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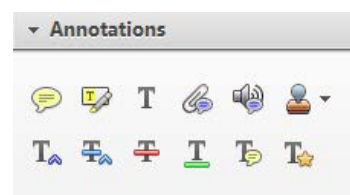
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Mobile marketing technology adoption in service SMEs: a multi-perspective framework

Mobile
marketing
technology

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Abstract

Purpose – The popularity and use of mobile marketing technologies or devices have led to significant interest from researchers and practitioners, particularly in small- and medium-sized enterprises (SMEs), where these technologies offer significant benefits to SMEs given the poor human capital and financial constraints encountered. The use of mobile marketing devices assists SMEs to boost their sales promotion strategies which aim at increasing the sales of their products and services. However, there has been limited focus on developing a suitable framework that enables the evaluation and shared an understanding of the factors influencing the adoption of mobile marketing technology by service SMEs in Nigeria. Therefore, this paper aims to develop a theoretically grounded framework for exploring these factors and explaining their impact on mobile marketing technology adoption in SMEs in Nigeria.

Design/methodology/approach – The study is qualitative and used both unstructured and semi-structured interviews with a total of 26 participants drawn purposively from NIJA database in Nigeria. Thematic analysis was deployed in analysing the data.

Findings – The study developed an extended technology organisation environment (TOE) framework by incorporating the value anticipation context which helped to unveil 16 key factors influencing mobile marketing technology adoption in service SMEs in Nigeria. The finding revealed that factors associated with the extended TOE framework have an impact on SMEs mobile marketing technology adoption but at different levels.

Research limitations/implications – The limitation of this study emerged because of the use of qualitative methodologies about the research design, rigour in the collection and management of the large volume of the raw data, the data analysis and the credibility of the findings. This may lead to unforeseen respondent and research bias in the data analysis, which may lead to a limited understanding of alternatives and insights into the factors influencing the adoption of mobile marketing. Hence, other measures and approaches such as case study and mix-method could be deployed to validate the findings further. Also, one of the limitations of qualitative study has been the issue of theoretical generalizability of the framework. The generalizability of the formwork needs to be established across a broader range of the population. Future studies may apply confirmatory statistical techniques to test and ascertain the validity and reliability of the framework across a broader population of mobile marketing technology adopters in Nigeria. Such studies may be used as a benchmark for the theoretical constructs and the factors that may lead to the success or failure of mobile marketing technology adoption.

Originality/value – The study had further enriched TOE framework and provided an analytical dimension for exploring the adoption of mobile marketing technology. It also demonstrates the capacity to



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provide a reliable explanation of the factors and serves as a tool for evaluating the benefits or challenges of mobile marketing technology adoption in SMEs in Nigeria.

Keywords Nigeria, Theory, Adoption, SMEs, TOE, Mobile marketing technology

Paper type Research paper

Introduction

The development of information and communication technology (ICT) particularly the use of mobile technology for marketing is expanding both in interest and relevance (Balasubramanian *et al.*, 2002; Charoensukmongkol and Sasatanun, 2017; Shankar *et al.*, 2010; Shankar and Balasubramanian, 2009). This offers opportunities for large and small businesses (Amirkhanpour *et al.*, 2014) to improve their marketing strategies on a daily basis. As the growth of these mobile devices such as internet access devices, cell phones, digital music players' increase, their adoption and use by small businesses are also on the rise (Ma *et al.*, 2009; Shankar *et al.*, 2010). Mobile Marketing Association (2015) defines mobile marketing as the use of wireless media as integrated content delivery and direct response vehicle within a cross-media marketing communication programme. Leppäniemi *et al.* (2006) view mobile marketing as marketing communication using mobile media; mobile advertising; wireless marketing; and wireless advertising. In this research, mobile marketing technology is defined in this work as these mobile device or technology used by two or multiple persons for communication and promotion of an offer between a firm and its customers (Balasubramanian *et al.*, 2002). It is regarded as the most dynamic, practical and personal marketing strategy because it provides continuous access to consumers anytime and anywhere (Lamarre *et al.*, 2012).

The use of mobile marketing technology is fast becoming a crucial marketing communication tool (Leppäniemi and Karjaluoto, 2008; Inegbedion, 2018). It has increased globally at the rate of 24 per cent in a year from 2000 to 2008, which accounted for about four billion in December 2008 (Shankar *et al.*, 2010). A study in the USA confirms that majority of the US consumers are mobile users (Strom *et al.*, 2014), while in the UK, about 71 per cent of the customers have spent more using mobile applications (Park and Yang, 2006). An e-marketer study conducted in 2014 reveals that global mobile marketing technology expenditure in 2014 amounted for US\$17.96bn. This figure is predicted to multiply at the end of 2016. Sultan *et al.* (2009) also report that 90 per cent of businesses are significant stakeholders in adopting mobile marketing applications and nearly two-thirds of the businesses dedicated approximately 25 per cent of their total marketing budget to mobile marketing devices. It is evident that the use of mobile marketing technologies is no longer a matter of choice. Instead, it has become tools for the survival of both big and small businesses (Earl and Feeny, 2012).

Furthermore, empirical evidence shows that small and medium scale enterprises cannot achieve competitiveness and remain profitable without proper adoption of technology at the right market levels (Harvie, 2010; Lip-Sam and Hock-Eam, 2011; Thurasamy *et al.*, 2009). Hence, mobile marketing applications are becoming relevant to small- and medium-sized enterprises (SMEs). Small businesses adopt these applications to communicate with their clients and customers and initiate business transactions. Mobile devices serve as a medium through which a company interact with customers and partners (Stump *et al.*, 2008). Because of the importance of mobile devices concerning time and location, it is gradually changing the paradigm of SMEs (Sultan *et al.*, 2009; Shankar *et al.*, 2010). Small business interacts with their customer through mobile applications, and for the fact that these devices are ever present, both the firm and its clients can be anyplace anytime to carry out business

transactions (Shareef *et al.*, 2017; Kim *et al.*, 2008 and Nasco and Bruner, 2008). Therefore, the use of mobile marketing devices is regarded as a substitute for virtual marketing and assist SMEs to boost their sales promotions strategy and increase the sales of their products and services. The peculiar nature and the mobility of mobile marketing applications distinguish it from any another form of promotional and communication tools, which today is considered to have a massive implication for small businesses.

