tools to the TOE where these MPAs operate and to deduce the factors that may contribute to the lack of trust in IS tools within these agencies.

Extant literature revealed that some of these factors are the attitude of the CEO to IS tools, perceptions about the technology, resistance to change, and a general distrust of IS application vendors (Lippert, 2007). Finally, the challenges of managing complex, multi-dimensional IS in a country with limited infrastructures, systemic corruption and constant power failures was discussed (Adenikinju, 2005).

Findings from the literature confirmed the impact of the aforementioned challenges on the disposition of media planning practitioners to the IS tools that are available to them in the workplace.

1.3.2.4 How Can Trust in Information Systems Tools Improve Effectiveness and Efficiency in the Operation of These Media Planning Agencies?

SMEs do not have access to the same resources and capabilities as a large corporation (Bannocks, 2005). For this reason, they cautiously venture into IS investments, without a clear understanding or great expectations of what IS tools can do to improve efficiency and effectiveness in the agency. Many SMEs consider IS tools primarily as a means of automating their existing processes. According to McKnight (2005), trusting behaviour automatically leads to trusting intention. As a result of lack of trust, many of the IS tools available in the MPAs are not being maximised by the relevant employees. The effect of this is that IS tools are not being used to improve competencies in the business processes of these MPAs. Based on this argument, it is hypothesised that with the enhancement of trust in IS tools, the user, the clientele and other stakeholders will develop a trusting attitude in the tools, consequently leading to maximisation of IS tools to accomplish strategic and operational goals in a more effective and efficient way.

1.3.3 Objective of the Study

The objective of this research project is to propose a model that will serve to enhance trust in IS tools used by Nigerian MPAs; thereby ensuring optimal use of these IS tools in support of decision making.

1.4 Significance of the Study

The concept of trust has gained increasing attention in IS research in recent years. Whilst the trust construct relating to human beings is based on the premise of a person being a volitional and moral agent, trust in the IS context is predicated on the inherent characteristics and capabilities of the system to deliver the needed and required service or results to the user (McKnight, 2005). The trust element is hence a very strong concept in relation to IS artifacts; this is because trust in a particular IS tool will determine the disposition of users towards it. Trust also affects how this enhances the efficiency and effectiveness of such applications in providing solutions to business problems.

The marketing communication industry in Nigeria has grown exponentially over the past ten years. The total advertising spend for 2012 in Nigeria was approximately 92 billion naira (\$566, 7200, 000.00) (Media Monitoring Services (MMS), 2013b). Although the official figure for 2013 has not yet been released, a 10% rise in the advertising spend is expected to be reported to the total advertising budget for the industry in 2013 (MMS, 2013b). A positive effect of this exponential growth is the fact that the services of MPAs are increasingly in demand. This is due to the fact that there are new products and services that need to be marketed to consumers across the country. However, there are several challenges and limitations faced by

MPAs in the process of achieving the objectives stated above. Some of the challenges are: the dearth of basic infrastructure; limitations in the capabilities of these SMEs in the area of strategic planning; and ineffective implementation of operational and strategic plans (Akpan-Obong, 2009).

To address some of these challenges, MPAs must be able to leverage IS tools correctly. If this is done, they can achieve better operational efficiencies. The maximal use of IS tools in this regard will form a distinct strategic competitive advantage for the agencies (Gorla, Somers, & Wong, 2010). The significance of this study is for MPAs to take cognisance of the role of trust in IS tools, and take steps that will enhance the effective and efficient deployment of the tools within its stakeholder community.

1.5 Literature Review

1.5.1 Theoretical Background

A good research project must base its foundation on a sound theoretical background (Hofstee, 2006). A well-structured literature review should consist of a theoretical background as well as a critique of known and relevant work in the researcher's field of study (Friedman, 2003). This research project examined the role of systems trust in engendering loyalty in the IS tools employed by MPAs in Nigeria. This is crucial as the reposition of trust by users and other stakeholders will greatly improve the efficiency and effectiveness of the agencies in fulfilling the mandate given to them by clients. This research project grounds its secondary research literature on the theories discussed below.

1.5.1.1 McKnight (2005) Trust Theory

According to McKnight (2005), trust is a four-form composite construct consisting of:

1. *Trusting behaviour* which is described as the trusting's party's action of dependence on the trusted object.
2. *Trusting intention* which is the willingness of the trusting party to perform a trusting behaviour.
3. *Trusting attitude* which is the trusting subject's evaluation of the trusting behaviour.
4. *Trusting belief* which is the trusting subject's information and perception of the trusting object, other people and trusting contexts (McKnight, 2005).

Based on this four form construct, the theory is relevant to the research as it is a valuable tool in analysing the impact that trust in IS tools has in garnering user's confidence. Figure 1.1 below is adapted to interrogate the concept of IS trust in the context of Nigerian MPAs.

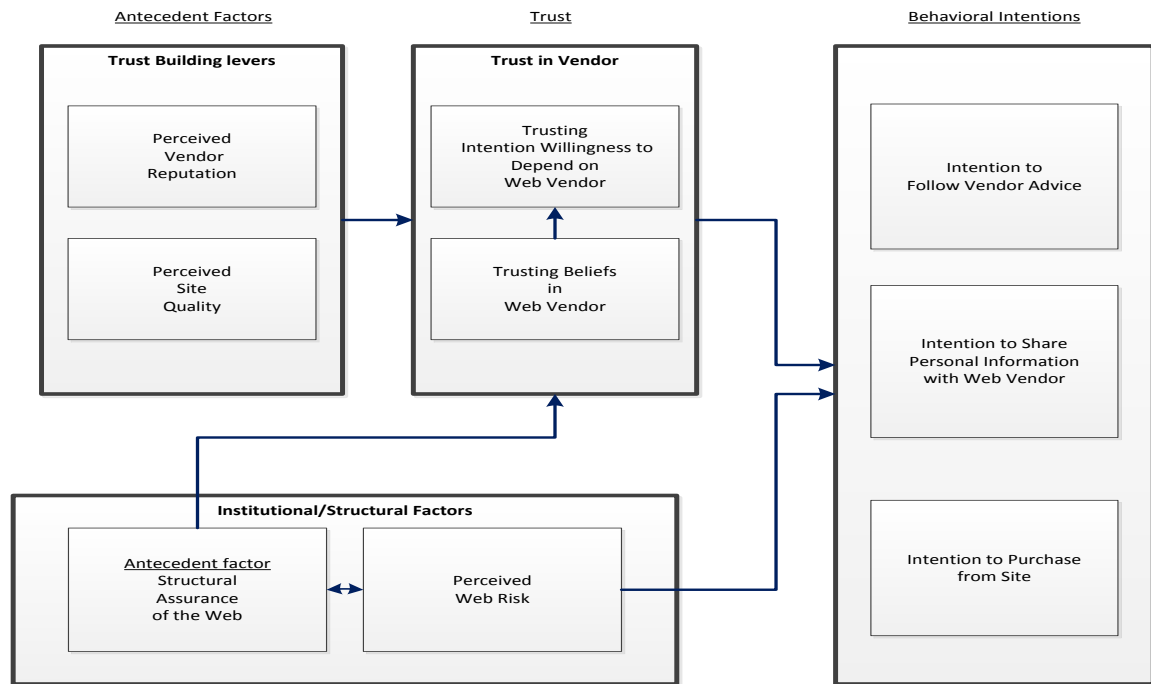


Figure 1.1: Trust Building Model (Adapted from: McKnight, Choudhury & Kacmar, 2002)

The trust building model (Figure 1.1) depicts the relationship between trust building levers, trust and behavioural intentions. In other words, the perception of a particular online business vendor based on product quality and structural assurance will determine the willingness to trust such a vendor. Trusting intention in this regard will be the intention to use the vendor as trust has been created. The relevance of this theory to this study is to show that an enhancement of trust in IS tools will lead to its optimisation, hence the IS tool itself is the focus of trust building levers and trust in the context of this study. Once trust is enhanced, IS tools will be optimised. This will in turn lead to improved efficiency and effectiveness in the MPAs, thereby increasing each agency's competitive advantage.

1.5.1.2 The Diffusion of Innovation Theory

The DOI theory encompasses five significant innovation characteristics namely: relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995). This theory presents a thought-provoking argument for the process of innovation regarding decisions in the human mind. The argument behind this theory states that people will embrace innovation if they believe it will be of the greater benefit, given all the options available to them. The theory also states that the 'bandwagon effect' is a major factor in how people embrace innovation and change. The relevance of the theory to the trust construct is the fact that when there is trust in IS tools within MPAs, users and stakeholders will employ it to actualise their business processes. To this end, late adopters who perceive how the trusted IS tools has facilitated efficiency and effectiveness in these agencies will also adapt their businesses to the IS tools, thereby promoting automation and a linear business process across the Media Planning industry.

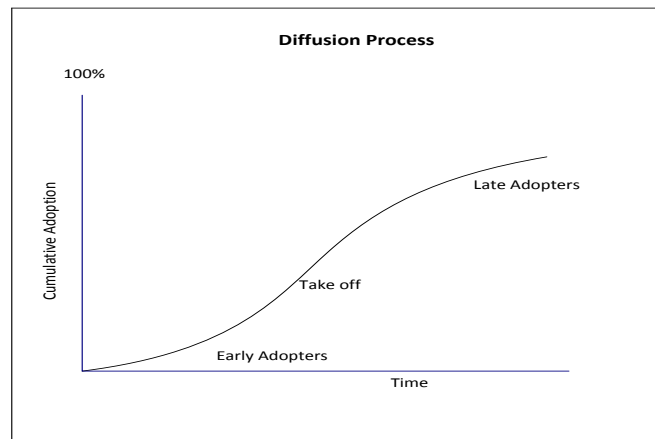


Figure 1.2: Diffusion of Innovation Theory (Source: Rogers, 1995)

1.5.1.3 Technology-Organisation-Environment Framework

The TOE framework postulates that the implementation, adoption and use of a technology, or IS tool is influenced by many contexts: technological, organisational and environmental (Tornatzky & Fleischer, 1990). A depiction of the TOE framework is presented in Figure 1.3.

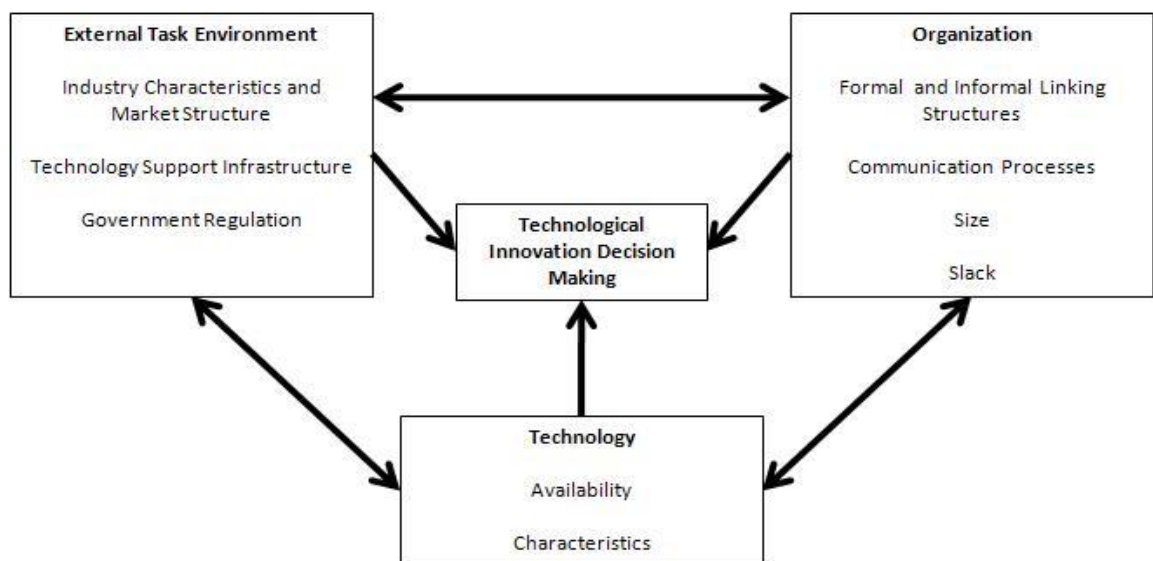


Figure 1.3: Technology-Organisation-Environment Framework (Source: Tornatzky & Fleischer, 1990)

For the purpose of this research, we describe the technological context as both the internal and external technologies that are relevant to MPAs as they operate within and as part of the larger society. Organisational context refers to the factors within the firm such as management and managerial style, size, scope and work culture. The environmental context refers to the factors, internal and external to the MPAs that may impact positively or negatively on the media planning practitioner's ability or willingness to trust the IS tools in the workplace. It is surmised that these three contexts are critical in investigating the factors

that affect trust in technology within MPAs hence the choice of the TOE framework to investigate the research problem.

1.5.2 Empirical Literature

1.5.2.1 The Impact of Information Systems Tools Within SMEs

Most of the literature pertaining to trust in technology has been centered on e-commerce, e-banking and online shopping (Kuriyan, Kitner, & Watkins, 2010). Research focus on the area became imperative as there was a need to understand the reason people seemingly place unreserved trust in certain online transactional sites, parting with their most intimate personal and financial details, yet decline to do business with other sites (Tang & Wei-Hai, 2005). Furthermore, research on the importance of trust in IS tools has focused mainly on developed economies (Chung & Kwon, 2009). The dimension of trust in the actual IS tool is relatively new. The core of the ‘trust’ research had focused on transactional trust between individual actors and stakeholder communities using IS tools to accomplish several support goals (Kuriyan, *et al*, 2010).

It is apparent that the same conceptualisation of trust applicable to human interrelationships using IS tools cannot be applicable in the argument for human to IS tool trust (Goldbeck & Hendler, 2006). Hence, the description of technological trust which states that it represents trust by individuals or institutions in technologies, from a reliability and security perspective is considered apt for this study (McKnight, *et al*, 2002). For the purpose of this study, the following definition of the concept of technology trust is considered appropriate: **“a willingness to depend on a person or object to perform a certain task in the most efficient way that will enable the trustor to achieve set goals and objectives”** (McKnight, *et al*, 2011, p. 12:5). A comprehensive discussion of several trust definitions and descriptions is provided in Chapter Two of this study, after which a definition was adapted for the entire research process.

As a result of the proven value of IS, organisations are now more actively involved in the choice of IS tools to enable processes as well as to enhance their competitive advantage (Bannocks, 2005). The role of Information Technology (IT) or IS is no longer that of a support tool but one that positions the firm for major competitive advantage. Research also shows that organisations who implement a structured and carefully designed IS strategy make better decisions and are able to tie these decisions to value creation for the organisation (Van, 2005; Bannocks, 2005; Gold & Thorpe, 2009).

The technology ‘revolution’ impacts on large corporations as well as SMEs. This research focuses on trust in IS tools within SMEs in Nigeria and grounds its context in the marketing communications sector of the economy, with a direct focus on MPAs. SMEs are thus defined, with particular reference to the Nigerian context in the next section of this chapter.

1.5.2.2 SMEs: Definitions and Role in National Economies

Globally, there has been a lack of consensus on what should be the criteria for defining an SME (Bannocks, 2005). A generic definition for an SME is impossible as organisations across countries vary in size, management, business sector requirements and financial capabilities. This study therefore adopts the European Union definition of SMEs based on the table below as a generic guide for the kind of organisation that is regarded as an SME.

Table 1.1: European Union Definition of SMEs (Burns, 2003, p. 182)

Maximum	Micro Enterprise	Small	Medium - sized
Number of employees	10	50	250
Turnover (million euro)	N/A	7	40
Balance sheet (million euro)	N/A	5	27
Independence criterion	N/A	25%	25%

However, since this study sets its empirical framework in the Nigerian SME, it becomes imperative to define an SME in a Nigerian context for the purpose of this research. The Central Bank of Nigeria gives a guideline that describes an SME as one that has in its employment less than 100 people and whose annual turnover is less than N100,000.000 (One hundred million naira) (Osolor, 2009). Also, the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) describes the different aspects of SMEs as:

- A small enterprise is one whose total assets (excluding land and building) are above five million naira but not exceeding fifty million naira, with a total workforce of above ten, but not exceeding forty-nine employees.
- Medium enterprises are those with total assets (excluding land and building) above fifty million naira, but not exceeding five hundred million naira, with a total workforce of between 50 and 199 employees (SMEDAN & NBS, 2010).

Although there are many other definitions for SMEs in Nigeria, the SMEDAN definition of SMEs is thus adopted for the purpose of this study. The rationale for this choice is the fact that SMEDAN is involved with several initiatives to assist SMEs in fulfilling their dreams of running sustainable and profitable businesses. The organisation therefore has a good knowledge of what constitutes an SME in the Nigerian context.

1.5.2.3 The Use of Information Systems Tools in Nigerian Media Planning Agencies

Prior to the introduction of sophisticated media planning and buying IS tools in the Nigerian market, media planning and buying comprised of advert placements in media without pre-knowledge of the target audience, nor research-based information as to whether the message will be delivered to the right audience at the right place and time. MPAs spent quality official time piling up hard copies of files which was time

Chapter 1: The Problem and Its Setting

consuming. However, with the introduction of sophisticated media tools, planning and buying evolved from mere placing of adverts to research based output. Some of these tools are: Media2010, MediaExpress, Mediastar, Zplan, Espri, Ariana and Able.

Mediastar is software for diary-based media planning provided by Media Planning Services (MPS). Mediastar is the most widely used of all the IS tools available in the media planning industry in Nigeria (MMS, 2013b). The most used diaries in the Nigerian media industry are:

1. AMPS-All Media and Product Surveys (Products, Brands and activities)
2. RAMS-Radio Audience Measurement Survey
3. TAMS – Television Audience Measurement Survey

Mediastar provides the user with the demographics, psychographics as well as general media habits of any defined audience. Hence, it gives the user a general understanding of the target audience. A screen shot of the Mediastar application is shown in Figure 1.4.

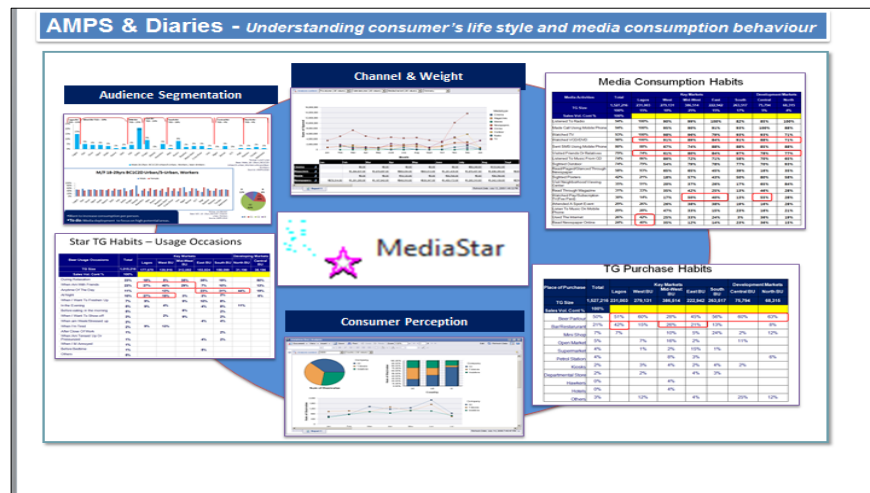


Figure 1.4: Screen Shot of Mediastar (Source: Akeni, 2013)

Media2010 and Media Express are media implementation and operational tools meant to reduce the time spent generating media plans and contracts for suppliers and media houses (MMS, 2013b, Kupoluyi, 2011). Zplan is similar to MediaExpress and Media2010 in functionality. It is currently being tested in the Nigerian market. Media plans are generated on the software based on information extracted from research based software (Mediastar). Espri provides data to evaluate target audiences against media habits, lifestyle activities, product usage and other psychographics. Media orders and contracts and compliance reports are subsequently generated. A screen shot of the functions of Mediexpress is shown in Figure 1.5.



Figure 1.5: Screen Shot of MediaXpress/ m2010 (Source: Akeni, 2013)

Unlike Media2010 and MediaExpress, Able is a more sophisticated media implementation and operational software that spans from planning and buying to finance (Akharume, 2012). All operational jobs are done and tracked on the software: media plan, media contract, compliance report, invoicing to client. All of these IS tools can be modified to suit an agency's business processes. The above mentioned IS tools were procured to make the task of running multi-faceted campaigns more scientific and deliver greater value to the clientele of these SMEs. However, lack of trust in the tools has made it challenging to achieve the stated goals.

1.6 Research Design and Methodology

1.6.1 Research Paradigm

Every research must align its thinking and logic to a known or established philosophical paradigm. In essence, a study must identify with a discernible perspective of the world. It also means that the research questions and roadmap to gaining a conclusion in a research study must reflect this philosophical paradigm (Oates, 2006).

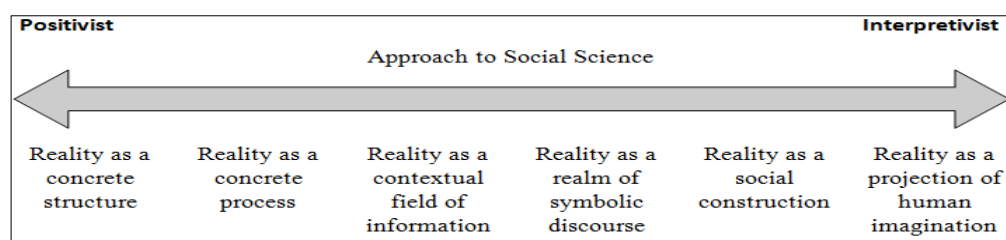


Figure 1.6: Typology of Assumptions on a Continuum of Paradigms (Source: Collis & Hussey, 2009)

According to Collis and Hussey (2009) the two extreme paradigms of research are shown on a continuum (Figure 1.6). This research project has the ultimate aim of proposing a model to improve trust in IS tools within MPAs. The IS domain is an intertwined domain of people and technology (Duggan & Reichgelt, 2006); hence the thrust of the research will be leaning towards an interpretive methodology rather than a positivist paradigm. The goal of an interpretive research method is to understand and analyse the context as well as the process of an Information System. The research therefore falls into the category of "Reality

as a Contextual field of Information” on the continuum of Core Ontological Assumptions (Figure 1.6). The primary research was conducted and analysed by mixed methods.

1.6.2 Research Methodology

The purpose of a research methodology is to give an unequivocal, easily tested depiction or roadmap of how the researcher derived the conclusion to the study (Hofstee, 2006). An independent reader must be able to deduce the process through which the conclusions in a study were drawn (Oates, 2006; Hofstee, 2006; Friedman, 2003). Design Science guidelines constitute the method of drawing conclusions and recommending a model for the purpose of this study.

1.6.3 Design Science Methodology

Design Science organises secondary data in an iterative manner. The purpose of this is to innovate a model by way of primary research that will solve a known problem in a more efficient and effective way (Hevner, *et al*, 2004). The purpose of the research design in this study is to develop a model that will improve trust in the IS employed in MPAs, hence helping these agencies to do business with better agility and greater efficiency. The model or construct that is thus developed will be validated by a team of experts in the chosen field. The research is patterned after Hevner’s seven guidelines for Design Science (Hevner *et al*. 2004). The table below is an illustration of how the seven guidelines were applied in this study.

Table 1.2: Design Science Guidelines (Source: Hevner, March, Park, & Ram, 2004)

Guideline	Description	Application
1. Design as an Artefact	Design Science research must produce a viable artefact in the form of a construct, a model, a method, or an instantiation.	The objective of the study is to produce a model that will enhance Systems trust in Nigerian MPAs.
2. Problem Relevance	The objective of Design Science research is to develop technology-based solutions to important and relevant business problems.	Secondary literature in this area of study has shown that trust in the IS enhances the efficiency and effectiveness of the artefact in the context of the firm, a model to improve systems trust will therefore ensure greater value for MPAs.
3. Design Evaluation	The utility, quality and efficacy of a design artefact must be rigorously demonstrated via well-executed evaluation methods.	The research model will be based on an iterative process whereby relevant data will be gathered, processed and validated by experts in the field of study.
4. Research Contributions	Effective Design Science research must provide clear and verifiable contributions in the areas of the design artefact, design foundation, and/or design methodologies.	The contribution of this study is the research model; this will add value to the body of knowledge in the area of the impact of trust in IS.
5. Research Rigor	Design Science research relies upon the application of rigorous methods in both the construction and evaluation of the design artefact.	The research project will employ ethical and validated methods for data gathering and analysis. Experts in the industry will also review the research outcomes.
6. Design as a Search Process	The search for an effective artefact requires utilizing available means to reach desired ends while satisfying laws in the problem environment.	Questionnaires will be used to gather primary data for the study. Expert review will be the process of validating the research findings.

Guideline	Description	Application
7. Communication of Research	Design Science research must be presented effectively both to technology-oriented as well as management-oriented audiences.	The author has submitted a paper for publication outlining the unique contribution of this study to the existing body of knowledge (attached in Appendix C).

1.7 Data Collection

The main method of collecting data for the primary research in this study was by means of questionnaires. The choice of this technique is based on the research paradigm, which is qualitative and interpretive in nature. The questions are adapted based on previous questionnaires regarding trust in IS tools but tailored to the context of Nigerian MPAs. This method of designing questionnaires ensures reliability and validity of information (Saunders, Lewis, & Thornhill, 2012). A pilot study was conducted amongst fellow students and a limited number of media executives.

A pilot study enables the researcher to test the adequacy of planned research instruments and identify possible pitfalls in the overall research (Teijlingen & Hundley, 2001). Pilot studies also reveal the feasibility and relevance of the proposed research to the body of knowledge in the chosen field (Teijlingen & Hundley, 2001). The questionnaires were distributed via a link to a web-based questionnaire and mailed to participants. Hard copies of the questionnaires were sent to respondents who have no Internet access. Five experts who are stakeholders in the Media Planning industry were employed for the expert review process.

1.7.1 Sample Size

An effective sample size for a qualitative research will adequately address all areas of the research question being interrogated (Marshall & Rossman, 2010). Furthermore, qualitative research is a process, hence an ideal sample size is one that interrogates the research topic to the point where a matching pattern can be identified in the data collected (Trotter, 2012). The research employs a non-probability, random method of sampling. According to the regulatory body for Advertising in Nigeria, the official population size of MPAs in Nigeria is 94 (ninety-four). The sample size for the study is sixty participants comprising CEOs, account managers and account executives who have access to the IS tools outlined earlier in this study.

The respondents were selected from amongst the MPAs registered with the regulatory Advertising body in Nigeria (APCON). The sample size represents approximately 10% of the industry in the country. A sample of five experts randomly selected from the industry, the IS tools vendors' and academic experts in the field of technology trust were used for the expert review process. Expert reviews provide a depth of analysis of the research findings that the researcher may not have considered (Tessmer, 1993). The essence of random sampling is that a relevant bias exists in the group of respondents (Lancaster, 2005).

The research ensured that only people who are stakeholders in the Media Planning Industry in Nigeria were targeted as respondents for data collection.

1.7.2 Data Analysis Method

The purpose of data analysis is to provide a depiction of the relationships between concepts, constructs and variables in the data collected (Cooper & Schindler, 2010). The secondary and primary data collected were analysed and grouped inductively. The purpose of this is to be able to summarise the findings and synthesise them into a model for the improvement of trust in IS tools for MPAs in Nigeria. Patterns and trends were also analysed based on the research question and the findings linked to the research problem. Recommendations were made based on these findings. The findings were thereafter sent to experts for review. Feedback from the experts was incorporated to refine the final model. Figure 1.7 below serves to illustrate the iterative process through which the research was conducted.

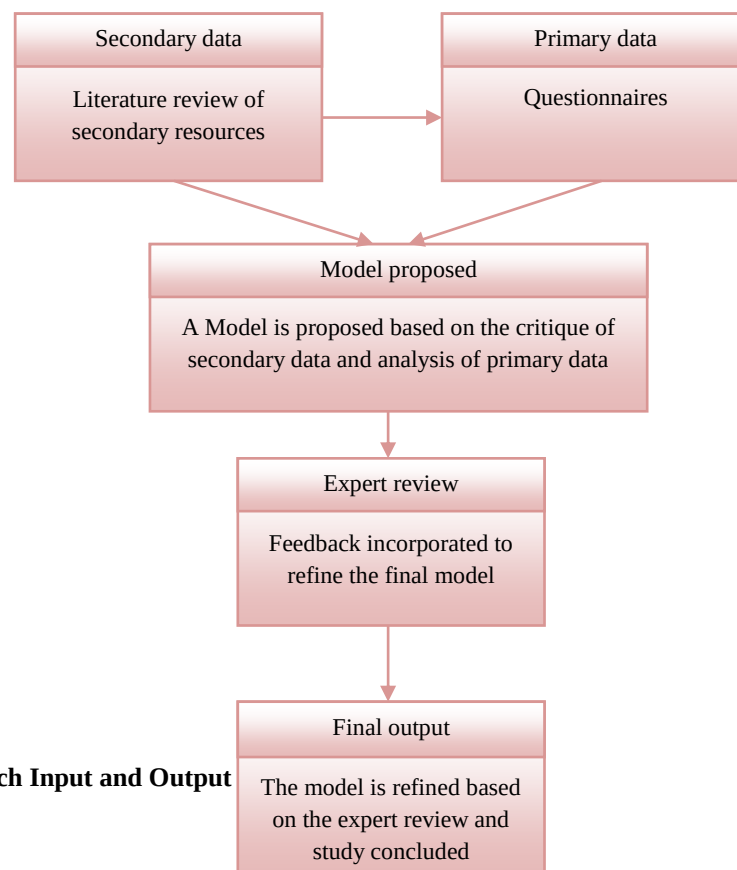


Figure 1.7: Research Input and Output

1.8 Delimitations of the Study

This research focused on IS tools' trust within MPAs in Nigeria. The research did not consider the impact of trust in IS tools in other media marketing organisations i.e. print advertising or mass media like television stations. The research focuses on System trust within the IS domain only. The concept of trust regarding the correct implementation of clients' campaign and fraudulent invoicing was not covered by this study.

1.9 Ethical Considerations

No persons under the age of eighteen were respondents for the purpose of this research. The research was conducted according to the academic standard of wilful participation and full disclosure of the intended use of the respondents' answers in the questionnaire or any other method engaged for the purpose of the construction of a model at the conclusion of this study. The names of organisations and the individual respondents are not mentioned. An ethical clearance certificate (**PID01 ISOLA01**) was obtained before embarking on data collection. The clearance certificate is attached as Appendix A.

1.10 Outline of the Chapters

The proposal forms **Chapter 1** of this study. The chapter gives a detailed description of what the study intends to do and how this will be done. A brief background to the study was provided and the problem stated in the form of a research question. Thereafter, four sub-questions that will help the author answer the main research questions were proposed. **Chapter 1** also discussed the significance of the study and how it may add value to the existing body of knowledge in the subject area.

In **Chapters 2, 3 and 4**, a critique of existing literature on the research topic will be carried out. This critique will be done with targeted focus on the research problem and sub-problems. **Chapter 2** will examine the trust construct from different perspectives and discuss human to technology trust in details. **Chapter 3** will critically examine the factors that affect stakeholders' trust in the current IS tools employed in Nigerian MPAs. The assertion that the failure of IS service providers ability to effectively manage applications and systems, challenges of managing complex, multi-dimensional systems in a country with limited infrastructures contribute to the sub-optimal use of IS tools in Nigerian MPSs will be discussed. This will be analysed with the aid of the TOE framework in the context of how all of these factors impact on trust in IS tools within these agencies. **Chapter 4** will address the issue of how the enhancement of trust in IS tools within MPAs will result in effectiveness and efficiency in their operations.

Chapter 5 will discuss the research methodology and research design. This includes the research paradigm, data collection methods and data analysis procedures. **Chapters 6** will discuss the findings resulting from the primary research. The chapter will present charts and tables reflecting findings from the

administered questionnaire and discuss the findings in relation to the secondary literature. **Chapter 7** will propose a solution to the research problem by presenting a model for the enhancement of trust in IS tools in Nigerian MPAs. Recommendations, based on the analysis of findings from the primary research will be made on the model. **Chapter 8** will provide a brief summary of the entire study, highlight the significance of the study, outline the unique contribution made by this study and gives suggestions for future research.

The outline of the chapters is shown graphically in Figure 1.8 below.

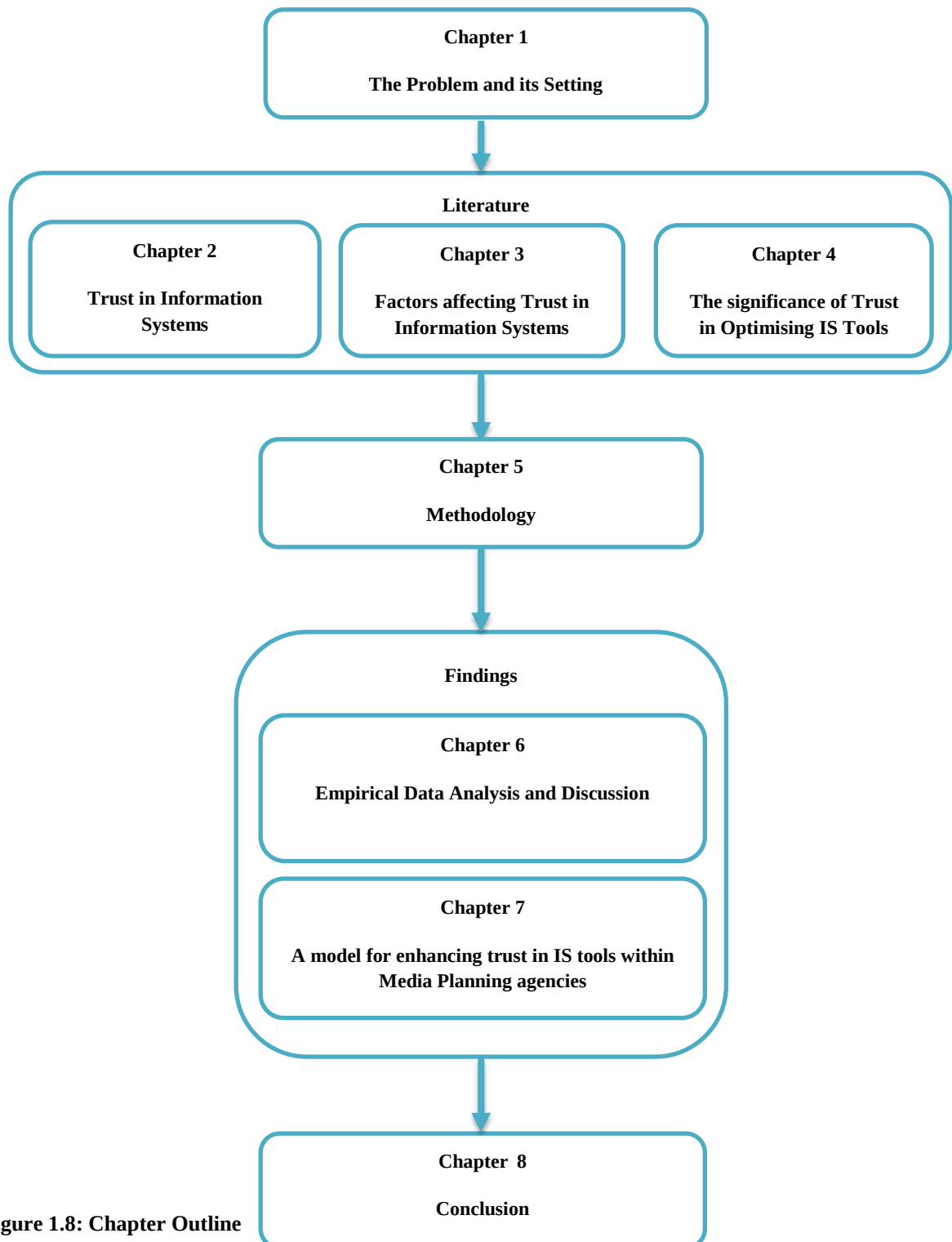
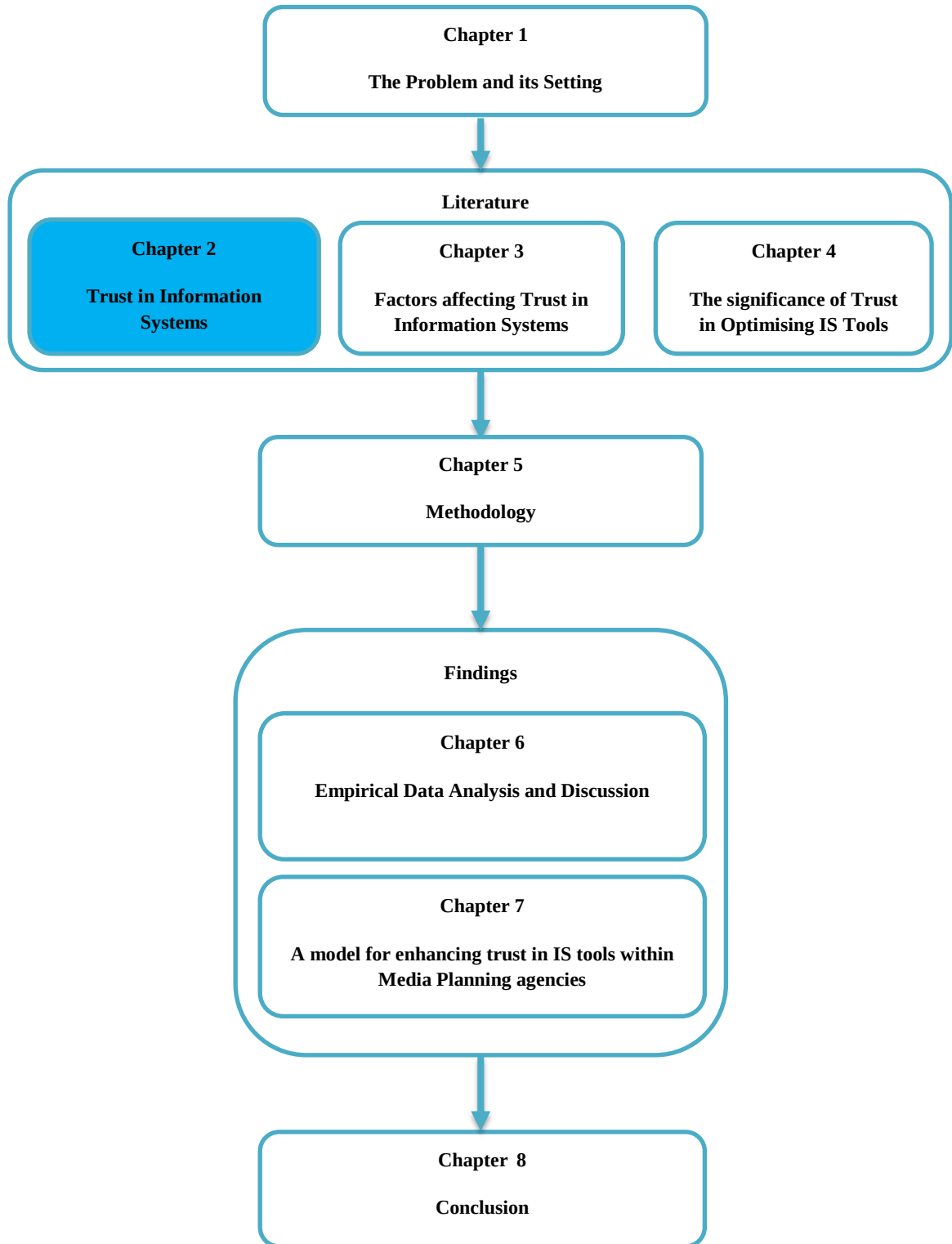


Figure 1.8: Chapter Outline

Chapter 2:

Trust in Information Systems



2.1 Introduction

Information Systems (IS) and new technologies have enabled the world to converge in ways that were previously deemed impossible (Akpan-Obong, 2009). Many businesses rely on Information Technology (IT) and by extension, IS tools to perform their business processes (McKnight, 2005). According to Luiz (2010), this era is the fastest growing for business. The dependence on IS tools present a challenge for businesses - how do they trust the IS tools that are crucial to their business success when it's performance and output seems to be outside their control?

This chapter reviews the literature on trust within the IS domain. The review is important to this study as it gives the research a context based on available literature on the subject of trust in the technology itself. This is also significant as most studies on trust have focused on trust among people who make use of the same technology, for example in e-commerce or web transactions. The research problem focuses on human to technology trust within Nigeria Media Planning Agencies (MPAs), hence the necessity of grounding the trust concept in this regard.

An evaluation of existing concepts of trust is provided, thereafter, various trust definitions are discussed. A distinction is made between interpersonal, organisational and technology trust. The characteristics of trust are discussed with particular reference to the McKnight theory of trust (McKnight, 2005) and the Diffusion of Innovation (DOI) theory (Rogers, 1995). An appropriate definition of trust relevant to this study is thereafter adopted. The advertising expenditure in Nigeria, and the roles and responsibilities of MPAs is also discussed in this chapter. This is done in order to highlight the importance of the industry in the Nigerian economy and thus the reason this context was chosen for this study. The significance of the trust concept in the media planning industry is discussed thereafter.

2.2 Definitions and Concepts of Trust

There is a plethora of literature on trust within the IS domain. The dependence of millions of people on IS has brought the concept of trust to the fore in the years following the Information technology 'explosion' (McKnight, 2005). In spite of the profusion of literature on this topic, there is no universally accepted definition of trust (McKnight, 2005; McKnight and Chervany, 2002; Rousseau, Sitkin, Burt and Camerer, 1998; Kramer, 1999).

Trust is an important element in human relations (McKnight, 2005). According to McKnight and Chervany (2002) trust is mostly defined in terms of expectations and beliefs. This suggests that trust connotes a certain expectation that the action of the trustee is a decider of how trust will be extended. In essence, this means that trusting behaviour on the part of the trustor is based on the actions of the trustee (McKnight & Chervany, 2002) This is a very significant statement to this study as it implies that trust in an IS tool will predict the extent to which media planning practitioners will maximise its use.

Trust develops over a period of time, based on continued positive interactions with other individuals which result in fulfilled expectations (Rosenbaum, 2000). The argument for this statement is based on the conjecture that continuous positive outcomes with a person, or as this study argues, a technology, results in an incremental trust level that make the trustor willing to take risks without an attendant surety of security (Gorski, 2005).

Rousseau *et al* (1998) define trust as an individual's willingness to depend on another party because of the characteristics of the party. Rousseau *et al* (1998) portend that trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviours of others. The argument advanced by Rousseau *et al* (1998) further puts the concept of trust in an IS tool in perspective. The core of the definition implies that the media planning practitioner will make himself willingly vulnerable to the IS tool if he has positive expectations with regards to the ability of the IS tool to meet his objectives.

Rousseau *et al*, (1998) contend that a widely accepted and consensual definition of trust is a "willingness to be vulnerable" and the ability to have confident, positive expectations in a person, organisation or, as this study argues, a technology. Trust is not behavioural but rather an underlying psychological condition that can result from the historical behaviour or perceived characteristics of the trustee (Rousseau *et al*, 1998). The literature states that the multiple causal roles of trust (as a cause, outcome or moderator) and new emerging forms of trust are features of trust that need to be understood in depth as they differ from organisational trust and multilevel trust. Trust is regarded as a cause for optimisation of IS tools in this study. The presence of trust also moderates a trustor's feelings of vulnerability and increases his ability to take risks based on his evaluation of the employed IS tools (Dyer & Chu, 2002).

Trust is the catalyst that enables a person to take the leap of faith from belief to action without fear in situations where risk is perceived (Rousseau, *et al*, 1998). The relevance of this clarification for this research is that the concept of trust in the knowledge-based economy is that the trustee has the competence, ability and expertise to act as expected. For media planning practitioners, a pre-requisite of trust in an IS tool is that it has the ability to deploy a campaign from the conceptualisation stage to deployment without any breach of the security of such a campaign.

According to Ratnasingam (1998), trust is a vital ingredient in a trade relationship. Ratnasingam (1998) portends that the existence of trust in a transactional relationship essentially reduces the risks associated with the transaction in question. This thereby reduces the cost of securing controls and checks to mitigate these possible risks. The essence of this argument for trust in the IS tool is anchored on the fact that trusting a particular IS tool to perform as expected and enable the user to reach his goal precludes the procurement or deployment of an alternative plan which would cost money and resources to install. The breach of this trust, in the case of IS tools is the failure of the technology to deliver the expected results. In view of the fact that MPAs employ different IS tools to aid the scientific deployment of clients' budgets in

order to maximise brand exposure, trust is a vital construct for this industry. Trust in the IS tools employed by these agencies will dictate the rate and pace of its usage in the agencies.