Despite the potentials of mobile marketing technologies to SMEs, most researchers in this area have primarily deployed the conventional philosophies in studying mobile marketing technology. An adoption considers mobile marketing technology adoption as a straightforward, one-off event, and also rely extensively on quantitative methods that conceptualise variables as constructs and predict their levels of the outcome at a single stage (Williams *et al.*, 2009; Eze and Chinedu-Eze, 2018; Silver, 2007; Eze *et al.*, 2018). Gilmore and Carson (2007) argued that examining issues that relate to SMEs is not only about testing variables but recognising the all-inclusive dimensions of SMEs has many benefits. Little is known about how factors influencing the adoption of mobile marketing technology in SMEs are established through a theory grounded framework as most studies that focussed in this area extrapolate the findings of western scholars as if Nigeria operate in the same environment with those in developed nations. In addition, majority of the conventional theories of mobile marketing technology adoption are not designed for SMEs (Xu *et al.*, 2007; Martin and Matlay, 2001) because of their narrow views (Rantapuska and Ihanainen, 2008), and no frequently used theory satisfactorily describes small firm adoption decision because each one of them ignores an important aspect of small business idiosyncrasy (Dwivedi *et al.*, 2009a). Hence, the strategic importance and relevance of SMEs in the economic development of Nigeria and the apparent dearth of local scholarships that provide a guide to this kind of study in Nigeria necessitate this study. Against this background, the paper attempts to examine factors influencing SMEs' adoption of mobile marketing technologies in Nigeria to develop a theory grounded framework that may guide SMEs and researchers in exploring and predicting mobile marketing adoption behaviour among SMEs in Nigeria. This may further provide the basis for timely launching of successful attacks and counter-attacks on rivalries as most small business owners are still sceptical about the adoption and usage of these technologies (Shareef *et al.*, 2017).

Literature review

Small- and medium-sized enterprises' adoption of mobile marketing

SMEs across the globe contribute immensely to the economic growth, development and job creation (Parellada *et al.*, 2011; Mutula and Brakel, 2006; Shane 2003). They have continued to expand rapidly because of the numerous assistance received by the government and its agencies (Ongori and Migiro, 2010; Lee, 2004). In Europe for instance, small businesses represent about 90 per cent of the entire businesses and largely contribute to employment generation, innovation development, skills development and accounted for 65 per cent of gross added value (Castro *et al.*, 2010; Lindermann *et al.*, 2009; Martin and Halstead, 2004; Ritchies and Brindley, 2005). Though, with the emergence of globalisation and the shift towards the adoption and use of mobile technologies, there has been a transformation between the past and the future of small businesses (Milla and Choi, 2011) which today, have boosted the operations of SMEs in Nigeria. The study centred on small service businesses in Nigeria because they are growing rapidly and contribute mainly to Nigeria national output (Awa *et al.*, 2012; Eze and Chinedu-Eze, 2018). The research focusses on service SMEs because Nigerian economy is service oriented and the sector today is regarded as the

primary economic driver, and the significant efforts to improve the economy of Nigeria largely depends on the service sector (Rantapuska and Ihanainen, 2008).

In Nigeria, the economic potential of mobile technologies has not been fully hitched by small businesses owing to lack of resources and poor technical know-how on how to utilise these devices (Ojeme and Onuba, 2010; Inegbedion *et al.*, 2016). The government of Nigerian have established some agencies like Small and Medium Enterprises Agency of Nigeria, Central Bank of Nigeria (CBN) and micro banks in the past to improve SMEs' creativity, innovation and competitive edge. Presently, the apex bank (CBN) has sets up SME credit guarantee scheme worth N200bn to encourage both manufacturing, service, and agricultural value chain, packaging and distribution of certain primary products on the belief that they have labour force of about 11-300 persons and N300m (Osagie, 2010; Ojeme and Onuba, 2010). Despite the pivotal role played by the government and SME in today's economy, SMEs are still confronted with specific barriers in adopting mobile technology and thus, sceptical in implementing this application (Shareef *et al.*, 2017; Levy and Powell, 2003). Most decisions about mobile technology adoption are private reserves to the manager who may in conjunction with their family members take decisions boarding on its adoption and future strategic choices of the organisation. Owing to the significance of SMEs in economic development, and the dearth of mobile marketing adoption frameworks that may serve as a guide for SMEs in Nigeria to adopt and implement mobile marketing devices necessitated the study.

Theoretical underpinning

Technology organisation environment framework

Academics have investigated mobile marketing adoption devices using resource-based view (RBV), Rogers innovation models (Rogers, 1983, 1995), and several other extensions (Venkatesh *et al.*, 2003), Porter's model (Porter and Millar, 1985), and others involving the meta-analysis of these models (Premkumar, 2003; Adams *et al.*, 1992; Pavlou and Fygenson, 2006) and Intention and behavioural based models (Ajzen and Fishbein, 1980; Davis, 1989). Today, these theories and models are regarded as most regularly used adoption theories to describe IT adoption decisions in SMEs (Parker and Castleman, 2009; Williams *et al.*, 2009). Although these theories have made vital contributions in mobile marketing technology adoption research, the majority of these theories developed were not designed bearing the characteristics of SMEs in mind (Rantapuska and Ihanainen, 2008). According to Dwivedi *et al.* (2009a) no frequently used ICT adoption theory sufficiently explains SMEs adoption strategy because each of these theories ignored one vital aspect of SMEs or another. Thus, the outcome of their findings resulted in promoting an integrated theoretical framework. According to Rui (2007), the technology organisation environment (TOE) framework absorbs the limitation of the dominant technology perspectives and serves as a useful analytical tool to differentiate the drivers and intrinsic characteristics of an innovation, capabilities and other environmental conditions of the adoption firm. Also, the TOE framework has been adopted by wide range of adoption studies (Alshamaila *et al.*, 2013; Lian *et al.*, 2014; MacLennan and Van Belle, 2014; Ramdani and Kawalek, 2008; Ruivo *et al.*, 2014; Weng and Lin, 2011; Madukua *et al.*, 2016) and illustrates empirical resilience in explaining ICT adoption in organisation (Madukua *et al.*, 2016). The TOE framework has three contextual elements, technology, organisation and environment, which are described below.

Technological context describes the characteristics of the technology within and outside the organisation that are appropriate for the business, and extends to technologies the organisation is using presently, those available in the marketplace but have to been tested

AQ: 1

and those that have not been tried, tested and adopted by the organisation (Gupta *et al.*, 2013; Gutierrez *et al.*, 2015; Oliveira and Martins, 2011). It also denotes both the internal and the external benefits of the technology which are capable of improving the productivity and the operational efficiency of the firm. According to Liao *et al.* (2003), knowledge acquired internal or external by the firm go a long way to encouraging innovation and organisations must consider the positive changes such innovation will bring to the organisation (Baker, 2012). Technology context in this research implies those internal variables associated with the anticipated performance of the technology that SME managers deliberate before its adopting. It is linked to the much-anticipated benefits that organisations drive from the technology. A number of studies (Alshamaila *et al.*, 2013; Ramdani *et al.*, 2013; Zhu *et al.*, 2003; Markus and Tanis, 2000; Grandon and Pearson, 2004; To and Ngai, 2006; Eze *et al.*, 2013) have investigated variables relating to the technology context such as compatibility, relative advantages and perceived affordability, and provided a theoretical direction for many studies which are relevant in investigating mobile marketing technology adoption. The relative benefits of the mobile devices may shape mobile marketing adoption by SMEs in Nigeria: The organisational context denotes the characteristics of the firm such as the size of the firm, its scope, management structure, degree of centralisation and formalisation, as well the management of its human resources (Tornatzky and Fleisher, 1990).