Most of the available literature on trust is centered on transactional relationships between buyers and sellers (Chung & Kwon, 2009; Schurr & Ozanne, 1985). Defensive behaviour may result from low levels of trust in an exchange relationship, hence leading to opportunistic behaviour justified as the need to defend one's interests (Chung & Kwon, 2009). In a person to technology trust scenario, this defensive behaviour may manifest as the unwillingness to utilise the technology without coercion from a superior within the MPA. This attitude or mind-set may also lead to dissatisfaction, a negative attitude to the system and a tendency for poor quality outputs from system use.

Trust is one of the most important parameters of measuring relationship quality (Athanasopoulou, 2006). According to Athanasopoulou (2006), various studies on relationship quality have used the three attributes of trust, commitment and satisfaction as convergent attributes in assessing the quality of relationships. Athanasopoulou (2006) contends that though the topic of trust in relationships is somehow broad and there are challenges in validating an acceptable framework as a standard of measure, most studies on relationship quality opine that the trust construct is central to the success or failure of a relationship, be it a transactional or human relationship. In this context, it is argued that the amount of trust reposed in an IS tool will determine the ability of the user to expect that the system deliver on the promise of effective and efficient media planning with the IS tools available in his organisation. This in turn will determine how much risk the user is willing to take in employing the tools for his daily work processes.

A discussion of relationship quality is important in this study as it is regarded as an indicator which determines many outcomes (Athanasopoulou, 2006). Some of these outcomes are: service quality, co-operative behaviour and relationship longevity (Friman, Garling, Millett, Mattsson, & Johnston, 2002). Furthermore, Friman *et al* (2002) argue that the trust construct is a determinant of commitment in a relationship and this commitment is a determinant of relationship longevity.

In spite of the arguments advanced for the validity of human to technology trust research, there is literature to support the argument that this is not a compelling field of study (Friedman, Kahn, & Howe, 2000). The argument advanced by Friedman *et al* (2000) is based on the fact that a technology does not have moral agency or volition; hence trust in a technology cannot be validated. Friedman *et al* (2000) stated that people trust people and not technology; therefore human to technology trust constructs cannot be scientifically proven. However, several researchers have shown that this position is inaccurate as testable attributes of technology trust have been developed to successfully test human to technology trust hypotheses (Lankton & McKnight, 2011; McKnight *et al*, 2011; Lippert & Davis, 2006; McKnight & Chervany, 2002).

As already discussed in Chapter One, the adapted definition of trust for the study is: **“a willingness to depend on a person or object to perform a certain task in the most efficient way that will enable the**

trustor to achieve set goals and objectives” based on the definition proposed by McKnight *et al* (2011). McKnight *et al* (2011) contend that trust situations arise when one has to depend on another for the completion of a task regardless of the will or volition of the trustee. The willingness to do this makes the trustor vulnerable and puts him at risk if the technology does not perform as expected and fails to achieve trustor’s goals and objectives. The study considers this definition of trust as the most appropriate for the purpose of this research. The core of the definition hinges on the willingness of the media planning practitioner to trust the technology, despite the fact that the IS tool in question, does not possess the will or moral agency to decide on being reliable, functional or helpful in any given situation. The definition will therefore be adopted for the purpose of this study.

The implication of this is that the IS tool must have the inherent characteristics to enable the trustee to achieve his goals and objectives without recourse to the ‘person’ of the technology involved. This suggests that the willingness of the media planning practitioner to make himself vulnerable to the technology is based on both his perceptual trust formation and knowledge-based trust (McKnight, Carter, Thatcher, & Clay, 2011). The sections that follow discuss the distinctions between various kinds of trust, namely interpersonal, organisational and systems trust.

2.2.1 Interpersonal Trust

Interpersonal trust is a judgment about a person within a specific context or under a definitive set of circumstances (Lippert, 2004). Lippert and Davis (2006, p. 437) further describe interpersonal trust as the belief that an individual or group:

1. *“Makes good faith effort to behave in accordance with any commitments both implicit and explicit.*
2. *Is honest in whatever negotiations preceded the commitments.*
3. *Does not take excessive advantage of another even when the opportunity is available”*

From the definition of interpersonal trust above, it is extrapolated that interpersonal trust relates to the evaluation of a person’s expected behaviour in a given situation. In the same vein, trust in interpersonal relationships is described as a positive expectation from the trustor regarding the competence and dependability of the trustee (Shao-Kang & Lie, 1998). Competence in this instance is a positive track record in terms of meeting and exceeding expectations in terms of an agreed objective (Shao-Kang & Lie, 1998). The same principles which are applicable to trust in interpersonal relationships apply to trust situations within a systems use sphere. Trust in IS tools is a result of the tools having the capability to meet and exceed user’s expectations. This is with regards to meeting their needs, both functional and strategic. According to Shao-Kang and Lie (1998), trust enables positive interpersonal interactions and facilitates networking amongst organisations.

2.2.2 Organisational Trust

Organisational trust is regarded as the level of trust employees have in their organisation (Alston & Tippet, 2009). Organisational trust is also described as the extent to which employees have a collective trust orientation towards their employer (Lippert & Davis, 2006). Organisational trust leads to process improvements which enhances productivity and efficiency in the workplace (Flores & Solomon, 2001).

Trust plays a crucial role in the management of relationships within the organisation (Alston & Tippet, 2009). Rousseau *et al* (1998) assert that trust presupposes the reduction of risk and a beneficial form of interdependence. Organisational trust therefore reflects the belief of the employees that the employer is interested in, and working towards the collective good of the employees. In the case of technology trust, which is the focus of this study, organisational trust is relevant in the context of media planning practitioners trusting that the media agency's managerial or executive teams have procured the right IS tools and provided the support environment to enable them to achieve their objectives in the most efficient and effective manner. The relevance of organisational trust to the study is discussed in further depth in Chapter 4 of this study.

2.2.3 Systems Trust

As has been stated earlier in this study, the trust concept is an important element in IS (Arnott, 2007). IS research into trust has predominantly focused on interpersonal or person-to-firm relationships such as trust in online transactional sites or virtual groups (McKnight *et al*, 2011). However, this study examines the trust concept from a different perspective. McKnight *et al*, (2011) affirm that trust in the technology itself to deliver the expected results and help the user to achieve its target is a contributory factor to the disposition of the user towards a particular IS tool.

Trust in technology differs from the traditional concept of trust (Kirs & Bagchi, 2012). The object of trust is the IS tool the user interacts with for a specific purpose. According to Kirs and Bagchi (2012), users have attributed human components or tendencies to the technology they use. This view is further supported by Wang, Walker and Redmond (2007) who argue that people intuitively attribute human characteristics such as motivation, integrity and personality, to IS tools. It is also important to note that trust in technology is individualistic, i.e. it cannot be generalised as collective trust can be (Rousseau, *et al*, 1998).

Trust is defined as a firm belief in the reliability, truth or ability of someone or something (Simpson & Weiner, 2010). The core of the trust concept as it relates to trust in an IS tool is anchored on reliability. Research work on the importance of trust as an affecting agent in the use of IS tools within firms abound. McKnight *et al*, 2011, Rousseau *et al* (1998) and DeLone and McLean (2003) all contend that the trust concept is central for gaining insight into what influences human behaviour and responses to other people, online sites, Internet banking transactions as well as the usage or otherwise of systems in the workplace.

Human to technology trust which connotes trust in the physical system to accomplish its goal and deliver quality work for the trustor forms the focal point of this study.

The breach of technology trust leads to mistrust on the part of the trustor. A current example of this kind of breach of trust in technology can be cited in the recently concluded Kenyan elections (Marchant, 2013). The elections, which were held on the 4th of March 2013, had firstly employed a biometric voter registration system to register eligible Kenyan citizens for the elections. The second step was the installation of a biometric Electronic Voter Identification device (EVID or Poll Book) at each polling station for the purpose of sending electronically transmitted poll results to the national tallying center for collation of election results (Marchant, 2013). There were challenges with the verification of voter's biometric identity at the polling stations as the EVID malfunctioned on Election Day. The electronic counting system also suffered a collapse (Marchant, 2013). By the end of March 5th, the day after the election, the tallying center had received only 40% of the votes cast as the VPN used to relay the results crashed under the weight of the 33,000 polling stations nationwide. This event forced the government of Kenya to fly all election officials to the capital city of Nairobi for the votes to be counted and tallied manually (Marchant, 2013).

The malfunctioning of the technologies procured for the elections raised a host of questions regarding the validity of the election results. The causal event for the challenges of Kenyan citizens accepting the election results stems from the failure of IS tools. This is because the IS artefact failed to perform as expected and enable the user achieve a desired end. With this evident failure of IS tools to achieve a desired outcome, the voters become distrusting and wary of any such tool for validating an election in Kenya in the foreseeable future. The events described above underscores the significance of astute functionality and predictability of IS tools in order for trust to grow amongst its users.

According to Cripps, Salo and Standing (2009), system trust in the context of an organisation refers to a subjective probability that offers an organisation the firm belief that a particular technology infrastructure can facilitate or enable transactions in a way that meets the due expectations and set goals of the organisation. Based on this definition, it is inferred that technology trust is anchored on the ability of the system to deliver to the expectation of the user organisation and help the organisation achieve its business and strategic objectives. Furthermore, the nature or context of trust demands that the trustor's dependence on the trustee to perform as expected is void of instituted controls to ensure that this happens.

Therefore, if an organisation is to stake its success or obligatory performance to its clients on an IS tool, there needs to be ample basis for trusting the IS tool and its ability to perform the tasks entrusted into its care. To buttress this, an airline that depends on online bookings for 70% of its revenue stream must be able to trust its IS tool to successfully process clients payments with their credit cards, reserve preferred seats as well as state dietary preferences while booking their travel from the airlines' website. The IS tool employed for the exercise must not only be seamless, the organisation also expects it to feed the details of the self –service bookings to

the relevant internal departments for action. To this end, trust should erode the fear of disappointment based on the inherent characteristics of the trustee (Mayer, *et al*, 1995).

Mayer *et al* (1995) contend that a major motivator for the trust construct is based on the fact that risk is closely related to trust in a relationship. According to Mayer *et al* (1995), the need for trust arises when there is the possibility of loss either of revenue or in terms of integrity of the organisation. This position is supported by Chung and Kwon (2009). However, there is no consensus of opinion regarding risk and trust in the myriad of literature on trust (Goldbeck & Hendler, 2006).

The table below illustrates some of the concepts of technology trust vis a vis interpersonal trust.

Table 2.1: Conceptual Origins of Technology Trust Beliefs (Source: Lankton & McKnight, 2011)

Technology Trust Beliefs	Conceptual Origins			
	Trust in Information Systems	Trust in Online Environments and Online Agents	Trust in Automation	Interpersonal Trust
<i>Functionality:</i> The degree to which one anticipates the technology will have the features or functions needed to accomplish one's task(s).		<i>Competence:</i> The trustee has the ability, skills and expertise to perform effectively in specific domains (Wang, Walker & Redmond, 2007, p.76).	<i>Competence:</i> The extent the technology performs its functions properly (Muir and Moray, 1996, p.434).	<i>Ability (Competence):</i> The group of skills, competencies, and characteristics that enable a party to have influence with some specific domain (Mayer <i>et al</i> , 1995, p. 717)
<i>Reliability:</i> The degree to which an individual anticipates the technology will continually operate properly, or will operate in a consistent flawless manner.	<i>Reliability:</i> The technology is fully functioning and not experiencing system downtime when completing job related tasks (Lippert, 2002).	<i>Integrity:</i> An individual believes that the trustee adheres to a set of principles (Wang, Walker & Redmond, 2007, p.76).	<i>Reliability:</i> The extent the technology responds similarly to similar circumstances at different points in time (Muir and Moray, 1996, p.434).	<i>Integrity:</i> The trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer <i>et al</i> , 1995, p. 719)
<i>Helpfulness:</i> The degree to which an individual anticipates the technology will provide adequate and responsive help.		<i>Benevolence:</i> The trustee cares about her and acts in her interests (Wang, Walker & Redmond, 2007, p.76).		<i>Benevolence:</i> The extent to which the trustee is believed to want to do good to the trustor, aside from an egocentric motive (Mayer <i>et al</i> , 1995, p. 718)

From Table 2.1 above, the technology trusting beliefs of functionality, reliability and helpfulness are analysed in relation with their conceptual origins. The core of trust in an IS tool in this table is anchored on reliability. This presupposes that continuous and consistent delivery of expected service parameters will enhance trust in an IS tool (Lippert and Davis, 2006; Lippert, 2007; Lankton and McKnight, 2011). This is in tandem with trust literature which suggests that the degree of trust reposed in a system is dependent on its perceived behaviour (Mayer *et al*, 1995). It is also argued that risk taking behaviour in the use of IS

tools is based on the perceived trustworthiness of the tool, an attribute that is based on the reliability of the system to perform as expected and achieve the user's objectives. An in-depth discussion of Mayer's proposed model of Trust is done in chapter 4 of this study.

This argument therefore presupposes that the diffusion of technology to a set of individuals, group of people or an organisation will be received by each stakeholder based on his or her perception of the capabilities and integrity of such a technological artefact. To this end, the maximisation of IS tools for campaign planning and deployment within MPAs is dependent on the capabilities of the technologies to ensure successful achievement of set goals. To put this argument into perspective, the next section discusses the characteristics of trust, aligned to the McKnight *et al* (2002) theory of trust and the DOI theory (Rogers, 1995).

2.3 Trust Characteristics

According to Piderit, Flowerday and von Solms (2011), IS enhanced collaborations will empower organisations to be more effective and efficient in their work processes. The focus on trust in the technology itself will help determine the attributes which makes a technology trustworthy, regardless of human support structures (McKnight *et al*, 2011). If these attributes can be determined and an IS tool is found to be trustworthy in itself, it becomes easier for people to adopt the IS tool for all of their work processes, thus creating an enabling environment which uses technology to promote effectiveness and efficiency (Lippert & Swiercz, 2005).

In order for media planning practitioners to place their dependence, campaign success and planning in the hands of an IS tool, there must be a way to measure the trustworthiness of the IS tool itself. In circumstances where there are doubts pertaining to the ability of the system to perform as expected, the chances of continued usage or patronage of the IS tool will be very restricted (McKnight *et al*, 2002). Therefore, it is inferred that the trust construct is a strong factor in the usage of a particular technology.

To further buttress the significance of trust and the impact of its inherent characteristics on the IS tool, Riegelsburger, Sasse and McCarthy (2005) argue that the ability of an IS tool to work efficiently depends largely on its interaction with, and acceptance of the system by the human capital in that organisation. McKnight (2005) agrees with Riegelsburger *et al* (2005), arguing that the concept of trust between the user (trustor) and the IS tool (trustee) is a key component in dictating how well the system will be received and utilised for the purpose(s) intended. The McKnight's trust theory (2005) is subsequently examined in further detail to lend credence to the argument for trust in technology.

2.3.1. McKnight (2005) Theory of Trust

Most of the literature describing trust in IS is very similar in definition and concept to the literature available on trust in persons, organisation and other multilevel layers of trust. The major point of departure

is the object of trust (McKnight, 2005). According to McKnight (2005), trust is a four-form composite construct consisting of:

1. *Trusting behaviour* which is described as the trustor's action of dependence on the trusted object
2. *Trusting intention* which is the willingness of the trusting party to perform trusting behaviour
3. *Trusting attitude* which is the trusting subject's evaluation of the trusting behaviour
4. *Trusting belief* which is the trusting subject's information and perception of the trusting object, other people and trusting contexts (McKnight, 2005).

To this end, trusting behaviour on the part of the trustor depicts his willingness to become vulnerable to the trustee, which in the context of this research means a disposition to use IS tools for media planning purposes. Trusting intention refers to the willingness of the media planning practitioner to depend on the tools for usage on the job. Trusting attitude refers to the media planning practitioner's evaluation of the IS tool and its ability to effectively deploy campaigns. Trusting belief is based on the experience of the trustor with the usage of the technology and is premised on the results of its perceived behaviour post technology usage.

The argument derivable from this theory shows that the major difference in person-to-person trust and person-to-technology trust is one of the object of trust and not necessarily the attributes of trust. The attributes of trust in each scenario will dictate which trusting beliefs are applicable to the situation. Technology trusting belief implies that the IS tool is perceived to have the functional capability and inherent ability to enable a process according to the desire or specification of the trusting party (Muir & Moray, 1996). In this regard, the trustor, i.e. the media planning practitioner entrusts the IS tool to correctly delineate demographic information regarding target audience when filtered, allocate campaign budget based on set parameters and subsequently generate a media plan.

Also, the ability to trust the IS tool for future campaigns will be overridden by the consciousness of its past failure to deliver on its promise. Adoption and repeated use of a technology is therefore premised on the proven ability of the system to consistently deliver on its promises and help the user achieve set goals (Lippert, 2007). However, in spite of this similarity between person-to-person and person-to-technology trust, it has to be noted that there is a major difference. The issue of moral agency and motives do not apply to IS trust (McKnight, 2005). The integrity of software is an inherent characteristic based on its configuration. The ability or otherwise of a system to accomplish set goals are also not dependent on its motives as it lacks the will, attributes and capacity to make independent decisions.

According to McKnight (2005), the aforementioned has major implications for trust and technology. He asserts that it raises critical questions about the adoption of any technology: why adopt a technology if it cannot be trusted to meet one's needs and objectives. McKnight (2005) also argues that in the same context, trust in IS also influence perceptions, beliefs and attitudes which affect the intentions to adopt the technology (McKnight, *et al*, 2011).

According to Kramer (1999) controls should be established where there is no trust in relationships in order to mitigate risks. However, Piderit (2012) opines that these control mechanisms are costly to implement and compliance, if enforced, may hinder trust rather than promote it. The end result of this attitude will be the reluctance of users or stakeholders to adopt or implement work processes with this technology if they are not being monitored. Piderit *et al* (2011) therefore advocates a balance between trust and implementing controls, stating that the pursuance of entrenching trust rather than implementing controls to mitigate risks will serve to promote maximal and effective use of IS tools in organisations.

2.3.2 Diffusion of Innovation Theory

The DOI theory proffers explanations for the reason, method and the rate at which a new idea spreads and is adopted by users. An innovation is an idea, behaviour or object that is perceived as new by the audience. The unique relevance of this theory to this study is the fact that Rogers (1995) opines that the rate at which the adoption of an innovation will spread depends on how well the innovation is received by the user population, it is therefore imperative that media planning practitioners repose trust in the IS tools they employ for media planning in order for them to optimise the tools. Rogers (1995) portends that avid adopters of technology are usually those in the early twenties to late thirties, as this age group are constantly evolving and keep in tune with current technological developments. The adoption of IS tools for the purpose of planning and deploying media campaigns will happen faster and extensively amongst media planning executives if IS tools are trusted as having the intrinsic qualities which would ensure that set goals and targets are met.

According to Rogers (1995), there are five important factors that facilitate change in a population:

1. *Relative advantage*: This refers to the degree to which users perceive that an idea, concept or artefact offers greater advantage(s) than a former or existing one.
2. *Compatibility with existing values and practices*: Supports the successful spread of an innovation.
3. *Simplicity and ease of use*: An innovation that is perceived as simple and easy to use will be more readily accepted and adopted than one that is complicated and places a demand on the adopter to acquire new sets of skills.
4. *Triability*: The quality of triability reassures potential adopters that the innovation is practicable and emboldens them to try the new idea or concept.
5. *Observability of results*: Individuals are more likely to adopt an innovation when they can relate to visible results derived from such.

In the context of MPAs, innovation of new software for media planning will lead to trust, adoption and maximisation of IS tools if the five key attributes listed above are obtainable.

2.3.3 Authors' Perspectives on Human-to-Technology Trust

From the foregoing, the study presents a table to put the work of IS researchers on the topic into perspective.

Table 2.2: Authors' Perspectives on Human to Technology Trust

Author	Perspective
McKnight (2005)	Trust in technology is remarkably different from person to person trust as the former is based on the inherent attributes and capabilities of the IS rather than moral agency/volition.
Lankton and McKnight (2011)	Trusting beliefs related to the interpersonal characteristics of competence, integrity and benevolence have corresponding technology trust attributes-functionality, reliability and helpfulness.
McKnight <i>et al</i> (2011)	The nature of trustor's expectations with regards to technology trust is that the technology demonstrates the functionality to complete a required task, provides effective help when needed and operates consistently without failing whenever it is being employed to meet a specific objective.
Lippert and Swiercz (2005)	Technology trust is multi-dimensional and influenced by a number of factors namely: an assessment of the technology's predictability, reliability and utility.
Lee and See (2004)	Trust is an attitude the user has when trying to accomplish a goal in an uncertain and vulnerable environment
Jarvenpaa <i>et al</i> , 2000	When trust is developed, the perceived level of risk and the subjective beliefs in the possibility of loss is considerably reduced.
Kirs and Bagchi (2012)	The role of trust in technology is three dimensional: (a) trusting belief of an individual, which translates into trust in technology (b) Trusting belief of individuals across national or cultural differences (c) Trust on national levels across multiple nations, which dictates the level of risk a group of people are willing to take in adopting new technology
Piderit, 2012	Enforcing controls may defeat the purpose of building trust as stakeholders may refuse to make use of tools if they are not so compelled.
Shankar, Urban and Sultan (2002)	Trust is not only important to customers, but also employees, suppliers, distributors, partners, stockholders and regulators.
Urban, Amyx and Lorenzon (2009)	Trust is a process. The reach and meaning of the concept is global and only the continual proof of trustworthiness will lead to trusting behaviour on the part of the trustor.

Table 2.2 above details the perspective of key authors on the subject of technology trust. The consistent theme in all the authors position is that person-to-technology trust is enhanced by the capabilities of the system. The authors also posit that a central theme in technology trust is the ability of the IS tool to consistently, efficiently and reliably deliver on expected goals and outcomes whenever the trustor employs it to actualise business processes. The positive demonstration of the three attributes of functionality, reliability and helpfulness were considered by Lankton and McKnight (2011) as forming the bedrock of trust in person-to-technology trust. In order to investigate the role of IS trust in MPAs, an overview of the advertising expenditure and the significance of enhancing trust in IS tools to promote efficient and effective media planning is done in the next section of this study.

2.4 An Overview of Advertising Expenditure in Nigerian Media Planning Agencies

Nigeria has been identified as the fastest growing economy in Sub-Saharan Africa (Smith, 2013). The country recently recalculated its GDP, with the inclusion of the rapidly growing telecommunications, entertainment and agricultural sectors (Faul, 2014). The recalculation puts the value of the Nigerian economy at \$510 billion, thereby making it the biggest economy on the African continent (Faul, 2014). The new data makes Nigeria the 26th largest economy in the world and raises its per capita income to \$2,688 (Okonjo-Iweala, 2014).

In the light of the facts stated above, there are many products and services competing for the average Nigerian's naira hence advertising budgets have grown exponentially over the past five years. The table below is an illustration of the growth in that sector over a period of five years.

Table 2.3: Above the line Advertising expenditure in Nigeria (MMS, 2013a)

Category	2008	Share (%)	2009	Share (%)	2010	Share (%)	2011	Share (%)	2012	Share (%)
TV	28.288	50.69%	38.349	42.20%	39.658	40.70%	46.076	44.84%	49.349	54%
Radio	8.807	15.78%	2.511	13.80%	12.807	13.10%	13.142	12.79%	15.547	17%
OOH	9.516	17.05%	24.25	26.70%	28.562	29.30%	28.142	27.39%	17.686	19%
Press	9.193	16.47%	15.815	17.40%	16.524	16.94%	15.395	14.98%	8.963	10%
Total	55.804	100%	90.925	100%	97.549	100%	102.755	100%	91.545	100%

Table 2.3 above depicts the steady growth of advertising expenditure for the past five years in Nigeria. The reason for the seeming decline in advertising expenditure for 2012 is the fact that the reports are compiled in February of 2013 and some of the campaigns for the past year were not yet documented. The figures for 2013 have also not been released by Media Monitoring Services (MMS) hence an update on the current figures could not be obtained.

From the foregoing, it is surmised that growth in the marketing communication industry is a strong indicator of the potential of Small and Medium Enterprises (SMEs) in the Nigerian economy. The implication for the industry in particular is that the demand for efficient and effective service delivery will increase. In the light of this, the need to institute a model that will serve to improve trust in IS tools has become evident. The next section of this study details the roles and responsibilities of MPAs in order to set a background that will establish the significance of trust in IS tools within these agencies.

2.4.1 Roles and Responsibilities of Media Planning Agencies

Advertising is a vital tool for brand building. The convergence and condensing of world economies through globalisation has caused a rapid and accelerated pace of aggressive advertising campaigns, especially for global brands (Batra, 2001). Global advertising trends and practices are largely dictated by

the tripartite forces of economics, consumer attitudes and communications. According to Batra (2001), the accelerated pace of communications, mostly enabled by IS and continuing improvements on existing technologies have given consumers from all walks of life uninhibited access to brands across international borders. The end result of this is that advertisers and media planning practitioners, particularly those who manage global brands are forced to embrace a global strategy in the deployment of advertising campaigns (Turner, 2010).

One of the offshoots of global brands is the fact that big advertising agencies have grown, largely because they have the requisite expertise in brand management and the bargaining power to obtain rate card discounts from the media thereby providing economies of scale for their clientele (Turner, 2010). The aforementioned positives have also resulted in structural and architectural changes within these advertising agencies (Horsky, 2006). As a result, many advertising agencies manage clients who are in direct competition to each other, thus creating a conflict of interests and raising issues of confidentiality of information within the agencies. To effectively manage an ever growing, increasingly complex and more demanding clientele, the big agencies decided to spin off some of the specialised services as separate businesses. The MPA is thus a specialised segment of advertising which is now treated as a separate business.

For a long time, media planning had been considered as a minor part of marketing communications by advertising practitioners (Horsky, 2006). The focus of advertising was on creating effective advertising messages that will captivate the target audience. The pipeline for the message, in other words, the manner of deploying the message to the target audience was not considered a core aspect of the business. However, media creativity is a science that directly affects or leads easily to client satisfaction or dissatisfaction (Heo & Chang-Hoan, 2009; Cagley, 1986).

The reality of advertising is that media planning forms a core of the evaluative factors of the success or failure of an agency. This is largely due to the fact that reach and impact determines the value of an advertising campaign to the client. The proliferation of media platforms also constitutes a challenge for the media planning practitioner in determining how to flight campaigns in the most effective way (Heo & Chang-Hoan, 2009). This radical change in the media platforms available for advertising has rendered conventional media planning and deployment largely ineffective and unable to successfully reach the required target markets (Heo & Chang-Hoan, 2009).

Furthermore, the convergence of brands across cultures and geographical spheres has lent credence to the demand for integrated marketing communication. This has in turn, carved a vital role for the media planning practitioner in the advertising mix as he has to understand multidimensional target audiences across a broad spectrum of interests (Cappo, 2003). Media planning is positioned to play a much more important role in the future of advertising as clients have realised the futility of an elaborate media campaign that does not strategically tie its media planning and deployment to the consumer's media habits and creatively engage his attention.

To this end, media planning has gone from being a non-core function to a major gauge and determinant factor in client–agency relationship (Lloyd, Slater, & Robbs, 2000). According to Henke (1995), discontent with an agency’s media planning skills may easily lead to the loss of the account with the agency while creative crafting of effective advertising campaigns will greatly enhance their chances of winning more accounts (Henke, 1995). In spite of this relatively new but critically vital role that media planning plays in advertising success, there remains a dearth of tools and marketing intelligence that may equip the media planning practitioner to step up to the challenges of the role (Egbonwon, 2012; Thorpe, 2008).

To further complicate matters for media planning practitioners, global audiences and target markets, traditionally believed to be mostly divided along demographic lines and ethnic alliances, are refusing to fit any longer into that stereotype (Egbonwon, 2012; Henke, 1995). Convergence, which used to be an exclusive preserve of mature, developed economies, has become a buzz word across product categories in developing economies as well (Batra, 2001). All of these factors are giving weight to the belief that the future belongs to global brands, which in turn implies that media planning practitioners across continents will need to have a global strategy and the right IS tools that will ensure efficient and effective deployment of advertising campaigns to satisfy a complex and capricious audience.

MPAs who understand the myriad benefits of the new globalism in brand building and position themselves to take advantage of it would be the beneficiaries of unrestrained patronage from organisations which produce these brands and are ready to use the right marketing mix to retain and increase their market share (Kupoluyi, 2011). However, with the opportunities presented by brand globalism comes the challenge of delivering campaigns timeously, efficiently and effectively to a client who is continually under the stress of keeping competition at bay. Clients are constantly resisting the threat of being eclipsed by new entrants seeking a slice of the market share or to carve a niche market for themselves. According to Popescu and Araman (2010), MPAs offer a range of benefits to the client namely:

1. Economies of scale based on the bargaining power they have with the media.
2. The MPA is a neutral party in the execution of its duties of campaign deployment as it mostly works on a fee-based compensation model. The agency therefore has no ulterior schemes to deploy outside the client’s brief as this does not affect its fee in any way.
3. The media planning practitioner communicates directly with client or client representatives hence the threat of miscommunication or information is reduced.
4. The media planning practitioner is a specialist in his chosen field, concentrating on only the media planning/ buying function within the marketing communication stratum. The practitioner therefore forms a key custodian of knowledge with regards to how to deploy campaign information for different market segments.
5. The media planning practitioner is the final custodian of crucial market intelligence information in his role as a strategist in bridging the gap between the advertiser and the consumer through effective advertising campaigns.

The figure below depicts the role of the media planning practitioner within the Advertiser/ Media planning structure.

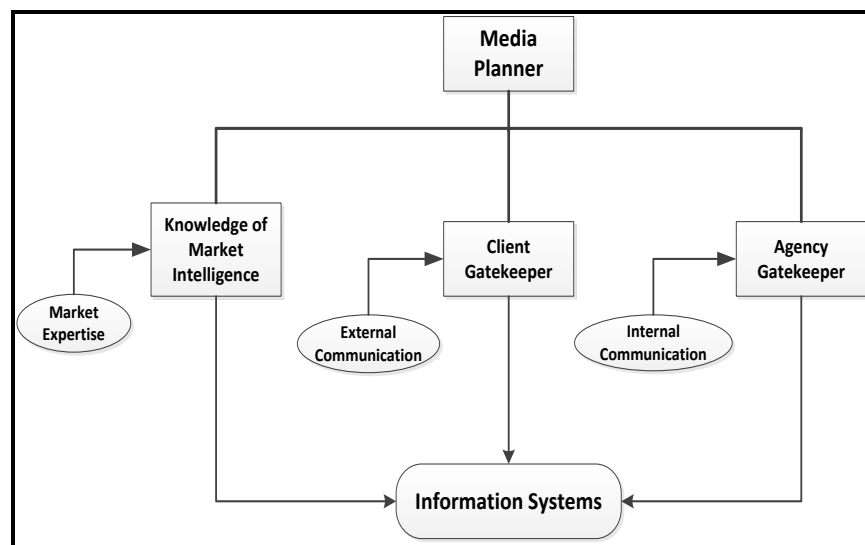


Figure 2.1: The Media planning practitioner's role in the marketing communications structure (Source: Heo & Chang-Hoan, 2009)

The use of market intelligence data for the purpose of planning campaigns is a practice that is as old as the advertising profession itself (Heo, 2010). The data from market intelligence lends itself to a model of media planning known as targeted advertising. Targeted advertising can be described as adverts shown only to the audience requested by advertisers (Turner, 2010). According to Turner (2010) targeted advertising is becoming increasingly important to advertisers. This is due to the fact that new technology provides a higher degree of advertising campaign customisation and a more accurate performance tracking for media campaigns, all at low costs (Turner, 2010).

This model is fast becoming a key component of media planning, as it ensures that advertising campaigns are matched to the appropriate audiences, meet campaign goals and maximises opportunities to expose brands as much as possible. Targeted advertising also enables campaign deployment in a wide spectrum of media; taking into cognisance the array of new media platforms on which products and services are being launched in the new age. The six largest cable channels in the United States are working together on the goal of bringing targeted advertising to digital television in that country (Arango, 2010). Preliminary research in these areas has shown that if targeted advertising can be achieved via cable networks, advertising revenue can be increased significantly (Arango, 2010).

In spite of the incursion of online advertising services, Internet and web-based advertising campaigns into the revenue that advertising agencies have traditionally taken for granted, research shows that majority of clients still access advertising services through the traditional mediums (radio and television). This therefore necessitates action in order for these mediums to deliver value for money to the client and ensure the campaigns for products and services are being delivered to client's target markets. The use of IS tools has therefore become imperative in this complicated and intricate scenario as there are new parameters that

demand increased creativity and productivity to achieve effective deployment of media plans. This needs to happen in spite of the fragmentation of target audiences.

MPAs are responsible for purchasing time and advertising space on behalf of organisations who desire to advertise or market their products and services (Kupoluyi, 2011). The media planning function is a core part of the advertising process. It represents the final output in any advertising campaign (Kupoluyi, 2011). Creative and well informed media planning ensures that a brilliant advertising concept receives the relevant media exposure to the target audience. This in turn guarantees that the client receives value for money by way of increased market share, brand loyalty or patronage depending on what the advertising campaign set out to achieve.

MPAs perform their tasks based on the evaluative factors of pricing, demographics, reach, psychographics and other factors relevant to the clients' target market (Kupoluyi, 2011). All of these tasks are enabled by IS tools. MPAs in Nigeria are challenged to employ IS tools that will ensure that the strategic and marketing objectives of their clients are met. Figure 2.2 below illustrates the media planning cycle.

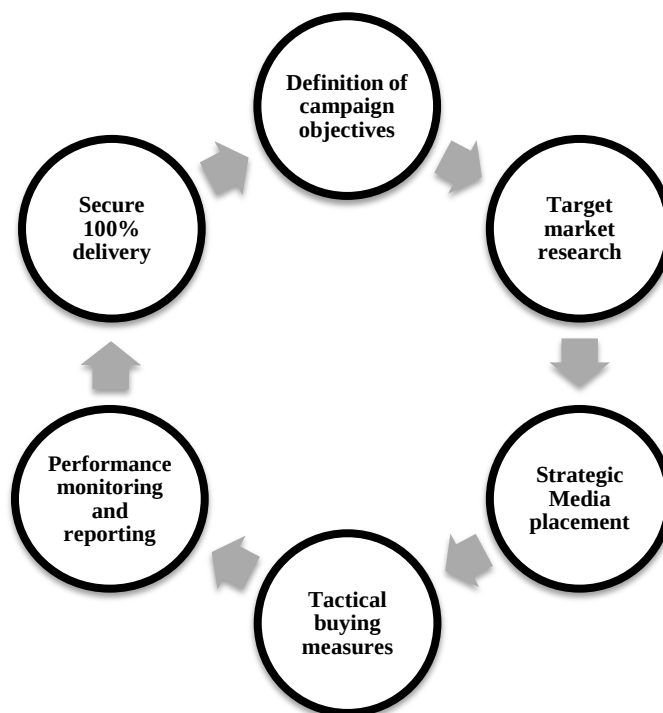


Figure 2.2: The Media planning Cycle (Source: Mediagistics, 2013)

Based on the process outlined in Figure 2.2, it is surmised that the media buying function is a complex one that requires technical capability on the part of the human resource and the IS tools employed to accomplish the work goals. Early literature into this branch of advertising suggests that communication with the client is the key role of media planning practitioners (Bichard, Chambers, & Patwardhan, 2007). However, the challenges of getting the right mix that will increase clients market share seems to have overridden the communication role in recent times (Bichard *et al*, 2007).

Advertisers want the assurance that the media planning process is a thorough one that has evolved from a research based, objective review of campaign deployment options, backed by empirical data directly relevant to their target market (Thorpe, 2008). It is of paramount importance to the advertiser that the media planning practitioner has an effective tool to measure campaign compliance, effectiveness and reach. Also, the advertiser requires a clear cut communications objective and strategic plan that gives direction to the campaign from inception to roll-out and the actual deployment of the campaign.

Scientific media planning reflects an independent, data-based marketing communication plan, and a structured campaign effectiveness measurement plan (Thorpe, 2008). However, the pathway to achieving this feat is a complex labyrinth involving copious volumes of data, research analysis and performance measurement. The media planning process flow figure below serves to illustrate the phases of analyses involved in the media buying process.

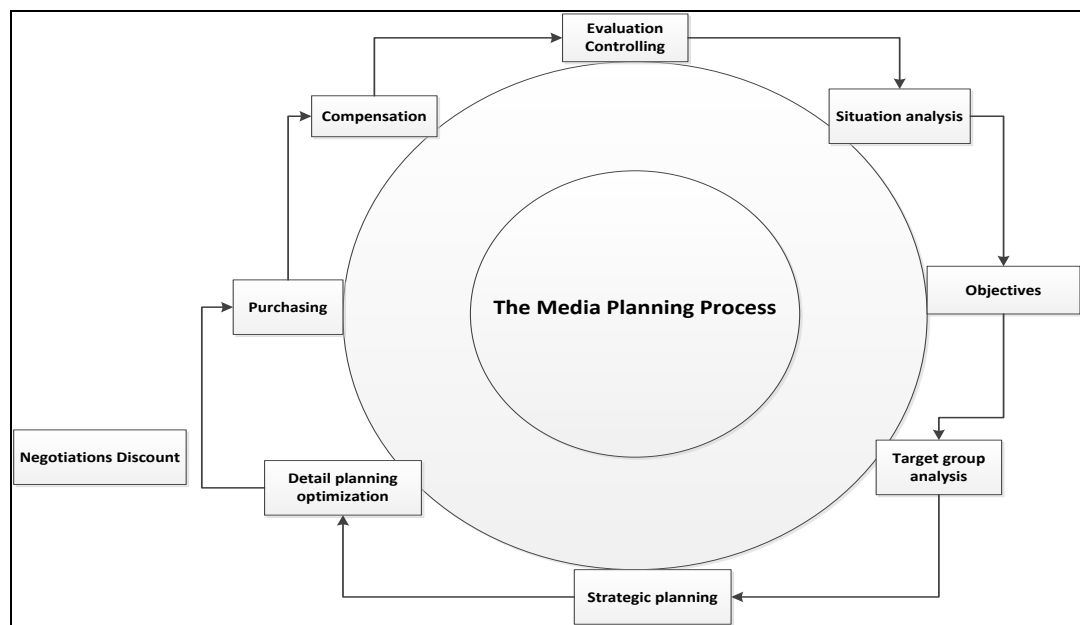


Figure 2.3: The Media Planning Process (Source: Media.at, 2013)

Based on the literature review of the role of MPAs globally, and on a smaller scale, Nigerian MPAs, it has become evident that technology plays a major role in the actualisation of media campaigns flighted on clients behalf, this study now proceeds to assess and critique the role of Systems trust in Nigerian MPAs.

2.4.2 Significance of Trust in Information Systems Tools within Media Planning Agencies

Trust, within the context of human-automation interface, has been described as an attitude that an agent will help the individual to achieve his goal in a situation characterised by uncertainty and vulnerability (Lee & See, 2004). Automation in this context is defined as technology that actively selects data, transfers information, makes decisions or controls processes (Lee & See, 2004). This definition of automation can be directly related to the research problem discussed in Chapter One of this study. The level of trust in IS

Chapter 2: Trust in Information Systems

tools within MPAs is currently low, hence the available tools are not being optimised in order to actualise the media planning processes outlined in Figure 2.3. Mediastar, whose functionalities has already been discussed in Chapter 1, is capable of filtering demographic parameters to determine a target audience, setting a media campaign budget and drawing up a media plan and buying schedule. However, for Mediastar to achieve all of the aforementioned steps, the user has to input certain data into the system based on his ability or determination to depend on the technology.

Technology and systems trust is a difficult construct to measure. Human beings react to technology as a social construct hence trust is dependent on a variety of complex factors that are difficult to measure in relations with technology. Figure 2.4 below illustrates the relationship between levels of trust and the use of a technology by persons in the workplace.

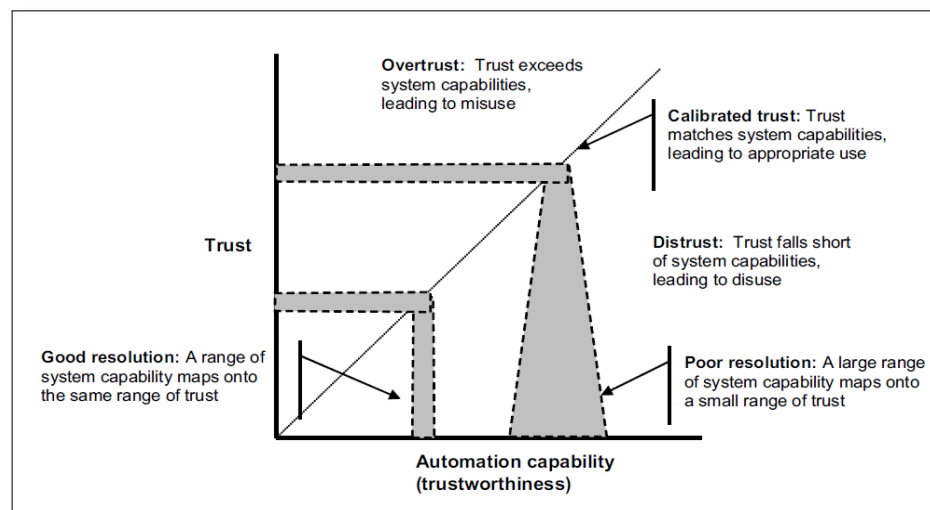


Figure 2.4: The relationship between calibration, resolution and automation capability in defining appropriate trust in automation (Source: Lee & See, 2004)

From Figure 2.4 above, and bearing in mind the definition of automation provided previously, the following extrapolations are made:

1. If there is distrust in the IS tools available in MPAs, the system will not be used, thereby making it impossible for the agency to achieve greater efficiency in planning effective media campaigns.
2. If there is overtrust, the system will be required by the user to perform functions beyond its capabilities, or will be entrusted to deliver outputs without the necessary input of relevant data by media planning practitioners. Both of these scenarios will lead to media campaigns that are poorly targeted, generalist in nature and will fail to move clients' products and services from point A to point B hence resulting in client dissatisfaction. Lee and See (2004) describe this scenario as misuse.
3. If there is calibrated trust, the media planning practitioner will trust the system to perform within its capabilities, this means that he will not make assumptions regarding the critical input the system requires from the user, but will use the system appropriately by feeding the relevant data

input, and thereafter enable the system to automate the necessary projections based on data input.

However, this application of systems use is dependent on the trusting behaviour of the user.

2.5 Conclusion

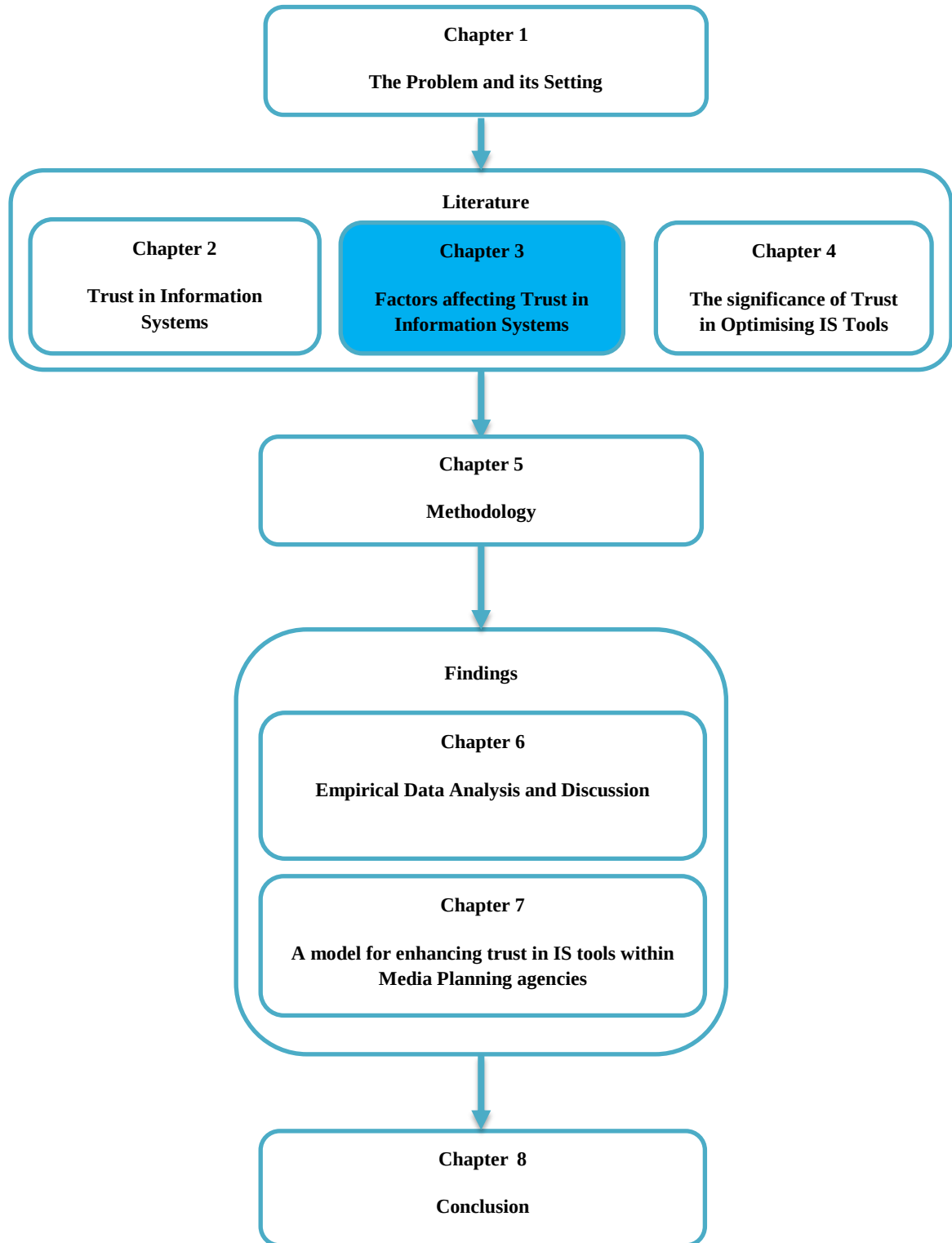
Chapter 2 discussed various concepts of trust, with specific focus on trust in technology within the IS domain. Additionally, this chapter discussed the differences between interpersonal trust, organisational trust and person-to-technology trust. The nature and characteristics of trust were discussed. The chapter advocated that the argument for trust in technology is based on the reliability and functionality of the IS tool, as opposed to person to person or transactional trust which presents a strong argument for integrity and moral agency as the basis for trust.

The McKnight theory of Trust (2005) and the DOI theory (Rogers, 1995) were examined, correlating the two theories with the concept of trust in IS tools. An overview of trust in IS tools and a discussion of secondary literature in the field of study was also discussed. The role and responsibilities of MPAs in marketing communications and their contribution to the Nigerian economy was discussed. Furthermore, the relevance of trust in IS tools was discussed and a diagram depicting the relationship between calibration, resolution, capability and trustworthiness was used to emphasise the significance of trust in an IS tool in order to promote the optimisation of such a tool.

Furthermore, the argument for enhancing trust in IS tools within MPAs, which is the focus of this study was advanced by stating that the strong growth in the Nigerian media planning industry requires corresponding maximisation of IS tools to promote efficiency and effectiveness in the operations of these MPAs. Chapter Three discusses the factors affecting trust in IS tools currently within Nigerian MPAs. A model for enhancing trust in the IS tools employed by the industry is thereafter proposed at the end of the study.

Chapter 3:

Factors Affecting Trust in Information Systems



3.1 Introduction

Chapter Two examined various concepts of trust. The significance of technology trust on the usage and optimisation of Information Systems (IS) tools was discussed, with the application of the McKnight theory of trust (2005) and the Diffusion of Innovation (DOI) (Rogers, 1995) theory. The chapter concluded by highlighting the importance of enhancing trust in IS tools in order for Media Planning Agencies (MPAs) to achieved increased effectiveness and efficiency in their operations.

This chapter discusses the factors affecting trust in IS tools in the context of the country where MPAs are operating their businesses. In Chapter One, it was stated that the Technology-Organisation-Environment (TOE) framework would be employed to interrogate the factors that may be affecting trust in IS tools within the Media Planning industry in Nigeria. The three contexts outlined by the TOE framework are examined, with the aim of relating them to the factors which negatively impacts upon the media planning practitioners' trust in the IS tools available to them in MPAs.

In using this theory as a base to examine the factors which may impact on trust in IS tools in these agencies, the technological context is defined as both the internal and external technologies that are relevant to MPAs as they operate within and as part of the larger society. Organisational context refers to the factors within the firm such as management and managerial style, size, scope and work culture. The environmental context refers to the factors, within and without the MPAs that may impact positively or negatively on the media planning practitioner's ability or willingness to trust the IS tools in the workplace. As has been stated in Chapter One, the objective of the study is to create a model for the enhancement of trust in IS tools within MPAs in Nigeria. A discussion of this nature is thus considered necessary in order to gain a deep understanding of all the factors that has entrenched a culture of distrust in IS tools in the industry.

To achieve the stated aim, the developmental challenges of sub-Saharan Africa are discussed, with a view to contextualise the common characteristics of this part of the continent, thereby making the study relevant in similar situations across Africa. The environmental context which affects the use of a technology includes the macroeconomic and regulatory environment (Tornatzky and Fleisher 1990). To this end, it is critical to understand the operating environment of the MPAs and how this affects trust in IS. Thereafter, in line with the TOE framework, the chapter examines the effects of inadequate, obsolete or non-existent infrastructure on technological advancement in the country. The effect of power outages, constant breakdown of technological equipment due to frequent power outages and the culture of graft and rent-seeking which pervades the Nigerian society are discussed as internal and external technological factors which impact on the usage and optimisation of IS tools within Nigerian MPAs. Furthermore, the general lack of faith in IS tools' vendors in the industry is addressed. The historical failure of several IS vendors to proffer effective solutions to industry problems which has created a culture of skepticism with regards to IS tools amongst media planning practitioners is also discussed.

3.2 Developmental Challenges of Sub-Saharan Africa

The term ‘developing country’ is used to differentiate and distinguish between industrialised nations, where the standard of living is generally high and the countries with a low percentage of industrialisation, where the standard of living is relatively low (Bannocks, 2005). The World Bank’s definition of a developing economy is based on Gross National Income (GNI) per capita. This parameter, formerly referred to as Gross National Product (GNP) is used to calculate the economy’s performance and categorise countries accordingly (Worldbank, 2013). Most of the countries in sub-Saharan Africa are categorised as developing countries. This is due to the fact that the economies of these countries are still highly dependent on Foreign Direct Investment (FDI) and the rate of industrialisation is comparatively low (IDRC, 2012).

According to Apulu (2012), developing countries generally lack a high degree of industrialisation, infrastructure and other capital investment, sophisticated technology and the right human capital to support industrial autonomy. Furthermore, the dearth of sophisticated technology, widespread illiteracy and below par living standards among the population as a whole is a sign of a developing economy (ASYCUDA, 2010). Significant evidence that a country is in a developmental stage is low or middle levels of GNI per capita (Worldbank, 2013). However, other authors use different parameters to measure the definition of this term. Developing economies are those who are still fraught with the challenges of deploying and maximising Information Technology (Aleke, Ojiako, & Wainwright, 2011).

Aleke *et al* (2011), who conducted a study on technology adoption amongst small scale agricultural farmers in Nigeria, argue that a desire for the adoption of Information Technology within semi-rural business owners is typically low. Aleke *et al* (2011) extrapolated that these findings imply that bridging the digital divide in most sub-Saharan economies may not happen in a few years, as the owners of small businesses do not see the impact of technology on their overall businesses. This position was further supported by Mamba and Isabirye (2014), who argued that most people in the rural areas are wary of utilising technology tools as they are usually unable to afford the associated costs of maintaining these tools. This finding indicates a major drawback for business processes in this part of the world if viewed in comparison with developed economies where Information Technology (IT) or IS has become a norm in every aspect and strata of the society (Ndiege, Wayi, & Herselman, 2012). The implication for this research problem is that media planning practitioners may not realise the significance of using the technology tools available in their agencies for their work objectives, especially in situations where the IS tools are perceived as untrustworthy. Furthermore, Bannocks (2005) contends that developing countries are those which are not industrialised, where access to basic public infrastructure is lacking and the citizens live on very little per capita income.

There are five indicators proposed by the International Research Development Centre (IDRC) for the purpose of measuring a country’s level of development:

1. **Literacy, education and skill:** A country’s ability to provide a sound level of basic education to

2. **Health:** Good physical health and well-being is a necessity if a country is to function optimally and effectively. The state of health of a country's citizenry is thus an indicator of the country's level of development.
3. **Income and economic welfare:** High levels of employment and improved income per capita for a country's citizenry are all indicators of development.
4. **Choice, democracy and participation:** The principles of good governance, autonomous and strong democratic institutions are all crucial elements in the attainment of social goals and a moral societal conscience.
5. **Technology:** A country's level of development may be measured based on its ability to develop technological innovations that will address the country's needs. (IDRC, 2012).

Though all the aforementioned factors can be used to distinguish the attributes of a developed economy vis-a-vis a developing economy, the indicators are not an exhaustive description of what constitutes a developing economy. According to the World Bank's classification of countries (2013), the classification for countries is based on GNI. Table 3.1 below is a summary of the classification according to income grouping(s) for the year 2012.

Table 3.1: World Bank Classification of Countries (World Bank, 2013)

High Income (Non OECD)	\$18,395
High Income (OECD)	\$ 42,300
Upper middle income	\$6, 987
Lower middle income	\$1,877
Low income	\$584

It is instructive to note that most countries in sub-Saharan Africa fall within the lower middle income bracket, with an average of \$1, 345 GNI per capita. World Bank statistics also reveal that the average life expectancy for this region is 55. In comparison with the high income OECD countries, the rate of development, available disposable income and life expectancy all reveal a continent lagging behind the first world in development (WorldBank, 2013). The resultant effect of this is that IT /IS adoption; usage and development are all at a much slower pace than in these developed economies (Apulu, 2012).

In spite of the many strides made in the deployment of IT-based knowledge in the developing world, a cursory look at the facts and figures regarding IT in developing countries reveal a definite lag behind the developed countries of the world (Achimugu, Oluwaranti, Oluwagbemi, & Afolabi, 2009). This is in spite of the growing awareness that big organisations which invest in IT/ IS are more productive and their chances of economic growth higher than those who do not (Agbiboa, 2012). Small and Medium Enterprises (SMEs), on the other hand, have not been able to meet with the demands imposed upon them by the harsh operating environment in which they do business (Adenikinju, 2005). This confirms the significance of the research problem as usage of IS tools within MPAs is still under-optimised in comparison to MPAs in the developed world where planning is fundamentally scientific (Egbonwon,

To this end, SMEs in sub-Saharan Africa have been unable to reap a measurable correlation between IT investments and growth of the business. However, in spite of all these challenges, some SMEs have invested considerably towards the goal of making their businesses processes more effective and efficient. In circumstances where these investments have been made, the cost of installing or acquiring such tools are significantly high and the Return on Investments (ROI), comparatively low. This has led to the tendency for most SMEs to dedicate their capital outlay towards the expansion of their core businesses rather than on IS tools (Ndiege, Wayi, & Herselman, 2012). The next section focuses on the developmental challenges of sub-Saharan Africa and its impact on economic development. The section discusses the dearth of infrastructure in African economies and how this has impacted on technological development.

3.3 The Impact of Infrastructure Development on Economies of Countries

There is a plethora of literature to support the assertion that infrastructure plays a pivotal role in the economic development of nations (Kessides, 1993). Economies are dependent on infrastructure in many ways: production is enhanced or marred by the availability of basic social services; directly impacts the profitability of organisations and; by extension, the income levels and employment opportunities that may be created in a society (Adenikinju, 2005). This viewpoint was also supported by Aleke *et al* (2011).

Infrastructure enables technological advancement in all sectors of the economy (Kessides, 1993). IT/IS are both dependent on a stable supply of electricity to perform their core functions. The absence of the requisite infrastructure to facilitate stable and reliable power generation therefore leads to a situation where technology is unable to enhance the quality of service delivery or the production of goods and services. According to Kessides (1993), electronic information systems (IS) are a major part of production success in the modern world. Kessides (1993), states that the role of informatics in production lines have completely dwarfed the impact that railroads and electric power had on production and manufacturing assembly lines in the past. The patterns of demand and supply, and an economy's ability to respond to these changes are also largely dependent on its infrastructural outlay (Kessides, 1993; Okonjo-Iweala, 2014).

Infrastructure, to a large extent also determines the spending habits of the citizens of a country. In developed countries where access to electricity, portable water and basic means of transport are available, the citizens have more disposable income to spend on goods and services (Luiz, 2010). In developing countries where these basic amenities are not in place, the middle class, which is typically the largest group of people with disposable income, spend a sizeable chunk of their income acquiring alternative amenities to enhance their quality of life (Kessides, 1993).

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The impact of telecommunication infrastructure on economic development has also been discussed by researchers. The telecommunication infrastructure of a country has a strong effect on its economic growth as it opens production doors for other attendant materials which enables services telecommunications infrastructure (Roller & Waverman, 1996). This position further confirms that the external technological environment of an organisation impacts on the usage and optimisation of IS tools: media planning practitioners will be more trusting of IS tools if the underlying infrastructures are regarded as reliable (Tornatzky & Fleischer, 1990).

Roller and Waverman (1996) argue that advanced and functional telecommunication infrastructure significantly reduces the costs of transactions, reduces the need for transportation and lowers the risks associated with commuting between production plants and outlets. This viewpoint was agreed by Apulu and Ige (2011) who stated that effective communications would reduce the strain on infrastructures as business owners will not always need to commute between their businesses and customers. Roller and Waverman (1996) contend that the presence of network externalities, in telecommunications, present an opportunity for other business activities that can increase growth, provided critical mass has been achieved in telecommunications accessibility.

In spite of all the aforementioned gains of technological advancement, there is still a wide gap between the first world and developing countries with regards to infrastructure development. Due to the huge capital outlay involved in the implementation of infrastructural programmes, governments in developing countries are responsible for their provision and servicing. There are many reasons attributed to this situation being thus in developing countries:

1. The peculiar nature of infrastructural development which entails huge capital set-up cost (Kessides, 1993) .
2. The recovery of capital outlay is not immediate, and profitability may become an illusion if there are major production failures, hence making it extremely difficult for private investors to make financial projections that will enable them source the kind of funds required for infrastructure development (Adenikinju, 2005).
3. The provision of infrastructure requires complex regulations and other externalities that may be challenging for a private investor to control or overcome. (Achebe, 1983).

In the light of the aforementioned, there are few private investors willing to venture into this sector, many of them preferring to explore less risky and more stable opportunities. The consequences of the practice of having infrastructure provision as an exclusive preserve of the public sector is that there are no guarantees of reliability of these services. The three pronged factors of corruption, depleted and declining economic resources and sheer lack of political will has made it increasingly difficult for developing countries to adequately provide and maintain infrastructural services (Adenikinju, 2005).

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The traditionally low pricing structure of infrastructure services in developing countries is based on its perception as a social service. Unfortunately, this factor has led to a culture of inefficiency and unreliability in the quality of service rendered to the public (Apulu, 2012; Adenikinju, 2005).

The table below is an illustration of the ranking of the severity of infrastructure problems in Nigeria.

Table 3.2: Ranking of the severity of Infrastructure problem in Nigeria (Adenikinju, 2005)

	No obstacle	Moderate obstacle	Major obstacle
Land	8.1	4.9	4.3
Electricity	1.9	10.5	82.7
Water	19.8	13.6	4.3
Telecommunication	1.2	14.8	34.0
Road	13.6	6.8	1.2
Petroleum shortages	22.2	48.1	2.5

From Table 3.2 above, it is deduced that the two most crucial elements of infrastructure development directly related to technology namely: electricity and telecommunications, represents major obstacles in the Nigerian business environment. The technological environmental in which these MPAs operate is therefore not conducive for the maximal use of IS tools available within these agencies. The next section of the study examines constant power failure in Nigeria and how this has impacted negatively on production and the development of the real sector of the economy, which constitutes a major driver for technological advancement in the developed world.

3.4 Energy Failures in Nigeria

The erratic supply of electricity is considered as the greatest infrastructure problem facing the Nigerian economy. The availability of steady, modern energy services is fundamental to social development, economic growth, minimum acceptable standard of living and the eradication of poverty in any society (Adenikinju, 2005). According to Oyedepo (2012), an estimated 60% to 70% of Nigerians do not have access to electricity. All the key growth factors in an economy: production, healthcare, productivity, income growth and socio-economic development are tied to energy availability and efficiency (Kessides, 1993). The table below is a clear illustration of the severity of power supply challenges in Nigeria, when compared with other developed economies.

Table 3.3: Power supply reliability Indices (International Best Practices) Source: Oyedepo, 2012)

Index	United States of America	Singapore	France	Nigeria (NEPA data)	Nigeria (MAN study)
SAIDIa (min)	88	1.5	52	900	≥60,000
SAIFIb(number/year)	1.5	NA	NA	5	≥600
CAIDIc(h)	0	NA	0	9	15
ASAIId	1	1	1	NA	≤0.4

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From the table above, SAIDI, an acronym for the System Average International Duration Index, shows the average total duration per minute of power interruption to the consumer. The result of the study carried out by the Manufacturer Association of Nigeria (MAN) reveals that the Nigerian consumer has more than 60,000 minutes of power interruption annually, an alarming statistic when compared to the highest on the index which is 88. The conservative estimate by the National Electric Power Authority (NEPA), now known as Power Holding Company of Nigeria (PHCN) states the figure at 900 but empirical facts shows that the figure is not representative of the power interruptions which occur in the country (Fagbenle, Adenikinju, Ibitoye, Yusuf, & Alayande, 2006).

The System Average Interruption Frequency Index (SAIFI), which refers to the average number of interruptions experienced by a consumer annually shows Nigeria's figure at greater than 600, an alarming figure compared to America's 1.5 and non-occurrence in France and Singapore. The Consumer Average Interruption Duration Index (CAIDI) refers to the hourly distribution of consumer interruption on an annual basis. This indice shows the Nigerian consumer experiences more than a fifteen minute interruption per hour on an annual basis. Finally, the Average Service Availability Index (ASAI), a reference to the ratio of consumer hours service available versus consumer hour services demanded in Nigeria is less than 0.4. This shows that there is serious shortfall in supply in comparison to demand (Fagbenle *et al*, 2006).

The average Nigerian business undergoes a disruption in power supply every day of the week. The duration and frequency of these outages range from two hours during business hours to a complete blackout that may last the whole day. There is usually no prior warning before these outages, making effective planning and operation of the firms a difficult task (Fagbenle *et al*, 2006). The implication of this for the media planning practitioner is that he cannot safely project that data analysis, reporting or budgeting with the aid of the available IS tools will be completed before power is interrupted. This situation thus promotes distrust in the IS tools as an outage may lead to loss of data, which may in turn result in a delay with regards to the commencement of a scheduled campaign. The figure below is an indication of the historic trend of capacity utilisation versus distribution losses of electricity in Nigeria.

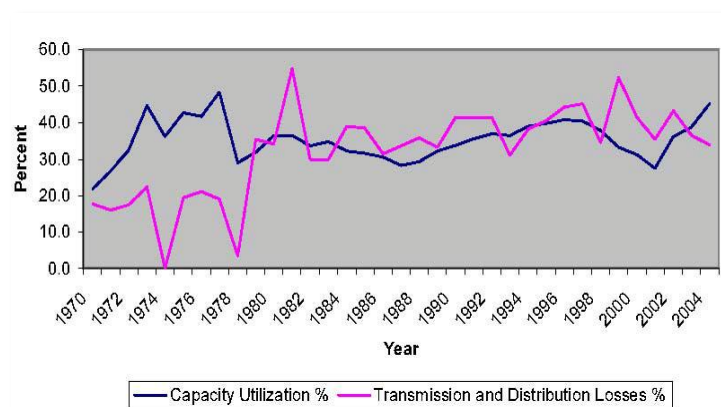


Figure13.1: Indicators of the Electricity crisis in Nigeria from 1970-2004 (Source: Oyedepo, 2012)

The PHCN accounts for the generation of over 98% of the total electricity supply in Nigeria (Oyedepo, 2012). This public body generates electricity through a combination of thermal and hydro systems. In

spite of Nigeria's access to solar energy, the emphasis on power generation is on the two aforementioned sources of power generation. The federal government has made several monetary, managerial and policy interventions in the past four decades, with the aim of ensuring steady supply of electricity in the country (Ubani, Umeh, & Ugwu, 2013). None of these efforts have yielded the desired result as the supply of electricity remains epileptic, thereby stunting economic growth; this in turn had made the environment extremely challenging for manufacturing and the real sector to thrive (Adenikinju, 2005). The cost of power failures to SMEs in Nigeria is huge. Some of these are outlined below:

1. Idle workers who are paid for man-hours but are unable to work
2. Lost output and inability to adhere to a production schedule
3. Damaged equipment leading to a high cost of maintenance
4. Damaged raw materials as a result of sudden stoppage on the production lines

In light of the above mentioned, the operating environment is extremely challenging for small businesses and SMEs. Traditionally, most of the start-up capital for small businesses is from the savings of the owner (Bannocks, 2005). Furthermore, banks and other financial institutions are not favourably disposed to lending to small businesses in Nigeria. The effect of consistent power failure therefore is far reaching for the small business owner. He faces bankruptcy if the loss of man-hours and machinery persists. As a result of this, the growth potential of the Nigerian economy has been severely stunted. The economy has also become a high-risk adventure hence discouraging foreign investors (Apulu, 2012).

According to Lee and Anas (1991), firms in Nigeria spend a significant part of their set-up costs on adaptive technology. Firms invest heavily in backup systems like generators, electricity modulators and other related technology in order to ensure that the production lines continue to function during power outages. The subsequent effect of this is pricing of goods and services are not based on real value as the costs of acquiring and maintaining these backup systems have to be factored in (Lee & Anas, 1991). The continuing crisis in the energy sector in Nigeria has prompted a shift from manufacturing to trading. This has proved a major blow to the development of the industrial sector in Nigeria, further deepening the crisis of graduate and youth unemployment in the society.

Furthermore, manufacturers' response to the energy failure has been a steady relocation of their production firms to other countries around Nigeria, whose electricity supply are more reliable (Lee & Anas, 1991). The finished goods are thereafter distributed through various sales outlets in Nigeria. The consequence of this is that unemployment is rife as there are few manufacturing firms operating in the country (Apulu & Ige, 2011). This has also impacted negatively on technological advancement as the complex and specialised IT/ IS tools needed for production assembly lines are ultimately installed in neighbouring countries like Ghana where the infrastructure enables forecasting, procurement and production of goods. The table below is an illustration of the severity and impact of the erratic power supply plaguing the real sector of the Nigerian economy.

Table 3.4: Analysis of the cost of power outage to production in Nigeria (Source: Adenikinju, 2005)

Type	Amount (N)
Destruction of raw materials	46,696,694
Lost output	462,860,827
Restart costs	14,126,400
Damage to equipment	30,540,574
Total	554,224,495

From the foregoing, it is inferred that the environmental impact of power outages and infrastructure failures on the use of new technologies such as the IS tools being used by MPAs are huge. It is extremely difficult to trust a tool for accomplishing business goals when there are unfavourable external factors which dictate the availability and stability of the IS tool. The next section of this study examines another important challenge plaguing the Nigerian economy and affecting technological advancement, namely systemic corruption.

3.5 Systemic Corruption in Nigeria

According to Nobel Prize winner, Wangari Maathai (2009), one of the greatest tragedies of post-colonial Africa is that the trust that African people have reposed in their leader has been grossly abused by the majority of these self-serving leaders. Research has shown that they prefer to line their private pockets with state funds at the expense of the desperately poor masses of the continent (Maathai, 2009).

Corruption has become a critical topic in discourses about African developmental challenges. The complex nature of the underlying reasons for its prevalence on the continent has made it difficult to tackle the subject effectively in African economies (Agbibo, 2012). Nigeria's notable novelist, Chinua Achebe stated that "The trouble with Nigeria is simply and squarely a failure of leadership, there is nothing wrong with the Nigerian land or climate or air or anything else" (Achebe, 1983, p. 22).

Though corruption has been variously defined by several scholars, this study adopts Transparency International (TI)'s definition of corruption for the purpose of this study. TI defines corruption as the "misuse of entrusted power for private benefits" (TI, 2006, p. 3). According to the 2012 Corruption Perceptions Index released by TI, Nigeria ranked 139th on the table amongst the 176 countries surveyed. The level of perceived corruption in the public sector was scored as 27, an indication that the public sector is extremely corrupt based on the rating of 0-100, 0 being highly corrupt and 100 being considered as very clean (TI, 2012).

In Nigeria, over two decades of military rule helped to entrench corruption and establish firmly the culture of cronyism, executive recklessness and personal agendas in government (Madunagu, 1983). Military governments looted public funds with the aid of a few favoured civilian minions, severely depleting the resources of the Nigerian people and causing a systemic breakdown of infrastructure in all spheres of public life; education, health and other essential social services.

Subsequent democratic governments in Nigeria have failed dismally to root out corruption in the failed state. Retired army general, Olusegun Obasanjo who was elected to democratic office in 1999 spent trillions of dollars on the construction of roads and the power sector during his time in office (Agbibo, 2012). In spite of the huge sum of money that was expended, both the power sector and roads infrastructure were in a dismal state of disintegration when he left office in 2007.

Corruption in Nigeria is considered as part of the objective of seeking public office, and dissension from the majority in collaborating to steal funds from government is considered an act of folly or selfishness (Madunagu, 1983). Nigerian public officers have stolen billions of dollars from government coffers, and proceeded to negotiate the refund of a fraction of the stolen wealth to the government in exchange for immunity from criminal charges (Dike, 2008). This practice has helped to entrench corruption further in the country's public sector.

The consequences of this unabated corruption in the Nigerian society are myriad; most of the elite ruling class have used the looted funds to build the lives they are accustomed to in the first world for themselves and their families. The lack of basic infrastructure in the country does not have a direct impact on them as they have insulated and isolated themselves from the teeming masses (Dike, 2008). There is therefore a lack of political will, and motivation for the provision of good governance and accountability.

The impact of corruption on technological advancement is difficult to quantify. As discussed earlier in this chapter, electricity, which is the basic enabler of technology, is unstable in Nigeria. Workflows and processes which depend on electricity to function in the country are either under-utilised or supported by alternative energy i.e. generators, solar power (Oyedepo, 2012). Also, corruption has been a challenge to the realisation of several ambitious plans to upscale technological development in Nigeria, especially in the public sector. The culture of avoiding accountability streams and the fear of being unable to cover the tracks of diverted funds if technology is advanced in the public sector has all contributed to the seemingly lackluster attitude and political will of successive governments to improve upon technology usage in the country's parastatals and ministries (Agbibo, 2012).

The effect of corruption on investment and government expenditure is that growth is stunted as a large percentage of the funds awarded for contracts and infrastructure development end up in private pockets or as bribes to the government officials in charge of awarding contracts (Mauro, 1996). Another danger is that corruption lowers the quality of goods and services supplied by contractors as they have to accommodate the kickbacks and yet, eke out a profit for their organisation.

Furthermore, the award of complex and multi-billion dollar contracts for computer software and hardware may be perceived as a drive towards technological advancement, yet the intention by corrupt elements in government may be simply to enrich themselves, a situation that leads to the supply and installation of sub-standard products which may not be able to stand the test of time hence the constant power outages in the case of the national electricity board (Adenikinju, 2005). The impact of these vested interests on technology

trust is that media practitioners are wary of their external environment and the failure of infrastructures that they decipher ways of enabling their work processes without great dependence on technology (Tornatzky & Fleischer, 1990)

According to Murphy, Shleifer and Vishny (1991), qualified and talented individuals in a country where corrupt practices are rife are more likely to engage in these personally lucrative but economically unproductive practices, thereby affecting the country's growth in the real sector or in the development of genuine enterprise that could boost growth and lead to the creation of more job opportunities in that country (Murphy *et al*, 1991).

The assertion by these authors has proven true in the marketing communications industry in Nigeria. Many media managers engage in rent-seeking transactions for the purpose of enriching their own pockets. The result of this corrupt tendency is that brilliant individuals, who could have maximised clients' advertising budgets by deploying campaigns which would achieve maximum impact to benefit the clients' brands, prefer to spend the advertising budget on other media which are less effective but where they have been promised personal settlement from the proceeds of the advertising spend (Kupoluyi, 2013).

3.6 Impact of Infrastructure Failure and Corruption on Technology Trust in Nigeria

The trust construct is considered a very important factor to the usage and adoption of any technological application (Lippert & Swiercz, 2005). This issue has become even more important, given the rate at which technology has advanced and the vast array of applications that are available for use in every field of human endeavour. The onus is on the trustee to make available a trust environment that can be logically justified, based on trust notions in that particular context. Trust itself is not considered as a binary notion which is narrowed down to whether there is trust or not, but rather as a complex range of different issues which can be described as trust levels (Gorski, 2005). Gorski (2005) postulates that trust levels are dependent on trust justification based on the context within which trust is being considered.

Based on this argument, trust in technology is being considered in the context of the indisputably challenging environment in which media planning practitioners are planning, deploying and collating post-campaign data that relates to the effectiveness of advertising campaigns in Nigeria. According to Flowerday and Von Solms (2006), there is an undeniable relationship between trust, risk and the effect of both attributes on behaviour. Mediastar, which is the most commonly used IS tool by MPAs in Nigeria, has the capabilities to enable all the processes that are described above. It is therefore puzzling to note that most media planning practitioners still prefer to use the traditional means of campaign planning i.e. Excel spreadsheets as opposed to the Mediastar software.

Nevertheless, a cursory look at the root causes of the distrust of technology that enables work processes in Nigeria reveals that most of these managers are wary of spending a great deal of time to input planning parameters onto the software, with the risk of power failure, which almost always necessitates an interval before the alternative source of power is switched on and often results in loss of data and other associated problems (Egbonwon, 2012). This viewpoint is further affirmed by Oyedepo (2012). According to Kupoluyi (2013), the loss of data always leads to the failure to meet the deadlines set by the client, which results in a negative image for the organisation. In a country where competition is stiff and many middle level managers are looking to set up their own businesses and pull some of the clientele from their former employees, it becomes vital for the agency to deliver campaigns timeously and in sync with clients' other promotional efforts for the brand.

In addition, the fluctuations in the supply of electricity, corruption and other systemic infrastructure failures has become entrenched in the psyche of the average Nigerian (Achebe, 1983). This has resulted in a lack of enthusiasm for novel applications which are not directly controlled by users. The Mediastar application was developed in Australia, there is therefore a tacit, though unexpressed, level of resistance to the application by some media planning practitioners who are not early adopters of innovation (Egbonwon, 2012).

Furthermore, as discussed in Chapter 2 of this study, the DOI theory analyses the reasons and rate at which a particular innovation is likely to be adopted by a group of individuals within a particular community or stakeholder group (Rogers, 1995). In the media planning industry, it is argued that the widespread use and optimisation of the IS tools available for the purpose of improving effectiveness and efficiency of media planning in the marketing communication landscape will depend largely upon the levels of trust in the available IS tools.

According to Rogers (1995) one of the five factors crucial for the successful adoption of any innovation is that it is perceived as compatible with existing values and practices. The peculiarity of the Nigerian environment, the systemic failure of critical IS-enabling infrastructure and the propensity for corruption are all factors that combine to stall the adoption of IS tools in the Nigeria media planning industry. Media planning practitioners are wary of over-reliance on IS applications as they fear that their deliverables may fail in cases where frequent power outages causes an IS tool to become faulty or there is no network to connect to the Internet.

3.7 Conclusion

This chapter discussed the impact of the technological-organisational-environmental contexts in which Nigerian MPAs operate on the level of trust in IS tools within the industry. The chapter established the various factors within these three contexts that impacted negatively on trust in IS tools within Nigerian MPAs. A discussion of this nature was crucial in order to contextualise the relevance of this study in the Nigerian society.

Chapter 3: Factors affecting Trust in Information Systems

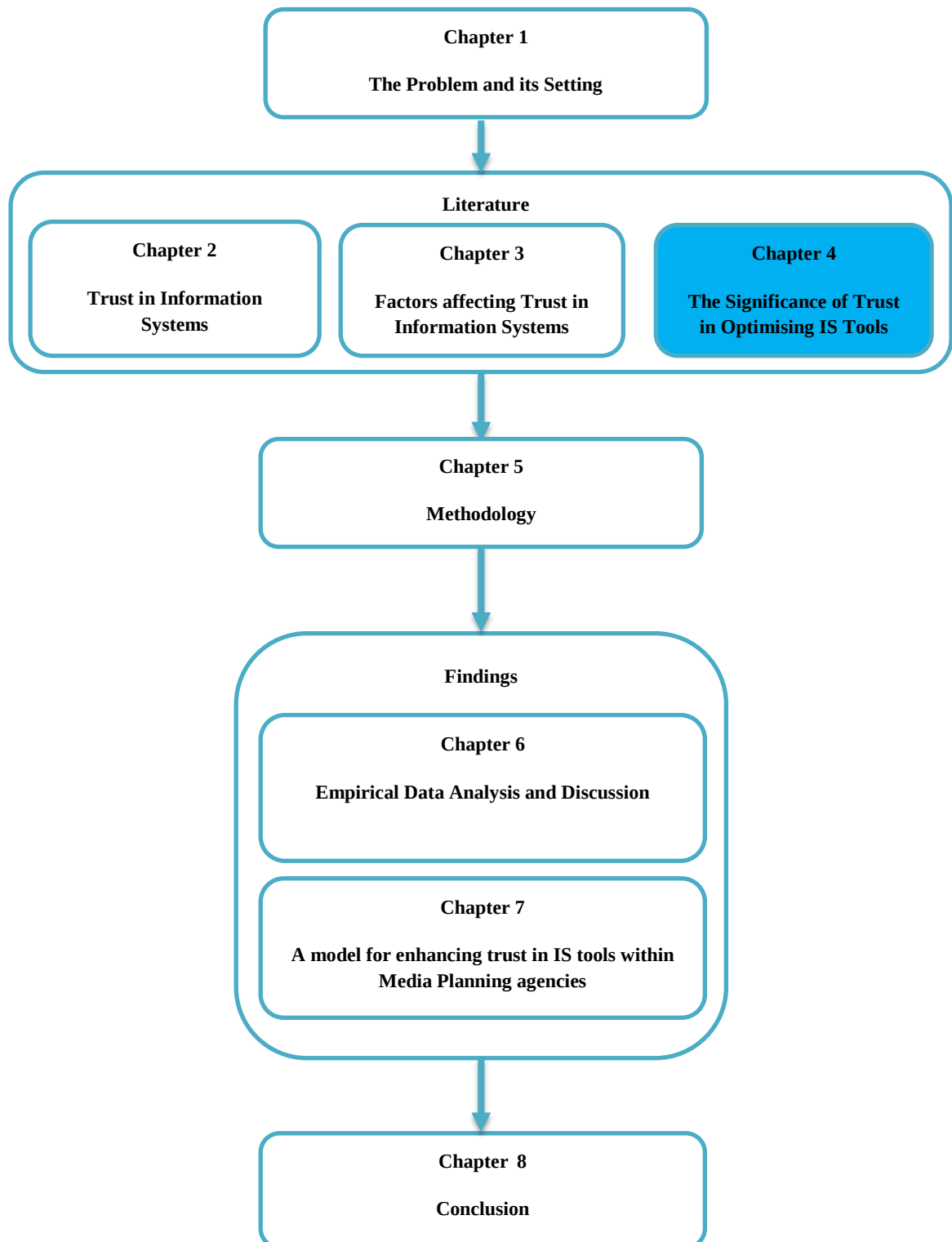
The chapter examined the developmental challenges of sub-Saharan Africa. The discussion shows that the peculiar challenges of the Nigerian nation can be generalised, to an extent in other African countries. This aspect of the study is necessary for the findings from the empirical study to be applicable outside the Nigerian context. Thereafter, the effect of inadequate, obsolete or non-existent infrastructure which is critical to technological advancement in Nigeria was discussed. It was surmised that the country does not currently present an enabling environment for the adoption of sophisticated IS tools in MPAs, a situation which negatively affects trust in the available IS tools available in these agencies for conducting business.

A topical challenge of the Nigeria economy; persistent power outages, was then discussed in detail. Several tables were presented to strengthen the argument that the problem of power failure in Nigeria is still unresolved and remains a factor which impacts greatly on technology trust in Nigeria MPAs. Related to this is the effect of systemic corruption on the psyche of the majority of the populace. It is opined that the culture of personal gratification has permeated the society, such that some media planning practitioners are wary of using scientific IS tools to plan advertising campaigns as poor choices of advertising media may become much more difficult to justify, compared to campaigns that are planned on loose and undefined parameters.

In conclusion, the chapter surmised, based on available literature, that the technological-organisational-and environmental contexts of MPAs in Nigeria combine to greatly impact on and create an atmosphere of distrust for IS tools in the media planning industry in Nigeria. The objective of this study is thus to propose a model that will serve to enhance trust in these IS tools and ensure their optimisation in the workplace. The next chapter of this study addresses the question of how the improvement of trust in IS tools within MPAs will enhance effectiveness and efficiency in their operations. This is with the view of analysing the significance of proposing trust enhancers in order to overcome the factors which negatively affect trust in IS within MPAs discussed in this chapter.

Chapter 4:

The Significance of Trust in Optimising Information Systems Tools



4.1 Introduction

The trust construct has been discussed in great detail in Chapter Two of this study. The difference between interpersonal and technology trust was examined, with an emphasis on how technology trust impacts on its use, which in the context of this study is the Media Planning Agency (MPA). Chapter Three discussed the technological, organisational and environmental factors that affect trust in Information Systems (IS) tools within MPAs. This chapter takes a closer look at the role and significance of technology trust in ensuring that the available IS tools within MPAs are put to optimal use in order for agencies to achieve efficient and effective media planning. Chapter Four is significant to the study as it discusses the literature on technology trust and the impact it has on efficiency and effectiveness within MPAs.

The output of this study is to present a model for the enhancement of trust in IS tools in order for these agencies to improve their work processes, become global players and increase their profitability by means of maximising the IS tools available to them. Chapter Four contributes to the formation of the model by examining several models of trust and their attributes, which in essence forms the theoretical background for the trust enhancers that are proposed in the model presented at the end of the study. Additionally, the chapter conjectures that trust is a constant construct in human interaction with other people, technology or the virtual world hence there is an exigent motivation for trust in IS tools to be enhanced within MPAs in order to achieve maximization of the tools.

The first section of this chapter discusses trust, distrust and the human brain, followed by an examination of literature on human behaviour and its relevance to technology trust. Thereafter, trust determinants in diverse trust models and the impact of these factors on the efficient use of IS tools within MPAs is examined. This is followed by a discussion of organisational culture and technology trust, data integrity and technology trust. Thereafter, an overview of data quality, technology trust and risk is carried out. An overview of all the sections and its applicability to the study is then outlined in the concluding section of the chapter.

4.2 Trust, Distrust and the Human Brain

The decision of an individual to trust or distrust a technology has a profound effect on his social behaviour when interacting with the technology in his workplace. It may also have a decisive impact on his career progress, especially if his output is dependent on the IS tool he uses (Dimoka, 2010). To this end, Dimoka, (2010) proposed a need to examine the effect of brain activity on trust and distrust in order to better understand the reasons for trust in a technology that may not be directly obvious from psychometric study. This study focuses on the ability of the individual to place his trust in an IS tool for the accomplishment of work goals and objectives. It is therefore believed that a discussion of trust and the neurological sensory organs which trigger trust, distrust and trusting beliefs is directly relevant to this research.

Chapter 4: The Significance of Trust in Optimising IS Tools

Trust and distrust have long been perceived and treated as opposite ends of the same continuum (Dimoka, 2010). This has led to a dearth of literature on the subject of distrust as a separate entity. However, empirical work by McKnight *et al* (2002) has shown that these two constructs are only moderately correlated. Dimoka (2010) asserts that almost all trust related work have been carried out with psychometric data systems, stating that it is an important step for the two concepts to be measured through functional neuroimaging (fMRI) tools in order to further understand the two concepts. This is because they form the key to behavioural intent towards technology tools. This method of analysis is also a useful tool which sheds light on the nature, distinction, relationship, dimensions and effect of trust and distrust in technology tools (Dimoka, 2010).

Functional brain imaging measures brain activation directly and captures the location, timing and level of brain activity which underlies trust and distrust (Dimoka, 2010). Results of the investigation via the fMRI reveal that trust and distrust activate divergent brain activities. The implication of the finding is that both of these constructs are associated with different neurological processes and do not necessarily exist on a continuum as is widely believed (Dimoka, 2010). This finding correlates with McKnight *et al*'s (2002) findings on the dissonance between trust and distrust.

The findings reveal that trust is associated with the brain areas linked to the anticipation of rewards, prediction of other people's behaviour and the calculation of uncertainty. It also establishes the fact that trust is linked to rational and calculative thought processing in the human brain. On the other hand, distrust is associated with the brain areas which are linked to intense negative emotions and fear of loss. Distrust is also linked to high emotional levels and irrationality (Dimoka, 2010).

The relevance of the findings to this study are multi-dimensional: the distinct nature of trust from distrust suggests that MPA media directors, media planning practitioners and other executives using the IS tools are able to make rational decisions and choices about the extent of their use. The neural brain activities which engender trust are bound to act in accordance with how they envisage the rewards of using the technology. Brain activities regarding trusting beliefs would also depend on how media practitioners are able to predict outcomes and attainment of their goals and objectives and an analysis of the associated risk of using the IS tools. This is an important aspect of this study as it presupposes that trust in the technology will be a vital tool in ensuring the effective and efficient use of any IS tool to enhance productivity in Nigerian MPAs.

Furthermore, trust is believed to be an expectation of the trustee's beneficial conduct; which in the case of technology refers to its functionality, reliability and helpfulness (Lankton & McKnight, 2011). However, this does not imply that a lag in any of these attributes automatically engenders distrust in the trustor. According to McKnight and Chervany (2000), distrust arises when there are negative affinities arising from breaches to the trustee's competence and inherent benevolence. The implication for this study is that distrust is triggered in the human brain when the technology tool fails to perform as expected, fails to help the media planning practitioner achieve his work objectives or puts the job of the user at risk by its action

or inaction. Any of these courses of action will raise concerns in the trustor's brains regarding the trustee's commitment to his welfare (Dimoka, 2010).

In correlation with this assertion, Cho (2006) contends that trust is not the absence of distrust but rather a qualitatively distinct phenomenon. The fact that a media planning practitioner does not highly distrust an IS tool does not mean that he has a high level of trust in its ability to help him accomplish work goals without any disappointment. Cho (2006) argues that the emotional string from which distrust proceeds is more likely to lead to a complete jettison of an IS tool while moderated trust in the IS tool may just lead to it not being optimally employed by the same executive.

Also, findings from the functional brain imaging testing reveal that the brain processes distrust on an emotional assessment level, with concerns that the trustee will engage in harmful behaviour (Dimoka, 2010). This correlates with the summation by McKnight and Chervany (2002) that distrust is a reflection of the emotion-laden human survival instinct while trust is calm and collected. It is argued that the emotional element linked with trust in the brain is associated with hope, positive rewards and co-operative intentions. On the other hand, the neural correlates of the brain linked with distrust are associated with the fear of loss and intense negative emotions of worry, suspicion and fear (Dimoka, 2010). To this end and with the supporting literature by McKnight and Chervany (2002) and Cho (2006) it is asserted that trust is a cognitive belief while distrust is an emotion-laden belief.

The impact of trust on the effective and efficient use of IS tools in MPAs are thus dependent on the cognitive assessment of the abilities of IS tools in the achievement of work goals. The extent to which a media executive is able to trust in the IS tool will determine the extent of his use of the tool to accomplish work processes. In addition, the antecedents of trust in the technology and consequences of building, retaining and improving such trusting beliefs are quite distinct from the antecedents and consequences of distrust in the technology (Dimoka, 2010). It is therefore surmised that human behavioural intentions are closely linked to their trust cognitions of the functionality, reliability and helpfulness of the available IS tools (Lankton & McKnight, 2011). The next section of the study discusses some of these trust determinants and conceptual frameworks which address the trust concept and significance of technology trust with regards to how it impacts upon the organisation's efficiency and effectiveness.

4.3 Human Behaviour and Technology Trust

4.3.1 Muir's (1994) Trust in Automation Construct

The widespread use of technology has enabled transactions between people and organisations across the globe. Most of these exchanges are impersonal and based on the use of IS tools (McKnight, 2005). In the same vein, there are numerous IS tools available for accomplishing various tasks carried out by people in the workplace. There are several studies focusing on the trust concept as it relates to the technology tool

itself (McKnight, 2005; McKnight and Chervany, 2002; McKnight *et al*, 2002; Nicolaou and McKnight, 2006; Lankton and McKnight, 2011; Lippert and Swiercz, 2005; Lippert and Davis, 2006).