The environmental context looks at how competition, trading partners, business practice, and government impacts on the organisation (Tornatzky and Fleischer, 1990). Organisation context explains how firm resources and firm characteristics, and firm size, intra-firm communication processes and the lack of resources, influence adoption decisions. In this study, organisation context implies numerous organisation conditions ranging from employee capability to management support which shapes adoption and implementation emerging ICT in several ways which play vital roles in shaping adoption decision of ICT (Baker, 2012). According to Madukua *et al.*, 2016, for IT adoption within the organisation to flourish, top management must communicate the role of the new ICT within the general organisation strategy highlighting the importance of creativity, collaboration within and outside the organisation. This must be achieved based on the level of community (organisation's) engagement with the various actors within and outside the organisation. The level of firms' engagement denotes how well the top management leadership relate to various departments to ensure that each of the department initiatives counts in achieving the goals of the organisation. Firms that encourages a multiplicity of initiatives drawn across the organisation help make the adoption decision easier. Some studies (Ramdani *et al.*, 2013; Thong, 1999; Gutierrez *et al.*, 2015) have examined factors such as perceived employee acceptance and top management support. Even though many of these studies centred on the adoption of ICTs, a large number have not considered that factors are influencing the choice of mobile marketing technology adoption in developing countries.

Environmental context extends to internal and external factors which include the place where the business is piloted, industry structure, regulatory environment of the business, and globalisation (Tornatzky and Fleischer, 1990; Chau and Tam, 1997; Nguyen *et al.*, 2015; Mehrrens *et al.*, 2001). The environment helps in understanding the internal and external variables that shape the adoption of mobile marketing device (Andries and Debackere, 2006). The ability of a firm to have a competitive edge through the examination of the internal environment variable shapes the adoption decision of mobile marketing devices. Thong *et al.* (1996) stress that top management support influences the ICT efficiency, however external expertise such as IT vendors which also help in the training of SME employees on how to use the new ICT shape its adoption. Also, customers and competition are much more critical for SMEs that conduct their operations in a much more sophisticated

JSTPM

environment. These factors are linked to the values firms expect from the mobile devices after its adoption within the environment they operate. Factors associated with the environmental context have been discussed extensively in the literature (Oliveira and Martins, 2011; Nguyen, 2009; Ramdani *et al.*, 2013; Mehrrens *et al.*, 2001; Premkumar and Roberts, 1999; Kuan and Chau, 2001).

In summary, the study was underpinned by the TOE framework based on some factors. The TOE framework integrates the environmental context which has to a large extent neglected by Innovation diffusion theory (IDT). This integration has helped in the explanation of the intra-firms innovation adoption better than the IDT (Oliveira and Martins, 2011; Madukua *et al.*, 2016). The TOE is a more robust theoretical base (Alshamaila *et al.*, 2013) which may have the capability to unravel broad factors that may influence the adoption of mobile marketing technologies in Nigeria because is linked with many variables associated technology, organisation and environment factors and provide significant analytical tool for examining the adoption decision of wide-ranging IT innovations (Oliveira and Martins, 2011). The elements of TOE framework forms the bases for the exploration of all-inclusive variables and the development of a framework that may shape the adoption of mobile marketing technology adoption in developing countries and may reduce the uncertainty that is linked to its adoption. The conceptual framework for this study is presented in Figure 1 below.

F1

Methodology

Research process

This study adopted a qualitative approach in a bid to explore factors influencing the adoption of mobile marketing devices and develop a framework for SMEs in Nigeria. To achieve this objective, the study was conducted in the following manner: the study first reviewed the relevant literature to have a broad view of the subject matter and how the thematic codes were generated during the preliminary study. The study identified the likely empirical codes associated with theoretical underpinning which formed the bases of the research using the raw data collected during the initial stage of the unstructured interviews. This helped to check the credibility of the codes and to place the research in a broader context. The study conducted semi-structured interviews to generate further themes associated with each empirical codes and further validate the findings of the study.

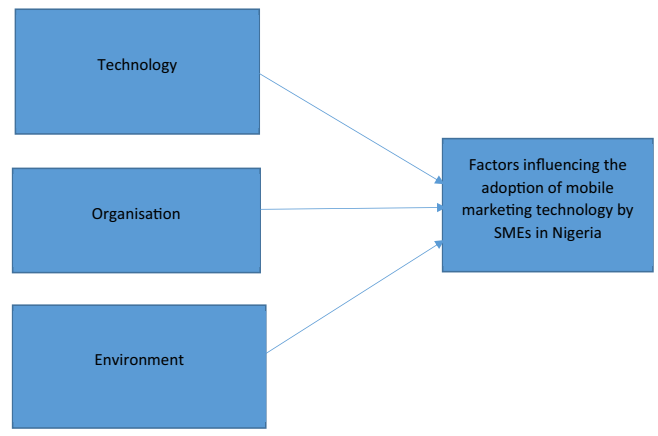


Figure 1.
Proposed study framework

Sampling

The study adopted purposeful sampling as qualitative research stresses on discovery and interpretation of participants' views and experiences and not for statistical generalisation (Schultze and Avital, 2011). Furthermore, snowball sampling complimented purposeful sampling because, during the initial interviews, the first few participants also introduced the researchers to other key informants that were also interviewed. An early sample of 76 participants was generated from Luton Business Directory of which 25 participants agreed to be interviewed. The sample was selected based on service SMEs that have adopted mobile marketing devices in the past three years and have operated in Nigeria in the past five years. The interview was conducted in two distinct stages.

Interviews

At Stage 1, or preliminary stage, 11 participants were interviewed using unstructured interview questions. As mentioned earlier, the reason for the preliminary study using the unstructured interview was to understand the current state of mobile marketing technology adoption in service SMEs in a bid to put the study into a broad context. Secondly, to develop empirical codes associated with the TOE framework from the interview for credibility check (Fereday and Muir-Cochrane, 2006; Boyatzis, 1998) and finally, to develop an initial framework. The purpose of this exercise was to ensure that the codes applied to the raw data and those that would be used in the validation of the findings (see Stages 1 and 2 of the data analysis process in Figure 1). It is important to note that at the preliminary stage of this research, an initial reliability test was carried out to enable the researchers to gain confidence that the initial empirical codes would be applied to subsequent raw data, and four colleagues related the quotes against the categories before the preliminary framework was developed. This is what necessitated the development of the semi-structured interview questions.