As discussed in Chapter Two, this study adopts the definition of trust as “**willingness to depend on the IS to perform a certain task in the most efficient way that will enable the trustor to achieve set goals and objectives** (McKnight *et al*, 2011). In light of this definition, it is opined that the trustor within a given MPA has the assurance that IS related tasks which will ensure the attainment of his goals and objectives will be achieved and that his success in this regard will not be jeopardized by the IS tools available to him.

This study has underlined the fact that technology trust is premised on the three attributes of functionality, reliability and helpfulness (Lankton & McKnight, 2011). Early literature on the role of technology trust is anchored on the fact that human to technology trust is bestowed based on several inherent characteristics of the technology, as well as inherent characteristics in the trustor. Empirical studies by Muir (1994) and Muir and Moray (1996) examined the impact of trust in human intervention of automated systems. In these studies, they opine that an interpersonal approach to the nature of trust from a person to an artifact, i.e. technology tool will further help to gain an understanding of the value of technology trust in the attainment of work goals and objectives (Muir, 1994).

In her pioneering work on the behavioural aspect of person to technology trust, Muir (1994) identified three common trust elements in relation to human to technology trust:

1. Trust as an expectation of confidence;
2. A specific person, place or object as the focus of trust; and
3. The presence of multiple characteristics of trust referents.

Trust as an expectation of confidence is the belief that a technology will function in a positively consistent manner into the future, thus leading the human to trust the technology as predictable (Muir, 1994). The correlation between this element and the attribute of reliability is found in current literature of the trust construct in direct association with the technology tool itself (McKnight *et al*, 2002; Lee & See, 2004; McKnight, 2005; McKnight *et al*, 2011). McKnight (2005) described trusting behaviour as the action of the trustor to be dependent on the trustee. In light of this, the trustor needs to have an assurance of consistent performance and reliable output from an IS tool in order for him to submit himself to futuristic trust in the technology.

Furthermore, Lee and See (2004) support this assertion by arguing that trust in technology connotes a willingness to act in a given situation in spite of the presence of risk. The belief of a person in the reliability of the technology propels him to act in the context of using the technology for his work processes. Hence the role of trust in the IS tool is predicated upon ability or willingness of the human to place himself at risk in employing the technology. This decision to place oneself at risk is somewhat mitigated if the element of reliability has been historically established and a futuristic inference can be drawn. McKnight *et al* (2011) also stated that the significance of the trust in technology concept lies in the

ability to identify and articulate the attributes inherent in the technology itself to make it trustworthy. The reliability concept therefore emerges as a constant in the technology trust concept.

A specific person, place or object as the focus of trust is the second element described by Muir (1994). The object of trust as it relates to the achievement of the objectives set out in the workplace. In the context of this study, the object of trust is not generic but specific. This study has described the various IS tools that are in use in the MPAs in Nigeria, with particular focus on the IS tools which assist media managers in their task of buying media space to advertise products and services on behalf of the clients. Trust, in this instant is a perception, a state or a condition which is conferred on the IS tool in use at the MPA (Lippert & Davis, 2006).

The argument for this second element is further strengthened by Lankton and McKnight (2011) who argue that the trust reposed in Facebook by millions of users is based on the perception of Facebook as a quasi-person. In other words, Lankton and McKnight (2011), argue that the quality of helpfulness of a technology is based on its perception by the human as an object with the capabilities to provide the requisite assistance to carry through work processes whenever the situation demands it.

Extrapolating their position from the trust literature which relates to the benevolence belief in interpersonal trust by Mayer *et al* (1995), it is argued that the helpfulness attribute is an extension of the benevolence belief from interpersonal trust stance in the literature. This is presumed as helpfulness in the technology trust concept as it is not possible for an inanimate object to display benevolence, since it does not have a moral will or agency.

Helpfulness is based on the inherent ability of the technology to offer the user the assistance required to achieve a goal or objective at work. Therefore, it is believed that a user who perceives the technology as an object which can demonstrate the competence and inbuilt help characteristics to solve pressing problems will be more readily inclined to complete tasks with more confidence and less feelings of vulnerability (Lankton & McKnight, 2011).

Multiple dimensions of trust referents is the third element discussed by Muir (1994). There are many different facets of trust which determine the attitude of the user to the technology (Muir, 1994). The trust concept is made up of several sub-components such as integrity, motivation and faith. In the same vein, human to technology trust is comprised of different characteristics such as competence, faith and ability (Muir, 1994). Muir and Moray (1996) expand this notion further by presenting empirical findings showing that human to machine trust is significantly reduced when there is any sign of incompetence in a component of a technology, even if that component does not perform a core function. Their findings also reveal that the loss of trust in a component may result in the individual performing the required task manually, while still trusting in other related components and the ability of the entire system to accomplish a task (Muir & Moray, 1996).

Chapter 4: The Significance of Trust in Optimising IS Tools

The significance of this finding is that there are complex multi-level layers of what comprises the technology trust concept and any of these layers may impact on the use of the technology. The relevance of this assertion to the research is that a media planning practitioner may trust the IS tool to perform certain tasks i.e. the demographic data regarding his target audience but refuse to use the budget component of the tool for his campaign because he does not trust the ability of the system to make correct projections for his campaign.

Muir's assertion that there are multiple dimensions of trust determinants which play a role in the trusting attitude of the end user correlates with McKnight and Chervany (2002). The article outlines a taxonomy of trust characteristics or determinants which relate directly to technology trust environment: competence, expertise, responsiveness and dynamism. These four attributes identified in the literature by McKnight and Chervany (2002), though not exhaustive, typify the same attributes of functionality, reliability and helpfulness already discussed in this section. The next section of this study discusses some of the determinants of technology trust in the light of these aforementioned attributes, with the aim of relating them to the significant role of technology trust within agencies.

4.3.2 Mayer, Davis and Schoorman's (1995) Trust Model

Early literature on the subject of trust has pointed to the importance of the human behaviour in determining the level of trust in an IS tool. The literature, which was mostly in the management and behavioural sciences domain, also identified certain factors which allude to the traits of the trustee and how it affects his use, or lack of use, of a particular technology. The entire trust construct is summed up as the secure willingness of the trustor to depend on the trustee based on the latter's characteristics (Rousseau, *et al*, 1998). Mayer *et al* (1995) defines trust thus: "*Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party* (Mayer, *et al*, 1995, p. 715)". This definition correlates with the chosen definition of trust for the purpose of this study (McKnight *et al*, 2011) as it anchors trust on the willingness of the trustor to be vulnerable to the trustee irrespective of monitoring or control mechanisms to ensure that the trustee behaves as expected. However, unlike the definition chosen for this study, Mayer *et al*'s definition does not explicitly state the importance of the trustor achieving set goals and objectives in the most efficient way, a theme which forms the focal point of this study. Mayer *et al*'s model of trust diagram is shown in Figure 4.1 below.

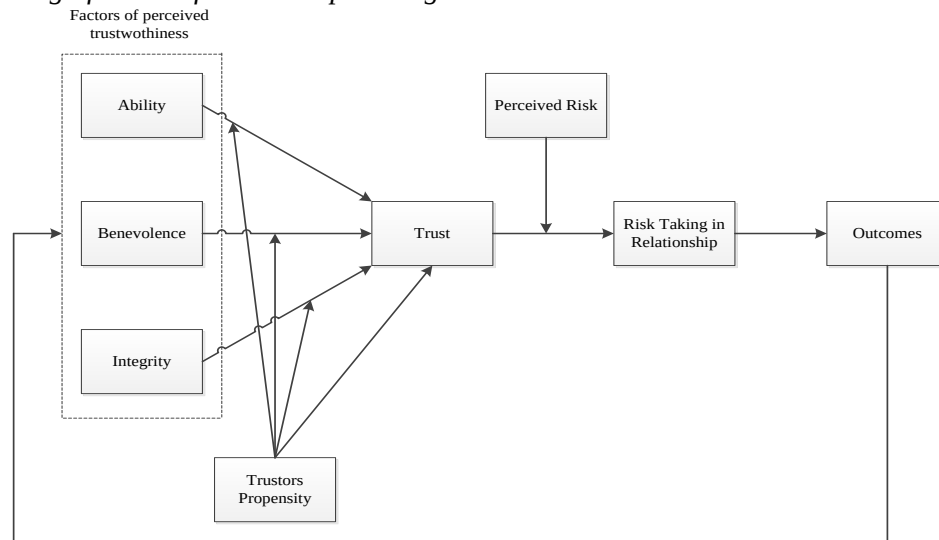


Figure14.1: Model of Trust (Mayer *et al*, 1995)

According to Mayer *et al*, (1995), there are particular traits in the trustor which determines his ability to cultivate a trusting relationship. This trait is categorised as a trustor’s propensity on the model diagrammed above. Mayer *et al* (1995) describe a trustor’s propensity to trust as the general willingness to trust others prior to gathering any data on their inherent characteristics. This propensity to trust is determined by factors such as background, personality type and cultural beliefs of the individual. It is opined that the propensity to trust differs from one individual to another. The key element of this argument as it relates to technology trust is that the individual’s propensity to trust will impact on his decision to trust the IS tool available to him irrespective of, or precluding an assessment of the characteristics of the IS tool itself. Following from the propensity to trust, Mayer *et al* (1995) discuss the characteristics of the trustee which further promotes trust in the trustee. These are the attributes of ability, benevolence and integrity, all determinants of the level of trust that will exist in a relationship between the trustor and the trustee.

Ability is described as the skill, competence and other characteristics that enable the trustee to have an impact in the relationship. In the case of a person to technology trust context, this ability is demonstrated by the IS tool by providing the necessary and required support to ensure that the goals and objective of the trustor in the workplace are met.

Benevolence is the second attribute of the trustee which promotes trust with the trustor. Benevolence is described as the extent to which the trustor is able to believe in the good intentions of the trustee. In other words, it is described by Mayer *et al* (1995) as the ability of the trustor to trust that the trustee has good intentions and will act in the best interest of the trustor. In a technology trust context, it is argued that the technology lacks moral agency to decide how to act (McKnight *et al*, 2011) but has within it the inherent features of helpfulness and capacity to co-operate in order to meet the needs of the trustor.

Integrity is the third attribute of the trustee’s characteristics discussed by Mayer *et al* (1995). Integrity alludes to the perception of the trustee as having desirable traits which are in tandem with the trustor’s

value propositions. According to Mayer *et al* (1995) all of these three attributes combine to create a belief of trustworthiness from the trustor to the trustee. It is opined that this trustworthiness therefore exists in a continuum, having different variations due to the different natures of the three attributes. However, the level of positive perception of the interrelated attributes will determine the amount of trust placed in the trustee. In other words, the level of perceived trustworthiness is based on the perceived level of ability, benevolence and integrity. The argument advanced by Mayer *et al* (1995) directly impacts upon the media practitioner's level of trust in IS tools; his own propensity to trust in general plays a role in his attitude to the technology tool pre and post usage. The submission from Mayer *et al* (2005) correlates with the findings of Lippert (2002) regarding technology trust. The next section of this study discusses the works of Lippert (2002) in greater detail.

4.3.3 Lippert's (2002) Trust in Information Systems Technology (TIST) Model

As discussed earlier in Chapter Two of this study, and reiterated in the previous section, trust is a multi-faceted and multi-dimensional concept consisting of many constructs and antecedents. In line with the works of Muir (1994) and Mayer *et al* (1995), Lippert (2002) developed a Trust in IS (TIST) model to further articulate the technology trust construct. According to the TIST model, an effective way to evaluate technology trust is by assessing the attributes of:

1. Predictability
2. Reliability
3. Utility
4. A consideration of the individual's disposition to trust in general (Lippert, 2002).

Technology predictability is described as the expectation of the individual towards the technology based on his past experience and future expectations (Lippert, 2002). For a media planning practitioner to trust the predictability of an IS tool, he is inclined to act based on a summation of all his past interaction with the technology. This summation will also lead to a futuristic attitude on what to expect from the technology going forward. This attribute is very crucial to the effective and efficient use of media planning tools as a positive forecast of the predictability of the IS tool will encourage optimal use. The user's ability to forecast that the technology will behave as expected automatically reduces a feeling of vulnerability. This assertion is in correlation with the functionality attribute of technology alluded to by Lankton and McKnight (2011).

Technology reliability is described as the individual's confidence that the IS tool will perform consistently and according to expectation when trusted for the completion of a job-related task. This attribute is very significant as the media planning practitioner places himself in a situation of risk and dependence each time he relies on the technology for the completion of tasks. If the technology fails to function as expected, the evaluation of the media executive's success and work integrity is called to question. This is an important sub-construct of the trust in technology literature as it places the evaluative responsibility of job success on

the technology and not the human; meanwhile the individual gets the reward or punishment depending on goal achievement. This point maps directly back to the fundamental difference identified by McKnight *et al* (2011) between interpersonal trust and technology trust; the technology does not possess will or emotion and has no moral agency. An IS tool can therefore not be held accountable for the results produced by its use, hence it is crucial for the trustor to have faith in its ability to deliver end goals as envisaged.

Technology utility refers to the user's faith in the technology, his evaluation of the usefulness of the technology and his perception towards the IS tool's ability to enhance or improve his job performance. The media planning practitioner does an assessment of the IS tool and how it enables him perform better on his job, his evaluation will impact on his decision to maximise use of the technology in order to promote efficiency and effectiveness in his work processes. The relevance of technology trust to the MPA is that the key stakeholders within these agencies will incorporate the available IS tools into their work processes, thereby minimising incidents of dissent to the technology. In the instance where media planning managers, account executives and media practitioners in general have strong belief in the predictability, reliability and the utility of the IS tools they have access to in the workplace, it is a reasonable expectation that they will make maximum use of it in achieving their goals and objectives at work.

Lippert and Swiercz (2005) discuss some of the similarities and differences between interpersonal trust and technology trust, further reinforcing the importance of trust as an antecedent of the maximal use of an IS tool. The first major difference noted by Lippert is the fact that technology trust is one directional and not bi-directional as obtains in interpersonal trust. The trust bestowed on a technology tool cannot be reciprocated nor appreciated hence the propensity of an individual to trust is an important attribute as the trust evaluation is one way only.

Secondly, Lippert and Swiercz (2005) noted that in both interpersonal and technology trust, post-interaction evaluations are made about the object of trust by the trustor. Also, both interpersonal and technology trust embody the trustor's perception of the trustee, which is greatly influenced by the individual's predisposition to trust in general (Lippert & Swiercz, 2005).

A consideration of the individual's disposition to trust in general was discussed as a factor in the evaluation of technology trust by Lippert (2002). To further highlight the influence of the trustee's personality on technology trust, Lippert and Davis (2006), argue that a person's attitude to a particular technology tool, perceptions of the technology's complexity, personal innovativeness and anxiety about the technology all contribute to his disposition to trust the technology and will inform the extent of his adoption of the tool for work processes. According to Lippert and Davis (2006), trust in the technology is an active techno-structural element which is vital to the successful adoption and continued use of an IS tool in any organisation. Lippert and Davis (2006) assert that since knowledge exchange is influenced by the degree of trust between individuals, the degree of trust in the technology also affects the degree of effectiveness or otherwise of the positive change an IS tool can bring about in an organisation.

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Also, it is asserted that inconsistencies in expected behaviour or outcomes from a technology will result in low levels of trust, thus making the use of the IS tool unpopular (Lippert & Davis, 2006). This inconsistency will lead to minimal use, thus eroding the intended purpose of the technology to improve efficiency and effectiveness in these MPAs. The assertion by Lippert and Davis (2006) corresponds to the reliability belief which states that trust in a technology is heightened or lowered by the degree to which an individual perceives that the technology will continue to operate in a consistently positive way (McKnight, 2005). The assertion that both interpersonal trust and technology trust are critical to the successful adoption and implementation of technology in an organisation is made explicit in the diagram below.

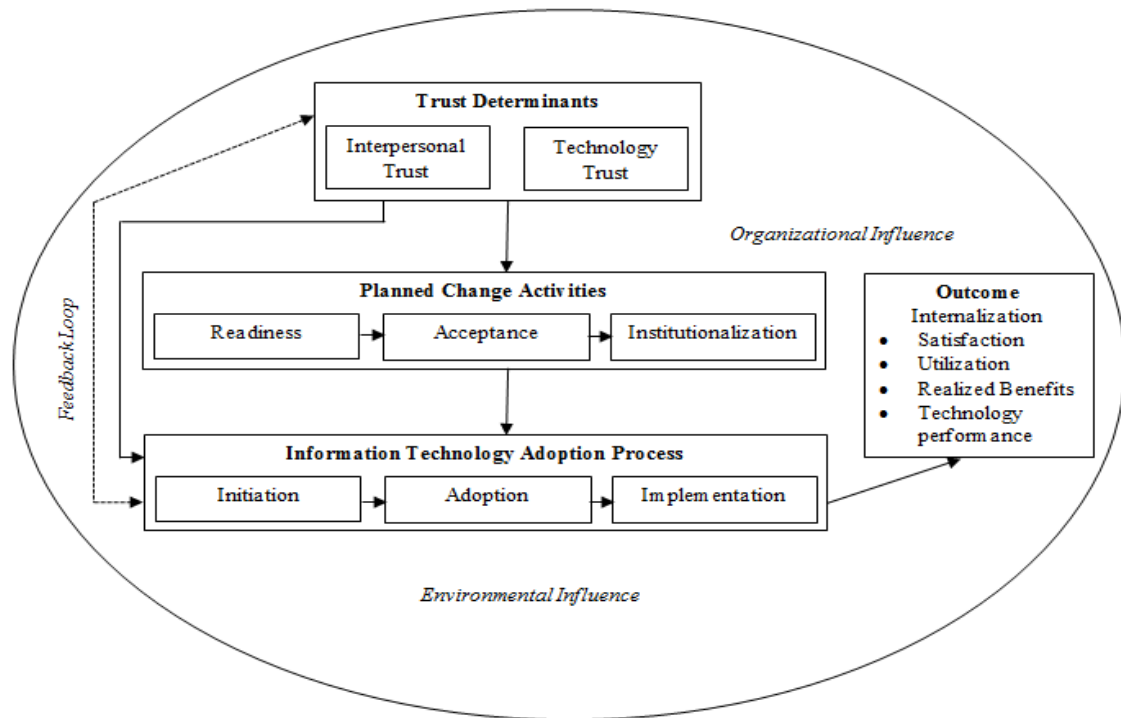


Figure 4.2: Technology Trust Determinants (Lippert & Davis, 2006)

From the diagram above, the environmental context in which an organisation introduces a technology tool impacts on both the organisation's adoption and effective post-adoption use. In the same vein, these environmental factors and resultant organisational influence serve to influence individual level of trust in the technology (Lippert & Davis, 2006). This correlates with the Technology-Organisation-Environment (TOE) framework which states that the environmental context in which a technology tool is being employed impacts on the usage and maximization of the tool (Tornatzky & Fleischer, 1990). Also, interpersonal trust and technology trust attributes are considered twin elements which speak to change in the event of a new technology being introduced in an organisation.

The diagrammed model suggests that both interpersonal trust, which is employed in this context as the trust between the individual and the organisation, and technology trust affect the level of technology use. This is because these two attributes affect human attitude in adopting the technology as well as the internalisation

of the technology processes in a manner which allows for maximal and efficient use of the tools, where trust in these two attributes remain positive (Lippert & Davis, 2006).

According to Lippert and Davis (2006), the impact of these two trust elements on system use is that a feedback loop continues to update and reinforce positive experiences of the technology based on the satisfaction, utilisation, and recognition of benefits and assessment of the technology's performance. This is a very important element in this study as it is believed that a positive assessment of the functionality construct in the technology trust literature will play a major role in how the IS tool will be able to promote efficiency and effectiveness in the operation of the MPAs.

Furthermore, the trust reposed in an IS tool by an individual will be the catalyst for his acceptance of the work processes enabled by the available IS tools within his organisation (Mayer *et al*, 1995). This assertion lends credence to the argument by several authors on the subject of trust in technology (Lankton & McKnight, 2011; Lippert & Davis, 2006; Lippert and Swiercz, 2005; McKnight *et al*, 2007; Mayer *et al*, 1995). It is therefore asserted that an individual's level of trust in the technology, based on his propensity, perception and experiential use will foster his decision or action in making the most efficient use of the technology in his work processes.

To this end, human behaviour, which is likened to propensity to trust in the literature by Mayer *et al* (1995), technology trusting beliefs as outlined by McKnight (2005) and discussed in chapter 1 of this study and the literature by Lankton and McKnight (2011) all highlight the impact of the trustor's perception on the three technology trust attributes of functionality, reliability and helpfulness. It is therefore opined that the disposition of the personnel in MPAs towards the IS tools available to them for use is key to how they will use the technology in an efficient and effective way in order for the operation of these agencies to become more profitable.

To further buttress the importance or significance of these three attributes, in conjunction with the individual's propensity to trust, McKnight and Chervany (2002) state that the link between trusting beliefs and trusting intention is very significant in a technology trust scenario. This is because beliefs are the catalyst for intentions hence a trusting belief in a technology tool will automatically lead to a desire to use it for the accomplishment of work goals.

The positive outcomes when assessing the three technology characteristics which engender trust in the tools; functionality, reliability and helpfulness will further enhance the individual's willingness to trust the technology, in this case, IS tools in accomplishing work goals and objectives. The next section examines the impact of organisational trust on technology trust and how this factor impacts on effectiveness and efficiency within the firm.

4.4 Organisational Culture and Technology Trust

Organisational culture is defined as a corporation's fundamental beliefs about how it should function, its accepted norms of behaviour and the path it should tread in order to achieve its goals (Hofstede, Bond, & Luk, 1993). Organisational culture is also described as a specific way of running the affairs of employees and a shared perception of the organisation by all members (Robbins & Judge, 2010). Organisational culture consists of a host of permanent characteristics which distinguish the members from others (Robbins & Judge, 2010). An organisation's culture reflects its values, priorities and vision (Alston & Tippet, 2009). The shared values and beliefs within an organisation's culture are regarded as important variables that guide behaviour within the context of the firm (Alston & Tippet, 2009). To this end, it is believed that a study of an organisation's culture is an important step towards an understanding of the attitudes and processes within it. Researchers have examined the concept of organisational culture as a key component of a company's success story (Alston & Tippet, 2009).

The terms mechanistic and organic have been used to describe organisational culture systems. Mechanistic cultures are characterised by rigid job profiles and governed by procedural compliance. In this culture, communication flows from top to bottom and the leadership is authoritarian in approach (Alston & Tippet, 2009). In the converse, organic cultures are characterised by flexible jobs, risk taking employees and fluidity of information flow across the stakeholder community. Management in this culture encourages team work and originality of ideas. They are also favourably disposed to change engineered by any team member (Jassawalla & Sashittal, 2002).

Organisational trust is one of the various elements which make up an organisation's culture (Lippert & Swiercz, 2005). The trust construct has been discussed extensively in chapter 2 of this study. Trust is described as an essential element in the development and sustenance of mutually dependent relationships (Athanasopoulou, 2006). Organisational trust is the level of trust employees' have in their organisation (Alston & Tippet, 2009). Organisational trust is also described as the extent to which employees have a collective trust orientation towards their employer (Lippert & Davis, 2006). Organisational trust leads to process improvements which enhances productivity and efficiency in the workplace (Flores & Solomon, 2001). Trust increases positive behaviour in the workplace and creates enthusiastic synergies in teams (Alston & Tippet, 2009). Organisational trust also serves to improve employee morale.

Organisational trust is considered as one of the key precursors of organisational commitment (Song, Kim, & Kolby, 2009). Song *et al* (2009) assert that a high level of organisational trust will lead to a correspondingly high level of commitment. Developing and sustaining trust is therefore a crucial element in the continual success of an organisation. Organisational trust is an outcome of an organisation's corporate and social practices which an employee is able to observe over a period of time (Liu & Wang, 2013). The employee's sense of belonging and community is therefore enhanced by a high sense of organisational trust (Liu & Wang, 2013).

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In the behavioural sciences, trust is categorised as a latent multi-dimensional construct with a set of multiple antecedent factors (Jarvis, Mackenzie, & Podsakoff, 2003). These factors are the elements which help to foster trust in organisations. The role of organisational trust in ensuring optimisation of IS tools within MPAs is thus predicated on the media practitioner's trust that the agency will always act in his best interests in the procurement of the right IS tools and other work related processes. Figure 4.3 below serves to illustrate the multiple antecedent factors which enhance trust in the organisation.

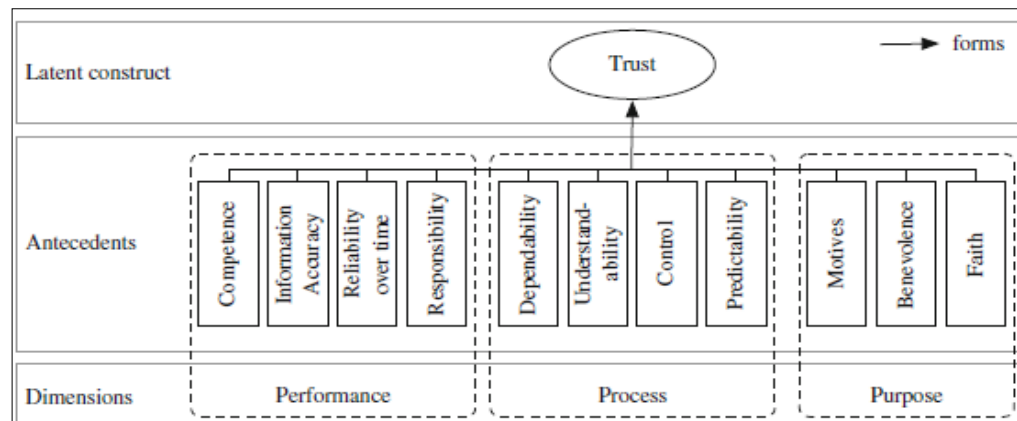


Figure 4.3: Model of the formation of trust in automated systems (Source: Hoffman & Sollner, 2012)

From the diagram, it is inferred that the three dimensions of trust are performance, process and purpose. These three dimensions consist of antecedents which enable or enhance trust within the organisation (Hoffman & Sollner, 2012). The performance antecedents allude to a user's assessment of the system's capabilities in helping him achieve his goals, in other words, the reliability, accuracy and competence of the system (Hoffman & Sollner, 2012). The process antecedents refers to his assessment of the system's functionality based on his experience of how dependable, understandable, predictable and in control the system has been over a period of time.

The third dimension, purpose is a reference to the user's perception of what the system was designed to achieve and how it fits into his goals and objectives (Hoffman & Sollner, 2012). The relevance of this third dimension to organisational trust is the fact that stakeholders trust that the organisation has procured the right IS tool which fits the purpose and mission of the firm. The belief of stakeholders that management has their best interests at heart when procuring the IS tools fosters positive reaction in the user of the technology.

The significance of this argument to the study is that trust in technology is a construct which needs to be analysed in the context of other antecedent factors based on historical performance across the organisation. This is a crucial element for the study as it becomes a substratum in how technology trust enhances or inhibits use within MPAs. The next section of this study explores the concept of data integrity and technology trust and the role of this factor in enhancing efficient and effective use of technology within these agencies.

4.5 Data Integrity and Technology Trust

As stated in Chapter Three of this study, there are certain environmental factors which serve to inhibit technology trust. The issue of proprietary rights or ownership of the IS tools used in Nigerian MPAs was discussed as a factor which may affect trust in the use of Mediastar and other related technologies. According to McKnight and Chervany (2002) the trusting belief that relates to the integrity sub-construct plays a major role in determining the level of trust that an individual will repose in a technology tool. Information integrity is composed of three components: accuracy, timeliness and completeness (Nicolaou & McKnight, 2006). To this end, a major hindrance to technology trust is the user's questioning stance of the data available on the IS systems they employ for decision making and campaign planning.

The relevance of this assertion to the study is in the data input on Mediastar is managed by Media Planning Services (MPS), the local franchise office in Nigeria. One of the inhibitors of trust in Mediastar is the fact that the IS tool was designed by a company in Australia; hence the users in Nigeria are not easily amenable to believing that the integrity of the data is sacrosanct, especially since they are not privy to the process of data gathering and analysis. The onus is therefore placed on the service providers to guarantee data integrity. This will help to further strengthen trust and promote efficient and effective usage of IS tools.

4.6 Data Quality, Technology Trust and Risk

Trust and perceived risks are direct antecedents of the intention to use a technology (Lee & Song, 2013). Perceived risk is defined as the extent to which an individual believes there is uncertainty regarding an undesirable outcome from a transaction (Nicolaou & McKnight, 2006). Data quality refers to the intrinsic qualities of accuracy, relevance, completeness and timeliness (Nicolaou & McKnight, 2006). Trust and the minimality of perceived risks are key variables which reduces uncertainty in an environment where data quality cannot always be completely verified (Nicolaou & McKnight, 2006).

Trust is a strong mental construct in any relationship; hence the perception of data quality based on the trusting belief that the data has the qualities mentioned earlier will ensure the use of the technology. Media planning practitioners need mental and physical cues that will assure them of the reliability and competence of any data based IS tool. Trust decreases risk and risk perception, thereby increasing risk taking in a relationship (Mayer *et al*, 1995).

According to McKnight *et al* (2002), trusting beliefs are formed from first impressions, socio-cognitive processes, dispositions and institutional influences. The relevance of this to the study is that trusting beliefs, with respect to data quality and integrity will influence the extent to which the user will maximise the IS tool for the accomplishment of his work goals. Trusting belief in data quality thus becomes an evaluative system which dictates the expectation of positive outcomes (Nicolaou & McKnight, 2006).

To this end, it is opined that one of the various element of technology trust in the MPAs is data quality.

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This is due to the peculiar nature of the industry, which relies on current and accurate data in order to plot cutting edge, effective media campaigns in an increasingly competitive and complex marketplace. Therefore, it is believed that IS tool vendors must vouch for the quality of the data on Mediastar and other related IS technologies in order for media executives to maximise its usage in their daily work processes.

Furthermore, the complexity of the Nigerian society, coupled with the persistent power failures discussed in chapter 3 present a challenge for data collection in that environment, making it extremely difficult to obtain current data. It is therefore imperative that the quality of data on the IS tools available to MPAs is undisputable in order to enhance technology trust, thereby promoting effective and efficient use.

In summary, the evaluation of risk is typically tied to gains or losses (Nicolaou & McKnight, 2006). The trustor's decision to trust an IS tool implies that he has developed the trusting belief that the technology has the attributes and competence to bring him more gain than losses. In the same vein, if the trustor's perception is that his work objectives will be better achieved if he made maximum use of the available technologies, it is postulated that he will do so. In line with earlier discussions about brain activity, trust and distrust concepts in the section 4.1 of this chapter, it is postulated that Media planning practitioners will be better disposed to maximising use of the IS tools available to him if he can evaluate the quality of the data and gain the assurance that it is completely credible (Belanger & Carter, 2008).

Furthermore, there is usually a performance measurement metric for managing employees within an organisation. The next section of this study discusses the use of dashboards as a performance measurement metric for IS tools in order to underscore the significance of the trust construct in the optimisation of IS tools within MPAs.

4.7 Conclusion

Chapter 4 discussed the significance of trust in IS tools in promoting effective and efficiency within MPAs. The literature on functional brain imaging revealed that trust is linked to rational and calculative thought processing in the human brain while distrust is associated with the brain areas which are linked to intense negative emotions and fear of loss. The impact of this is the reinforcement of the belief that trust in technology does not exist in a vacuum but is based on the trustor's assessment of certain factors about the IS tools available to him.

A survey of the relationship between human behaviour and trust was conducted by Muir (1994). The survey identified four common trust elements in relation with human to technology trust; trust as an expectation of confidence, a specific person, place or object as the focus of trust, and the presence of multiple characteristics of trust referents and a consideration of the individual's disposition to trust in general (Muir, 1994).

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Mayer *et al* (1995) opine that an individual's propensity to trust and the attributes of ability, benevolence and integrity of the trustee are all determinants of the level of trust that will exist in a relationship between the user and the IS tool. This notion was further extended in the Trust in Technology (TIST) model by Lippert (2002). According to the TIST model, an effective way to evaluate technology trust is by assessing the attributes of predictability, reliability and utility. These three factors must be evaluated alongside the trustor's disposition to trust in general.

Furthermore, Lippert and David (2006) assert that a positive assessment of the functionality construct in the technology trust literature will play a major role in how the IS tool will be able to promote efficiency and effectiveness in the operation of the MPAs. This view correlates with the argument by several authors on the subject of trust in technology (Lankton & McKnight, 2011; Lippert & Davis, 2006; Lippert and Swiercz, 2005; McKnight *et al*, 2002; Mayer *et al*, 1995). The trustor's level of trust in the technology, based on his propensity, perception and experiential use will foster his decision or action in making the most efficient use of the technology in his work processes.

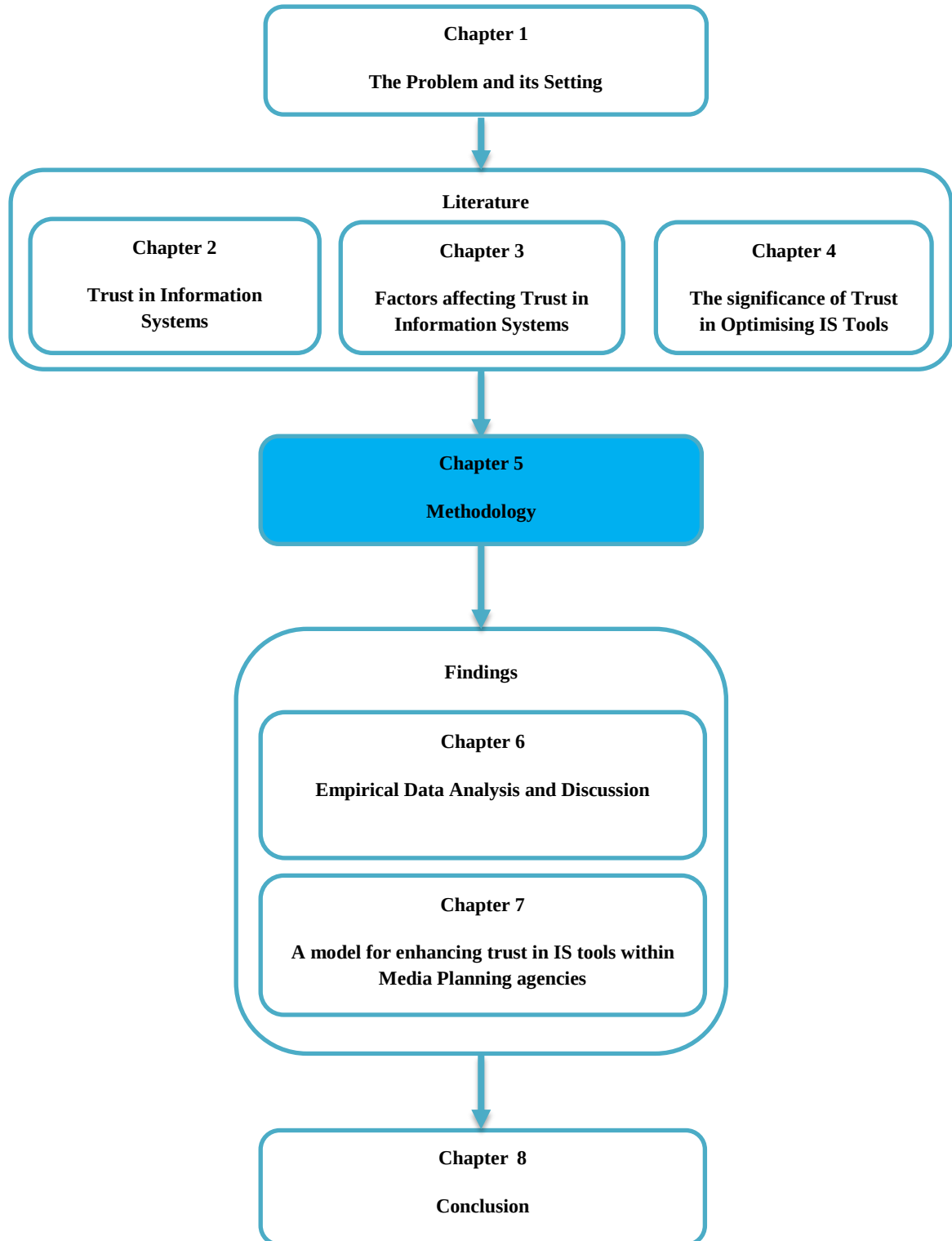
The chapter examined the role of organisational culture and organisational trust on technology trust. It is asserted that a high degree of organisational trust will impact on technology adoption and usage. The belief of stakeholders that management has their best interests at heart when procuring the IS tools fosters positive reaction in the user of the technology.

The role of data integrity, data quality and risk was discussed in the chapter. Media managers are not privy to the process of data gathering and analysis (Kupoluyi, 2013). The onus is therefore placed on the service providers to guarantee data integrity. In the same vein, the perception of data quality based on the trusting belief that the data has the qualities of accuracy, completeness and timeliness will reduce the perception of risk on the part of the trustor. This will help to further strengthen trust and promote efficient and effective usage of I S tools.

The various models and technology trust concepts discussed in this chapter serves to highlight the significant role played by trust in the usage and optimisation of IS tools in Nigerian MPAs. The next chapter discusses the methodology for the research project.

Chapter 5:

Methodology



5.1 Introduction

The purpose of a research methodology is to give an unequivocal, easily tested depiction or roadmap of how the researcher derived a conclusion (Hofstee, 2006). An independent reader must be able to deduce the process through which the conclusions in a study were drawn (Hofstee, 2006; Friedman, 2003). As stated in Chapter One, the problem statement for this study is: how can trust in Information Systems (IS) tools be enhanced in Nigerian Media Planning Agencies (MPAs) in order to ensure optimal usage of the available tools. The expected output of the research is a proposed model for the enhancement of trust in IS tools within Nigerian MPAs. The theoretical background to the problem has already been discussed in the previous chapters of this study. This chapter details the research process that was followed throughout the different stages of compiling this research. A detailed outline of the philosophical paradigms informing the research methodology for the study is presented in this chapter.

The research used a mixed method consisting of both qualitative and quantitative, interpretivist technique to identify factors that can enhance technology trust within Nigerian MPAs. Mixed method research consists of both qualitative and quantitative data collection method or analysis procedures (Saunders, Lewis, & Thornhill, 2007). This approach is increasingly popular in the field of IS as it addresses the interaction between humans and computers to achieve business goals. This is because the complexities of human emotion, nuances and opinions regarding the IS tools they use cannot be quantified without due consideration of the context (Myers, 2009). To this end, an effective and realistic investigation of the research problem for the study is done through a mixed method analysis of the findings of the study. A web-based questionnaire was the instrument used for primary data collection and Hevner's Design Science guidelines was employed for the study. Thereafter, an expert review process was followed to validate the model for enhancing trust in IS tools within MPAs.

The chapter is structured thus: the research paradigm is discussed, with a justification of the particular philosophical paradigm adopted for this study. This is followed by a detailed discussion of the research methodology, the research format and justification of the inductive approach employed by this study. The research strategy and design is thereafter outlined. Next, a detailed discussion of the data collection design, distribution, collation and analysis is conducted. The chapter is concluded by a section on the evaluation criteria for measuring the validity and reliability of the research findings and ethical considerations.

5.2 Research Paradigm

A paradigm is "*a set of shared assumptions or ways of thinking about some aspects of the world*" (Oates, 2006, p. 282). The research paradigm consists of theories, methods and ways of explaining the relationship between data and theory (Collis & Hussey, 2009). A researcher's philosophical paradigm is influenced by the researcher's reasoning about how knowledge is developed (Saunders *et al*, 2009). This reasoning affects the manner in which the researcher goes about conducting the research in three distinct ways; helps

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to define the research design process from data gathering to answering the research question, enables the researcher to identify the appropriate design for the research and finally, it helps the researcher to create designs or artefacts out of the research experience (Collis & Hussey, 2009; Basden, 2008; Oates, 2006). There are a wide range of research concepts, employing different philosophical paradigms in the IS field. The philosophical assumptions inform the choice of paradigm a researcher will make. In other words, the research paradigm indicates a study's alignment to a particular school of thought.

5.2.1 Paradigm Choices

Epistemological assumptions can be separated into positivistic or interpretivist paradigms. This is outlined in the continuum of paradigms in Figure 5.1 below (Collis & Hussey, 2009).

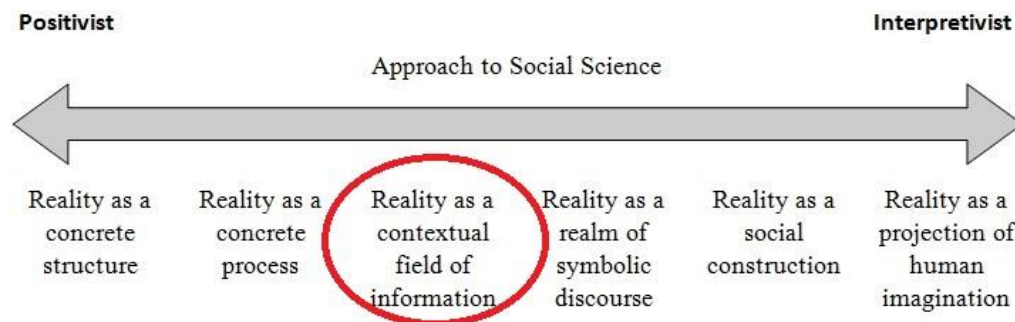


Figure 5.17: A Typology of assumptions on a continuum of paradigms (Collis & Hussey, 2009, p. 61)

From the above diagram, the two extreme paradigms of research are shown on a continuum. The study of knowledge has continued to generate debate from philosophers and scientists (Sousa & Hendriks, 2006). This debate has engendered extreme positions on the typology of assumptions of the research paradigm. The first extreme states that knowledge is purely objective while the other extreme argues that knowledge is purely subjective (Sousa & Hendriks, 2006).

Several authors have aligned positivism with quantitative research and aligned Interpretivism with qualitative research. Positivism seeks to offer explanation for human behaviour based purely on empirical and observable evidence. Interpretivism, on the other hand, focuses on how meaning is constructed by individuals in a social context (Crotty, 1998). However, such rigid standpoints may be misleading as both methods can be used with any of the two research paradigms (Guba & Lincoln, 1994). The IS domain is an interlocked domain of people and technology (Duggan & Reichgelt, 2006), hence this study employs an interpretive methodology rather than a positivist one. The construct of an interpretive research method is to understand and analyse the context as well as the process of an Information System. Due to the subjective nature of the data that was collected in this study, an interpretivist influence emerged in this study in line with the third stage (reality as a contextual field of information) of the continuum represented in Figure 5.1.

The primary research is conducted and analysed with mixed methods. It is expected that some data are quantified i.e. background, general information on the respondents. The purpose of the quantified data is to help establish possible relationships and matching patterns when the quantitative data is being analysed.

Oates (2006) describes a paradigm as a way of thinking about some aspects of the world. An author's research is influenced by his reasoning of the development of knowledge and the way in which he interprets the knowledge (Saunders *et al*, 2009). In addition, Wyssusek, Schwartz and Kremberg (2002) states that the function of IS in the process of human inquiry can only be understood in the context of certain empirical presuppositions, underlying the concept of knowing the phenomena under investigation.

5.2.1.1 Justification of the Interpretivist Paradigm for this Research Project

This study has taken the epistemological position of Interpretivism. The basis of adopting this particular approach is informed by the research question at hand. The nature of the inquiry requires exploration of the factors militating against trust in IS tools within Nigerian MPAs. To this end, an interpretivist approach is essential in dissecting the social actors' contribution to the lack of trust in the available IS tools. Interpretivism is becoming increasingly popular in IS research (Oates, 2006). This is due mainly to the fact that the field is concerned with the social context of the way IS constructs are developed, perceived and are used by individuals and organisations (Oates, 2006). The role of an interpretive researcher is to focus on finding the meaning of data (Creswell, 2009).

Proponents of Interpretivism believe that there are multiple subjective realities, depending on the social context of the knowledge being gathered and interrogated. Interpretivists also believe that research outcomes are shaped by, or at least, affected by the researcher's own assumptions, values and belief systems (Lancaster, 2005). In other words, a researcher must be reflective and self-searching in order to identify and articulate how his world view has affected the research output. Interpretivist research is often associated with qualitative research methods. This is because this style of research differentiates between people and objects, thus it is able to arrive at multiple conclusions based on the social setting, and it can also proffer divergent arguments, with the position supported by empirical evidence becoming the strongest (Oates, 2006).

The IS domain is a complex web of people, technology and other organisational and environmental factors (McKnight *et al*, 2011). Modeling such a complex and dynamic domain with the traditional positivist approach is an extremely difficult task. Creswell (2009) states that interpretive research is concerned with the context and the influence it brings to bear on processes and outcomes. Positivism, on the other hand focuses on formal theories and quantifiable units of measure. The interpretivist philosophy advocates that the researcher has to understand the fundamental differences in human beings as social actors in order for him to correctly interpret his research findings (Sanders *et al*, 2009). According to Collis and Hussey (2009), Interpretivism is a favoured philosophical paradigm in IS as it allows for a qualitative analysis of data which deals with the 'how' and 'what' of research questions. The choice of an interpretive paradigm for this study is therefore justifiable as trust in technology involves the interrogation of people's interactions within the tripartite dynamics of technology, organisation and the environment (Tornatzky & Fleischer, 1990). The study aims to understand the underlying challenges and nuances lending credence to

distrust, and thereby leading to users not maximising the IS tools in these agencies. The next logical step is the provision of recommendations, by way of a model; to enhance trust in IS tools. These findings and recommendations are based on empirical data which is contextualised in a myriad of social issues and stakeholder affectations. All of this cannot be comprehensively tested with a positivistic paradigm.

Although a thorough literature review was conducted on the subject of trust in IS tools, most of the examples were set in first world economies where the use of technology is far more advanced than what subsists in third world countries. According to Cresswell (1994), a research problem may be analysed from a positivist paradigm if the literature already has variables and theories which can be tested and verified. On the other hand, an interpretivist approach is useful and desirable if the information regarding the research problem is sketchy and requires a greater depth of exploration before theories and variables can be correctly analysed.

Also, the positivist paradigm asserts that an objective reality independent of social and organisational reality exists (Oates, 2006). This philosophical viewpoint does not take into consideration the fact that organisations comprise of human actors and are impacted by a number of factors within and without its operating environment. Additionally, the application of theory is a requisite component for testing the quality of any academic research. According to Eisenhardt (1989), there are three distinctive applications of theory: (1.) as an initial guide to design and data collection; (2.) as part of an iterative process of data collection and analysis (3.) as a final product of the research. The application of the McKnight theory of trust (2005), the Technology-Organisation-Environment (TOE) (Tornatzky & Fleischer, 1990) framework and the Diffusion of Innovation (DOI) (Rogers, 1995) theory to this study correlates to the first two attributes of theory application stated by Eisenhardt.

The McKnight theory is applied as a guide in developing the questionnaire, the TOE framework is applied as a guide to the analysis of the root causes of the lack of trust in technology and the principle of the DOI theory runs consistently through the iterative process of data collection and analysis. To this end, an interpretivist paradigm will enhance the ability of the researcher to fully understand the impact of the social context of the development and advancement of IS within Small and Medium Enterprises (SMEs) in Nigeria and relate same back to the findings of the primary research. This approach ensures that all the critical factors are considered, further enriching the conclusion of the study.

5.3 Research Methodology

5.3.1 Mixed Methods

In order to respond adequately to the research question in this study, a proposed model for the enhancement of trust in IS tools is developed. The purpose of this model is to help the Media Planning industry utilise the available IS tools to maximise efficiency and effectiveness in their operations, thereby generating more revenue and improving their competitiveness. The proposed model is a derivation of reviewed extant

literature in the field of technology trust and summation of the primary research conducted for the purpose of addressing the research problem under investigation in this study.

An extensive review of relevant literature was carried out in chapters 2, 3 & 4. The review confirmed the existence of the research problem. A discussion of the underlying theories enabled the grounding of the research in existing fundamental principles used by researchers to investigate similar problems. The next stage of the research focused on the development, distribution and collation of the responses of the data collection tool used to conduct an empirical investigation of the research problem. The study made use of a web-based questionnaire which comprised of both open-ended and closed questions. The questionnaire is discussed in greater detail in section 5.6.1 of this chapter. Thereafter, an analysis of findings from the responses led to the development of the proposed model for the enhancement of trust in IS tools within MPAs.

As outlined by Saunders *et al*, (2009), there are different approaches to arrive at scientific knowledge and reach a verifiable conclusion within the process of an IS research. In the past, a positivist approach i.e. quantitative metrics have been traditionally thought of as the valid research approach in Computing and IS (Creswell, 2009; Myers, 2009). Numerical data is employed in quantitative research, and is positivistic in philosophical outlook while qualitative research employs accounts, probes the context of the data and analyses verbal and non-numerical data (Saunders, *et al*, 2009). However, the mixed method approach has gained increased popularity in the IS field. Mixed methods refers to a system whereby both quantitative and qualitative data collection and analysis procedures are combined in a single study (Saunders *et al*, 2009). In the mixed method approach, qualitative and quantitative data may be integrated at different stages of the research process. The collection of data may involve a combination of open ended and close ended questions (Creswell, 2009). Integration may also occur at the analysis stage of the data, whereby both qualitative and quantitative data are interpreted concurrently (Creswell, 2009).

According to Creswell (2009), the concurrent triangulation approach is the most employed of the major mixed methods models. The model is described as in practice when a research uses two different methods to confirm or corroborate the findings (Greene, Caracelli, & Graham, 1989). In this model, qualitative and quantitative data collection is done concurrently for the research. The data interpretation is also carried out in the same phase. The advantage of the concurrent triangulation model is that the convergence of the two methods can serve to strengthen the findings, thus helping to validate the research outcome (Creswell, 2009; Greene *et al*, 1989).

A mixed method approach is considered appropriate for a study of trust in IS tools as the domain involves people and the technology they interact with on a daily basis. A thorough analysis of the primary data can therefore be done with a mixed method. This is in alignment with the interpretivist paradigm adopted for this study. The next section discusses the research format, with particular emphasis on the distinction between deductive and inductive research and a justification of the choice of the inductive approach for this study.

5.4 Research Format

5.4.1 Types of Research

A researcher's choice of methodology is informed by the research objective, available time and resources to achieve the set objectives and the philosophical paradigm(s) for the study (Saunders, *et al*, 2007). The authors delineate research formats into these broad categories:

1. **Evaluation Research:** A systematic assessment conducted to provide accountability for the changes that are made to a particular object.
2. **Theoretical and pure research:** This category comprises of the expansion of knowledge in a particular field for the purpose of solving existing problems.
3. **Applied and Policy research:** The aim of this research is to empower policy makers in making informed decisions based on practical and theoretical findings.
4. **Critical and feminist research:** Critical research aims to critique and interrogate the validity of basic hypothesis and conventional research approaches; it also seeks to investigate such approaches that have been ignored in business or management sciences. On the other hand, feminist research, as the name implies, seeks to promote research which contributes to the advancement of women and the causes related to them.

All research projects involve the development of theory in order to validate knowledge building. The two important research approaches are deductive and inductive research methods (Saunders *et al*, 2007). Usually, the research design of a study indicates whether the research approach is deductive or inductive. However, the research approach becomes explicit at the conclusion of the study. An academic work should show unequivocally which of these two approaches was used to reach the conclusions at the end of the study (Crowther & Lancaster, 2008). The significant differences in the two research approaches are outlined below.

5.4.1.1 Deductive Research

Deductive research involves the development of a theory which is thereafter subjected to a rigorous test (Saunders *et al*, 2009). The deductive approach is mostly regarded as scientific research because it concentrates on using a positivist, quantitative paradigm to predict, prove and control phenomena (Collis & Hussey, 2009). Deductive research seeks an explanation for causal relationships between variables. It involves the development of a hypothesis which is thereafter tested by empirical data. The deductive researcher remains neutral with regards to the phenomena under investigation and collects data that can be measured and analysed quantitatively.

An important characteristic of deductive research is generalisability, an attribute which dictates that deductive research usually investigates a large sample size (Olivier, 2009). Saunders *et al* (2009) asserts

that deductive research emphasises scientific principles, moving from theory to data in order to explain causal relationships between variables. Furthermore, deductive research is highly structured, applies controls to ensure the validity of data and selects large sample of the phenomena under investigation to facilitate the generalisation of conclusions.

5.4.1.2 Inductive Research

Inductive research, on the other hand works from data to theory. The advent of the social sciences in the 20th century fostered a critique of the deductive approach to all research, thus giving birth to inductive research (Saunders, *et al*, 2012). Social scientists justified this development by making a case for the validity of a social context as interpreted by humans before cause and effect relationships could be established. Inductive research places a premium on the context of the phenomena and mostly works with qualitative data in order to find rich explanations for the phenomena (Lancaster, 2005).

Inductive research emphasises a close understanding of the research context and an understanding of the meanings humans attach to events (Saunders *et al*, 2012). Due to its interpretive nature, the data collection method consists of a more flexible structure in line with the social dynamics of the phenomena being investigated. Also, the researcher is not completely detached from the research process and has no great obligation to generalise research findings.

5.4.1.3 Research Approach for this Study

The research approach for this study is inductive. The research aims to propose a model for the enhancement of trust in IS tools within MPAs; thus the approach of moving from data to theory in proffering a solution to the research problem. In light of this, chapters 2, 3 and 4 of the study consisted of the literature review on the use of IS and the environmental factors impacting on the non-optimisation of IS tools within the industry. It may be fallacious, even misleading to draw any meaningful conclusions on how trust in IS tools can be enhanced or improved without taking into careful consideration the operating environment of the MPAs.

5.5 Research Strategy

Yin (2009) describes research strategy as a logical plan for getting from here to there, where here may be defined as the initial set of questions to be answered, and there is some set of conclusions (answers) about these questions. The research strategy is the roadmap detailing the overall rationale for the methodology through which the research is conducted.

The research roadmap consists of the following attributes: selection of the context and population size; data collection methods; data management and analysis strategies; credibility features and a management plan to bring the research to its logical conclusion (Marshall & Rossman, 2006). The nature and context of the study as well as research objectives will inform the path or roadmap to be chosen by the researcher.

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There are many research strategies, also known as methods that may be used to investigate a qualitative study of the nature of this research question in order to arrive at a conclusion. Some of these strategies are action research, ethnography, experiments design and creation, surveys and case study (Oates, 2006). The next section discusses the research design and thereafter diagrams the research design process for this study.

5.5.1 Research Design

Research is “something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge” (Saunders, *et al*, 2007, p. 5). Saunders *et al* (2007) expound further that business research must have the attributes of usability i.e. should prompt action and practical consequences that may impact directly on the object of research.

The main focus of IS research is the development and use of IS by individuals and organisations (Oates, 2006). This study is concerned with the effective utilisation of IS tools within MPAs. To this end, this study aims to create a useable artefact which can be employed to enhance trust in IS tools within Nigerian MPAs.

As represented on Figure 5.2 below, the research design is segmented into three parts; scoping, context and definition of expected output, followed by a review and critique of relevant literature on the technology trust concept. The next stage is the data collection process which consists of the design of the instrument and the initial testing by means of a pilot study. The responses from the pilot study were then used to refine the instrument, the questionnaires were distributed, responses collated and the data presented for analysis.

The third and concluding phase of the research design is the model construction and validation phase. This involves the iterative process of creating a model according to Design Science guidelines, a methodology which has already been discussed in relation with this research in Chapter One of the study. The model thus created will thereafter go through the rigorous expert review process. Feedback from the experts will be used to further refine the model. The final output will be a model for the enhancement of trust in IS tools within Nigerian MPAs. The Design Science methodology followed for this study is discussed in the next section.

5.5.1.1 Application of Design Science Guidelines to the Study

As stated in section 1.6.3 of this study, Design Science guidelines are employed in this research. Design Science seeks to innovate a model by way of primary research that will solve a known problem in a more efficient and effective way (Hevner, *et al*, 2004). Additionally, Design Science comprises the construction of a range of socio- technical artifacts designed for IS interventions, governance strategies, IS change interventions and modeling tools (Hevner *et al*. 2004). The purpose of the research design in this study is to develop a model that will improve trust in the IS employed in MPAs, hence helping these agencies to do

business with better agility and greater efficiency. The research is patterned after Hevner's seven guidelines for Design Science (Hevner *et al.* 2004).

Hevner, *et al* (2004) outlines seven guidelines which must be followed in order for a study to effectively utilise Design Science methodology. The seven guidelines provide a basis for conducting Design Science research. An explanation of how the seven guidelines were applied in the context of this research project is presented in Table 5.1 below.

Table 5.1: Application of Design Science Guidelines to the Research Project

Guideline	Description	Application
1. Design as an Artefact	Design Science research must produce a viable artefact in the form of a construct, a model, a method, or an instantiation.	This study proposes a model that can be employed to enhance trust in IS tools within Nigerian MPAs.
2. Problem Relevance	The objective of Design Science research is to develop technology-based solutions to important and relevant business problems.	The study identified a lack of trust in IS tools as the main reason why these tools are not being maximised within Nigerian MPAs. The focus of the study was to propose a model which may serve to enhance this trust in order to overcome the problem
3. Design Evaluation	The utility, quality and efficacy of a design artefact must be rigorously demonstrated via well-executed evaluation methods.	The research model was validated using expert review. The five experts were chosen to validate the model based on their expertise and experience in the use of IS tools within the media planning industry in Nigeria.
4. Research Contributions	Effective Design Science research must provide clear and verifiable contributions in the areas of the design artefact, design foundation, and/or design methodologies.	The contribution of this study is the research model; the use of this model by industry stakeholders will lead to the enhancement of trust in IS tools, which in turn will promote efficient and effective media planning in Nigerian MPAs. This contribution is vital as there is currently no model or framework to enhance user trust in IS tools in the industry.
5. Research Rigor	Design Science research relies upon the application of rigorous methods in both the construction and evaluation of the design artefact.	Tested and valid data gathering and analysis methods were employed to investigate the research problem and propose a model to solve the research problem. The methodology used is outlined in this chapter.
6. Design as a Search Process	The search for an effective artefact requires utilizing available means to reach desired ends while satisfying laws in the problem environment.	The model was developed from secondary literature and empirical data gathered via the questionnaire. The model was further refined based on the comments and recommendations of the experts who reviewed the model.
7. Communication of Research	Design Science research must be presented effectively both to technology-oriented as well as management-oriented audiences.	A paper outlining the unique contribution of this study to the existing body of knowledge has been submitted for publication (See Appendix C).

According to Hevner *et al* (2004), an effective utilisation of all the seven Design Science guidelines in a research project will lead to the production of a relevant model which can solve the research problem. Figure 5.2 below details the research design for this study.

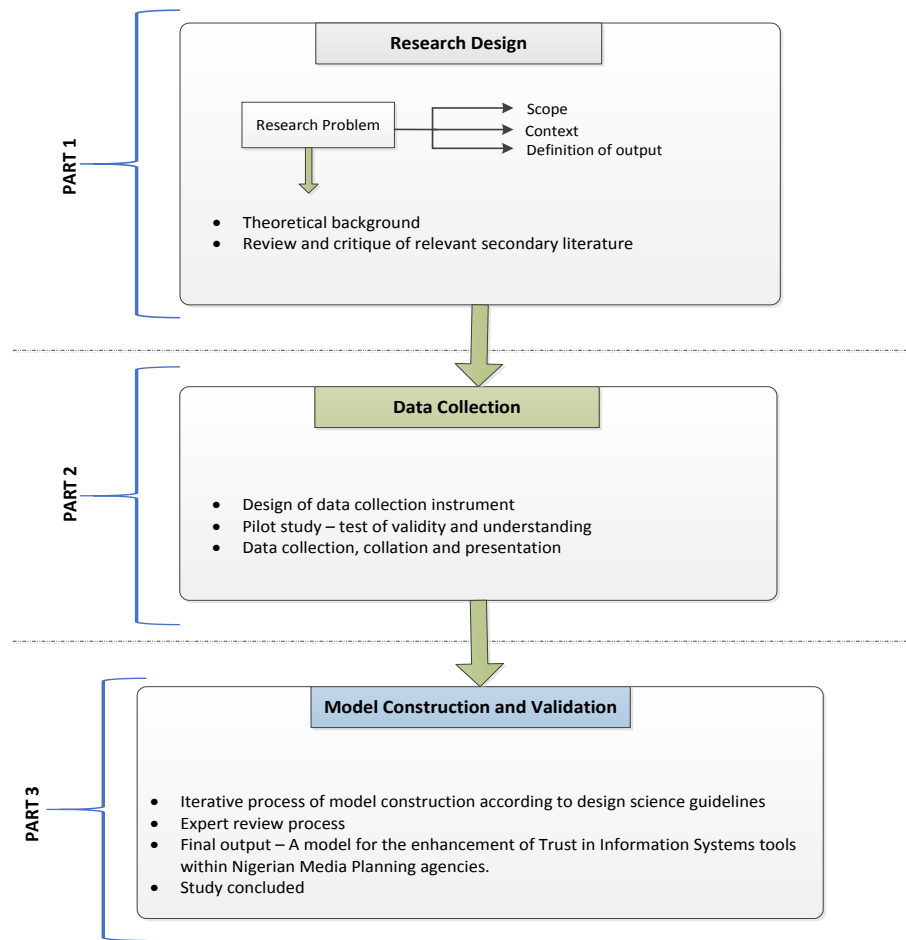


Figure 5.2: Research Design Process

5.5.2 Research Strategy for this Study

The chosen research strategy for the current study is the survey. Surveys “*focus on obtaining the same kinds of data from a large group of people in a standardized and systematic way*” (Oates 2006, p. 37). A survey inductively analyses trends for the purpose of determining certain patterns and characteristics in a defined population (Olivier, 2009). The purpose of finding this pattern or characteristic is in order to arrive at a conclusion. This conclusion may validate or modify the premise which answers the research question at hand (Olivier, 2009). This study has the aim of creating a model for the enhancement of trust in IS tools in Nigerian SMEs, with MPAs as the context for the study. To enhance trust in IS tools: the human agents using the tools need to be ‘surveyed’ in a particular systematic way in order to understand the underpinning issues inhibiting trust in the tools available for them at work. To this end, the researcher has employed questionnaires as the means of data collection. This data collection tool is discussed in the next section.

5.6 Data Collection Method

5.6.1 Questionnaires

A questionnaire consists of a set of pre-defined questions structured in a pre-determined order for the purpose of addressing the research question at hand (Oates, 2006). The type of questions employed may either be open ended or closed questions. According to Babbie (2008), open ended questions are mostly used for qualitative research. This is due to the nature of qualitative research which seeks to probe the context, situational influences and opinions that may form part of the reasons for a construct or concept (Babbie, 2008).

A good questionnaire must be designed with three attributes in the mind of the researcher:

1. Content validity: The questionnaire should cover all aspects of the domain, phenomenon or hypothesis being investigated.
2. Construct validity: Ensure that the central theme or construct of the research problem is being directly addressed through the questions.
3. Reliability: The questionnaire should be structured in such a way the answers will yield the same results if they are administered to the same respondents over and over (Saunders *et al*, 2007; Oates, 2006).

However, Oates (2006) points out that the third attribute of reliability is difficult to prove as the respondents may answer differently, due to certain change in their circumstances, apathy or simply repeat the same answers while in real terms the answers are different from the first set of responses. The test of reliability is important in the use of questionnaires as a data collection tool as it makes the generalisability of a research study valid and believable.

The questionnaire administered for data collection in this study (Appendix B) was critically evaluated for the three attributes stated above. The design and structure of the instrument was patterned after McKnight *et al* (2002)'s research questionnaire on trust in technology, and customised to the study's context (McKnight, *et al*, 2002). A pilot study was conducted to test the validity and ease of understanding of the questions. A total of fifteen respondents participated in the pilot study. Seven of the respondents were industry practitioners and eight were IS practitioners. The rationale for choosing seven respondents from the target population was to test the relevance and rigour of the questions in the context of MPAs. The choice of IS practitioners for the pilot study was to test the clarity and relevance of the questions as it relates to trust in IS tools. Feedback from the respondents was used to make changes to the questionnaires before they were distributed to the relevant respondents.

Furthermore, one of the strategies associated with mixed method research is the concurrent procedure (Creswell, 2009). The concurrent procedure consists of the researcher collecting both qualitative and quantitative data at the same time, thereafter integrating the information when analysing and interpreting

the data (Creswell, 2009). It is therefore important that the questions give the respondents room to express themselves and shed light on the problem being investigated in their own words. The most effective way of doing this in the questionnaire technique is by structuring the questions to be open-ended.

The aim of the research is to understand the reasons for the apparent lack of trust in IS tools within these agencies, and thereafter propose a model for the enhancement of trust in these IS tools in the industry. The questions were therefore structured in a format that will generate both qualitative and quantitative data, further details of how the data is analysed are discussed in the latter part of this chapter.

Although questionnaires are an inexpensive and relatively effective means of generating reliable data for research purposes, the distinct disadvantage of questionnaires for interpretive research is the fact that the researcher cannot easily verify the truthfulness of the answers and may therefore analyse data and draw conclusions based on a false or faulty premise (Oates, 2006).

5.6.2 Expert Review

As discussed in Chapter One of this study, an expert review method was employed to critique the research model. The expert review is an evaluative process whereby a group of experts in the field of study are engaged for the purpose of examining, cogitating and commenting on the research model (Tessmer, 1993). The method is reliant on valuable insight experts are equipped to provide due to in-depth knowledge of the chosen field of inquiry (Molich & Jeffries, 2003). A study should employ experts for a review process if they meet four criteria namely: knowledge and experience relevant to the research: capacity and willingness to participate; sufficient time to participate and finally; effective communication skills (Skulmoski, Hartman, & Krahn, 2007). The experts who reviewed this model met the aforementioned criteria.

The proposed model was evaluated by five experts. They were required to comment on each phase of the research model. The feedback from the experts was duly considered and recommendations subsequently used to refine the proposed model. The value of an expert review process is that it lends credibility to the final model as a relevant and usable solution to the research problem (Skulmoski, Hartman, & Krahn, 2007).

5.6.3 Sample Selection and Design

It is both impossible and impractical to obtain data from the totality of a research population for the purpose of addressing a research question. It is an acceptable practice that a sample size, forming an effective representation of the entire population be obtained. Kothari (2004) defines sampling as the process of obtaining information about an entire population by examining only a part of it.

An effective sample size for a qualitative research will adequately address all areas of the research question being interrogated (Marshall & Rossman, 2010). Furthermore, qualitative research is a process,

hence an ideal sample size is one that interrogates the research topic to the point where a matching pattern can be identified in the data collected (Trotter, 2012). The failure of a sample size to effectively represent the population being investigated will result in research findings and conclusions having questionable credibility and integrity (Marshall & Rossman, 2010).

Non probability sampling is mostly employed for qualitative data collection (Babbie, 2008). The rationale for this choice is found in the very nature of the qualitative and inductive paradigm; the provision of rich description of the phenomenon about the context of the sample (Creswell, 2009). The converse applies in quantitative research, which seeks to draw statistical inferences and representations. The various types of non-probability sampling methods are discussed below:

1. **Convenience sampling:** This refers to the selection of respondents based on the convenience of accessing the subjects. Convenience sampling may be employed if the whole population is well defined and the issue of accessibility is addressed within the context of relevance to the research. However, convenience sampling purely based on accessibility to respondents can result in poor quality of data and may lack academic integrity.
2. **Quota sampling:** This involves the selection of pre-determined characteristics of units of the sample to be used for the research. This is to ensure an even distribution of the same characteristics across the whole population under investigation
3. **Snowball sampling:** The method is a chain referral style. This implies that respondents are encouraged to forward the data collection tools employed to members of their social network, thereby creating a chain of participants.
4. **Purposive sampling:** In this method, the researcher uses her experience of the context, previous research that may be relevant to the current research question or skills to select a sample which she believes would be the most prolific in solving the research question (Marshall & Rossman, 2010).
5. **Random sampling:** This is a probability based method of data collection which ensures that anyone in the relevant population for the study has an equal chance of being selected. The focus of random sampling is to ensure that the most accurate data is gathered from every subset of the relevant population under investigation (Marshall and Rossman, 2010; Babbie, 2008; Creswell, 2009).

The sampling method for this study was random sampling. According to the regulatory body for Advertising Practitioners Council of Nigeria (APCON), the official population size of MPAs in Nigeria is 94 (ninety-four). The sample size for the study is sixty respondents from across ten agencies comprising CEOs, media directors, account managers and account executives. All of the respondents have access to the IS tools outlined earlier in this study. Although the exact size of all staff of the ten agencies is not known, it is estimated that the number is under 350 people. According to Creswell (2009), a 10% sample size is acceptable for empirical findings in a study of this nature.

The rationale for choosing sixty respondents, instead of the 35 which makes up the standard 10% sample

size is to ensure that the number of respondents exceed the estimated 10% of the staff strength, thereby eliminating the possibility of a shortfall during data interpretation. The ten agencies were randomly selected from a list of MPAs registered with the regulatory advertising body in Nigeria. The research ensured that only people who are stakeholders in the Media Planning Industry in Nigeria were targeted as respondents for data collection.

5.6.4 Selection of Respondents for the Questionnaire

An effective sample size for a qualitative research will adequately address all areas of the research question being interrogated (Marshall & Rossman, 2008). Furthermore, qualitative research is a process, hence an ideal sample size is one that interrogates the research topic to the point where a matching pattern can be identified in the data collected (Trotter, 2012).

Yin (2009) states it is crucial for research participants to possess the ability to provide the relevant and requisite knowledge being sought after by the researcher. For the purpose of this study, it was important that respondents are selected from across MPAs in Nigeria; as the research problem being investigated is directly correlated to the daily tasks performed by this group of people.

Sixty respondents were selected from ten MPAs. The rationale for this method of selection was to ensure a fair distribution of the questionnaire to personnel in each category of media planning i.e. large, medium or small MPAs. This will ensure that the research findings are not skewed in favour of any clustered group in the population. For example, if the questionnaires are only administered to the respondents in the well-established agencies, the results may not be representative of the entire population of the media planning industry in Nigeria.

The sixty respondents consist of six CEOs, ten media directors, ten senior account managers and the remaining 34 respondents were drawn from media planning executives across the ten randomly selected media agencies. It is believed that this distribution allows for the collection of rich data which will help in finding a solution to the research problem. A sample of five experts selected from the industry, the software suppliers and a researcher were also used for the expert review process.

5.6.5 Selection of Respondents for the Expert Review Process

A sample of five experts selected from the media planning industry, the software vendors and an academic researcher in the field of IS tools for media planning were employed for the expert review process. The justification for the choice of these experts is that the industry context is a specialised field of marketing communications and the IS tools are industry-specific. The number of media planning experts and software vendors in Nigeria is unknown hence it is impossible to verify the percentage represented by the selected experts. The five experts were selected based on their experience in the Media Planning industry in Nigeria.

Three of the experts are currently CEOs of MPAs and have all been strong advocates of the use of IS tools for campaign deployment in the country. One expert is an IS tools' vendor who supplies and manages Mediastar, a software tool used by all MPAs in the country. The fifth expert is a researcher into the field IS tools and their effectiveness in marketing communications in Nigeria. He was selected based on his versatility both in media planning tools and statistical analysis. The contribution of this expert was considered valuable to the study based on his vast experience with diary -based data gathering and analysis in Nigeria.

5.7. Data Analysis

The purpose of data analysis is to provide a depiction of the relationships between concepts, constructs and variables in the data collected (Cooper & Schindler, 2010). Data analysis follows a three component flow of activities; data reduction, data display and drawing conclusions (Miles & Huberman, 1994). Data reduction refers to the process of selecting, simplifying and abstracting relevant material from the primary data. Data display is the organisation, compression and assembly of information generated from the data in a logical order. This may be achieved with the aid of graphical representations, charts, maps and other interpretation tools.

The goal of data display is to organise the information in such a way that the researcher can further interpret them in answer to the research question being investigated (Miles & Huberman, 1994). The third and final component of the data analysis process is drawing conclusions and verification. This process involves noting “*regularities, patterns, explanations, possible configurations, causal flows and propositions*” (Miles & Huberman, 1994, p. 12). The data analysis will proceed in this cycle until the research project is brought to a final conclusion.

The theoretical frameworks guiding a research provide a data-theory link for the study (Walsham, 2006). The theories are a valuable tool for mapping the findings in the data to synthesise a model for the enhancement of trust in IS tools within MPAs in Nigeria. The secondary and primary data collected are analysed and grouped inductively according to the three components identified above. The test of rigour for the data as well as the validity of the conclusions is conducted through Hevner's seven guidelines of research outlined in Design Science. A discussion of Hevner's Design Science guidelines and its relevance to the study has already been done in Table 5.1 of this chapter. Recommendations based on the expert review process were duly incorporated into the model.

5.8 Evaluation Criteria

It is important to evaluate the quality of data interpretation in a research study of this nature. This is done by examining the reliability and validity of research findings. These two attributes constitute a crucial test of trustworthiness for the credibility of the research (Miles & Huberman, 1994). Saunders *et al* (2009)

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assert that tests of validity and reliability also reduce the possibility of obtaining the wrong answer. Results of a research study are considered reliable if they are consistent with that of other researchers testing the same hypotheses in similar circumstances.

Validity is concerned with testing the measurement instrument to confirm that it is actually measuring the concepts central to the research problem (Grix, 2002). Reliability means allowing the study to be repeated in the same way and obtaining the same results (Yin, 2009). The validity of the data collection instrument was tested in this study. The questions were structured after McKnight's *et al* (2002) data collection instrument in an investigation of the trust in consumer web transactions. Further testing for validity was also conducted by means of a pilot study. Seven of the fifteen participants in the pilot study are industry practitioners and their feedback was used to further refine the questions.

In addition, Oates (2006) outlines a set of measurement parameters for assessing the quality of findings in positivistic and interpretive research. These are illustrated in the table below:

Table 5.2: Quality in Positivist and Interpretivist Research (Source: Oates, 2006)

Positivism	Interpretivism
Validity	Trustworthiness
Objectivity	Confirmability
Reliability	Dependability
Internal Validity	Credibility
External validity	Transferability

Due to the interpretivist nature of this study, the tests of quality applicable to this study according to the table shown above are trustworthiness, confirmability, dependability, credibility and transferability. The parameters are defined below.

1. **Trustworthiness:** This is demonstrated through reference to credibility, confirmability, dependability and transferability.
2. **Confirmability:** This evaluates the extent to which findings are qualitatively confirmable through the analysis being grounded in the data and through examination of the audit trail.
3. **Dependability:** This evaluates whether the process of research is logical, traceable and clearly documented, particularly on the methods chosen and the decisions made by the researchers.
4. **Credibility:** This evaluates whether or not the representation of data fits the views of the participants studied, and whether the findings hold true.
5. **Transferability:** This evaluates whether research findings are transferable to other specific settings.

5.9 Ethical Considerations

For the purpose of this research, the confidentiality and anonymity of the respondents has been preserved. The data analysis is devoid of any reference whatsoever to persons or the names of their organisations. Full disclosure of the intended use of respondents' answers was made available to the respondents before

commencement of data collection. An ethical clearance, reference number **PID01 ISOLA01** was obtained before the commencement of data collection (attached as Appendix A).

5.10 Conclusion

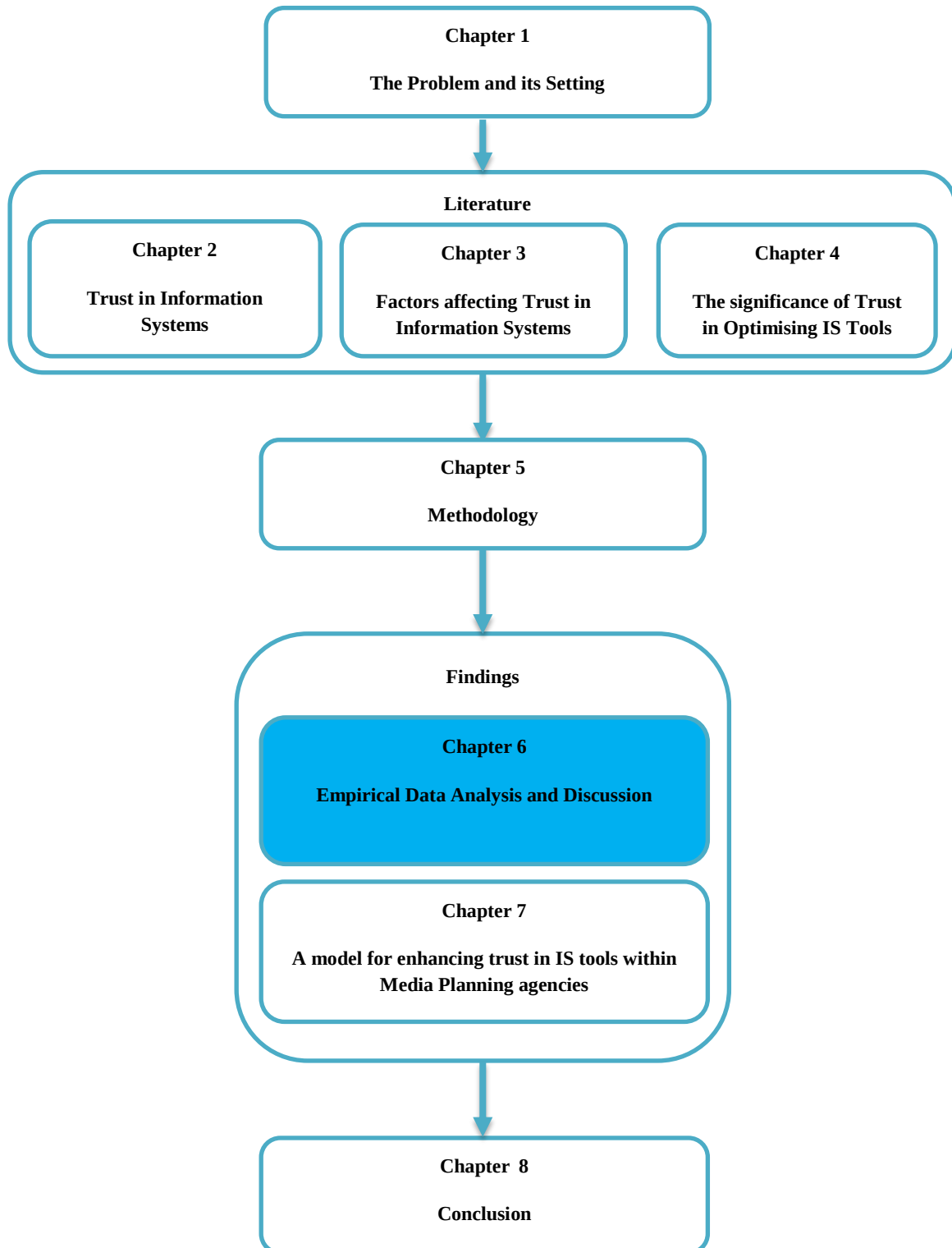
This chapter outlined the research paradigm, methodology and data collection methods employed by this study. A justification of the qualitative, interpretivist approach that was adopted for this research and its consistency with the research question under investigation was discussed. Thereafter, the justification of inductive reasoning as the research format for this study was done.

The research strategy and subsequent research design were discussed. An outline of the data collection, measurement and analysis process was conducted in this chapter. The choice of a web-based questionnaire for the purpose of gathering primary data was justified. In addition, primary data sample population and the rationale behind the selection of respondents were discussed, followed by an outline of the data analysis process. An evaluation of the validity and credibility of the research findings concluded the chapter.

The research method outlined in the chapter formed the basis of data analysis in the following chapters of the study. The research problem being investigated is the lack of trust in IS tools within MPAs. The qualitative paradigm employed for the investigation of the research problem facilitates a thorough interrogation of the problem with due consideration for the complex technological, organisational and environmental contexts of the MPAs. The next chapter of this research discusses the empirical findings from the web-based questionnaire administered for this study.

Chapter 6:

Empirical Data Analysis and Discussion



6.1 Introduction

As stated in the first chapter of this study, the aim of the study is to propose a model for enhancing trust in Information Systems (IS) tools within Nigerian Media Planning Agencies (MPAs). The research problem under investigation is the lack of trust in IS tools within Nigerian MPAs, a situation which has led to non-optimisation of the available IS tools. The literature review has discussed the meaning of trust, the significance of trust and the role that trust plays in the use of IS tools within these agencies. The secondary literature on technology trust has been systematically reviewed in order to fully understand the impact of technology trust on usage. This consequently impacts on its effect in promoting efficiency and effectiveness within the firm.

This chapter presents the findings from the primary data collected by means of a web-based questionnaire. As outlined in chapter 5 of this study, sixty respondents from ten MPAs were mailed the web-based questionnaires. The participants were duly informed of the purpose of the research before commencement of data collection. Only fifty respondents responded to the questionnaires in a satisfactory manner that endorsed them to be used for the purpose of data analysis. Ethical issues such as the anonymity of respondents and a commitment not to distribute any information from the data collected were also addressed.

Chapter Six aims to identify the similarities and differences in an examination of the secondary literature when compared to the primary data collected. This will assist in the data analysis by identifying the gaps which need to be plugged in order for trust in IS tools to be at an optimal level. This will then promote effectiveness and efficiency in the work processes of these MPAs.

6.2 Questionnaire Findings

The aim of gathering primary data in this study is to gain an understanding of the role of technology trust in Nigerian MPAs. The marketing communication industry conducts its business with the aid of these IS tools in the actualisation of daily work processes. It is therefore imperative that stakeholders in the industry are interrogated in order to gain relevant insight into how this concept impacts on the way they make use of these tools in their different job roles. According to Collis and Hussey (2009), a questionnaire aims to make use of the respondent's perspective for the purpose of addressing and solving the research problem at hand.

As discussed in chapter 5 of this study, primary data is analysed in an evaluative pattern in order to draw meaning from it. The process of data analysis is carried out in this chapter, with the aim of establishing the relationships between concepts, constructs and variables from the data collected

(Cooper & Schindler, 2010). The data is thereafter interpreted to ensure that answers to the primary research question are provided.

This chapter is arranged according to the three components of data analysis discussed in chapter 5, data reduction, data display and drawing conclusions (Miles & Huberman, 1994). The primary aim of data reduction is to carefully segregate between the questions which may or may not impact significantly on the aim of this study. According to the three step process described above, those questions whose responses will make the most contribution to the building of a model for the enhancement of trust in IS tools were identified, the results were displayed by means of graphs and tables and a conclusion drawn from the findings. The purpose of this exercise is to ensure that findings, conclusions and recommendations are based on the data most directly relevant to providing answers to the primary research question.

In the analysis process, all respondents' answers are allocated the same degree of significance, in spite of their position in the particular MPA being interrogated. In displaying the data, a combination of graphical illustrations, tables and text are used. This is to ensure that the data display process enables the reader of the research to navigate easily through the literature and follow the process flow through to the conclusion.

Following data reduction and data display, deductions are thereafter drawn from the emerging patterns and trends. This is done with the aim of proposing a solution to the research problem. The aim of primary data analysis is to provide a logical explanation for the lack of trust in IS tools within MPAs. The process of data analysis continues until a conclusion of the study has been reached and the final output of a model created.

6.2.1 Response Rate

The respondents who participated in the primary data collection exercise were drawn from across ten MPAs. The estimated total population of all staff of these ten agencies is 350 people. A total of sixty respondents were selected for the survey from the entire population of 350 people. The sixty respondents were then sent the link to the web-based questionnaire. The aim of the study was to collect data from respondents in the ten agencies. As discussed in chapter 1 of this study, this figure represents approximately 10% of the total population of staff across all ninety-four (94) registered MPAs in Nigeria. According to Marshall and Rossman (2008), an effective sample size is one that adequately addresses all areas of the research question. As discussed in Chapter 5 of this study, Creswell (2009) opines that a 10% sample size is considered as adequate representation of the population of an investigation.

A total of 50 respondents completed the questionnaire. This represents an 83.333% response rate. According to Saunders *et al* (2007), a 30% response is considered acceptable for web distributed or e-mailed questionnaires. Also, Babbie (2008) assert that a 50% response rate is adequate in the analysis and reporting of findings from questionnaires. The percentage of the completed questionnaires effectively surpasses this percentage hence the response rate is considered satisfactory.

6.2.2 Questionnaire Design

The questionnaire (Appendix B) consists of 36 questions divided into four segments. The questions were generated from a review of the literature regarding trust in IS. The review of secondary literature showed that there are many issues which are pertinent to the trust concept as it relates to the IS tools being employed in MPAs. The questionnaire was therefore carefully crafted in such a way as to engender answers that shed light on the perception of trust in the IS tools used in these agencies.

6.2.3 Pilot Study

A pilot study was conducted to further refine the data collection instrument. A total of fifteen respondents were asked to comment on the understandability, structure and practicality of the questionnaire. Eight of the respondents were media planning practitioners and the remaining seven were colleagues and fellow students.

Responses from the pilot study revealed that the list of IS tools available in Nigeria was not detailed on the questionnaire and this could lead to confusion or ambiguity for the respondents. A list of the names was subsequently generated and included in the final instrument. The pilot study significantly improved the quality of the questionnaire. Oates (2006) and Creswell (2009) assert that the quality of the data collection instrument is a contributory factor to a high response rate. This is applicable to this study as the questionnaire achieved an 83.333% response rate. A review of the background of respondents is carried out in the next section of this study.

6.3 Background of Respondents

This section provides the background and demographic information of the respondents. The targeted respondents are CEOs, media directors, account managers and media executives of MPAs. A total of five chief executive officers (CEOs), representing 10% of the population responded to the questionnaire, 16% of the respondents were media directors while account managers made up 20% of the total respondents. The bulk of the responses came from media planning executives (54%). The choice of respondents in this order was due to the fact that all four strata in the agencies make use of the IS tools being interrogated, albeit on different levels based on where they are placed on the

management hierarchy. Thereafter, the data was grouped inductively in order to find answers to the research question.

The first section was assigned to gathering background information about the respondents such as age, gender, job experience and the kind of formal training they had received on the job. Section Two relates to the data on the various kinds of IS tools available within the respective agencies and how these are employed to actualise work processes. Section 3 of the questionnaire interrogates the reliability of the IS tools and the last section focused on the core issue of trust in IS tools. The responses of the respondents are displayed using tables. A summary of the respondents and designations within their organisations is displayed in Table 6.1 below.

Table 6.10: Details of Respondents

Position	Number of Respondents	Percentage In Survey
Chief Executive Officers	5	10%
Media Directors	8	16%
Account Managers	10	20%
Media Planning Executives	27	54%
Total	50	100%

CEOs and Media directors employ IS tools mostly on a strategic and managerial level. Account managers and Media Planning executives, on the other hand, use the tools on a daily basis for the execution of their routine tasks namely data collection and analysis, campaign deployment and post campaign reports. The responses are thus balanced for the purpose of this study as all the respondents represent the wide spectrum of individuals who interact with the IS tools and depend on them for their work processes. Table 6.2 below shows the distribution of the respondents across age groups.

Table 6.2: Age group of Respondents

Age Group	CEO	Media Director	Account Managers	Media Planning Executives	Total %
18-25				1	2
26-30			3	6	18
31-35		2	4	20	52
36-45	2	2	2		12
Above 45 years	3	4	1		18
Total	5	8	10	27	100

A cursory look at the percentage shows that majority of the respondents were in the 31-35 age bracket, a group consisting mostly of account managers and media planning executives. 12% of the respondents were in the 36-45 age brackets, the figure is evenly distributed between CEOs, media directors and account managers. The age bracket of the media practitioners is significant to the study as the Diffusion of Innovation (DOI) theory discussed in Chapter Two suggests that avid adopters of technology are usually those in the early twenties to late thirties. The empirical findings reveal that

most of the media planning practitioners satisfied with the capabilities of the current IS tools are the CEOs and media directors who are in the 36-45 age bracket. This group of people mostly use IS tools for strategic and not operational functions. Conversely, most media practitioners in the 26-35 age bracket expressed the desire for a faster; more flexible IS tool to accomplish their media planning duties. Table 6.3 below depicts the years of experience of respondents by percentage.

Table 6.3: Years Respondent have worked in Media Planning Agency

Number of years	Number of Respondents	Total %
1-5	25	50
6-10	17	34
11-15	7	14
16-20	1	2
Total	50	100

25% of respondents have worked in the industry for over 5 years, 34% between 6-10 years and 14% has been in the industry for over ten years. 2% of respondents have been in the industry for over 15 years. The implication of this finding is that the industry boasts a fairly experienced workforce.

Qualitative data from the questionnaire has been analysed and categorised in Table 6.4 below. The table depicts the primary duties of respondents across various job designations. An analysis of this factor is important in understanding the role of IS tools in the completion of their work schedules, thus shedding light on the respondents disposition or otherwise to trust in IS tools. This was derived through pattern matching.