T1 At Stage 2, 15 semi-structured interviews were carried to enhance the empirical codes and to help validate and confirm the findings of this study. The unit of analysis was SMEs managers that have engaged with mobile marketing. The initial framework developed after the preliminary study guided the participants during the semi-structured interviews and aided the description in a manner that the established features of the framework were discovered (Schultze and Avital, 2011). All the interviews were recorded and transcribed verbatim. Table I below presents the interview profile. Before the interview proper, a formal letter was written, duplicated and sent to the interviewees describing the purpose of the research and also addressed the confidentiality issues. The interviews lasted for 1-1.45 h. The raw data were transcribed verbatim afterwards, and a data-driven thematic analysis approach was further used to code the raw data to post-defined categories which allowed themes to emerge inductively. Table I shows the interview profile for the study.

Data analysis

T2 The study implemented data-driven thematic analysis in analysing the data. Although TOE framework formed the bases for the study, the codes associated with TOE are empirically driven and their features written in more straightforward terms (Table II) using the code name, the definitions of the codes and their description (Miles and Huberman, 1994). This also assisted in the credibility and dependability checks. Also, Figure 1 shows the step by step data analysis process. Stages 1-3 were applied with the initial raw data used for the preliminary study using the unstructured interview data. At Stage 4, all the transcribed data (unstructured and semi-structured interview data) were imported into NVivo (Stage 4 of

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Interview participants	Position	Company size	Type of service
Z1	Director	65	Security
Z2	Manager	105	Internet marketing and advertising
Z3	IT manager		
Z4	IT manager		
Z5	Chief Executive Officer	25	Social media/consultancy
Z6	Director	48	Social network provider
Z7	Managing Director	110	IT Vendor/Consultancy
Z8	Manager	110	
Z9	Operational Manager	75	Sales and distribution
Z10	Managing Director	150	Construction
Z11	Director	20	IT Vendor/Consultancy
Z12	Director	52	Business and Management/Consultancy
Z13	Manager/IT support staff	208	IT
Z14	Manager	11	Accounting
Z15	Manager	55	IT and networking
Z16	Director	67	IT
Z17	Chief Executive Officer	240	IT Quality control
Z18	Manager	90	IT
Z19	Manager	11	IT and networking
Z20	Manager	21	Consultancy
Z21	Director	12	Education and training
Z22	Director	8	Education and training
Z23	Director	11	Education and training
Z24	Manager	22	support services
Z25	Manager	33	Support and advisory services
Z26	Manager	102	IT consultant/business supports/advice

Table I.
Interview profile

Technology	Technology context refers to both the internal and the external factors that influence SMEs adoption of mobile marketing technology
Organisation	Organisation context refers those resources that shape the adoption of mobile marketing technology adoption of SMEs
Environment	Environmental context refers to both the internal and external factors impact organisations adoption of mobile marketing technology adoption
Value anticipation	Value anticipation refers to expected benefits arising from the adoption of mobile devices

Table II.
Codes, definitions and descriptions

Figure 2). This facilitated the analysis of the data because of the vast data involved. This process helped in the management of the data with practical guides for coding the data (Table I). Codes were applied within and across cases, after which themes were identified and connected to the model which aid in the interpretation of the findings (Boyatzis, 1998; Johnston, et al., 2013).

Data were retrieved from NVivo in Stage 5 and themed empirical clustered (Boyatzis, 1998). Verification entails further reliability and validity checks. Table V presents the outcome of the reliability analysis using percentage agreement (Boyatzis, 1998) (Table III).

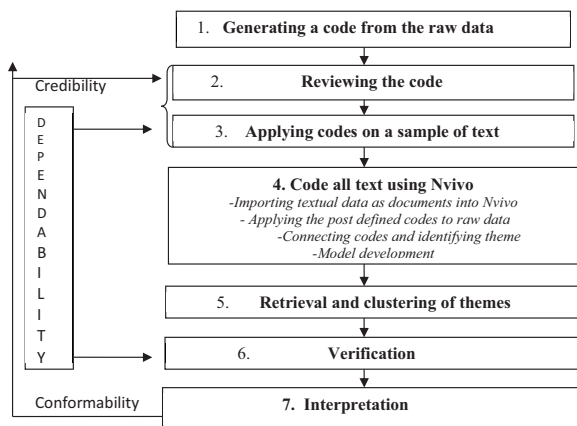


Figure 2.
Data analysis process

Areas	No. of judges	Reliability	
		First two judges	Second two judges
Factors influencing mobile marketing technology adoption	4	0.79 (79%)	88 (88%)

Table III.
Reliability analysis

The researchers validated the study by requesting some experts in the field to look at the pattern in the data about the associated themes. This method unveiled how dependable the data analysed and reported were followed by a confirmation to understand how firmly the raw data is linked to the interpretation (Boyatzis, 1998).

Findings

T4-8 AQ: 2 **Tables IV-VIII** show the themes associated with each code, supporting cases and supporting evidence. This study adopted theory-driven thematic analysis method because themes that emerged were generated and clustered based on the characteristics of the theoretical codes (Boyatzis, 1998). This process revealed factors influencing the adoption of mobile marketing technologies in SMEs.

Factors (Themes)	Related cases	No. of cases coded
<i>Technology</i>		
Operational effectiveness	A1**, A2****, A5*, A7*, A9*, A11*, A14*, A15*	8
Adaptive capability	A1*, A2***, A3*, A10**, A13***, A14***, A16*, A17*, A20*	9
Simplicity	A1*, A6*, A7****, A8*, A9****, A11***, A15***	7
Safety issues	A1**, A5**, A7*, A9*, A15*, A16*, A23**	7
Expandability	A2*, A3*, A4*, A12*, A14*, A18**, A19*, A20**	8
<i>Cumulative</i>	A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A14, A15, A16, A17, A18, A19, A20	19/26 (73%)

Table IV.
Technology related factors and supported cases

Notes: A1, A2 = Interviewees; * = no. of references on text

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The theory grounded framework of mobile marketing technology adoption in small- and medium-sized enterprises

The theory grounded framework developed in this study has identified key factors influencing the adoption of mobile marketing technology. The above factors presented in the framework in Figure 3 below were based on the categorisation of the three theoretical codes (technology, organisation and environment) and one empirical code (value anticipation) which emerged inductively during the analysis. The exploratory and the explanatory capabilities of the framework and the factors presented below are based on participants'

F3

Table V.
Organisational related factors (themes) and supported cases

Factors (Themes)	Related cases	No. of cases coded
<i>Organisation</i>		
Shared understanding	A1*, A5*, A7*, A8**, A15*, A19*, A22***, A23****, A24*, A26***	10
Extent of business	A1**, A2*, A3*, A4*, A5***, A12****, A15*, A22*, A23**	8
Collaboration		
Diversity in knowledge	A5, A6*, A7*, A 11*, A12*, A16*, A17*, A19*, A13*, A15*	10
<i>Cumulative</i>	A1, A2, A3, A4, A5, A7, A8, A11, A12, A15, A17, A19, A22, A23, A24, A26	16/26 (61%)
Notes: A1, A2 = Interviewees; * = no. of references on the text		