Table 6.4: Primary Duties of Respondents

Title	Primary Duties of Respondents	No of Respondents
CEOs	Overseer role of the entire media marketing management and buying process	4
	Strategic management and holistic client management	5
	Media Strategy formulation and implementation	4
	Ensuring effective use of scarce media buying resources	5
	Portfolio analysis, business plan support, post buy deliverables	5
	Media campaign management in all its ramifications	3
	Media intelligence, target market delineation	4
Media Directors	Crafting of media campaigns tailored to clients' marketing plan	8
	Strategic planning, business plan support and campaign planning	8
	Post campaign analysis and impact measurement	6
	Strategy and media buying	8
	Compliance measurement	6
	Competition analysis and tracking	7

Title	Primary Duties of Respondents	No of Respondents
	Plan development	4
	Supervision of account managers to ensure their activities ties in to clients' marketing plans	4
	Market intelligence, target group analysis, post campaign analysis	7
	Futuristic brand profiling	3
	Developing media plans and strategy documents	6
Account Managers	Media and consumer habits analysis	10
	Ongoing media plan updates and generating impact reports	10
	Planning, execution and evaluation of marketing campaigns on clients' behalf	10
	Generating post campaign reports for clients' debriefing	10
	Deployment of media campaigns across a wide spectrum of media	8
	Analysing media habits, viewership, listenership data to identify trends and consumer preferences	9
	Media strategy formulation and implementation	10
	Preparation of GRP based media plan with budget.	10
	Prepare post campaign media deliverables to determine whether objectives have been met or not	10
Media Executives	Collation of data for account managers and superiors	20
	Collation of data for post campaign analysis	15
	Ensuring that media plans are distributed to relevant media houses	25
	Campaign management	18
	Record keeping of all relevant materials regarding past, on-going or planned campaigns	22

Responses from the questionnaire revealed that 40% of respondents handle between 3-6 accounts, 36% handle between 1 and 3 accounts. 10% of respondents handle more than 10 accounts while 14% are responsible for 6-10 accounts. A close examination of these findings reveal that the 10% handling over ten accounts are mostly the CEOs, who are executive custodians of all brands under the agencies while the 14% represent the media directors who have the strategic management function over the brands. This finding is important as it underlines the level of detail at which these users interact with the IS tools in their agencies. Table 6.5 below details the number of accounts handled by the respondents.

Table 6.5: Number of accounts handled by Respondents

Number of Accounts handled	Number of Respondents	Total %
1-3	18	36
4-6	20	40
7-10	7	14
More than 10	5	10
Total	50	100

Respondents were asked if they had received any formal training in media planning techniques. The responses revealed that only 58% of respondents had received formal training in media planning techniques. The remaining 42% alluded to learning the necessary skills on the job or through mentorship and self-development. Table 6.6 below details the percentage of respondents who received formal training in IS tools in the workplace. A cursory look at the responses revealed that most of the respondents who have not received any formal training in the use of the IS tools they employ in the workplace are media executives in the smaller, upcoming MPAs. Most of the population sampled across job designations and positions in the large agencies had attended the training as part of their orientation process before commencing work. However, the situation that obtains in the small agencies is drastically different.

Table 14.6: Formal training in IS tools

Formal Training	Number of Respondents	Total %
Yes	29	58
No	21	42
Total	50	100

Respondents were asked to choose all the IS tools to which they had access at work. A respondent is tasked to choose as many of the tools as he employs for media planning purposes. From table 6.7 below, it can be deduced that most of the officials in MPAs have access to MS office packages and Mediastar software. All respondents stated that they had access to Mediastar. Only 4% of the respondents do not have access to MS office packages at work. 12% used Espri, over 13% used Zplan, Ariana is employed for work purposes by almost 8% of respondents, Media Express is used by almost 10% while Able is the least employed, at 6% usage.

Table 6.7: IS tools available to Media Planning Practitioners

IS Tool available to MPAs	Number of Respondents	Total %
Mediastar	50	100
MS Office	48	96
ESPRI	6	12
Zplan	7	14
Ariana	4	8
MediaExpress	5	10
Able	3	6

Respondents were asked how long they had used the IS tools selected in Table 6.7 above. 42% of respondents have used the IS tools under investigation for more than five years, 30% have used them for over 1 year and less than four years. 12% of the respondents have used the IS tools for between 4-5 years and another 12% for over ten years. Only 4% of the respondents have made use of the tools for less than a year and none of them has used the tool for less than six months. The findings are depicted in Table 6.8 below.

Table 6.8: How long have you used IS tools

How long used IS tools	Number of Respondents	Total %
Less than 1 year	2	4
1-3 years	15	30
4-5 years	6	12
5-10 years	21	42
More than 10 years	6	12
Total	50	100

The findings reveal that 96% of the respondents have had constant and sustained interaction with the IS tools in their workplace for a considerable length of time. This is a vital element to this research as it serves to show that the respondents had a thorough understanding of the attendant issues regarding IS trust raised in the survey. The statistics also reveal the apparent level of career stability in that industry.

The presented demographics and other relevant information on the sample population are to enable the contextualisation of the related data in finding answers to the research question at hand. The background information will be relevant in gaining an understanding of the lack of trust in IS tools and the impact of the technological, organisational and environmental contexts that may have played a part in engendering the apparent lack of trust in IS tools within these agencies.

The next section of the study commences an analysis of the empirical findings in direct correlation with the primary research question and the relevant sub-questions employed to investigate them.

6.4 Empirical Findings

As discussed in chapter 1 of this study, the research problem is the lack of trust in IS tools available within MPAs in Nigeria. The lack of trust has prevented the optimisation of these IS tools, thereby leading to a situation whereby the agencies are not making maximum use of the tools to achieve efficient and effective media planning (Egbonwon, 2012). In this section, an analysis and discussion of the findings from the primary data collected will be carried out. The analysis will be directly associated to the relevant research questions in order to draw useful and usable meaning from the data. As stated throughout the process of compiling this research, the objective of this study is to propose a model for the enhancement of trust in IS tools within Nigerian MPAs.

The purpose of analysing the empirical data in this systematic manner is to ensure that research questions are aligned to respondents' answers in a way that will promote a greater understanding of the lack of trust in IS tools within MPAs. This will also assist in proffering a solution to the research problem. The analysis of the findings is therefore clustered according to their relevance to the research sub-questions.

6.4.1 Perception of Information Systems Trust in Nigerian Media Planning Agencies

How is Information Systems trust currently perceived in Nigerian Media Planning Agencies?

The sub-question investigates the perception of media planning practitioners with regards to the IS tools they use at work. The findings relating to this sub-question are discussed below:

6.4.1.1 Impact of IS Tools in Addressing Work Needs of Media Practitioners

Respondents were asked to choose an option which best described how well the available IS tools address their work needs. All the available options has the same weightings, the purpose of asking respondents to choose amongst the options is to enable the researcher gain a deeper understanding of respondents' disposition towards the IS tools available for media planning. This sub-question relates to the functionality attribute of technology trust. 70% said IS tools addressed their work moderately, 28% stated that it met their work needs very well and 2% said the IS tools do not address their work needs in any way. Table 6.9 below depicts the findings from this question.

Table 6.9: Impact of IS tools in addressing work needs of Media Practitioners

Response	Number of Respondents	Total %
Very well	14	28
Moderately	1	2
Not at all	35	70
Total	50	100

The responses had a mean of 1.74 (Moderately) and a median of 2 (Moderately). Thus, the findings reveal that the majority of media planning practitioners' perceive IS tools as a modest contributor to the achievement of their work goals. This suggests that media practitioners do not regard the use of IS tools as a critical element to the accomplishment of their work goals. This finding correlates to the research objective of creating a model to enhance trust in IS undertaken by this study.

6.4.1.2 Trust in the Accuracy of the Information Available on IS Tools

This question relates to the reliability attribute of technology trust. According to the literature discussed in chapter 2 of this study, trusting belief refers to the trustor's perception of the trusting object. In the same vein, trusting attitude is the media planning practitioner's evaluation of the ability of the available IS tools to assist in deploying campaigns successfully.

Table 6.10: Trust in the accuracy of information on IS tools

Response	Number of Respondents	Total %
Yes	10	20
Partially	30	60
No	10	20
Total	50	100

To this end, the findings depicted in Table 6.10 reveal that 60% of all respondents have partial confidence in the accuracy of the information provided by the IS tools they employ at work. 20% of respondents trust in the accuracy of the information on the IS tools they use. 20% stated an outright lack of trust in the accuracy of information on the IS tools. The responses had a mean of 1.77 (Partially) and a median of 2 (Partially). This finding further confirms the existence of a culture whereby there is a level of distrust in IS tools within MPAs.

6.4.1.3 Responsiveness of IS Tools

This question relates to the helpfulness attribute of technology trust. As alluded in the literature on the use of IS tools within MPAs, there are many factors which influence the choice of media to advertise products and services. These factors include an analysis of demographics, psychographics, target audience reach and appropriate pricing. All of these metrics are measured with the aid of the IS tools described in Chapter One of this research. Respondents were asked to quantify the speed and quality of the IS tools in aiding the processes described above. The scale ranges from 1 (Slow) to 3 (Fast). These findings are depicted in Table 6.11.

Table 6.11: Responsiveness of IS tools

Response	Number of Respondents	Total %
Fast	9	18
Average	23	46
Slow	18	36
Total	50	100

The findings show that 46% of respondents consider IS tools responsiveness as average and 36% consider the rate as slow. 18% assess responsiveness to be fast. The responses had a mean of 1.82 (Average) and a median of 2 (Average). From this analysis, it is evident that majority of users, exactly 82% have reservations about the responsiveness of the IS tools to their commands and requests. This highlights the importance of considering an improvement of the helpfulness attribute to the enhancement of trust in IS tools which is the aim of this study.

6.4.1.4 How IS Tools Enhances Media Practitioner's Ability to Respond To Clients Request

Closely related to the issue of responsiveness discussed above, respondents were asked to gauge how well the IS tools available enhance their ability to respond to clients request. The scale ranges from 1 (Not Very Helpful) to 3 (Very Well). The question relates to the helpfulness attribute of technology trust. The findings are depicted in Table 6.12.

Table 6.120: How IS tools enhance media practitioner's ability to respond to clients

Response	Number of Respondents	Total %
Very Well	16	32
Moderately	32	64
Not Very Helpful	2	4
Total	50	100

64% of respondents stated that it moderately enhanced their ability to respond to clients, 32% stated that the IS tools did very well while 4% said it was not very helpful. The responses had a mean of 1.71 (Moderately) and a median of 2 (Moderately). From the statistics, it is deduced that majority of users consider the IS tools as moderate contributors to their success in responding to clients. This finding underscores and further reinforces the value in the end goal of this study: a model for the enhancement of trust in IS tools within MPAs. Effective and efficient usage of these tools will not be achieved unless the majority of media planning practitioners perceive them as the most important enabler of their work processes.

6.4.1.5 Trust in IS Tools for Completing Routine Tasks

This question relates to the functionality attribute of technology trust. A functional attribute of an Information system is its ability to assist the individual in the completion of daily routine tasks. These tasks may range from pulling reports, analysing parameters or data comparison across different platforms. The scale ranges from 1 (Not At All) to 3 (Very Well). Table 6.13 below indicates the perception of media planning practitioners with regards to how they trust the IS for the completion of routine tasks.

Table 6.13: Trust in IS for completing routine task

Response	Number of Respondents	Total %
Very Well	10	20
Moderately	36	72
Not At All	4	8
Total	50	100

72% of the respondents stated that they trusted IS tools moderately, 20% expressed a great deal of trust in IS tools while 8% said they did not trust IS tools to help them complete routine tasks. The

responses had a mean of 1.88 (Moderately) and a median of 2 (Moderately). This is further confirmation that steps need to be taken to boost users' confidence in the available IS tools.

6.4.1.6 Competence of IS Tools for all Work Processes

This question relates to the functionality attribute of technology trust. A cursory look at respondents' perception of the available tools as depicted in Table 6.14 below clearly shows that the level of trust in the competence of IS tools for the purpose of completing all work processes is extremely low.

Table 6.14: Trust in the competence of IS tools for all work processes

Response	Number of Respondents	Total %
Yes	10	20
No	40	80
Total	50	100

80% of respondents expressed their unwillingness to trust IS tools for all of their work processes. A negligible 20% stated that they were willing to trust the IS. Further probing of this response based on respondents' position in their workplace revealed that 16% of respondents willing to trust the tools are the CEOs of their respective MPAs; who mostly use the IS tools for decision making and strategic management. Conversely, account managers and media executives who do the actual planning and deployment of campaigns do not trust the competence of the tools to accomplish crucial tasks.

6.4.1.7 Overview of Empirical Findings on the First Research Sub-Question

This segment dissected the empirical findings from the questionnaire in alignment with the sub-question which sought to understand media practitioners perception on the IS tools available to them. The finding derivable from the responses is the lack of trust in the IS tools' functionality, reliability and helpfulness attributes. The responses further highlight the fact that media practitioners do not believe that the current IS tools have the competence and ability to make a great impact on the achievement of their goals and objectives.

The results of the findings are crucial to this study as it confirms what has earlier been revealed in secondary literature; human trust in IS is based on the characteristics of the IS tool to perform in a manner that ensures the attainment of his goals and objectives. This is confirmed by the definition of technology trust adopted by this study which emphasises the importance of the trustor achieving set goals and objectives in the most efficient way (Lankton & McKnight, 2011) .

Furthermore, the responses outlined above reveal that most of the respondents consider the impact of IS tools on their work processes to be moderate at best. This is an indication that the IS tools are not being optimised due to the lack of trust in its competence and other related parameters. The aim of

this research is to create a model for enhancing trust in IS tools within MPAs. It is believed that such a model will enhance trust and lead to a more effective and efficient use of the capabilities of the IS tools, thus improving the profit margins and competitiveness of the agencies.

6.4.2 Impact of Trust on Use of Information Systems Tools

How does trust impact on the use of IS tools within Media Planning Agencies?

The second research sub-question examines the impact of trust on the use of IS tools within MPAs. In this section, the empirical findings are correlated to the impact trust in IS tools have on its usage by media practitioners with the aid of the three technology attributes of functionality, reliability and helpfulness already discussed in this study. The impact of the Technology-Organisation-Environment (TOE) framework on trust is also aligned to some of the findings in this sub-question. The findings are discussed below.

6.4.2.1 Trust in the Technical Ability of IS Tools to Generate Quality and Accurate Campaigns

The question relates to the functionality attribute of technology trust. The percentage of users who have implicit trust in the IS tools they use is 32%. 68% of respondents stated that they do not trust the ability of the tools to generate quality and accurate media campaigns. Table 6.15 below depicts the findings.

Table 6.15: Trust in the technical ability of IS tools to generate quality and accurate media campaigns

Response	Number of Respondents	Total %
Yes	16	32
No	34	68
Total	50	100

The response is ironic as media planning tools are procured in these agencies for that primary purpose; generating media plans by means of a scientific, evaluation process which captures the essence of the brand based on its key target market. This is a significant finding in correlation to the definition of human-automation interface discussed in chapter 2 of this study. Lee and See (2004) define trust in this context as an attitude that an automation agent will help the individual to achieve his goal in a situation characterised by uncertainty and vulnerability. However, the lack of trust in the technical ability of these IS tools has encouraged media planning practitioners to manually generate campaign plans. Respondents were asked to give reasons for trusting or not trusting the technical ability of IS tools to generate accurate media plans.

Table 6.16 depicts the analysis of qualitative data which outlines the reasons given by media planning practitioners on why they trust or distrust the technical ability of the IS tools they employ in the workplace. The responses correlate to secondary literature on the significance of data integrity and speed of IS tools already discussed in chapter 4 of this study.

Table 6.16: Reasons for Trust/ Lack of Trust in the technical ability of IS tools

Reasons for trust in IS tools' technical ability	No of Respondents	Reasons for lack of trust in IS tools' technical ability	No of Respondents
I have always used the tools for my campaigns plans	1	I don't believe the system is competent to perform such complex functions	2
IS Tools provide most scientific planning by ensuring accurate and effective planning processes	1	There are always issues of formatting data on Mediastar	4
IS tools are useful and improve the quality of output	1	Mostly, the experience and knowledge of the media manager generates more accurate media plans	2
Decision making has become far much easier since IS applications relevant to our industry became available. Though they have their shortcomings, they have changed the way we do business.	1	The tools are slow and sometimes contradictory	4
		Most times, we have generic answers across different target audiences	6
		Data is sometimes inaccurate and questionable	5
		There are always other issues apart from the data on the system to consider	4

From the above, the reasons given for not trusting the technical ability of the IS tool varies from the speed of the system to perceptions that experience and knowledge of the human supersedes the ability of the IS tool. A recurrent reason borders on data integrity: the validity, accuracy and completeness of data on the IS tools. To this end, the research question is a valid one as the responses point to the fact that data input into IS tools needs to be appraised and improved upon.

6.4.2.2 Frequency of IS Tools Failure to Help Media Planning Practitioners Achieve Their Goals at Work

This question relates to the reliability attribute of technology trust. Table 6.17 below shows the distribution of respondents responses' with regards to how often the IS tools fails to help them achieve their goals at work. 78% of respondents stated that the tools sometimes fail, 16% said they fail very often and 6% stated that the tools never fail them. A closer analysis of the responses revealed that the 6% represents only CEOs while the majority of the 16% who stated that the tools fail very often are mostly account executives who have been in the industry for less than three years.

Table 6.17: Frequency of IS tools' failure

Response	Number of Respondents	Total %
Very often	8	16
Sometimes	39	78
Never	3	6
Total	50	100

The responses had a mean of 1.90 (Sometimes) and a median of 2 (Sometimes). This analysis further confirms the assertion made in chapter 2 of the study that human beings relate to technology as a social construct and trust in it depends on a variety of complex factors. It is opined that CEOs perceive IS tools as never failing because they mostly use them for strategic and managerial purposes. Account executives, on the other hand, are compelled to use these tools for different levels of data gathering and analysis, they may therefore believe the IS tools have failed them if the data collated are discovered to be redundant, obsolete or incomplete in any component of their duties, in spite of data being correct in other areas.

6.4.2.3 Trust in IS Tools to Perform as Expected and Consistently Deliver Desired Goals

The question relates to the reliability attribute of technology trust. Table 6.18 below shows the responses of respondents with regards to trusting the IS tools to perform as expected and deliver expected results. 72% of respondents expressed their distrust of IS tools ability to perform as expected. 28% stated that they trusted IS tools to perform as expected.

Table 6.18: Trust in the ability of IS tools to consistently deliver on desired goals

Response	Number of Respondents	Total %
Yes	14	28
No	36	72
Total	50	100

Lee and See (2004) describe automation as technology that actively selects data, transfers information, makes decisions and controls processes. From the foregoing, and based on a discussion of the relationship between trust calibration, resolution and automation capability in defining appropriate trust in automation discussed in chapter 2 of this study, it is obvious that majority of respondents do not consider the IS tools they use as capable of performing these automated processes effectively. The implication of this state of distrust is that capabilities of the IS tools are not optimised. Respondents were asked to state their reason for not trusting IS tools to consistently deliver desired goals. Table 6.19 below is a summary of their responses.

Table 6.19: Reasons for lack of trust in IS tools ability to consistently deliver desired goals

There are still gaps to be filled with regards to information gathering and formatting
I do not trust the integrity of the data

The data often has to be returned to service provider for re-format
Data results must be combined with local experience
The information on Mediastar is sometimes inaccurate
It is sometimes challenging to get the required information
Technical problems on the system may affect deadlines and deliverables

From the table above, the recurrent issues are those of data integrity, information accuracy and technical problems with retrieval of information. All the challenges outlined by respondents correspond to the impact of the technological context of IS tools on the trust reposed in the technology (Tornatzky & Fleischer, 1990). This was discussed extensively in chapter 3 of this study.

6.4.2.4 Willingness to Use IS Tools for Planning the Entire Campaign Budget

The question relates to the reliability attribute of technology trust. The question regarding the willingness of media planning practitioners to plan their entire campaign budget based on the information supplied by IS tools was to further probe the recurrent issue of trust in the information available on the IS tools used by these MPAs. Astute management of clients' campaign funds is a strong indicator of an agency's capabilities. Campaign budgeting is therefore a crucial element in an agency's work processes.

Table 6.20: Willingness to use IS tools for planning entire campaign budget

Response	Number of Respondents	Total %
Yes	14	28
No	36	72
Total	50	100

As depicted in Table 6.20 above, 28% of respondents stated their willingness to plan their campaign budget based on parameters set by IS tool they employ in the workplace. 72% indicated their unwillingness to do the same. This highlights the significance of trust in the information available on an IS tool. The implication of this finding is that the parameters necessary to set up an acceptable, verifiable and effective budget for clients' campaigns needs to be sacrosanct.

6.4.2.5 Trust in IS Tools With Regards to Demographic and Psychographic Data

This question also relates to the reliability attribute of technology trust. As already discussed in the literature review of media planning functions in chapters 2 and 3 of this thesis, there is a myriad of data that empowers the media planning practitioner to make informed choices about the media for advertising clients' products. There are different IS tools to assist him accomplish the goal of synthesising all of these data in a way that will ensure clients get maximum exposure and value for their money.

Accurate information about the demographics and psychographics of the target audience is regarded as a key element in campaign success. Smart market segmentation in this regard is also a required skill in a country like Nigeria where the media has become acutely fragmented due to the deregulation of the industry. It is therefore imperative that the data in this key area be trusted and considered reliable by users of an IS tool.

To buttress this point further, the DOI theory surmises that the rate of adoption of a particular technology will depend on how well it is modified to meet the needs of users. It is therefore logical to presume that the trust in demographic and psychographic data will greatly engender the use of IS tools within MPAs.

Table 6.21: Trust in Demographic and Psychographic information

Response	Number of Respondents	Total %
Yes	19	38
No	31	62
Total	50	100

As seen in Table 6.21 above, 62% of the respondents stated that they do not trust the demographic and psychographic data on the IS tools available, 38% states that they trust the integrity of the data. Further probing of the findings reveal that a number of media executives are wary of the data in this regard. This is depicted in Table 6.33 where general comments of the respondents was analysed.

6.4.2.6 Overview of Empirical Findings on the Second Research Sub-Question

The second research sub-question was analysed based on the empirical findings from the data collected in this study. An analysis of the findings confirmed what was already known in secondary literature. Respondents' answers confirm that trust or distrust, as the case may be, has a great import on the use of the technology and the impact of the technology in promoting efficiency and effectiveness in the organisation.

The findings reveal that most of the respondents have reservations about the technical ability of the IS tools to plan an accurate campaign. They do not believe the IS tools can consistently deliver on expected goals and objectives. The perception is that the tools cannot be trusted exclusively for the purposes of campaign budgeting. Most of the respondents believed that the demographic and psychographic information on the IS tools are not trustworthy.

It is also important to note that there is a reasonable percentage of users who believe in the technical ability of the IS tools (33.33%). This shows that about a third of the users place their trust in the system for campaign planning. The significance of this finding is in the awareness that the system has positive capabilities but only needs to be enhanced in order for users to display the trusting behaviour

that will lead to maximisation of the tools' attributes. The next section discusses the findings relating to the third research question: what are the factors that affect trust in IS tools within MPAs?

6.4.3 Factors Affecting Trust in Information Systems Tools

What are the factors that affect trust in Information Systems within Media Planning Agencies?

This section aims to discuss the empirical findings from the questionnaire which corresponds to the research sub-question stated above. The goal of the exercise is to shed more light on the factors which affect trust in these MPAs. The sub-question also correlates with the TOE framework which states that the context in which a technology tool is introduced impacts on its usage and effectiveness (Tornatzky & Fleischer, 1990). Furthermore, the analysis of the responses from the general information section on the questionnaire showed that there are several factors affecting trust in IS tools within MPAs. These factors are discussed below.

6.4.3.1 Level of Contribution to User Specification

This question relates to the Organisational context of technology trust denoted to in the TOE framework. Respondents were asked to grade their contribution to the user specification on the IS tools they employ in the workplace. The scale ranges from 1 (No contribution) to 4 (High contribution). As mentioned earlier, the responses have the same weightings and the options are designed to provide further clarity on respondents' contribution to the specifications on the tools they use. 28% of users made a high contribution to user specification while 30% made no contribution. 26% made a moderate contribution and 16% made limited contribution. The distribution is depicted in Table 6.22 below:

Table 6.22: Contribution to User Specification

Response	Number of Respondents	Total %
High contribution	14	28
Moderate contribution	13	26
Limited contribution	8	16
No contribution	15	30
Total	50	100

The responses had a mean of 2.48 (Moderate contribution) and a median of 2 (Moderate contribution). Further analysis of the respondents' answers revealed that 12% of the users who made a high contribution are CEOs of the agencies; the remaining 16% are media directors. In contrast, 100% of the users who made no contribution are media executives, there is an even distribution of account

managers and media executives who made moderate or limited contribution to the user specification of the IS they use in their agencies.

From the analysis above, it is evident that contribution to user specification is considered an executive ‘function’ in most MPAs. However, the reality is that lower-level executives use the tools in far greater detail than the managing executives. The account managers and media executives who do the actual spot bookings of the campaigns are better positioned to understand what needs to be part of the parameters in order to get the best results. To this end, it is surmised that the uneven distribution of users’ contribution to the specifications of the system is a major factor affecting trust in the IS tools available in these agencies.

6.4.3.2 Needs Analysis

The question relates to the triability attribute of the DOI theory and the organisational context alluded to in the TOE framework. The DOI theory shows that triability is one of the five characteristics which facilitate adoption of a technology. Rogers (1995) opines that the rate at which an innovation spreads depends on how well the innovation is tailored to meet the needs of the user population. This is depicted in Table 6.23 below.

Table 6.23: Needs analysis of IS tools

Response	Number of Respondents	Total %
Complete analysis done	14	28
Partial analysis done	16	32
No analysis done	20	40
Total	50	100

The responses had a mean of 2.12 (Partial analysis done) and a median of 2 (Partial analysis done). As shown in the table above, 28% of surveyed respondents stated that a complete needs analysis was done before the IS tools were purchased, 32% revealed that only a partial needs analysis was done and 40% of respondents stated that no analysis was done. The significance of this finding to the study is that the apparent lack of due diligence in conducting a needs analysis of the procured IS is a negative factor in how media practitioners perceive the technologies available to them.

In trying to find deeper meaning to the data represented on the table above, an assessment of respondents’ position was done. The exercise revealed that over 60% of the respondents who indicated that a complete or partial analysis was done are senior executives in their organisations. Only one out of the ten agencies stated that every single member of the media planning department was involved in the needs analysis process prior to the procurement decision of the IS tools in the agency.

To sum up the implication of this finding to this study, it is opined that the fact that a thorough needs analysis was not done constitutes a major factor to the lack of trust in IS tools. This is because most of the media planning practitioners perceive the IS tools as not directly meeting their primary need; helping the client to purchase advertising space at the lowest cost per unit for maximum exposure of the brands. This provides insight to the cruciality of a needs analysis as a considerable influence on human trust in technology.

6.4.3.3 Desired Features Not On The Currently Used IS Tools

This question relates to both the functionality and helpfulness attributes of technology trust. Respondents were asked if there were any features that may aid the attainment of their work goals that are not on the current IS tools available to them. 50% of respondents answered in the affirmative while 50% stated that they did not desire any features beyond current system capabilities. This finding is also reflective of the answers pertaining to the needs analysis discussed in section 6.4.3.2 above. The absence of an extensive needs analysis has led to the omission of certain crucial features which would have increased or enhanced media planning practitioners trust in the system. In order to gain further clarity on the responses to the above stated question, respondents were asked to name the desired features that were not on the IS tools currently. Qualitative data regarding desired features have been analysed and categorized in Table 6.24 below.

Table 6.24: Desired Features on IS tools

Desired feature	Number of respondents
Gross rating point deliverables and competitive analysis	3
Historical data, reports and competitive analysis	1
To be able to pull reports customized specially for each segment of our market	1
Competition analysis and data across other African nations	1
To be able to pull reports customized specially for each segment of our market	1
National data according to my own parameters	1
A save function which is operational the next time I sign in	1
The feature that will save all my searches, keep tabs of my frequently used parameters	1
The ability to carry out national plans	1
Planning schedules saved in the same plan function	2
Competition comparison by target audience	1
Minimum and maximum Budget Thresholds within a given category. Effective frequency determination.	1
Minimum and maximum GRPs thresholds within a given category.	1
Sophisticated media cluster patterns	1
Ability to predict market shares for products based on campaign effect	1
Media Rates	2

The responses above underscore the unmet needs of media practitioners in MPAs. Although it may be argued that no IS tool will completely meet the needs of all users across a broad spectrum of people, the varied and targeted responses on the table above presupposes that there are many desired features

which are not readily accessible on the IS tools available. This situation thus constitutes a hindrance to trusting intentions on the part of media planning practitioners.

According to McKnight *et al* (2002), the overriding factor in enhancing human trust in a technology is the trustor's belief that the system is capable of helping him to achieve his desired objectives, and that it poses minimum risks to his success at work. In the instance where the trustor perceives that the necessary features to actualise these functions are not on the IS tool, the level of trust may become low, thus hindering the optimisation of the tool.

However, it is important to note that some of the desired features listed by media practitioners are impractical for inclusion on an IS tool for media planning purposes. The complexity of the operating environment in Nigeria, which was discussed extensively in Chapter 3, makes a national plan unrealistic. In the same vein, a competition comparison by target audience would be difficult as the parameters for such a genre varies according to brand, geographical location of the media and product lifecycles.

6.4.3.4 Contribution to Procurement Decision

In accordance with the TOE framework, and consistence with the secondary literature on organic organisational culture and technology trust discussed in chapter 4 of this study, respondents were asked to describe the level of their contribution to the decision to procure current IS tools in their workplace. 56% of respondents were not involved in the procurement decision, 24% were moderately involved and 24% stated that they were very involved. Table 6.25 below indicates the findings.

Table 6.25: Contribution to Procurement decision

Response	Number of Respondents	Total %
Very involved	12	24
Moderately involved	10	20
Not involved	28	56
Total	50	100

The responses had a mean of 2.32 (Moderately involved) and a median of 3 (Not involved). According to the TOE framework, the organisational context of a firm refers to those factors pertaining to managerial style, scope and work culture in the organisation. All of these factors have a bearing on how an IS tool is perceived subsequently trusted. 56% of the data population was not involved in the procurement decision. It is therefore a valid deduction to presume that this group of individuals may not have the requisite trust in the IS tools as they were not part of the decision to procure the tools.

6.4.3.5 Support Structure for IS Tools

The question relates to the helpfulness attribute of technology trust. Respondents were asked if they believed there was an adequate and effective support structure in place for the IS tools employed by their respective agencies. The findings are depicted in Table 6.26 below.

Table 6.26: Support structure for IS tools

Response	Number of Respondents	Total %
Yes	24	48
No	26	52
Total	50	100

From the table above, 48% answered yes while 52% answered in the negative. Further analysis of the responses revealed that most of the 52% who believed that the right support structure was not in place are account managers and media executives. This finding further confirms the consistent result that most of the users in this category or job category are dissatisfied with the available IS tools and do not trust its benevolence attributes as those that will enhance the accomplishment of their goals and objectives.

6.4.3.6 Overview of Empirical Findings on the Third Research Sub-Question

In this section, the empirical findings were discussed in line with the third research sub-question. The section discussed the effect of not training media practitioners on usage of IS tools. Also, the empirical findings revealed that a greater percentage of media planning executives were not involved in the needs analysis and user specification for the IS tools currently used by them.

As discussed in chapter 3 of this study, there are acute infrastructural challenges facing the Nigerian nation. There are thus a myriad of IS tools marketed by vendors from the developed worlds; most of which has failed to assist media practitioners in accomplishing their goals. To this end, many of the media planning practitioners, who have seen different systems, fail to meet their needs, have become skeptical about the usefulness of these IS tools. The fact that most of the tools are approved and procured by management of these agencies without due consideration for, or widespread consultation with the users has destroyed the trust of these media practitioners.

Furthermore, McKnight (2005) describes trusting behaviour as the trustor's action of dependence on the trusted object. In cases where the media practitioner perceives the IS tool as a 'management tool', he may not be willing to depend on it for his work processes. All the findings from the empirical analyses in this section thus reveals that indeed the trust in IS tools in MPAs needs to be enhanced for them to be put to optimal use. The next section of this study reviews the empirical findings in line with the fourth research sub-question.

6.4.4 Role of Information Systems Trust in Improving Efficiency and Effectiveness in Media Planning Agencies

How can trust in IS improve effectiveness and efficiency in Media Planning Agencies

This research sub-question is employed to interrogate empirical findings relevant to how trust in IS tools can enhance the work processes in MPAs. Respondents were asked questions pertaining to the efficiency and effectiveness of current IS tools, with the intention of disproving or confirming the role of trust in engendering efficient and effective use of IS tools. The empirical findings are presented below.

6.4.4.1 How Available IS Tools Have Transformed Media Practitioners Work Processes

This question relates to the functionality attribute of technology trust. Respondents were asked to gauge how the available tools have transformed their work processes. The transformation alludes to being able to work smarter in a more linear work environment. As illustrated in Table 6.27 below, 68% of respondents stated that the IS tools have only transformed their work processes moderately, 26% recorded a very significant transformation in their work processes while only 6% reported that it has had a very insignificant impact on their work processes.

Table 6.27: Transformation of work processes

Response	Number of Respondents	Total %
Very significantly	13	26
Moderately	34	68
Very insignificantly	3	6
Total	50	100

The responses had a mean of 1.80 (Moderately) and a median of 2 (Moderately). An analysis of the respondents further revealed that the 68% who reported a moderate impact are mostly account managers and media executives. The 6% who reported a very insignificant impact are account executives. In the same vein, most of the respondents who reported a very significant impact are the CEOs and account directors who use the tools mainly for strategic and managerial decision making.

6.4.4.2 IS Tools Contribution to Success in Accomplishing Objectives at Work

This question relates to the functionality attribute of technology trust and the relative advantage concept of the DOI theory. Respondents were asked to gauge the level of contribution that IS tools make to the achievement of their goals and objectives. 62% stated that IS tools made a moderate contribution to their achievement, 30% stated that it made a very significant contribution and 8%

stated that the IS tools made no contribution to the achievement of their work goals. The findings are depicted in Table 6.28 below.

Table 6.28: IS tools contribution to success in accomplishing objectives at work

Response	Number of Respondents	Total %
Very significantly	15	30
Moderately significant	31	62
Not significantly	4	8
Total	50	100

The responses had a mean of 1.78 (Moderately significant) and a median of 2 (Moderately significant). In line with the DOI theory, one of the important factors that facilitate change in a population is relative advantage. Relative advantage is described as the degree to which a user believes that an IS tool offers greater advantages than existing one.

6.4.4.3 Ability to Customise and Optimise the Current IS Tools

This question relates to both the functionality and helpfulness attributes of technology trust. Respondents were asked about their ability to customise the available IS tools to suit atypical parameters for their different clientele and product markets. 24% of the respondents stated that they were able to achieve this objective currently. On the other hand, 76% said the tools did not give them such leverage. Table 6.29 below depicts the findings.

Table 6.29: Ability to customise and optimise IS tools

Response	Number of Respondents	Total %
Yes	12	24
No	38	76
Total	50	100

A closer analysis of the respondents was done based on their designation and job titles within the agencies. The 12 respondents who affirmed the flexibility of IS tools are CEOs and media directors. This analysis therefore further reveals the differences in perceptions of the technological capabilities of the available IS tools. Also, it is instructive to note that CEOs and account directors use the IS tools for high level planning while the account managers and media executives use the IS tools to plan and deploy actual spot bookings across a complex maze of national and provincial target market.

From the responses of the media practitioners, it is surmised that 76% of the respondents are unable to optimise the IS tools available. This is because the tools lack required customisation features to enable media practitioners work more efficiently. If trust can be established by reviewing the various components of the IS, and steps are taken to re-design the various tools in such a way as to be more

flexible to user needs, the tools will be put to maximum use, thereby promoting efficiency and effectiveness in the agencies.

6.4.4.4 Timeous and Accurate Response to Clients' Needs Based Exclusively on IS Tools

Output

This question relates to the reliability attribute of technology trust. Respondents were asked if they could trust exclusively in the capabilities of the IS tools in responding to the needs of their clientele. The aim of the question was to probe the extent to which IS tools are considered as inimitable partners in the media planning, post campaign analysis and reporting process. Table 6.30 below depicts the responses.

Table 6.30: Trust in IS tool to facilitate accurate and timeous response to clients' needs

Response	Number of Respondents	Total %
Yes	14	28
No	36	72
Total	50	100

72% of respondents stated that they were unwilling to depend on the IS tools exclusively and 28% affirmed that they were willing to do so. It was significant to note that the answers remained consistent with earlier findings pertaining to the responsiveness of the IS in helping the media executive achieve the objective of meeting clients' needs.

This finding presents a challenge for the attainment of maximum and effective use of IS tools. In accordance with Cripps *et al* (2009) definition of systems trust, trust stems from the belief of an individual that the available technology will facilitate or enable transactions in a way that duly meets the expectation of the trusting individual or organisation.

In addition, Mayer *et al* (1995) assert that trust is such an important concept simply because it is closely linked to risk. A media practitioner's total dependence on IS tools for client-based output depicts the fact that he believes there is minimal risk of loss in taking this action. In a situation where trust is lacking, he will be hesitant to take such risks as the failure of the IS to perform as expected may spell doom for the clients' business and the media practitioner's career. Respondents were subsequently asked to give reasons for their responses to the question stated above. Table 6.31 below details their responses.

Table 6.31: Factors affecting the exclusive use of IS tools in responding to clients timeously

Factors affecting the exclusive use of IS tools	Number of respondents
There are other factors to consider, both within the agency and on client's side	3
Some of the data are old and not reliable	15
Getting information from the data mining is reasonably fast but experience must	3

balance up data results for accuracy	
Many factors can make it fail, sudden power failure sometimes corrupts the data and hence you need to send it for re-formatting	12
There are vested interests in certain media types such that the spot bookings cannot be reconciled to the data on Mediastar	1
Experience must be combined with data results for accuracy and targeted campaigns	24

The deductions from the responses tabled above are directly correlated to the TOE framework. A cursory look at the answers reveal that media practitioners believe there are other unspecified mitigating factors which make it impossible to completely respond to the client based on the IS tools alone.

Almost 50% of the respondents stated that experience is a key factor in the planning and deployment of successful media campaigns. The responses shows that experience is a major factor militating against the exclusive use of IS tools for media planning in the agencies. Furthermore, according to a respondent in Table 6.31 above, there are vested interests beyond the data on the IS which dictates the choice of media to flight adverts on. This statement correlates to the challenges of systemic corruption in the Nigerian environment discussed in chapter 3 of this study. Rent seeking behaviour is a common practice in the media planning industry in Nigeria. To this end, it is opined that a verification system has to be in place in order to validate the choice of media for advertising products. This verification process will justify media practitioner's spots allocation based on scientific parameters. This can only be achieved if the data on Mediastar and related technologies are sacrosanct and the data integrity unquestionable.

6.4.4.5 Preferred Tools

This question relates to the functionality attribute of technology trust. Respondents were asked if there were other IS tools they preferred to those currently available in their agencies, responses were evenly divided. 50% of respondents answered in the affirmative and 50% responded in the negative.

The responses show that 50% of respondents do not believe that current IS tools have the requisite capabilities to ensure effective and efficient use of the technologies. This has caused some of these media practitioners to state their preference for other tools they consider as being better placed to achieve the stated purposes. Respondents were further asked to mention the tools they would have preferred to use. The following table is a distribution of the preferred tools mentioned and the number of respondents who preferred them.

Table 6.32: Preferred IS tools

Name of Preferred tool	No of Respondents
Telmar	15
Ariana 2	7
Peoplemeter	1

Mediamix	2
Mediaplus	1

From the table above, it is pertinent to note that fifteen out of the twenty-five respondents who preferred other tools expressed a preference for Telmar, seven stated their preference for Ariana 2, three wanted to use Peoplemeter, two expressed a preference for Mediamix and one person expressed a preference for Mediaplus. The indication from these responses is that these preferred tools are perceived to have better attributes that may promote efficient and effective deployment of media campaigns. The other obvious deduction that can be made from the findings is that only 50% of users of current IS tools trust the tools as being the best to actualise their aims and objectives at work.

This realisation is correlated to the assertion by McKnight *et al* (2002) that lack of trust in a technology prevents the full and maximal utilisation of the attributes of the system. In order for the current IS tools to be put to optimum use therefore, trust enhancers such as are proposed by the outcome of this study has to be applied to reinforce the confidence of media planning managers in the abilities of these tools.

Table 6.33 below depicts the additional comments made by respondents to shed light on why they trust or do not trust the available IS tools. The qualitative data from the comments have been analysed and categorised on the table below.

Table 6.33: General comments on Trust/ Lack of Trust in IS tools

Trust in IS tools	Number of respondents	Lack of Trust in IS tools	Number of respondents
The system is still evolving. It will eventually get to an optimised stage	1	I believe Telmar is a better software than any of the ones currently available in Nigeria	1
Decision making has become far easier since IS tools relevant to our job specifications have become commonplace in Nigeria	1	There should be more options of IS tools as the Nigerian environment is very complex	2
Mediastar is not a bad support for the work I do	2	I don't like the fact that I have to use a technology in which I made no specification contribution.	1
IS tools are great to use but needs to be improved upon	2	Modification tools on the IS are not adequate for the dynamic and complex environment we operate in	1
IS tools are useful and help improve the quality of our output	1	Each agency should commission and customise its own IS application to suit its purpose	1
Available tools are helpful and it's all we have for now	1	IS tools are helpful but not reliable	1
Mediastar has changed the way we view and use data in the industry. There are issues with the frequency of updates and accuracy of data which should be addressed to give it more credibility	1	The industry should get together to review the technologies they use	
		Modification tools on the IS are not	1

		adequate for the dynamic and complex environment we operate in	
		Each agency should commission and customise its own IS application to suit its purpose	1
		The source of data should be probed	
		IS tools are helpful but the human touch is important too	1
		There is need for faster output on Mediastar	1
		A wider sample size should be deployed at the research stage. Greater attention should also be paid to gathering data from rural dwellers	2

From the comments in Table 6.33 above, it is apparent that many of media practitioners have reservations about the functionality, reliability and helpfulness attributes of the IS tools they currently employ. The respondents who stated that they trust in the technologies also made the observation that the current IS tools needs to be improved upon. The end goal of this research is to produce an artefact that will outline ways of achieving this purpose.

6.5 Conclusion

In Chapter 6, the findings from the primary data collected were summarised with the aid of tables and charts. The findings depicted on the tables and charts were analysed and discussed in correlation with the four research sub-questions earmarked to assist with solving the research problem.

The findings from the analysis of the empirical study conducted are consistent with the review of secondary literature carried out in chapters two, three and four of this research project. The findings correlated to the first research sub-question reveal that IS tools are currently perceived by media planning practitioners as helpful but not critical to the success of the organisation. Analyses of findings related to the second research sub-question confirm that lack of trust impacts negatively on the use of the technologies available in MPAs. Based on the findings related to the third research sub-question, it was evident that there are certain technological-organisational and environmental factors which further promote distrust in IS tools, hence making it difficult for media practitioners to fully maximise the use of these tools.

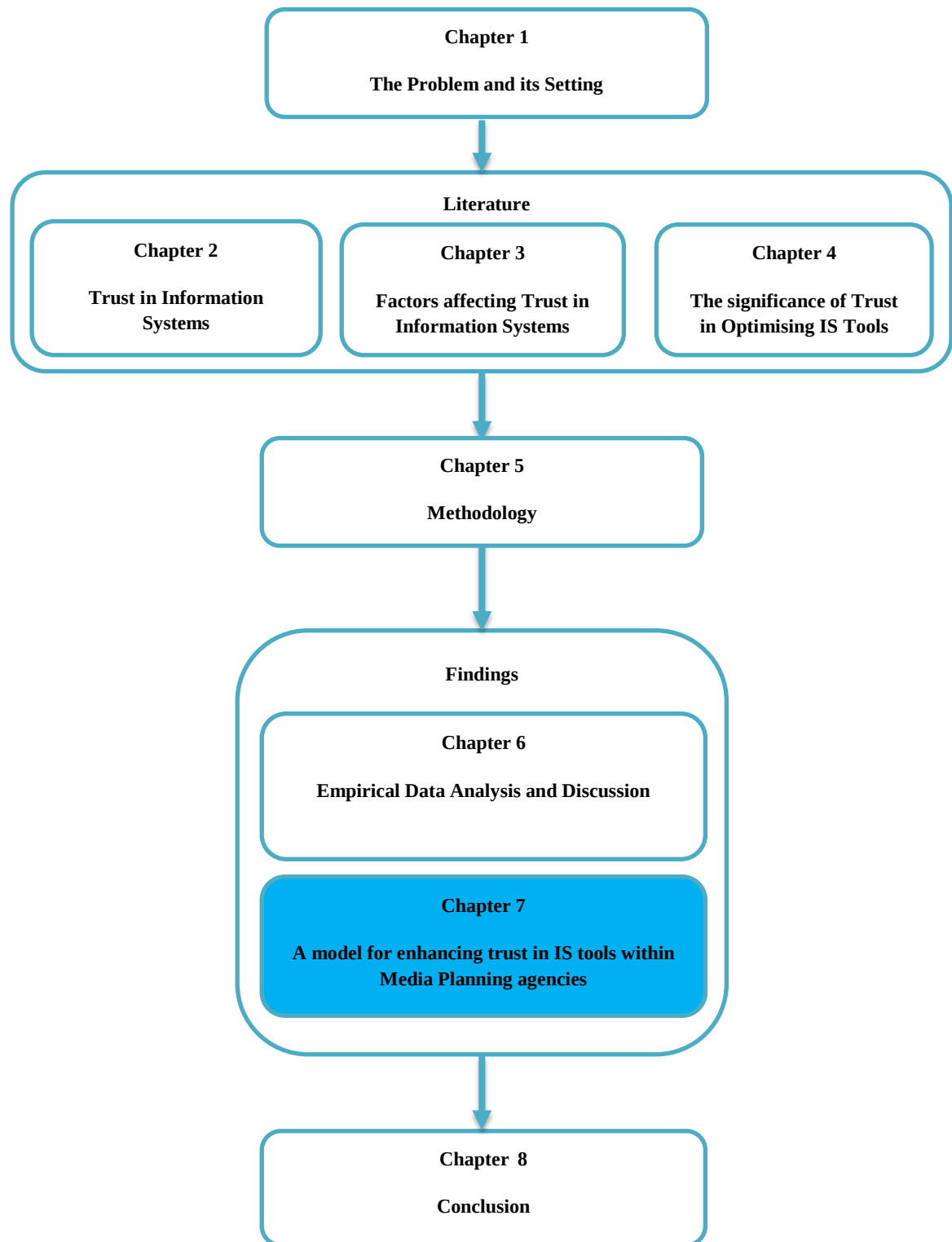
The last section analysed the findings in correlation with the fourth research sub-question: how trust in IS impacts on the effectiveness and efficiency of operations in MPAs. Findings from the primary data clearly confirmed the existence of a culture within agencies whereby the available IS tools are not used to their full capacity. The reasons advanced by the respondents mostly border on the reluctance to risk the use of IS tools for completing their work processes.

This inability to take risks is predicated on the deep-rooted distrust of IS tools' capabilities amongst media practitioners. All of these findings are aligned to the significance of the end goal of this study; a model for enhancing trusts in IS tools within MPAs.

The following chapter discusses the proposed model for enhancing trust within MPAs. The research process has been conducted according to research science guidelines, and the final chapter is dedicated to the creation of a useful and useable artifact that will assist in solving the research problem. The model is created based on the theoretical review of literature and the findings from the primary literature collected for this study.

Chapter 7:

A Model for Enhancing Trust in Information Systems Tools within Media Planning Agencies



7.1 Introduction

This chapter aims to bring the research study to a logical conclusion with the creation of a model for enhancing trust in Information Systems (IS) tools within Nigerian Media Planning Agencies (MPAs). The research process led to the identification of measures and strategies that can enhance trust in the IS tools already described in Chapter One of this study. The research problem is the lack of trust in IS tools within Nigerian MPAs, which has resulted in media practitioners jettisoning the available IS tools for manual work processes. The resultant effect of this is that MPAs are not maximising these tools to achieve efficient and effective service delivery to their clientele.

Definitions and various concepts of trust were discussed in the literature chapters of this study, with the adoption of the McKnight (2005) Trust model, Diffusion of Innovation (DOI) theory and the Technology-Organisation-Environmental (TOE) framework forming the theoretical background for the study. The diverse contributory factors to the lack of trust in IS tools were also examined. The research design and the data collection instruments were discussed in chapter 5. This was followed by the analysis of the empirical data collected for the research. The analysis of both primary and secondary literature confirmed that lack of trust in IS tools prevent the maximisation of the capabilities of the tools.

This concluding chapter aims to give a summary of how the research journey has evolved and how the researcher arrived at the research artefact. The model, which is depicted in the next section, is a synthesis of relevant theoretical literature discussed in chapters 2, 3 and 4 and the empirical findings discussed in chapter 6. The model is in fulfillment of a requirement of Design Science methodology employed by this study which states that an artefact must be created at the end of the study.

7.2 Development of the Research Model

Trust is an important concept because it makes the difference to the willingness of individuals to perform dependent trust actions based on a perception of low risk and high rewards (McKnight *et al*, 2002). The proposed research model is presented in this section. The model is proposed to resolve the research problem undertaken by this study namely enhancing trust in IS tools within MPAs. This model is proposed in consistence with secondary literature and empirical evidence from findings which suggests that IS tools are currently not being maximised in these agencies. The current situation thus prevents effective and efficient output based on IS tools in media planning processes. The lack of trust in IS tools within MPAs has been traced in the literature in chapters two, three and four of this study to a number of factors. These factors are outlined as the root causes of distrust on the model presented above. Several authors discussed the three key trusting beliefs of technology trust namely functionality, reliability and helpfulness (Lankton and McKnight, 2011, McKnight *et al*, 2011; McKnight *et al*, 2002) as the trust determinants in a human to technology trust scenario. The three trusting beliefs have their conceptual origins in the interpersonal trusting beliefs of ability (functionality), integrity (reliability) and benevolence (helpfulness). These three

attributes were deemed as more appropriate and applicable in human to technology trust scenarios based on the fact that a technology does not possess moral agency, will or emotion. It is therefore logical to attribute the trusting beliefs that are based on the intrinsic values and capabilities of the technology.

The model has been developed to proffer a solution to the proven lack of trust in IS tools. The model proffers trust enhancers to overcome distrust on the part of media planning practitioners. The study proceeds by mapping each of the root causes of distrust in IS tool to the relevant trust determinant, according to the secondary literature and backed up by the empirical findings. A trust enhancer has been attributed to each of the trust determinants in order to overcome the root cause of the distrust and bring about a change of attitude that will lead to the maximisation of IS tools within the agencies. The next section discusses the trusting belief of functionality; the root causes of the problem, the trust determinants and the corresponding trust enhancers to overcome the distrust.

The model is presented below as a solution to the research problem of under-optimisation of IS tools in MPAs due to a lack of trust in these tools:

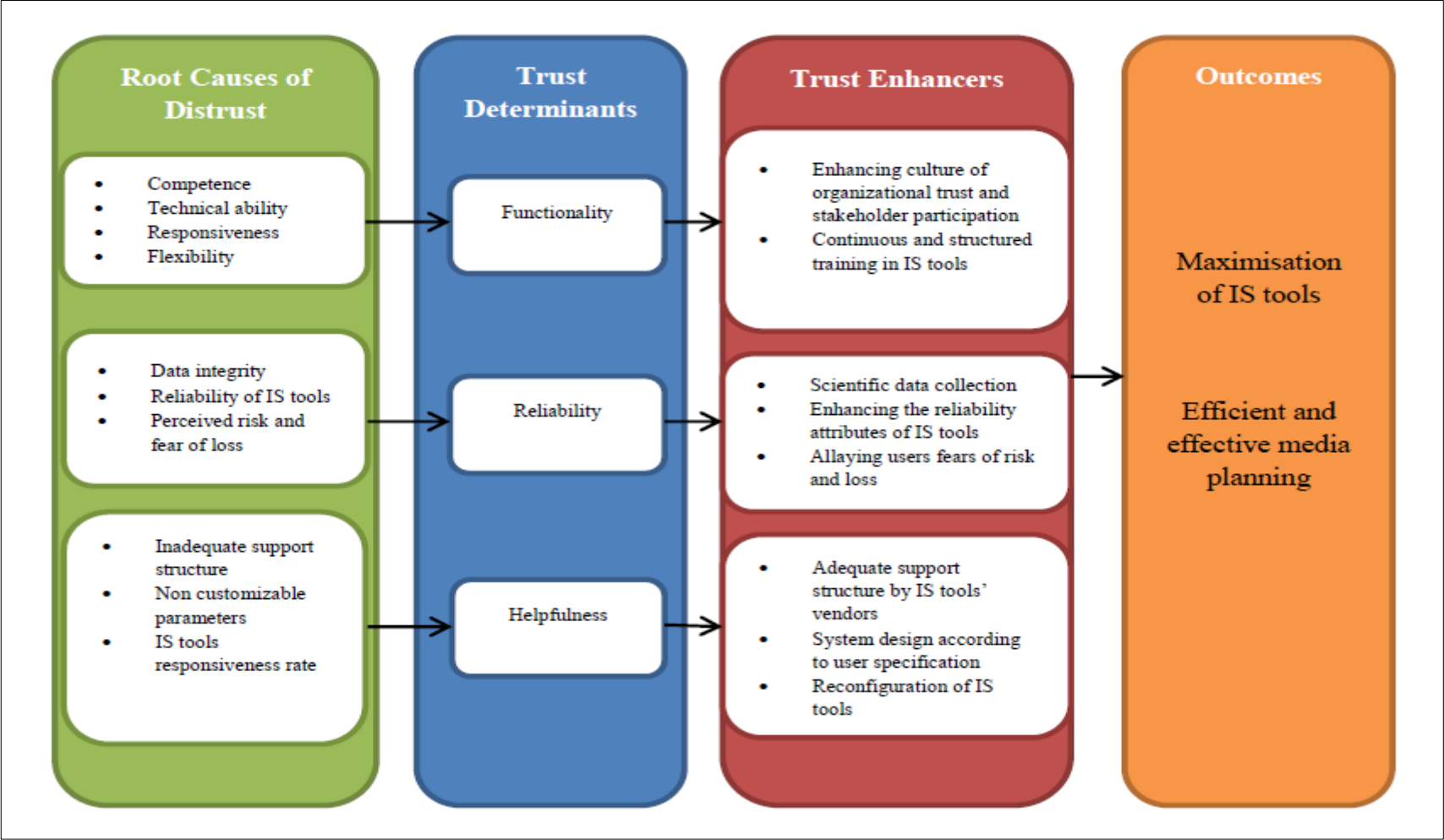


Figure 7.1: Proposed Model for Enhancing Trust in IS tools within Media Planning Agencies

7.3 Root Causes of Distrust, Trust Determinants and Trust Enhancers for the Functionality Attribute of Technology Trust

As previously stated, this section discusses the root causes of the distrust in the functionality of the IS tools available in MPAs. The review is based on both secondary literature and empirical data collected through the web-based questionnaire. An analysis of both sources led to the proposition of the trust enhancers discussed in the section. It is surmised that the implementation of these trust enhancements will eliminate the distrust and entrench a culture of optimisation of the available IS tools. The relevant components of the functionality attribute are depicted in Figure 7.2 below.

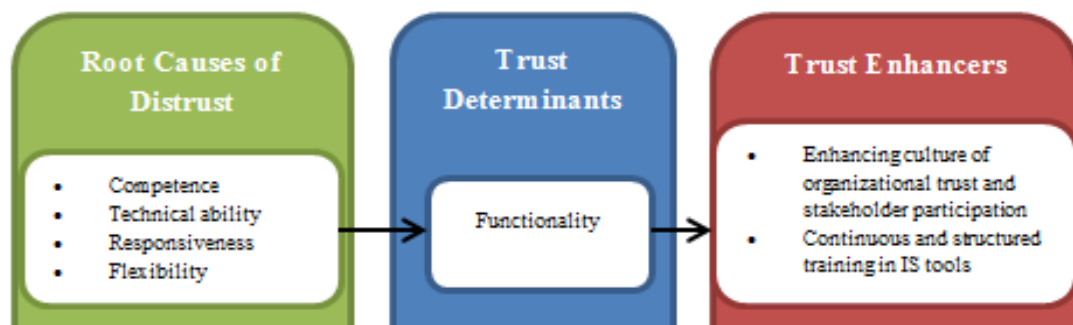


Figure 7.2: Functionality attribute of technology trust

7.3.1. Root Causes of Distrust in the Functionality Trust Attribute of Technology Trust

From both theoretical and empirical findings, the following relevant root causes of distrust based on the functionality attributes of the IS tools within agencies were identified:

1. Competence of IS tools: Lankton and McKnight (2011) and Lippert and Davis (2006) contend that a major determinant factor of technology trust is its ability to execute goals and objectives according to the trustor's expectations. This viewpoint was also agreed by McKnight *et al*, (2011) and McKnight (2005). As shown in Table 6.14 in section 6.4.1.5 of the chapter 6 of this study, 80% of respondents stated that they did not trust the competence of the IS tools available to them for the completion of their work processes. Competence in this regard is the ability of the IS tools to accomplish tasks timeously and in such a way that it meets the expectation of the trustor and helps him to achieve his objectives.

2. Technical ability of IS tools – Extant literature by Lippert and Davis (2006) contend that the output speed and adaptability of the IS to meet user's needs is a main factor in determining the trustor's disposition to a technology tool. As depicted in Table 6.15, section 7.3.1 in chapter 6 of the study, 68% of respondents said they did not trust in the technical ability of the IS tools for generating quality and accurate media campaigns. The core of media planning is the ability of the media planning practitioner to synthesise all the information relevant to the optimal use of clients' budget for producing an effective

marketing campaign. It is thus imperative that the IS tools possess the technical capabilities necessary for defining, processing and allocating demographic data into the relevant parameters. This will enhance the media planning practitioner's ability to make informed and scientific decisions with regards to maximum media exposure for clients' brands.

3. Responsiveness of IS tools: McKnight and Chervany (2002) assert that distrust is triggered in the human brain when there are breaches to the technology's functional competence attributes. Dimoka (2010) agrees with this view and states that concerns are raised in the trustor's brains about the trustee's commitment to his welfare if malfunctioning of the technology tool prevents the accomplishment of his goals. As depicted in Table 6.1, section 6.4.1.3 in chapter 6 of this study, 46% of respondents considered the response rate of IS tools as average while 36% stated that the response rate was slow. Respondents also stated that the capacity of Mediastar in particular to process copious volumes of data in record time was slow. Therefore, as discussed in chapter 4 of this study, the perception of IS tools as slow by respondents triggers a level of distrust which needs to be addressed in order for IS tools to be maximised by media planning practitioners.

4. Flexibility of IS tools: McKnight (2005) stated that trusting belief leads to trusting behaviour which engenders the willingness of a trustor to perform work processes with the aid of available IS tools. Lankton and McKnight (2011) contend that positive belief in the functional attributes of an IS tool produces a willingness to maximise the tool. The technological context of an IS tool also affects the way MPAs will adopt the IS tools available to them (Tornatzky & Fleischer, 1990). As discussed in section 6.4.4.3 of the chapter 6 of this study, 76% of respondents stated that the intrinsic qualities of the IS tools did not give them the flexibility to explore and customise its parameter for their individual needs at work. The finding reveals the dissatisfaction of the users with the user interface of the IS tools they currently employ at work. As shown in section 6.4.3.3, Table 6.24 in chapter 6 of the study, 50% of the respondents indicated that there are desired features which are not on the IS tools available to them. When asked to state the functionalities they desired that are not on the systems, most of the respondents expressed the desire to be able to customise data and other related reports for their own segment of the market. Furthermore, Table 6.24 in section 6.4.3.3 of chapter 6 reports that two respondents desired a feature that would enable them pull accurate national data for planning purposes without having to pull reports from city to city. This desired functionality is consistent with the literature in chapter 2 which highlights the fact that most big brands have a global market therefore an effective IS tool must give the media planning practitioner the latitude to think nationally and strategise according to the global marketing objectives of the brand.

In view of the factors contributing to the lack of trust in the functional capabilities of IS tools within MPAs, it is imperative to take a brief look at the relevance of trusting belief in the functionality attribute of technology trust and how significant this particular trust determinant is in dictating the pace and usage of the technology.

7.3.2 Functionality Trust Determinant

Functionality belief is described as the degree to which an individual believes that the technology has the features or functions that he needs to accomplish his tasks (McKnight, 2005). The attribute of functionality has its conceptual roots in the interpersonal trust competence belief which connotes a trustor's belief that a trustee has the ability, skill and requisite expertise to perform an expected task effectively (Mayer *et al*, 1995).

In an interpersonal trust scenario, a trustee is deemed to have demonstrated competence when he performs a given task to the satisfaction of the trustee and delivers the expected outcome. On the other hand, a technology trust scenario refers to the trust reposed in the competence and ability of the technology to perform a certain given task in a manner that ensures that the goal and objective of the trustor is met (McKnight, 2005).

As discussed in chapter 1 of this study, with specific reference to the Trust Building Model in McKnight *et al* (2002) there is a distinct and affective relationship between trust building levers, trust and behavioural intentions. This connotes that, in a human to technology trust context, the trust building lever is the perceived or experienced level of system or IS tools functionality. This trust determinant plays an important role in the media planning practitioner's willingness to trust the IS tool.

The resultant effect of this willingness is trusting intention which leads the media planning practitioner to use the tool as trust in its capabilities has been established. The relevance of this theory to the research is to establish the need for an enhancement of the functionality attributes of IS tools within MPAs as this will lead to the optimisation of the tools. The inclusion of this trust determinant on the model finds support in sub-question 1 which investigated the levels of trust in the functional capabilities of the IS tools available for Media Planning. According to the findings discussed in section 6.4.1 of the chapter 6 of this study, Table 6.9 reveals that 70% of respondents stated that the IS tools only addressed their work goals moderately, Table 6. 13 shows that 72% of respondents stated a moderate trust in the capabilities of the IS tools to enable them complete routine tasks. Table 6.14 in section 6.4.1 also shows that 80% of respondents were unwilling to trust the IS tools for the completion of all their work processes. The next section of the study discusses the trust enhancers that will increase trust in the functional capabilities of IS tools within the media planning industry in Nigeria.

7.3.3 Trust Enhancers for the Functionality Attributes of Technology Trust

1.Enhancing a Culture of Organisational Trust and Stakeholder Participation: As already discussed in chapters one, three and four of this study, the organisational culture of a MPA is a determinant of the level of trust the employees will repose in the available IS tools within that agency. Lippert and Swiercz (2005) opined that technology trust in an organisational context is inevitably linked to the optimal use of an IS tool. Organisational trust has been described in Chapter Four of this study as the extent to which the

members have a collective trust orientation towards the employer (Lippert & Swiercz, 2005). It is therefore surmised that MPAs are required to create an environment of stakeholder participation with regards to the IS tools employed in the agencies in order to enhance trust in the functionality attribute of the technology.

In consistence with secondary literature (Lippert and Swiercz, 2005; Lippert and Davies, 2006; McKnight and Chervany, 2002), and the empirical evidence from the findings, it is obvious that individuals review their trust assessments continually within an organisational trust context based on perceptions of employer's attitude and styles of management. It is thus recommended that management of the agencies explore a more participatory approach to ensure that stakeholders have a fair say in what constitutes the best requisite technology functional capabilities to ensure maximum use.

Closely related to the aforementioned, McLaughlin and Skinner (2000) opined that there is a distinctive difference between the concepts of utility and usability. The authors describe utility as the system's potential to meet performance expectations as designed by managerial sponsors or procurers (McLaughlin & Skinner, 2000). Usability, on the other hand, is a reference to how the system is perceived by the users.

The components of usability are described as:

- a. Checkability
- b. Confidence
- c. Control
- d. Ease of use
- e. Speed
- f. Understanding (McLaughlin & Skinner, 2000).

Following from the components listed above, and findings from the empirical findings discussed below, it is deduced that users of a technology will be better disposed towards trusting a technology if all the above mentioned components are present and verifiable in an IS tool.

From the empirical findings depicted in Table 6.23, section 6.4.3 of chapter 6, 40% of respondents stated that no Needs analysis was done before the IS tools were procured whilst 32% said a partial analysis was done. Interrogation of the results revealed that the 28% who said a complete Needs analysis of IS tools was carried out are the CEOs and media directors of their respective agencies.

In the same vein, when asked to indicate the level of contribution they made to user specification, only 28% indicated a high contribution to user specification for the IS tools. These findings were reported in Table 6.22. The remaining 62% indicated moderate to no contribution, with 30% stating that they made no contribution to the user specification whatsoever.

As in the needs analysis, further interrogation of the empirical findings shows that the 28% who made a high contribution to user specification are the senior echelons of the agencies. As previously mentioned in the literature, most of the CEOs and media directors use the available IS to make strategic decisions whilst the account managers and executives use the tools for the operational tasks required to actualise marketing

campaigns. It therefore follows that these group of people need to have a platform to express the functionalities they consider crucial to the successful execution of their duties.

Respondents were asked how well the IS tools addressed their work needs. As shown in Table 6.9, section 6.4.1 in chapter 6 of this study, 70% stated that IS tools only addressed their work needs moderately, 28% stated that it addressed their work needs very well while a negligible 2% said the tools did not address their work needs at all. Interrogation of the data revealed the 28% who found the usability function of the IS tool satisfactory were the CEOs and media directors. This group of people made the utility decision to purchase the IS, it can therefore be inferred that they had considered their high level needs for the system and not the more intricate functions which the system needs to perform in media campaign deployment.

In MPAs, technology trust in a highly functional and efficient IS tool, based on ownership by all employees using the tool becomes one of the mechanisms holding the community of workers together towards a common purpose of achieving a goal: purchasing advertising spots at the lowest possible rate and garnering maximum exposure for the brand.

In summary, it is believed that higher levels of organisational trust will enhance the level of technology trust and ultimately lead to improved usage of the available technology. This finding and the corresponding trust enhancer also correlates to the previously discussed TOE framework which stipulates that the organisational context of the technology plays a part in how technology trust is formed in the perception of users (Tornatzky & Fleischer, 1990). As previously discussed in this study, IS tools for media planning purposes must meet the functional needs of the users. It is imperative that a system demonstrates both a high level of utility and usability (McLaughlin & Skinner, 2000).

2. Continuous and Structured Training on IS tools: Trust has previously been discussed as a catalyst which enables an individual to take a leap of faith from belief to action without fear in situations where there is perceived risk (Rousseau *et al*, 1998). This trust enhancer finds support in the DOI theory which is an underlying theory for this study. The DOI theory states that relative advantage, compatibility, complexity, triability and observability are the five significant innovation characteristics. Formal training will ensure that every user of the IS has the opportunity to try the features of the IS in a safe environment before applying them to his daily work processes. The ability to ask questions and seek clarification about grey areas without the risk of making mistakes that could cost the company actual loss of revenue ensures that the media planning practitioner is better positioned to develop a personal trusting propensity towards the technology. This is consistent with the literature in Mayer *et al* (1995)'s proposed Trust model.

Furthermore, the DOI theory portends that a technology will be adopted if considered easy to use. Perceived complexity will therefore result in hesitancy to explore all the beneficial features of the IS and maximise its use. According to Hall (2003), training is key to the successful adoption of any Business Information System (BIS). Training needs to be focused on the optimisation of IS tools in order to improve

business efficiency and effectiveness, not just geared towards the use of the system for specific operational assignments only (Hall, 2003).

This trust enhancer will ensure that the media planning practitioner develops a trusting intention towards the technology, due to the fact that he has been able to try it and has developed a trust propensity based on his experience of the capabilities of the IS tools during the training period. This is consistent with McKnight's theory of trust which describes trusting intention as the willingness of the trustor to perform trusting behaviour (McKnight, 2005). Media executives are more likely to maximise use of the technology tools available to them when they have the confidence and ability to navigate the parameters of the IS tools. It may be extremely difficult for a media planning practitioner who received inadequate or no training at all on the features and functionalities of an IS tool to take the leap of faith required to maximise use of the technology.

This trust enhancer is also discussed in the context of empirical findings which points to management tendency to impose the technology on media planning practitioners without adequate training on the use of IS tools. Table 6.6 in section 6.3 of chapter 6 depicts that only 58% of respondents received formal training in the use of IS tools. It is believed that if steps are taken to adequately equip agency staff to optimise IS tools through continuous training, there will be more confidence in the ability of the technology to assist the user in achieving his goals and objectives

Results of the empirical findings in Table 6.6 in section 6.3 of chapter 6 reveal that 42% of the users did not receive any formal training in the use of IS tools. From the 58% who received formal training in the use of IS tools, CEOs and media directors represented the bulk of those whom had received both managerial and operational training to position them for maximal use of IS tools. When probed on the nature of training received, some of the respondents stated that the training they received was ad-hoc, learnership through mentoring as opposed to a structured, formal training schedule. It is therefore believed that trust will be further enhanced if every media executive undergoes a formal, structured training programme which explores all the attributes of the IS tools he is expected to employ in the workplace. The literature in Chapter Two has already alluded to the fact that the problem of inadequate training mostly applies in the smaller agencies where training budgets are virtually non-existent.

The next section discusses the reliability attribute of technology trust. The relevant components of the reliability attribute are depicted in Figure 7.3 below.

7.4 Root Causes of Distrust, Trust Determinant and Trust Enhancers for the Reliability Attribute Of Technology Trust

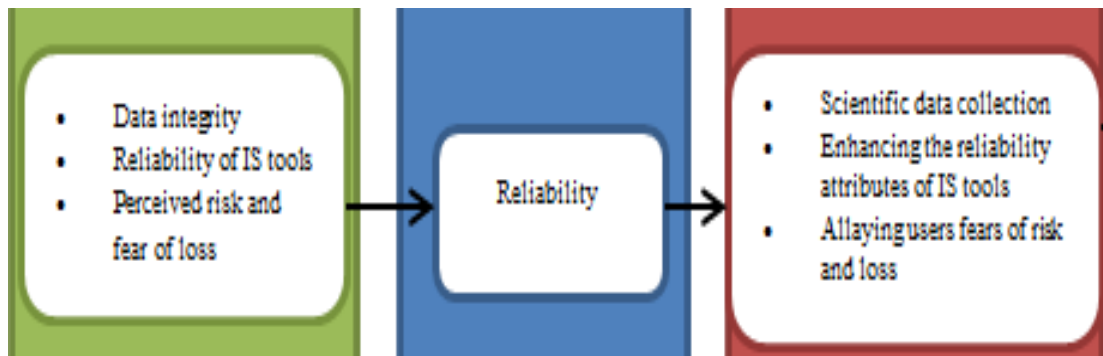


Figure 7.3: Components of the Reliability attributes of Technology Trust

7.4.1 Root Causes of Distrust in the Reliability Attribute of Technology Trust

Findings from the literature identified the root causes of distrust in the reliability attribute of technology trust as thus:

1. Lack of Trust in Data Integrity: Findings from secondary literature indicate that a major cause of distrust in an IS tool arises when there are questions regarding the integrity of the data. Data integrity in this context refers to the process of ensuring that a database is an accurate and concise reflection of the universe of discourse (Gavin, 1988; Nicolaou & McKnight, 2006). This simply means that a database must be representative of the group of people or objects from which the sample was drawn. The universe of discourse in the context of this study is representative of the psychographic and demographic data collected by Mediastar across the Nigerian populace to decipher media patterns. Data integrity is intricately linked to data quality, which refers to the intrinsic qualities of accuracy, relevance, completeness and timeliness (Nicolaou & McKnight, 2006). As discussed in Chapter One of this study, data collection is done through the placement of diaries in homes to establish their media habits. The selected sample of the population is expected to fill in the diaries daily. Industry stakeholders namely clients and media planning practitioners have raised several trust issues regarding the accuracy of the data fed into Mediastar and processed for use by media executives (Egbonwon, 2012).

This root cause of distrust also finds support in empirical literature. Respondents were asked if they trust in the accuracy of the information supplied by IS tools they used for media planning. Table 6.10 in section 6.4.1 of chapter 6 depicts that 60% of the respondents partially trust the tools while 20% do not trust the data on the IS tools. Taking into consideration the fact that these sets of data aid the media planning process to be scientific, it is worrisome that 80% of users do not trust the data available to them for media planning.

In the same vein, when asked if they trusted the IS tools with regards to demographic and psychographic data, 62% of respondents stated that they did not trust the data. As discussed in chapter 6 of this study,

smart market segmentation depends, to a large extent on obtaining accurate demographic and psychographic information about the target audience. Respondents raised questions about the accuracy, quality, timeliness and completeness of the data on Mediastar based on the current diary system of collecting data. It is opined that the data collection process is subject to abuse, neglect or manipulation as the process from collection to coding is not scientific and cannot be independently verified. This lack of trust underscores the seriousness of the trust issue with regards to MPAs as Mediastar is the major data source for nearly all the MPAs in Nigeria.

2. Lack of Trust in the Reliability of IS tools: The reliability attribute of technology trust is predicated on the ability to trust the technology to perform as expected and consistently deliver on expected goals and objectives. The contextual description of technology reliability alludes to the degree to which the technology is fully functional, does not experience down times and operates in a consistently flawless manner (Lippert, 2001; Lippert and Davis, 2006; McKnight *et al*, 2011, Lankton and McKnight, 2011).

Secondary literature has proven that technology trust grows exponentially when users can safely predict the outcomes of their use of the systems (Lippert and Davis, 2006; McKnight and Chervany, 2002; Lippert, 2007; McKnight *et al*, 2011). It is therefore extrapolated that the current IS tools are not being optimised as the users believe that they do not possess the capabilities to drastically improve their work processes.

Empirical findings in Table 6.18, section 6.4.2 of chapter 6 relating to this attribute reveals the lack of trust in the IS tools in this regard. 72% of respondents said they did not trust the IS tools to perform as expected and consistently deliver desired goals. Respondents stated several reasons for not trusting the IS tools to deliver consistently. These reasons have already been discussed in Table 6.19 in chapter 6 of this study.

Closely related to this, empirical findings in Table 6.30, section 6.4.4 of chapter 6 revealed that 72% of respondents did not believe they could respond timeously and accurately to clients' needs based on the output of the IS tools available to them. When probed further, most of the respondents stated that the IS tools sometimes fail to make accurate summations of the data, and technical errors sometimes makes it impossible to work at a required speed that will meet the client's deadline hence the tendency not to trust the IS tools. Furthermore, Table 6.27, section 6.4.4 of chapter 6 depicts 70% of respondents who stated that the IS tools only addressed their work needs moderately, 66% stated that the IS tools only facilitated the transformation of their work processes moderately while 6% declared that the IS tools has made a very insignificant contribution to their work processes. The number of media practitioners who do not trust in the reliability of the IS tools for their work processes further reinforce the findings in secondary literature about the vital role played by the reliability attribute of technology trust in achieving optimisation of the tools.

3. Perceived Risk and fear of Loss: Trust situations, whether interpersonal or human to technology trust, presuppose a degree of risk, which ultimately leads to the fear of loss. The reliability construct in IS tools trustworthiness has a strong link to the belief of the trustor that his work, goals and objectives are at risk if

he cannot trust the IS tool to perform a task as expected (McKnight *et al*, 2011). It is extremely difficult for a person to trust a technology if it is perceived that the tool is not reliable. This is due to the fact that negative consequences of the IS tool's failure will be borne by the trustor. In cases where the technology fails to perform as expected and thereby allow errors in its use, the human trustor (media planning practitioner) runs the risk of deploying a media campaign based on false information. The consequence of this is that the campaign will not have the desired impact on the brand, which will in turn lead to the inevitable result of displeasing the client. The client may therefore resolve to cancel the campaign and sack the agency. This potential risk and its potential loss impact is represented in Figure 7.4 below:

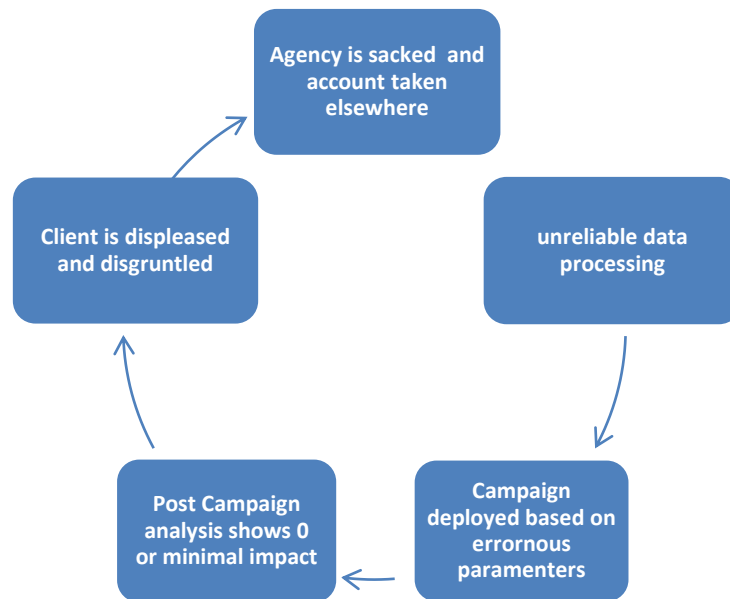


Figure 7.4: Significance of the reliability trust determinant for Media Planning Agencies

The scenario depicted in Figure 7.4 above is represented in a cyclical manner to show the significance of the reliability construct in a human to technology trust scenario. Furthermore, according to the DOI theory, (Rogers, 1995), late adopters and laggards in the usage of a technology base their decision to adopt a particular technology on their perception of how the technology has enabled early adopters to improve their efficiency and effectiveness. It therefore follows that underlying issues regarding the risks of adopting a particular IS tool will considerably reduce the desire to adapt the technology.

From the empirical study depicted in Table 6.17, section 6.4.2 of chapter 6, 78% of respondents stated that the IS tools sometimes fail to help them achieve their goals at work while 16% considered the rate of failure as often. Only 6% of respondents said the IS tools have never failed them. Also, as shown in Table 6.20, section 6.4.2 of chapter 6, 72% of respondents said they were not willing to use available IS tools for planning the entire budget for their campaigns. This confirms the aversion to risk and the fear of the cycle depicted in Figure 7.4 becoming a reality. As long as an IS tool is not considered reliable by its users, the element of risk and the potential fall out of this risk will prevent the user from maximising the technology.

It therefore becomes imperative that media planning practitioners are able to confidently trust the reliability of the IS tools they employ in the workplace.

The attributes of predictable, flawless consistency are absent in the current IS tools, given the responses from the primary data collection. It is thus inferred that media planning practitioners are not favourably disposed to taking risks by depending exclusively on these IS tools as there are reservations regarding its reliability. This assertion is applicable in the media planning industry in Nigeria, as laggards and late adopters are bound to stick to the traditional means of media planning and deployment if they perceive that the IS tools available are unreliable and could constitute potential risks to their businesses. The next section of this study discusses the trust enhancers that will increase trust in the reliability attributes of IS tools used within Nigerian MPAs.

7.4.2 Reliability Trust Determinants

The second attribute of technology trust, discussed in the previous chapters of this study is reliability. Trust, in the context of a technology tool, is defined as an expectation or confidence that the technology will consistently deliver on its expected functionalities in order to enable the trustor achieves certain aims and objectives. McKnight (2005) defines reliability belief as the degree to which an individual believes that the technology will continue to operate properly, consistently and flawlessly. This technology attribute is mapped to the conceptual basis of the integrity belief of interpersonal trust. The integrity belief connotes the trustor's belief that the trustee will remain true to an acceptable set of principles which are beneficial to the trustor (Mayer *et al.* 1995).

As has been previously discussed in this study, technology does not possess moral agency or the volition to adhere to commitments, unlike the case of interpersonal trust. However, the implicit promise that comes with the use of an IS tool presupposes that the technology works consistently and predictably in a manner that enables the trustor to achieve certain goals and objectives with the aid of the technology. Furthermore, it is opined that the decision or propensity of an individual towards trusting the reliability of an IS tool is predicated on his evaluation of its predictability (Lippert, 2007).

The inclusion of the reliability trust determinant on the model finds support in empirical literature which shows that median planning practitioners do not optimise the IS tools because they do not trust the integrity of the data for campaign planning. Table 6.21 shows that 62% of the respondents do not trust the integrity of demographic and psychographic data on Mediastar. Table 6.20 shows 72% were unwilling to risk planning their entire campaign budget based on the information supplied by IS tools and Table 6.18 shows that a further 72% did not trust the IS tools to perform according to their expectations.

7.4.3 Trust Enhancers for the Reliability Attributes of Technology Trust

1. Scientific data collection –Information integrity, which has been previously discussed in chapter 4 of this study, is composed of three components: accuracy, timeliness and completeness (Nicolaou & McKnight, 2006). In addition, data quality is an important trust building mechanism which engenders trusting reliability beliefs in the IS tool. The diary placement method requires a selected list of individuals to manually fill in their diaries daily, stipulating the television or radio programmes they watched and listened to, the commercials they monitored and other relevant information that may enable the media planning practitioner to identify trends and patterns in media habits across a demographic genre.

As previously discussed in Chapter Two of this study, the TOE framework contends that there are certain environmental factors which impact on the adoption of a technology. One of the major challenges preventing the introduction of a Peoplemeter for the purpose of data collection in Nigeria is the erratic power supply. This infrastructural challenge makes it extremely difficult to predict how dependable a tool which is powered by electricity is, given the frequent power failures already discussed in Chapter Three of this study.

However, in spite of the environmental challenges faced in this regard, there is need to re-assess the current data collection method and find ways of making it more scientific. It is therefore advocated that collaboration between MPAs, advertisers and other relevant stakeholders is a necessary step towards ensuring an improvement in data collection methods for Mediastar and other related technologies. There are already plans in place to replace diary surveys with Peoplemeter to allow for more accurate, real time data (Thorpe, 2008). It is surmised that this collaboration is necessary in order to surmount the environmental challenges facing the data collection process for IS tools in Nigeria.

According to Elia (2009), transparency in businesses foster stakeholder trust, distinguishes a business from its competitors and is vital to an organisation's reputation. The importance of transparency in data collection and collation cannot thus be dismissed in relation to engendering trust in the IS tools used within MPAs. In the context of this study, transparency in data collection refers to the scientific, testable method of gathering the data contained in Mediastar. In developed countries where media executives employ similar data for media planning, a device known as Peoplemeter is used for gathering such relevant data as who watches a particular programme at a time. This meter is placed in selected locations and does not need human support; data is automatically generated, fed into a central processing system and coded for use by media executives and advertisers

It is therefore crucial that this trust is enhanced by virtue of a working relationship amongst all stakeholders, towards the goal of changing the current data collection method to reflect a verifiable, transparent process which will allay fears of data manipulation, doctoring or bias. This will in turn ensure that these IS tools, much needed by the majority of media planning practitioners, are perceived as having the requisite integrity and accuracy and thus get optimised by media planning practitioners in the country.

This trust enhancer is supported by findings from the empirical literature. In Table 6.17, section 6.4.2 of chapter 6, 78% of respondents state that IS tools sometimes fail to help them achieve their objectives. A further 16% report that IS tools very often fail to help them accomplish work goals. The data also revealed the prevalent lack of trust in the reliability of data on Mediastar, the major data collection and collation tool available to media planning practitioners in Nigeria. This is confirmed in empirical findings in Table 6.15, section 6.4.2 of chapter 6 which reveal that about 67% of respondents do not trust the ability of the IS tools to generate quality and accurate media campaigns. Table 6.21, section 6.4.2 of chapter 6 reveals that 62% of the respondents did not trust the demographic and psychographic data on Mediastar. As stated in the previous section of this study, most of the respondents asserted that they did not trust the data as they found the collection methods questionable, unscientific and prone to human errors and manipulation. The trust enhancer will ensure that the data is trustworthy as the proposed system of data collection is automated.

2. Enhancing the Reliability attributes of IS tools: As previously identified in secondary literature, one of the key determinants of technology trust is a perception of the dependability or predictability of the trustee (Lippert & Swiercz, 2005). In order to further enhance trust in the reliability of IS tools with regards to consistency in performance of the tools, it is important for service providers to ensure that data is formatted correctly, and in a useable platform for media executives. McLaughlin and Skinner (2000) opine that the concept of usability is central to the successful and optimised use of IS tools as it directly relates to the operational users of the technology. The six components of technology usability have been discussed previously in this chapter. As it has also been argued in Chapter Six of this study, usability components of Checkability alludes to the system having the protocols for ensuring accuracy and verification of data input and output.

The other relevant component is speed of the IS tool, which is described as the gauge of how quickly and efficiently the system can be used (Muir & Moray, 1996). This is consistent with suggestions by Lippert (2007) that continued interaction with a technology influences the individual's perception of the system, therefore incremental improvements to the system will further reinforce the individual's positive evaluation of the system, and in turn create trust and willingness to optimise the technology. The internal technology environment thereby requires a trust enhancer to ensure optimal usage.

The inclusion of this trust enhancer in the model is supported by findings from the empirical data. As shown in Table 6.18, section 6.4.2 of chapter 6, 72% of the respondents asserted that they could not always predict the outcome of their system use as the IS tool sometimes does not respond as expected to commands, thus putting the achievement of user's goals and objectives in jeopardy. Table 6.11, section 6.4.1 shows that 46% of respondents consider the system speed as average while 34% submitted that it was slow. It is therefore recommended that the configuration of the system should be re-designed to ensure faster processing of data.

As depicted in Table 6.30. Section 6.4.4 of chapter 6, 72% of respondents have stated that they moderately trust the IS tools to enhance their ability to respond timeously to clients' requests. Respondents assert that

they do not trust the IS tools available to them as they have not demonstrated the qualities of predictability and consistence required in achieving users' goals and objectives. As previously discussed in the previous section, collaboration amongst stakeholders will ensure that all the environmental challenges relating to the implementation of a Peoplemeter is surmounted, thus promoting the process of improving the quality of data on Mediastar.

Furthermore, when respondents were asked if they desired some features which are not currently on the system, the recurrent answers amongst those who stated that they wanted these features are a desire for the ability to customise reports according to specific needs and media genre parameters. This is depicted in Table 6.24, section 6.4.3 of chapter 6. Two respondents expressed a desire for minimum and maximum budget thresholds within a given category. All of these are motivation for the fact that users require additional, usable features of the technology.

3. Allaying user's fear of risk and loss: As already discussed in the literature, trust is intricately linked to risk and the fear of loss on the part of the trustor (Mayer *et al*, 1995). The amount of risk a trustor is willing to take in a human to technology trust context is inextricably dependent on his perception of how much risk he would be exposed to, and the attendant loss factor as depicted in Figure 7.3 above. Consequently, it becomes necessary to embark on measures to alleviate the trustor's fears with regards to risk and loss when he uses the IS tools.

In order to create an atmosphere where risk and the fear of loss is alleviated, there is a need to enhance trust in IS tools' performance capabilities. Data integrity and system predictability, based on an improvement of system capabilities have already been discussed as trust enhancers on the reliability spectrum of trust attributes. In addition, researchers have shown that there is a significant correlation between trust, performance and behavioural intention (Lee & Song, 2013). It is opined that an ability to improve the performance capabilities of IS tools will automatically lead to a negative perception of risk in association with using the IS tools.

In the same vein, alleviation of risk is contingent upon the trustor's ability to identify measurable features of the IS tools which would preclude the fear of loss if he were to optimise the tools. In this regard, an individual's propensity to trust the technology increases as he gains access to accurate, verifiable and reliable information that the IS tool is capable of working consistently to achieve his goals and objectives. Hence, as the literature on risk and trust has proven, perceived risk decreases when there is trust, trust is enhanced when there is empirical evidence that assures the trustor of the unlikelihood of loss (Mayer *et al*, 1995; Belanger & Carter, 2008; Nicolau and McKnight, 2006). Building trust through information verification is thus a trust enhancer that will lower the perception of risk and alleviate fear of loss. The next section of the research examines the helpfulness attribute of technology trust characteristics.

The inclusion of this trust enhancer finds support in empirical literature shown in Table 6.14, section 6.4.2 of chapter 6. The table reveals that 80% of respondents showed an unwillingness to base their entire

campaign planning on the accuracy of the information on the IS tool. Furthermore, findings depicted in Table 6.32 in Chapter 6 of the study reveals that 50% of respondents prefer other IS tools which are not yet available to them in their respective agencies as they believe the output of the itemised IS tools will assist them in achieving their goals more effectively than the current available tools. The next section discusses the root causes, trust determinants and trust enhancers of the Helpfulness attribute of technology trust.