Table VI.
Environment-related factors and supported cases

Factors (Themes)	Related cases	No. of cases coded
<i>Environment</i>		
Training periods	A1*, A2**, A5*, A9*, A11*, A13**, A14**, A17*, A18*, A20*	6
Service delivery	A2***, A3*, A7*, A10*, A11*, A9*, A12*, A15**	6
Customer satisfaction	A1*, A4*, A5*, A6*, A7**, A10*, A12**, A14*	6
Competition	A1*, A5*, A9**, A13**, A14*, A16*, A23*, A25**, A26***	6
<i>Cumulative</i>	A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A16, A17, A18, A23, A25, A26	21/26 (80%)
Notes: A1, A2 = Interviewees; * = no. of references in text		

Table VII.
Value anticipation related factors and supported cases

Factors (Themes)	Related cases	No. of cases coded
<i>Value anticipation</i>		
Cost	A1*, A2*, A3*, A5***, A6****, A9*, A11**, A15***, A16*, A20*, A2*, A3**	11
Business growth	A5***, A6, A9**, A14*, A20*	5
Differentiation	A5*****, A13*, A16*, A17, A20	5
Return on investment	A2*, A5*, A9**, A12**, A13**, A14*, A20*, A23*	8
<i>Cumulative</i>	A1, A2, A3, A5, A6, A9, A11, A12, A13, A14, A15, A16, A17, A20, A23	15/25 (58%)
Notes: A1, A2 = Interviewees; * = no. of references in text		

Mobile marketing technology

Mobile marketing adoption factors	Samples of supporting evidence
<i>Code 1: Technology</i>	
Operational effectiveness	"[-] the mobile device must prove to be efficient and provides similar servers big companies offer" (A5) "The mobile app must demonstrate that it moves the company to the next level" (A2)
Adaptive capability	"If the application is structured in the same way with the existing ones in the organisation, it is much easy to integrate, we will not adopt such application if it follows a dissimilar pattern. Otherwise it will lead to another learning curves" (A3) "Can the app be easily integrates with already existing ones in the organisation? To what extent does the app interface with those in the organisation?" (A13)
Simplicity	"I am not an IT literate, I struggle with most of the mobile app. It has to be easy to use [-] just like the internet, the computer or whatever" (A8) "You know we are from the developing country. Most of these things are new to us. If the mobile application made my life easier in carrying our my business operation, I would be happy embrace it" (A11)
Safety issues	"Can our record be kept with the mobile app for some years and as maintained? If yes we are ready to try the product" (15) "Secure payment is becoming an issue in Nigeria with some of the technologies used which involve several frauds. [-] Online security is a big challenge [-] we will go with, whichever one is much more secured" (A9)
Expandability	"This is necessary because if you are using a modular solution, it will get to a point, you cannot replicate or make it bigger" (A12) "Can we adopt an app that will take over or accommodate the existing applications we have? That will influence us in trying the new application" (A14)
<i>Code 2: Organisation</i>	
Shared understanding	"Is about coming together, and assessing what we have and also what the application can offer and we take a decision" (A19) I cannot make the decision alone if I want the business to be competitive. I will have to involve other people within and outside the organisation [-]" (A23)
Extent of collaboration	"I am considering the best practice. You see, many SMEs do not like collaborating with others". [-] collaboration regarding what mobile application to adopt especially SMEs within the same line of business is very good even with competition" (A12) "Yes, each staff in the organisation played a team role by working together to ensure that we get an application that will help meet our customers need" (A15)
Diversity in knowledge	"[-] Most times we are the innovators driving the mobile app by communicating with the IT people or developers on a daily basis to ensure that the application is in line with our need. They cannot do it alone" (A9) "[-] we have to bring our knowledge, and constantly reviewing what the outcome is. That is when external advice comes to play. You" (A12)
<i>Code 3: Environment</i>	
Training periods	"We need to train which may depend on the time. We will try the mobile app If the time to train our staff is minimal" (A11) "How much time do we require to master the application? If we are going to spend much time, we may adopt it" (A2)
Service delivery	"[-] is the application going to be fast? [-] for us, speed is a determinant factor" (A15) "The main reason why we would try a new mobile application is if it improves our process and delivery" (A12)
Customer satisfaction	"We see our customers like kings, is the mobile application capable of satisfying our customers' needs? This is very important" (A11) "Mobile app is a means to an end we consider it as one of the capabilities to be able to relate with our customers and meet their needs [-]" (A12)

(continued)

Table VIII.
Factors influencing mobile marketing technology adoption and the sample supporting evidence

JSTPM

Mobile marketing adoption factors	Samples of supporting evidence
Competition	“Because they want to compete they just have to keep doing it” (A5) “I was just worried that we might be left behind” (A1) “As long as we want to be competitive, we just have to keep adopting new application” (A9)
<i>Code 4: Value anticipation</i>	“You know we are small. If is reasonably cheap we will try it” (A1) “[–] cost is one of the critical factors we consider [–]. Would it help us to reduce the total manpower we have” (A15)
Cost	
Business growth	“One thing that motivates the search for a new application is growth. Would the application help us to increase our customer base?” (A14) “Can the application help us acquire 30 clients or more in a few months we will try the new app” (A5)
Differentiation	“our need for a new mobile app largely depend on how it can help us reduce cost, [–], and create a niche in a market” (A5) Can the mobile app differentiate us from our competition? [–]. If yes, it is highly likely that we would try the app (A13)
Return on investment	“[–] anything technology application that cannot help us maximise our profit, would not be considered” (A20) “If we invest #10,000, as long as it yields a return of #15,000 we will adopt it (A23)

Table VIII.

narratives, theoretical and empirical codes, and the literature. These provide a valid explanation of the factors influencing the adoption of mobile marketing in SMEs. These factors are now discussed below.

Discussion

Technology

Operational effectiveness. Operational efficiency in this context entails how proficient the mobile marketing application would help meet the needs of the business. It was revealed that SMEs are always faced with pressure, not only to survive but to become commercially viable. Observation revealed that the economic hardship and the volatile nature of the business environment in Nigeria make the adoption of mobile applications even more difficult even though they are relatively cheap. This hinders most SMEs in adopting the applications due to scarce resources. While some SMEs in developing countries have engaged in mobile marketing applications in their Perspective business to assist in the marketing of the product and to relate with their customers. However, it was primarily echoed by participants that the mobile marketing application would be valued more if the task for which it was sought for such as high performance and efficiency would be accomplished without much complexity.

[–] the mobile device must prove to be efficient and provides similar servers big companies offer without having to be complex (A5).

The mobile app must demonstrate that it can move the company to the next level (A2).

[–] Can the mobile app keep business operation very efficient and provide some of the services big organisations offer? (A7).

Similar points were raised by other interviewees A1, A11, 14 and 15. The finding is consistent with the works of [Madukua et al. \(2016\)](#) and further supported by

Mobile marketing technology

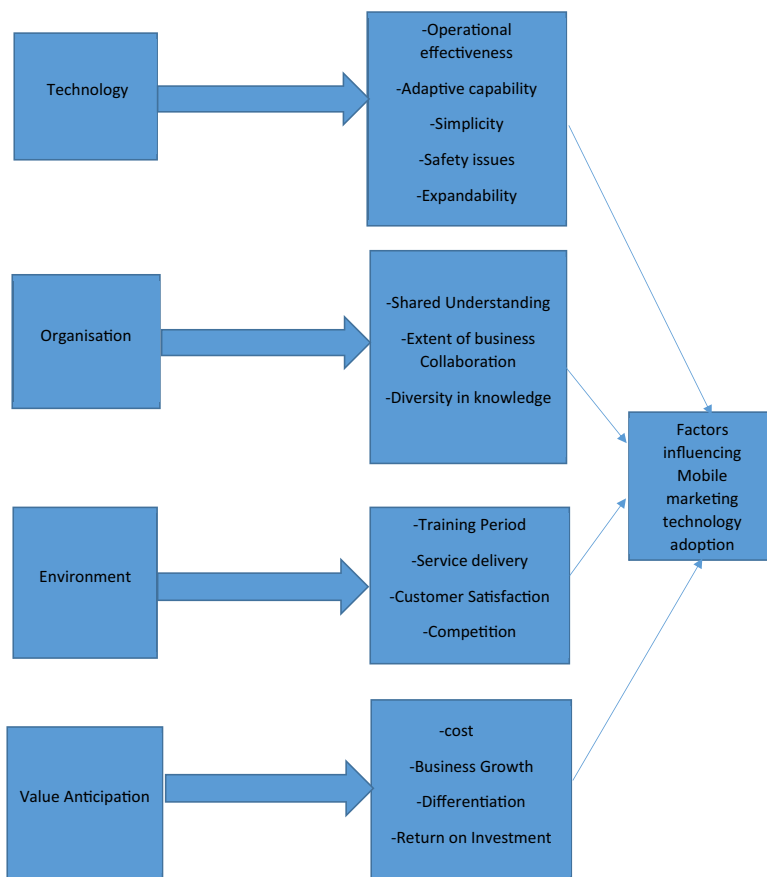


Figure 3.
A framework of mobile marketing technology adoption in SMEs

Aboelmaged (2010), Li *et al.* (2011) and Ramayah *et al.* (2016). Some studies have also argued that IT application that is complex and slows business operations down will inhibit the widespread of its adoption by SMEs (Brown and Lockett, 2004; Ritchies and Brindley, 2005; Teo *et al.*, 2011; Teo and Pan, 2008). In summary, small businesses would mostly engage with mobile marketing technologies if it is efficient and capable of moving the company forward.

Adaptive capability. Zhu *et al.* (2003) note that connectivity eliminates incompatibility within the organisation and can also restrict compatibility were the new IT application is difficult to integrate with existing ones in the origination. Adaptive capability defines the extent the new mobile marketing application integrates to both the business operations and the existing IT applications in the organisation. Some participants (e.g. A1, A2, A10 and A14) note that businesses need to identify and at the same time understand the opportunities offered by mobile marketing applications. This requires searching for information about the mobile marketing app, learn to overcome the

JSTPM

failure by ensuring they adopt and adapt to those that are compatible with the business arrangements. This was further supported by the participants:

If the application is structured in the same way with the existing ones in the organisation, it is much easy to integrate; we will not adopt such application if it follows a dissimilar pattern. Otherwise, it will lead to another learning curves (A3).

Can the app be easily integrated with already existing ones in the organisation? To what extent does the app interface with those in the organisation? (A13).

Furthermore, it was revealed that SMEs are constrained by time, resources and spending time transferring data from an old application to new ones might be a costly venture. As such, adaptive capability as an essential factor to be considered. According to [Khoubati et al. \(2006\)](#) the inability of integrating an infrastructure with the one ones might be costly as such business most avoid this from the onset. This happens when the features of the new application fail to fit into the existing values of the current organisation's mobile marketing technology needs ([Fitzgerald and Kenny, 2003](#)). Adaptive capability shapes mobile marketing technology adoption and SMEs are passionate in trying it if it meets the organisation present and future arrangements.

Simplicity. Majority of IT adoption studies ([Hong et al., 2011](#); [Khoubati et al., 2006](#); [Lip-Sam and Hock-Eam, 2011](#)) argued that most small businesses lack the necessary skills and knowledge to use IT applications. Simplicity implies how easy the mobile marketing application is in carrying out a task for the business. Alternatively, the ease with which the mobile marketing application enables the complex task to be carried out or allows few individuals with little-specialised knowledge to handle more complex tasks as highlighted by managers:

I am not an IT literate. I struggle with most of the mobile app. It has to be easy to use [-] just like the internet, the computer or whatever (A8).

You know we are from the developing country. Most of these things are new to us. If the mobile application made my life easier in carrying out my business operation, I would be happy embrace it (A11).

I think most people will try the mobile app if it helps businesses to reduce their promotional budget and workforce say 50-25 people and they are still turning over million. Also can someone without experience and little skills operate it? (A7).

This assertion points to the fact that simplicity would be one of the key determinants of the mobile marketing application. It also suggests that most small businesses would not adopt new mobile applications if it is complex and stressful to cope with. Reason being that they are limited in skills and knowledge concerning IT applications. Participants further supported the above comments: A1, A6, A9 and A15. Similarly, studies ([Hong et al., 2011](#); [Polites and Karahanna, 2012](#)) note that ease of use is the prerequisite for adoption and use of IT application while others ([Moore and Benbasat, 1991](#); [Venkatesh and Davis, 1996](#)) have also found a positive relationship between ease of use and adoption of IT applications.

Safety issues. Safety is defined as the protection of information, persons and property from unforeseen circumstances. IT security infrastructures have remained the basis for the secured environment ([Cavusoglu et al., 2004](#)). Safety and security are vital as soon as a business transaction is carried out beyond the boundaries of the offline methods of conducting a business transaction. The analysis shows that safety

and security issues were still significant concerns for SMEs in Nigeria before any attempt is made in adopting any mobile application. Majority of the participants echoed that if the mobile marketing application is perceived to be unsafe regarding losing access to confidential information, the chance that the application would be adopted would be very low:

Can our record be kept with the mobile app for some years and as maintained? If yes we are ready to try the product (A15).