7.5 Root Causes of Distrust, Trust Determinant and Trust Enhancers for the Helpfulness Attribute of Technology Trust

As previously stated, this section discusses the three components of the model relating to the helpfulness attribute of the IS tools available in MPAs. The discussion is grounded on both secondary literature and empirical data collected through the web-based questionnaire. An analysis of both sources led to the proposition of the trust enhancers discussed in the section. It is surmised that the implementation of these trust enhancements will eliminate the distrust of the helpfulness attributes and engender optimisation of the available IS tools. The relevant components of the helpfulness attribute are depicted in Figure 7.5 below.



Figure 7.5: Components of the Helpfulness Attributes of Technology Trust

7.5.1 Root Causes of Distrust in the Helpfulness Trust Attribute Of Technology Trust

From the empirical findings, the following relevant root causes of distrust based on the helpfulness trust determinant of the IS tools within agencies were identified:

1. Inadequate Support structure: Helpfulness refers to the capability of IS tools to enable the user accomplish the goals that have been set out. The degree of helpfulness varies across the broad spectrum of system use. However, a major test of the helpfulness construct is embedded in the technology's demonstration of helpfulness through help functions that aid his goal attainment (Lankton & McKnight, 2011). If media executives perceive that the IS tools demonstrate helpfulness by providing help when needed, fewer risks and loss of revenue will be associated with the use of the technology. The benevolence

attribute of interpersonal trust belief is defined as the extent to which the trustee is believed to have the intention of doing good to the trustor (Mayer *et al*, 1995). It is thus opined that trust in the support structure be enhanced on order to overcome the distrust associated with the helpfulness trusting belief of technology trust.

This root cause of distrust finds support in empirical literature. Respondents were asked if they believed there was an adequate and effective support structure in place for the IS tools employed by their respective agencies. Table 6.26, section 6.4.3 shows that 52% of respondents answered in the negative. This implies that over 50% of media practitioners do not trust the support structure provided by Media Planning Services (MPS), service providers of Mediastar and other related technologies.

2. Non-Customisable Parameters – According to McKnight (2005), users of a technology believe that the help function will provide advice necessary to complete a task. This factor is important as the user's helpfulness trusting belief that an IS tool provides adequate, effective and responsive help is central to his reposing trust in the system and optimising its usage. It is therefore crucial that the media planning practitioners' perception of the helpfulness attribute of technology trust be a positive one.

Respondents were asked if the design of current IS tools gave them the flexibility to customise it to suit specific needs. Table 6.29, section 6.4.4 of chapter 6, 76% of the respondents stated that they were unable to do this. As previously discussed in this chapter, the more positive interactions which take place between the technology and the person, the more inclined the human will be to trust in the technology. In a complex society such as Nigeria, media planning practitioners need to be able narrow their choices to meet the needs of the diverse clientele they service. Respondents assert that the information on Mediastar is mostly generic and there is no help button to assist them in filtering the data which is directly relevant for their specific brands, target market and audiences. To this end, inability to customise the IS tools are viewed as a shortcoming on its helpfulness attribute. As shown in Table 6.31 of chapter 6, 12 of the respondents also assert that data is usually returned to MPS for re-formatting when the system malfunctions. This situation has caused delays in media planning due to the down time for getting the data back from MPS.

Moreover, as depicted in Table 6.33 on Chapter 6 of this study, four of the respondents alluded to their inability to customise the IS tools for the purpose of target audience profiling and optimising costs for their own managed brands. This is due to the fact that the system configuration does not adequately provide help to the users to customise their projections to the profiling needs of their brands.

3. IS tools responsiveness rate – As previously discussed in the literature, technology trust reflects the willingness of the trustor to 'behaviourally' depend on software, technology artefact or IS tool to complete a task (Mayer *et al*, 1995; McKnight, 2005, Nicolau and McKnight, 2006). The user's perception of the adequacy of IS tool's capabilities to complete his tasks will dictate his propensity to be dependent on the technology. Perceived performance therefore positively influences the individual's intention to maximise a technology.

This root of distrust in IS tools also finds support in empirical literature for this study. Respondents were asked to quantify the speed and quality of the IS tools in aiding the processes described above. In Table 6.11 of chapter 6, 46% of respondents consider IS tools responsiveness as average, 34% considers the rate as slow while 18% assess responsiveness to be fast. From this analysis, it is evident that majority of users, exactly 80% have reservations about the responsiveness of the IS tools to their commands and requests. This highlights the importance of an improvement of the helpfulness attribute of trust in IS tools which is the aim of this study. In light of the aforementioned, the next section discusses the relevance of the helpfulness trust determinant to the proposed model.

7.5.2 Helpfulness Trust Determinant

The helpfulness trusting belief is a conceptual offspring of the benevolence attribute of interpersonal trust belief. Helpfulness, in a technology trust context is defined as the degree to which an individual believes that the technology will provide adequate and responsive help (Lankton & McKnight, 2011). As previously discussed in Chapter Two of this study, trust in technology reflects beliefs about its capabilities and intrinsic design (McKnight, 2005). This is because a technology lacks moral agency and does not possess will or motive. A discussion of the helpfulness attribute is therefore tied to the capabilities and design of the system and how it is perceived as helpful by the user.

In addition, a review of literature in chapters two and four of this study has identified helpfulness as the degree to which a user is able to independently navigate a system to accomplish work goals. Helpfulness alludes to the versatility of the help function in helping him resolve queries and sort out minor glitches (McKnight *et al*, 2011).

Furthermore, empirical findings regarding the helpfulness trust determinant confirms the significant of this attribute of technology trust. In Table 6.29, section 6.4.4 of chapter 6, 76% of respondents contend that the IS tools do not give them the flexibility required to customise the tools for their work processes as the configuration of data was mostly generic. 50% also alluded to features they desired that were not currently available on the IS tools. A discussion of the trust enhancers for the helpfulness attributes of technology trust is carried out in the next section.

7.5.3 Trust Enhancers for the Helpfulness Attribute of Technology Trust

1. Adequate Support structure by IS tool vendor: As previously discussed in Chapter One of this study, the DOI theory encompasses five significant innovation characteristics: relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995). To overcome the distrust of the helpfulness attribute of technology trust, a positive perception of the technology as being easy to use and devoid of complexity needs to be achieved. To achieve this, it is recommended that the help function of all IS tools be configured in such a way that it allows the user to navigate through the system with simple, easy steps for achieving the feat. This is also consistent with secondary literature which states that an IS is better

received by users if it demonstrates an ability to simplify user's business processes, thereby enabling the user to optimise its use (McKnight and Chervany, 2002; McKnight *et al*, 2011; Lippert and Davis, 2006).

Furthermore, trust assessment of a system occurs each time an individual employs the system (Lippert, 2007). To this end, positive trust assessment of the helpfulness of IS tools will lead the media planning practitioner to incrementally depend upon the IS for the totality of his work processes. It is opined that a way to concretise the helpfulness concept of technology trust is by enhancing the help features to reflect the stated desires of the users. This is important as research has shown that trust is reaffirmed when the trustor perceives that the trustee is committed to the advancement of his goals and objectives (Mayer *et al*, 1995). It is thus opined that an enhancement and improvement of the helpfulness attribute of IS tools used by Nigerian agencies should be based on the articulated desires of the media planning practitioners who employ the tools in their daily work processes.

Also, in line with findings from the empirical data, 50% of respondents indicated a desire for certain features on the IS tools which are currently unavailable. The preferences have been discussed in Chapter Six of this study. As depicted in Table 6.24 of chapter 6, 50% of respondents also specified other IS tools they would prefer to use for media planning purposes. An analysis of the preferred tools was done in Table 6.32 of Chapter 6 of this study.

2. System design according to user specification – Hoffman and Sollner (2012) propose that insight into the behavioral trust theory is required in order for system designers to understand the significance of incorporating design elements which foster trust into system design. Developers are encouraged to perform four key activities that will increase user trust in the system. These activities are: *identification of user's uncertainties, linking them to theoretical trust antecedents, deducting formal requirements and finally, designing trust-supporting design elements (TSDEs)* (Hoffman & Sollner, 2012, p. 2). Furthermore, according to the TOE framework (1990), which has already been discussed in chapters two and three of this study, the organisational context of an IS tool influences its perception, adoption and usage. The organisational context impacts on the managerial style, information dissemination and the work culture operational within the firm. The impact of all these factors on technology trust is significant as users who believe that the available IS tools were imposed upon them without due consultation or regards for their input may not feel inclined to maximise the tools in spite of management instructions to do so.

Additionally, Muir (1994) Muir and Moray (1996) state that human to technology trust is made up of several sub-components such as faith, competency and ability. The faith sub-component is significantly reduced when users cannot relate the technology to their individual needs and thus view it as a generic tool for the organisation. Muir and Moray (1996) asserted that the complex multi-layers of technology trust affect the usage of the technology. Hence, media planning practitioners may perform their individual tasks manually and avoid making use of the IS tools available to optimise their work processes if they cannot readily relate to the help provided by the IS tools in the achievement of their work goals. The argument in favour of the enhancement of IS tools through designing them based on a widely consulted and applied

user specification process is predicated on the submission that technology acceptance and subsequent usage depends on users' perception of the system's applicability to his needs as well as the functional attributes generally acknowledged by all users (Hoffman & Sollner, 2012).

From the empirical findings, there is evidence to prove that most respondents regard available IS tools as moderate contributors to the achievement of their work goals. Table 6.9 shows that 70% of the respondents stated that the IS addressed their work needs moderately while 2% believed they had no impact whatsoever on their work. The 70% of respondents who believe that IS tools' impact on their work is moderate is alarming in the sense that the myriad of activities which precedes the actual deployment of a marketing campaign is dependent on different IS tools for data collection, collation, segmentation and decision making (Kupoluyi, 2011). The empirical findings thus raises the question as to how these respondents manage their work processes without IS tools being a major factor in the way they actualise their work processes.

When asked about the level of contribution they made to user specification, in Table 6.22, section 6.4.3 of chapter 6, only 28% of respondents signified that they made a high contribution to user specification. The remaining 72% made limited contributions to the user specification. 30% of the 72% made no contribution whatsoever to user specification to the IS tools. It was also revealed that the 28% who made high contribution comprised of CEOs and Media directors. This group of practitioners have already been identified as high level users of the IS tools. This therefore lends credence to the summation that the peculiar needs of the non-managerial media executives were not taken into consideration when the decision to procure the available IS was being made.

In order to address the lack of trust in the IS tools, due to its rigid and inflexible features which cannot be tailored to meet specific needs, it is opined that management of MPAs engage in a discourse with IS tool vendors and their media executives in order to discuss ways of correcting the anomaly and incorporating those features that will enable media planning practitioners customise certain features for their own purposes. It is therefore surmised that a necessary trust enhancer to bolster the helpfulness attribute of technology trust is the design of the system based on a widely consulted and agreed stakeholder representation and user specification.

3. Re-configuration of the IS tools: The literature regarding the human brain and its association of trust and distrust in given circumstances has already been examined in Chapter Four of this study. Dimoka (2010) submitted that technology trust in the human brain is linked to the rational calculation of rewards, prediction of behaviour and the estimation of positive outcomes from system use (Dimoka, 2010). This proposed trust enhancer correlates with literature about the utility and usability of a system (McLaughlin & Skinner, 2000). McLaughlin and Skinner (2000) describe ease of use and speed as two of the six components which speaks to the usability function of the technology. It is asserted that a perception of ease of use and speed will be achieved if the IS tools available within agencies are re-configured to deliver these attributes to the users. This trust enhancer also correlates to the McKnight *et al* (2002) Trust

Building model which depicts the importance of trust building levers (speed and quality output) to trust and a resultant behavioural intention to optimise a technology (McKnight, 2005). Lippert (2007) asserts that ease of use and perceived usefulness are direct precursors of trust in a technology.

The significance of this trust enhancer is further confirmed in empirical findings for this study. As discussed in Chapter Six, most of the respondents had reservations about the responsiveness of the IS tools to their commands and requests. The respondents were asked to rate the speed and quality of the IS tools in analysing demographic and psychographic data, profiling of target audience and appropriate pricing. Table 6.11 reveals that 46% of respondents stated that the response rate was average while 36% consider the rate of the IS tools as slow while only 18% stated that responsiveness rate was fast. To this end, it is proposed that trust in the helpfulness attribute of technology will be enhanced through a re-configuration of IS tools for faster processing time. This signifies that an IS tool which is perceived to be fast and delivers quality output in record time is bound to be optimised by media planning practitioners.

7.6 Expert Review of the Proposed Model

A total of five experts were asked to analyse the proposed model and comment on its ability to solve the research problem under investigation. The experts comprised of three seasoned media planning practitioners, one service provider of the IS tool, Mediastar and an expert researcher into the use of IS tools within the Nigerian media planning industry in Nigeria. The choice of the five experts is based on the fact that the context is a highly specialised area of marketing communications and experience is required to give valuable and useable feedback on the model.

The five experts were in agreement regarding the ability of the proposed model to solve the research problem namely the enhancement of trust in IS tools within MPAs. One expert suggested that a conference paper based on the proposed model be produced and presented at the annual media planning confab in order for all stakeholders to debate the model and agree on adapting the components to improve the use of IS tools in the industry. However, two of the experts recommended further adjustments to the model in order to fully address the enhancement of trust in IS tools. An expert recommended that versatility be included in the root causes of the functionality trust attribute. After careful consideration of this recommendation, it was decided that the aspect of versatility relates to the root cause of helpfulness distrust namely the non-customisable parameter. Secondary and empirical literature serves to show that the inclusion of stakeholders in the User specification from the design stage will ensure that versatile and necessary features to accomplish work goals will be incorporated into IS tools. The recommendation was therefore not included in the model.

The second recommendation is the inclusion of a competency dashboard in the model. The expert asserted that competency dashboards are a common and effective means of gauging the effectiveness of resources, both human and material in the management sciences and should be adapted for IS tools. Although the empirical questions did not explicitly allude to dashboards as a trust enhancer for the functionality attribute

of technology trust, the suggestion finds support in extant literature regarding the use of dashboards that was investigated to validate this recommendation (Asiegbu, Amah, & Odili, 2012). Empirical findings in Table 6.17, section 6.4.1 of chapter 6 showed that 78% of respondents report that the technology sometimes fail to help them achieve their aims and objectives while Table 6.14 reveals that 80% of respondents did not trust the competence of the IS tools. It is opined that a competence dashboard as proposed by the expert will further reinforce trust in the functionality attribute of the IS tools as users will be able to measure the different components of functionality in real time. The use of dashboards and its relevance to the functionality attribute of technology trust is discussed in the next section of this study. The recommendation was therefore included to refine the final model as presented in Figure 7.6.

7.7 Model Refinement Based on Expert Review Recommendation

As discussed in section 7.6, recommendation to add the use of dashboards as a means of measuring the effectiveness of IS tools was incorporated to refine the model for enhancing trust in IS tools within MPAs. An investigation of extant literature regarding dashboards was then carried out to contextualise its inclusion in the final model. The literature is presented below.

7.7.1 Dashboards as a Metric for Measuring Trust in Information Systems Tools

Dashboards monitor and measure performance, processes and outputs (Cokins, 2005). The purpose of a dashboard is to focus on operational information and frequently report on the achievement of key performance indicators (Asiegbu, Amah, & Odili, 2012). Traditionally considered as a management measurement tool for measuring the competence of employees in relations to their KPIs, dashboards are becoming more popular in the measurement of vital elements of organisation's tools towards the achievement of their overall objectives (Cokins, 2005).

Dashboards are considered a means of summarising and communicating operational performance of work tools by means of torques and temperature gauges (Miller & Cioffi, 2004). The purpose of the dashboard is to ensure that IS tools measure up to the expectations of the users in the performance of their work processes. The relevance of dashboards to the technology trust context being investigated in this study is twofold:

1. The dashboard provides a visual display of the competence and accuracy of the information supplied by IS tools such as Mediastar in real time, thus empowering the media planning practitioner to monitor the efficacy and likely impact of the data at hand as he plans his campaign.
2. The dashboard also serves as a means of gathering crucial feedback on the performance of IS tools. This will serve to increase trust in the IS tool as the feedback process will ensure that media planning practitioners can measure the accuracy and effectiveness of the tools in real time and communicate any misgivings to the service providers for immediate rectification.

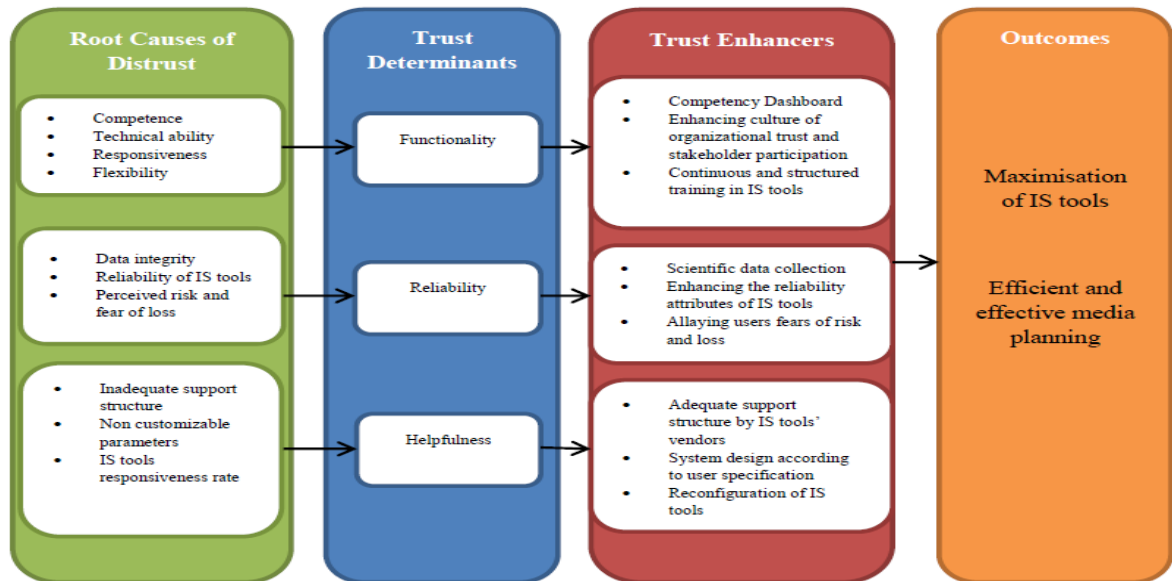


Figure 7.6: Final proposed Model for Enhancing Trust in IS tools within Media Planning Agencies

As discussed in section 7.7.1, dashboards monitor and measure processes and output (Cokins, 2013). Much like the dashboard of an automobile, whereby the dashboard reflects the current condition of the car and measures in real time the current speed and fuel levels of the car, the competency dashboard serves to measure the functionality capacity of an IS tool in relation to what it is expected to produce (Hall, 2003). Furthermore, from a decision maker's perspective, the IS tool competency dashboard provides a useful way to view data accuracy, the synthesis of the information therein and its effect on the end goal of meeting work objectives (Asiegbu, Amah, & Odili, 2012).

Although the literature on competency dashboards is still sparse, on-going research into this area has revealed that dashboards provide a means of visually monitoring one's metrics against expected outcomes (Patterson, 2007). In essence, the dashboard provides a platform to monitor, track and review performance of IS tools against expected business outcomes namely the effective, efficient and qualitative delivery of impactful media campaigns.

The competency dashboard for IS functionality will consist of all the metrics previously discussed in the findings as factors that foster technology distrust in media planning practitioners. The dashboard, which needs to be an integral part of the IS tool should be a real time monitor of the competency, technical ability, responsiveness and flexibility of IS tools as the media planning practitioner navigates the system to accomplish his work goals. This in essence means that a media planning practitioner can monitor how long it takes for the data required to be processed, how effective the user interface is in meeting his needs and the overall competency of the tool in making his work processes more effective. The proposed competency dashboard is diagrammed below:

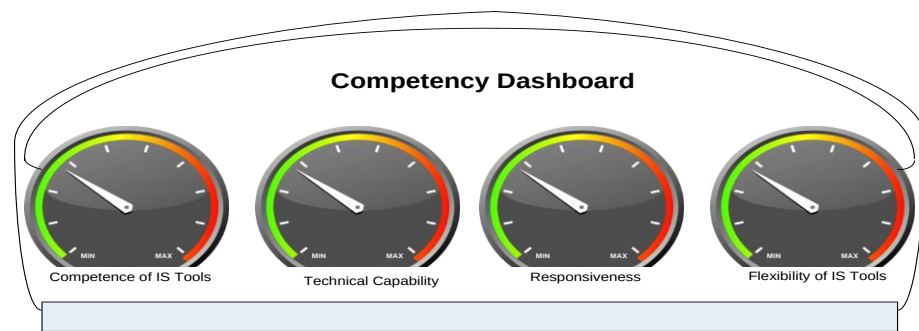


Figure 7.7: Competency Dashboard

It is opined that such a feature on the IS tools will serve two purposes:

1. Enable the user to gauge the level and depth of IS tool's functionality independently, and thereby determine which areas are at optimal functionalities and where the system is challenged in meeting his goals.
2. The dashboard system will create an independent feedback loop that will assist all stakeholders determine areas of concern and take measurable steps to address them (Asiegbu *et al*, 2012).

This trust enhancer is considered as a crucial element of the functionality attribute of technology trust. This is because it addresses the core of technology trust: the capability of the IS tool to help the human agent accomplish his goals and objectives. Outcomes displayed across a wide genre of users will constitute a reference point for industry stakeholders to discuss ways of improving the current IS tools to enhance trust, thereby enabling media practitioners to have faith in the tools and maximise its use.

7.8 Conclusion

Chapter 7 discussed the roadmap of the entire research process which led to the identification of measures and strategies that can enhance trust in the IS tools already described in Chapter One of this study. The research problem that was investigated is the lack of trust in IS tools within Nigerian MPAs. This lack of trust has resulted in media practitioners not optimising the available tools for the actualisation of their daily work processes.

The chapter gave a summary of how the research journey evolved and how the researcher arrived at the research artefact. The model is a synthesis of relevant theoretical literature discussed in chapters 2, 3 and 4 and the empirical findings discussed in chapter 6. The model fulfills a requirement of the Design Science methodology which stipulates that a useable model be created at the end of a research process.

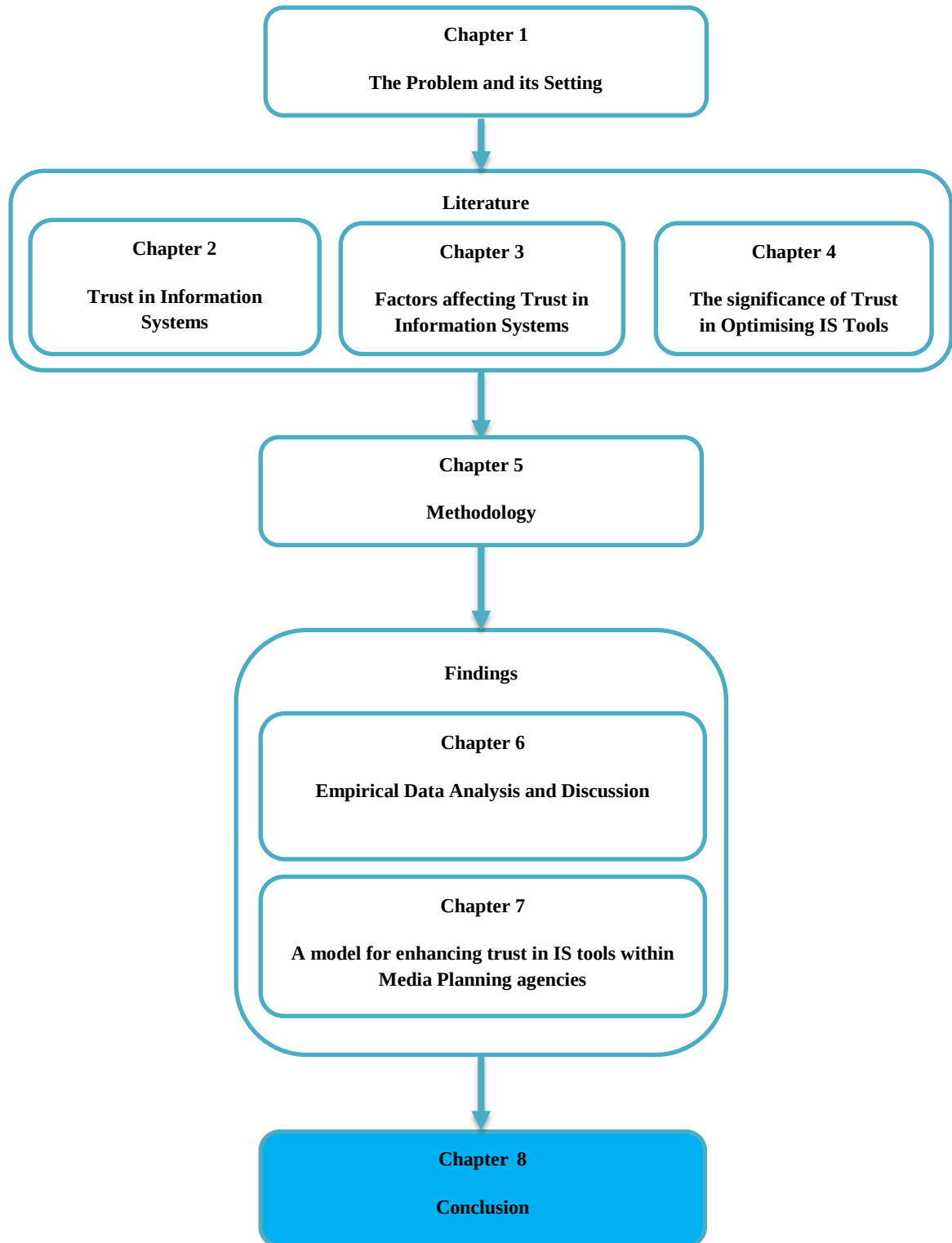
The three key trusting beliefs of technology trust namely functionality, reliability and helpfulness were examined in the chapter. In accordance with findings from the web-based questionnaire to confirm the authenticity of the research problem, the root causes of distrust pertaining to each of the aforementioned technology trust beliefs were discussed. Trust enhancers to address these root causes were thereafter

proposed. It was surmised that these trust enhancers will engender trust in the IS tools available within MPAs and lead to the optimisation of the existing tools.

The proposed model resolves the research problem by addressing root causes of distrust in line with the determinant of trust for each attribute of technology trust and thereafter proposing a solution. The solutions are grounded in verifiable and validated research outcomes from secondary literature across a spectrum of similar technology trust contexts and a careful analysis of empirical findings from the questionnaire.

Chapter 8:

Conclusion



8.1 Introduction

The research problem under investigation is the lack of trust in Information Systems (IS) tools available in Nigerian Media Planning Agencies (MPAs). The objective of the study was to propose a model that will serve to enhance trust in the IS tools which were discussed in Chapter 1 of this research. The ultimate aim is to ensure optimal use of these IS tools in support of decision making. The expected outcome of the enhancement is efficient and effective media planning by these agencies, which would in turn increase their profitability and make them more competitive in the global media planning sphere.

A review of relevant literature was done in order to contextualise the research problem, followed by an empirical data gathering process enabled by a web-based questionnaire. The findings from both secondary and primary literature were presented in a format which responded to the research question and sub-questions. The discussion of the findings thereafter led to the proposition of a model which is the research artifact prescribed by the Design Science methodology employed for this dissertation.

Chapters 2, 3 and 4 discussed the theoretical background for the study. The McKnight Trust theory (2005), Diffusion of Innovations (DOI) theory (Rogers, 1995) and the TOE framework (Tornatzky & Fleischer, 1990) constitutes the theoretical basis which was consistent throughout the entire study. The research design and methodology was discussed in Chapter 5. A discussion of the empirical findings was done in alignment with the relevant research question and sub-questions and the underlying theories in chapter 6. This was done with the aid of graphs and tables generated from the respondents' answers. Chapter 7 presented and discussed the model for enhancing trust in IS tools within Nigerian MPAs.

The model was developed from the review of extant secondary literature in the human to technology trust domain and subsequent confirmatory findings from the web-based questionnaire administered to 50 respondents in Nigerian MPAs. A team of five experts reviewed the model, and their contributions were used to further refine the model. This was done in line with the Design Science methodology requirement that the research artefact be evaluated iteratively by experts in the chosen field.

Chapter 8 provides a summation of the entire research process. The chapter discusses the theoretical background, research objectives and research methodology. This is followed by an evaluation of the research's credibility. Thereafter, the contributions made by this research, the limitations and possible direction for future research is outlined. A brief conclusion sums up the final chapter of this research project.

8.2 Theoretical Background

The research problem investigated by this study was resolved with the aid of three major theories namely: the McKnight Trust theory (2005), DOI theory (Rogers, 1995) and the Technological-Organisational-Environmental (TOE) framework (Tornatzky & Fleischer, 1990).

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The McKnight theory of Trust (2005) states that trusting belief is the trustor's perception of the trustee and other trusting contexts related to the trustee. Trusting behaviour is described as the trustor's action of dependence on the trustee. The theory is relevant and applicable to the context of trust in IS tools. This is because the trusting intention of the media planning practitioner to perform the trusting behaviour of dependence on the IS tool is based on his trusting belief that the tool will perform as envisaged and be beneficial to the achievement of his end goal.

The DOI theory (Rogers, 1995) details five significant characteristics of innovation which are important to decision making regarding the use of an IS tool. These are relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995). The relevance of the theory to the trust construct is the fact that when there is trust in IS tools within MPAs, users and stakeholders will employ it to actualise their business processes. To this end, late adopters who perceive how the trusted IS tools has facilitated efficiency and effectiveness in these agencies will also adapt their businesses to the IS tools, thereby promoting automation and a linear business process across the Media Planning industry.

The Technological-Organisational-Environmental framework postulates that the implementation, adoption and use of a technology, or IS tool is influenced by many contexts: technological, organisational and environmental (Tornatzky & Fleischer, 1990). A detailed exploration of the three contexts was done in chapter 3. The analysis confirmed that the technological-organisational-environmental contexts of MPAs combine to greatly impact on and create an atmosphere of distrust for IS tools in the media planning industry in Nigeria.

8.3 Summary of Research Findings

The main research question investigated in this study is stated thus: ***How can trust in IS tools be enhanced in Nigerian Media Planning Agencies in order to ensure optimal usage of the available tools?***

In order to effectively address all perspectives relating to solving the research problem, a number of sub-questions were used to address the research question. The sub-questions were also instrumental in gathering data which directly provided information towards solving the research problem in this study. A summation of the research outcomes mapped to each research question is carried out in this section. This is with the aim of reviewing the relevance and effectiveness of each research sub-question towards the formation of the model discussed in the previous chapter of this study. The research sub-questions and related outcomes are outlined below.

1. How is trust in IS tools currently perceived in Nigerian Media Planning Agencies?

Chapter 2 addressed the research sub-question stated above in great detail. Several theories and definitions of trust were examined. The discussions on human to technology trust were also expended and there was consensus of opinion amongst the reviewed authors that the human to technology trust concept deserves to

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be investigated as a separate entity distinct from interpersonal trust. This is based on the fact that an IS tool is without volition, will and moral agency. The McKnight theory of Trust was a recurrent theme throughout the process of answering sub-question 1.

The literature review revealed that trust plays a major role in the way IS tools are perceived in the workplace. Trust characteristics were examined, and the consensus of opinion is that perception of trust between the trustor and the trustee is a key element in how an IS tool is utilised for the intended purpose. Furthermore, findings from the empirical study revealed that media planning practitioners do not trust the IS tools available to them in the workplace to enable them achieve their work related goals. The model incorporated the use of a competency dashboard that is equipped to measure how well the IS is meeting stated goals and objectives.

2. How does trust impact on the use of IS tools within Media Planning Agencies?

The DOI theory was used to address this secondary research question in chapter 2. The literature review revealed that the use of an IS tool is affected by the degree to which the user perceives the tools to have the following attributes: relative advantage, compatibility, complexity, trialability and observability. The impact of trust on the optimisation of an IS tool is significant. The findings from secondary literature has revealed that trusting belief in the capabilities of the technology dictates the extent to which the media planning practitioner is willing to employ the IS tool to actualise all his business processes confidently.

The empirical findings also confirmed this assertion, explicitly showing that trust in the functionality, reliability and helpfulness attributes of the IS tools used within the agencies is at a low level, therefore the tools are not being maximised. Confirmation of findings from both secondary and primary literature on the perception of trust in IS tools aligns to the three attributes mentioned above, hence the three attributes formed the basis of the model that was discussed in chapter 7.

3. What are the factors that affect trust in IS tools within Media Planning Agencies?

The TOE framework was used to address this research question in Chapter 3. In the chapter, the technological, organisational and environmental contexts in which the MPAs were operating was critically examined. The literature proved that infrastructural challenges, constant power failure and other developmental challenges facing Nigeria are factors which affect the optimal usage of IS tools within the agencies.

Empirical findings confirmed that the three contexts discussed above have a profound effect on trust in IS tools within MPAs. The findings revealed that the situation whereby IS tools are procured and imposed on employees by the managers has led to organisational distrust on the part of media executives. Findings from the questionnaire also confirmed that preponderance of the account managers and media planning executives who use the IS tools on an operational level do not have the trusting belief that the tools are very central to their work processes. This finding is critical to the end goal of this study as the literature has

shown that an IS tool will not be put to optimal usage if the user perceives it as constituting a marginal part of his success in the workplace. To this end, the need to enhance trust in the available IS tools became very apparent.

4. *How can Trust in IS Tools improve effectiveness and efficiency in Media Planning Agencies*

This research sub-question was addressed in Chapter 4. Several theories of trust in technology were examined in line with how trust impacts on efficiency and effectiveness in MPAs. The impact of brain activities on trust and distrust behaviours was examined, with a view to relating the brain activities that engender the two emotions to the impact it has on technology trust. The individual's propensity to trust (Mayer *et al*, 1995) was discussed as a driving factor in the media planning practitioner's perception of the IS tools that are available to him. The influence of organisational trust and data integrity on the media practitioner's propensity to trust the technology and optimise it was also discussed.

The empirical findings further confirmed the significance of trust in IS tools in promoting effectiveness and efficiency in MPAs in Nigeria. Respondents who were asked about the impact of IS tools in their quest to meet clients' requests stated that the tools only made a moderate impact on their ability to respond timeously. In the same vein, respondents were asked to gauge how the available tools have transformed their work processes. The transformation alludes to being able to work smarter in a more linear work environment. 68% of respondents stated that the IS tools have only transformed their work processes moderately, 26% recorded a very significant transformation in their work processes while only 6% reported that it has had a very insignificant impact on their work processes. This further confirmed the need for a model that would enhance trust in, and promote optimisation of the IS tools.

8.4 Research Methodology

As stated in chapter 5 of this study, the research methodology adopted for this study is the interpretivist paradigm. The interpretivist paradigm was chosen as the domain of technology trust involves people and the dynamics of the technological-organisational and environmental contexts of the IS tools they interact with daily. The mixed method was used for data analysis in this study. This is consistent with the interpretivist methodology adopted for the study. The process map for the entire research journey is depicted below

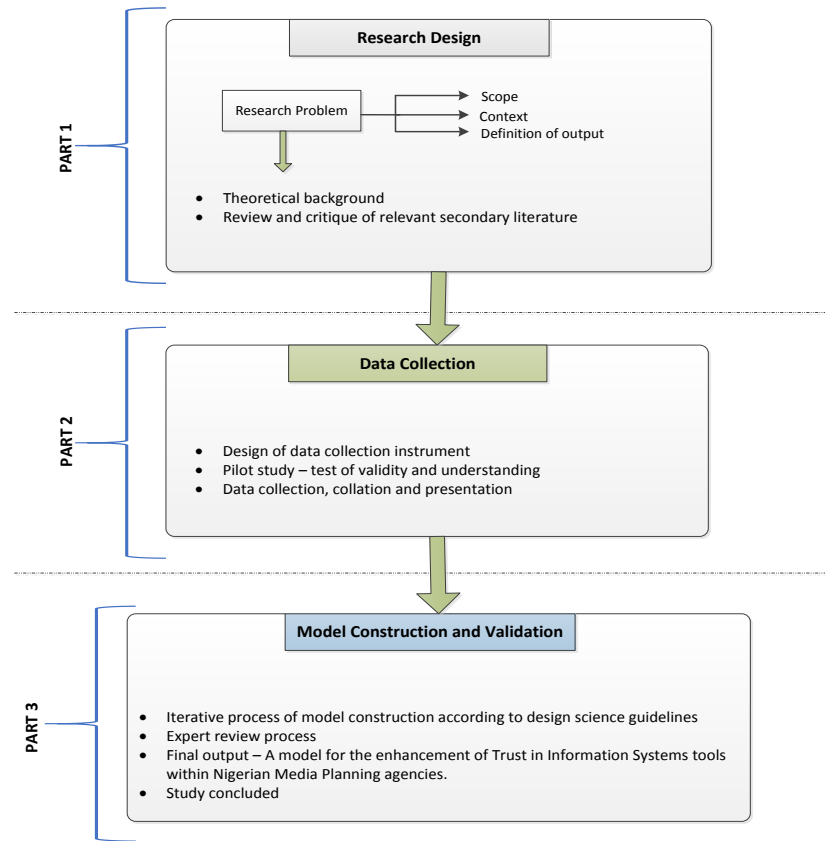


Figure 8.1: Research design

The seven steps of Design Science research guidelines were also followed in this study. The iterative steps followed in adapting Design Science to this study are outlined below.

Table 8.1: Application of Design Science Guidelines to the research study

Design Science Research Guideline	Application of Guideline to the research
Design as an artefact	A model for enhancing trusts in IS tools within MPAs was produced from this study.
Problem Relevance	Secondary and primary literature showed that the lack of trust in IS tools within MPAs was preventing the optimisation of the tools. The model presented in chapter 7 is a proposed solution to the research problem.
Design Evaluation	Chapter 5 of this study discussed in great detail the data collection and analysis procedures for this research. A synthesis of the findings of reviewed extant literature and empirical findings led to the production of the model for enhancing trust in IS tools within MPAs which is the research artefact for this study,
Research contribution	The model for enhancing trust in IS tools within MPAs is the contribution of this study to the body of knowledge in the human to technology trust domain.
Research Rigor	The research artefact was reviewed by five experts in the field of study. Their contributions were used to further refine the model.
Design as a Search Process	The search for relevant secondary data was conducted based on the three theoretical frameworks namely McKnight theory of trust (2005), the DOI theory (Rogers, 1995) and the technological-organisational-environmental theory (Tornatzky & Fleischer, 1990). Primary data collection was also tailored to relevant past questionnaire instrument which examined human to technology trust (McKnight <i>et al</i> , 2002).
Communication of Research	A journal article communicating the outcome of this research has been written. The paper is under review (See Appendix C).

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In summary, this study was grounded on fundamental philosophical research principles. A theoretical foundation was laid based on three renowned theories which have been outlined in the previous section. The literature review traversed the literature by experts in the field of technology trust including McKnight, Lippert, Muir, Davis, Schoorman and a host of other scholars in the field of study. A web-based questionnaire formed the data collection instrument for this study. The questions were tested for relevance and understanding with the aid of a pilot study. Findings from both secondary and primary data collection informed the contents of the model for enhancing trust in IS tools which was the outcome of the research exercise.

8.5 Research Evaluation

The extent to which findings of a research can be considered as credible is dependent on the ability to evaluate the research process through which the conclusion was reached (Oates, 2006). As discussed in chapter 5, the table below depicts the credibility criteria for both positivist and interpretivist research.

Table 8.2: Quality in Positivist and Interpretivist Research (Oates, 2006)

Positivism	Interpretivism
Validity	Trustworthiness
Objectivity	Confirmability
Reliability	Dependability
Internal Validity	Credibility
External validity	Transferability

The evaluation of the credibility of this interpretivist study is outlined below.

1. **Trustworthiness:** The empirical findings from the web-based questionnaires are trustworthy as only stakeholders in the media planning industry were used as respondents in the survey. Furthermore, the five experts which reviewed the model are respected and knowledgeable in the field of technology trust and the use of IS tools, hence their recommendations are considered valuable and trustworthy.
2. **Confirmability:** Findings from the administered questionnaires confirmed the existence of the research problem already identified in secondary literature: the lack of trust in IS tools based on certain antecedent factors which were discussed in chapters 2, 3 and 4 of this study. The research artefact was thus produced as a solution to the identified research problem, and thereafter refined through an expert review process.
3. **Dependability:** As already mentioned in the previous section of this study, three theories were used to test the validity of the research problem addressed in the study. These are McKnight theory of Trust (2005), the DOI theory (Rogers, 1995) and the Technology-Organisation-Environment (TOE) framework (Tornatzky & Fleischer, 1990). The expert review process also confirmed the dependability attribute of the study.

4. **Credibility:** This attribute of the research evaluation has been confirmed. Reviewed extant literature correlated with findings from the data collection. The expert review process also confirmed the relevance of the proposed solution to the research problem.
5. **Transferability:** The fact that the research artefact is grounded in known theories, has been confirmed by empirical data and has received the acknowledgement of experts in the field of study confirms the transferability attribute of the research.

From the foregoing therefore, it is conjectured that this research satisfies the credibility criteria of research evaluation.

8.6 Research Contribution

The objective of this research study was to develop a model for the enhancement of trust in IS tools within Nigerian MPAs. The study has achieved this aim with the production of the model discussed in chapter 7 of this study. An analysis of the model depicts corresponding trust enhancers that are recommended to resolve the root causes of distrust in IS tools employed by Nigerian media agencies. The proposed solutions were based on the three proven trust determinants in a human to technology trust scenario: functionality, reliability and helpfulness.

It is surmised that the trust enhancers will mitigate the root causes of the distrust in IS tools and therefore enable the MPAs to optimise available tools. The outcome of this optimisation is that efficiency and effectiveness will be at a high level in these agencies, due to the use of IS tools which are designed to achieve this end. If MPAs are able to maximise the functionality of IS tools to achieve a linear, scientific process of media planning, they will be better positioned to compete globally especially with regards to international brands.

The current situation where local franchises of international MPAs are instructed on campaign strategies for international brands by their counterparts in the first world without due consideration for the peculiarity of the Nigerian operating environment will become unnecessary, as there will be a proven trail of scientific media planning by the local offices based on their optimised use of IS tools. MPAs will also be able to service their clientele more efficiently, thereby achieving better profitability.

8.7 Limitations of the Study

This research focused on trust in IS tools within MPAs in Nigeria. The research did not consider the impact of trust in IS tools in other media marketing organisations i.e. Print advertising or mass media like television stations. The research focused on system trust within the IS domain only. The concept of trust regarding the correct implementation of clients' campaign and fraudulent invoicing was not covered by this study.

Chapter 8: Conclusion

The structure of some of the questions in the data collection instrument also forms a limitation to the study. The yes/ no questions did not allow for respondents to express a middle ground in answering some of the questions. In the same vein, the data analysis mostly consisted of frequencies.

8.8 Directions for Future Research

Findings from this research have shown the depth of relationship between the trust concept and the optimisation of IS tools. Further research may be conducted to examine the impact of consumer trust on the effectiveness of media campaigns. Another possible area of future research is to investigate the concept of trust between MPAs and their clientele with regards to the correct implementation of clients' campaign and fraudulent invoicing for campaigns that were not aired. Furthermore, the concept of rent-seeking which was discussed as a possible cause of not optimising IS tools did not have a backing from empirical findings in this study; it is therefore an area that could be further explored in future research.

8.9 Conclusion

The research investigated the lack of trust in IS tools within Nigerian MPAs. The findings from the literature review and the empirical findings was that the lack of trust in these IS tools constituted a hindrance to the optimisation of the tools. The resultant effect of this lack of trust is that media planning practitioners could not achieve effective and efficient media planning in spite of the many IS tools at their disposal for the purpose of achieving this aim.

The output of this research project was the development of a model for enhancing trust in IS tools employed by Nigerian MPAs. The expected outcome of the model, when applied by these agencies is the optimisation of all the functionalities of IS tools. This will in turn result in effective and efficient use of IS tools to plan, deploy and measure media campaigns. The scientific planning achieved by these tools will subsequently result in the agencies becoming more competitive, the clients being more satisfied with agency output which will result in greater profitability for the agencies.

This chapter concludes the study. The theoretical background to the study was discussed, followed by a summary of research findings. The research methodology was thereafter summarised and the research evaluated according to Oates (2006) research credibility quality criteria. The contribution of the research was thereafter outlined. The next section discussed the limitations to the research, followed by suggestions for future research. The chapter was thereafter concluded.

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Appendices

Appendix A: Ethical Clearance Certificate

Appendix B: Questionnaire

Appendix C: Journal Article