Secure payment is becoming a big issue in Nigeria with some of the applications used which involves several frauds. [-] Online security is a big challenge [-] we will go with, whichever one is much more secured (A9).

It is safe in that it is backed up [-] (A1).

It was further perceived that SMEs might not trust most of the mobile applications as observation revealed that mobile app providers may not be independent thus, trust was also an issue. For example, a participant notes that:

Is not just lack of resources, is trust (A23).

Similarly, [Yousafzai and Yani-De-Soriano \(2012\)](#) in their study found that insecurity is associated with distrust of the application and disbelief about its ability to work effortlessly. The finding suggests that businesses that eventually trust a piece of mobile marketing application may later adopt it if need be. Observation also shows that SMEs would adopt and implement if it can keep track of not just confidential information but also advice employee is when safety issues arise during usage. Security concerns related to both fears of losing data, confidential information and allows managers to monitor their staffs and ensure they are safe at work.

Expandability. Expendability is defined in this context as the capacity of the Mobil marketing device to accommodate new features regularly. It was observed that the flexible nature and the ability of the mobile devices to constantly integrate with new features is the basis for other processes can be achieved. As noted by some participants, expandability of mobile application aid innovation of business process and reduces the cost of developing or adopting entirely new systems. While most SMEs interviewed widely perceived that some mobile applications are flexible and expandable, others are not. The finding suggests that most SMEs would be willing to adopt mobile marketing devices shortly if the applications would accommodate another mobile app. The point was highlighted cross cases:

This is necessary because if you are using a modular solution, it will get to a point, you cannot replicate or make it bigger (A12).

Can we adopt an app that will take over or accommodate the existing applications we have? That will influence us in trying the new application (A14).

Our plan now the idea is to look for an application that would be integrated with the existing systems (A14).

In support of the finding, similar studies ([Gholami et al., 2009](#); [Fitzgerald and Kenny, 2003](#)) have found that changes can easily be made to IT applications that are flexible, which may trigger trial. Hence, SMEs are eager to trying new IT applications that would accommodate new functions easily.

JSTPM

Organisation

Shared understanding. Shared understanding is defined as cordial understanding of the organisation purpose and needs between the employer, employees and another external context through open interaction. Observation revealed that the perception of SME managers about the mobile applications might be viewed differently depending on the social setting and knowledge of different persons. Hence, for decisions to be effective, managers must acquire, share, process and disseminates business information that holds not only the same meaning to every individual within and outside the organisation, but the intended mobile marketing application must be understood by all parties involved. As one manager's highlights:

I am about coming together, and assessing what we have and also what the application can offer and we take a decision (A19).

I cannot take the decision alone if I want the business to be competitive. I will have to involve other people within and outside the organisation [-] (A23).

Similarly, Miranda and Sauder (2003) noted that shared meaning is essential in every interaction, and the setting in which the information is disseminated adds to its meaning. Most small businesses lack the necessary IT skills and knowledge, and when there is a conversation with their employees and another external context such as IT consultants and developers, about the potentials of the mobile devices, it is often misinterpreted. Also, Nelson and Coopriider (1996) found that when there is a high level of shared knowledge and support in the organisation, it improves operational performance and shapes IT assimilation (Armstrong and Sambamurthy, 1991; Reich and Benbasat, 2000). Managers that understand the views of diverse entities within and outside the organisation are most likely to make the right choice for mobile marketing devices.

Extent of collaboration. Most organisations collaborate extensively because of the competitive advantages they enjoy. Collaboration in this context is defined as the engagement of various actors in a coordinated attempt to solve a problem, with shared commitment and goals. Collaborative works between various employees and sharing expertise information based on their areas of expertise. It also helps in achieving information flow during the adoption process. It was perceived that most small businesses do not collaborate even when collaboration help companies to understand their customers, employees, suppliers and perhaps partners. The problem with most small business managers is that they believe that if they collaborate, they might expose their ideas concerning the kind of mobile application they need. This may lead to competitive disadvantages because others may have access to information assumed to be essential to them. However, some managers have realised the benefits of collaboration as highlighted by some manager:

I am considering the best practice. You see, many SMEs do not like collaborating with others. [-] collaboration regarding what mobile application to adopt especially within the same line of business is very good even with competition (A12).

Yes, each staff in the organisation played a team role by working together to ensure that we get an application that will help meet our customers need (A15).

Participants A15, A22 and A23 also supported the above assertion made on collaboration. The finding implies that mobile marketing devices facilitate information exchange and enables relationships to be established among workgroups, customers, and other actors.

Diversity in knowledge. The constant need for IT applications has made most organisations' knowledge intensive. Businesses no longer rely only on their knowledge, rather they have practically embraced knowledge from both internal and external context which allows the creation of new understanding about what mobile marketing applications to be adopted. Tenkasi and Boland (1998) note that one of the critical features of knowledge is the mutual learning of diverse experts to ensure that the complex activities associated with any new technological innovation are understood. This was echoed across cases:

[–] Most times we are the innovators driving the mobile app by communicating with the IT people or developers on a daily basis to ensure that the application is in line with our need. They cannot do it alone (A9).

We have to bring our knowledge, and constantly reviewing what the outcome is. That is when external advice comes to play (A12).

Although the finding was further supported by participants A6, A13 and A15, it was perceived that for any mobile marketing device to be successfully implemented requires the interaction of various internal and external actors by the manager in order to understand their views and plan for the best alternative in solving the intended problem. The finding implies that mobile marketing technology adoption success will depend on how active SME managers can develop their unique capabilities, synergistically evaluate, integrate, utilise and exchange their unique knowledge with other employees and the external context.

Environment

Training period. Mobile marketing applications evolve so much that most times they become obsolete so quickly. Observation revealed that most SMEs go for training to equip themselves concerning the new application. It was revealed that most times the purpose of the training is for managers and employees to learn the most effective way the mobile application can add value to the business. However, evidence suggests that if the training is going to be time-consuming, it is highly unlikely that such an application will be considered. This was echoed across cases:

We may need to train if we finally go for it but this will depend on the time. We will try the mobile app if the time to train our staff is minimal (A11).

How much time do we require to master the application? If we are going to spend much time, we may adopt it (A2).

If you develop a product, it is always very difficult for you to use it at first [–]. It required learning (A9).

The finding demonstrates that most times SME managers are not patient enough to go through the hurdles of learning for a new application. Therefore, the majority consider the training period as a determinant of mobile marketing adoption. This finding is consistent with Rantapuska and Ihanainen (2008) found that managers see themselves as too busy and these most times hinder them from acquiring valuable information and training for IT decision-making instead they end up automating the existing ones.

Service delivery. Service delivery is defined as the capacity of mobile marketing devices to deliver efficiently and improve service delivery, the company's processes and profit. Managers interviewed noted that mobile marketing applications offered by vendors or suppliers would be considered if it disseminates reliable information, offers extended

JSTPM

service, and permit urgent enquiry which is appropriate to clients. This was noted across cases:

[–] is the application going to be fast? [–] for us, speed is a determinant factor (A15).

The main reason why we would try a new mobile application is if it improves our process and delivery (A12).

The main aim we use this mobile app id to improve our process and delivery (A12).

Service delivery is an essential component of any firms' success (Song, 2003; Xu *et al.*, 2011). Observation revealed such success ranges from enhancing client's responses to enquiries and problems, reducing labour cost; improve efficiency and productivity regarding speed which allows managers to gain some competitive advantages. According to Eze *et al.* (2018), the quality of services any new technology offers triggers the user from being poor prospects to adopters. This finding implies that if the mobile marketing devices are capable of improving the exchange of services, create new or improve customers' benefits, facilitate efficient service delivery and have the rewarding benefits for both the organisation and its customers, SMEs are willing to adopt it.

Customer satisfaction. Customer satisfaction is defined as the capacity of mobile marketing devices to provide services that are capable satisfy both the potential and real customers of the business. Mobile marketing technologies play essential roles in the buying process. Clients often rely on mobile marketing devices for relevant information about the products, make purchase, payment and provide follow up services (Moon, 2003). The finding suggests that customers were not only involved in mobile marketing technology adoption decision but most importantly, determine whether the businesses flourish or not. Considering the nature of small service businesses, it was highly perceived that managers were more concerned about their clients' satisfaction and retention which according to them determine the decisions to take. As pointed out by some participants, and supported by A14:

We see our customers like kings, is the mobile application capable of satisfying our customers' needs? This is very important (A11).

Mobile app is a means to an end we consider it as one of the capabilities to be able to relate with our customers and meet their needs[–] (A12).

It was further revealed that when these technology applications play pivotal roles in the buying process, their perceived performance remains critical to the business. This is consistent with the work of Moon (2003). This implies that small business managers would be eager to adopt mobile applications if it would help organisations to retain previous customers and acquire new ones.

Competition

Competition is defined as forces that constrain the continuity of a business. Most participants pointed out that competition shape mobile marketing technology adoption success:

Because they want to compete they just have to keep doing it (A5).

I was just worried that we might be left behind (A1).

As long as we want to be competitive, we just have to keep adopting new application (A9).

In a similar vein, [Khoumbati et al. \(2006\)](#) note that competition has been recognized as an essential determinant of IT adoption in SMEs. Mobile marketing adoption was not only considered by SME managers as an option that increases market share but a way to promote their business and remain competitive. The finding suggests that the value small business managers attach to mobile marketing devices may be linked to its capacity to fight competition. This finding was consistent with Salmela and Turunen's (2003) study.

Value anticipation

Cost. Cost is not only defined regarding how second the mobile marketing application is, but how effective it is for communication purpose without having to spend so much, and provides the services other costly applications offer. Small businesses are known to be underprivileged because of limited resources. As such, one of their main objectives is to minimise cost and improve profit margin constantly. Therefore, the value most SME anticipates from mobile marketing devices is the capability to reduce cost. This factor was echoed by participants A2, A4, A6, A10, A11 and A23 and further supported:

You know we are small. If is reasonably cheap we will try it (A1).

Cost is one of the important factors we consider [-]. Would it help us to communicate effectively and reduce the total human resources? (A15).

We do not consider the need only but the cost (A20).

Will the app help us to keep the cost down? Will it save us money or make us appear more professional to our client? (A5).

The finding suggests that cost substantially influences the value SMEs to attach to mobile marketing devices. Similarly, [Pirich et al.\(2001\)](#) found that the choice of a small business owner to adopt any IT application depends on the cost-benefit analysis to help determine the long-term benefit. The finding implies that if the cost associated with the mobile marketing technology is perceived to be high, it is highly unlikely that such application will be adopted. This is consistent with previous studies ([Lacovou et al., 1995](#); [Ramayah et al., 2016](#); [Madukua et al., 2016](#); [Khoumbati et al., 2006](#)).

Business growth

IT application improves productivity and assist SMEs in carrying out their businesses activities outside the firm and create new industries. [Locke \(2004](#); [Eze et al., 2014\)](#) notes that improved business performance is likely to be experienced by those SMEs that have specific growth objectives Business growth is linked to staff strength, market share and return on investment tied to the IT application. Observation revealed that SMEs might take some time before engaging in mobile marketing. However, such devices should guarantee high value for the business. Participants note that this can only be achieved through growth:

One thing that motivates the search for the new application is growth. Would the application help us to increase our customer base? (A14)

Can the application help us acquire 30 clients or more in a few months we will try the new app (A5).

Is good for the company's growth? We just go ahead with that (A9).

JSTPM

The analysis also revealed that environmental factors play a part in the business growth, which in turns shapes mobile marketing adoption:

If we know what is happening in that space, politically, social, technologically especially for us, those are the things that will make us decide what will be the growth area (A5).

Business growth was considered by managers regarding the value the mobile marketing devices add to the business. This ranges from market share; turn over, sales volume, some employees and customers acquired. In summary, the finding demonstrates that there is a relationship between mobile marketing technology implementation and business growth although, this may depend on how businesses measure their growth and the mobile devices used.

Differentiation. Technology differentiation is defined in this context as the capacity of the mobile marketing devices to help create unique services, or a niche in the market that rivals may find difficult to copy, and boost their chances of winning new customers. Advances in technology and globalisation have not only forced the world to be knowledgeable but continually created swift competition among businesses in a similar industry. Observation shows that small business managers may adopt mobile marketing devices because they might be afraid of being left behind. As such, technology differentiation was perceived to as a key influential factor. This was noted across cases:

Our need for a new mobile app largely depends on how it can help us reduce cost, [-], and create a niche in a market (A5).

Can the mobile app differentiate us from our competition? [-] If yes, it is highly likely that we would try the app (A13).

What we look at is the unique attributes of the app and the services it renders. Can it provide services that are unique to what we do? (A16).

This finding implies that the value anticipated of mobile marketing is associated with the capacity of the devices to differentiate an SME manager from those of competitors.

Return on investment

Return on investment in this context is associated with the profit the mobile marketing devices are capable of generating. It extends to the market values, residual income and future abnormal returns witnessed by a firm (Henderson *et al.*, 2010; Eze *et al.*, 2012). Evidence from the analysis suggests that most privately owned companies are profit-oriented, and it is highly unlikely that business that does not generate a return on investments and increases market shares will be in business for a long time. This was echoed across cases:

Anything called technology that cannot help us maximise our profit, would not be considered (A20).

If we invest #10,000, as long as it yields a return of #15,000 we will adopt it (A23).

Business is all making profit. If you are not making profit, shut the company down and go and sleep (A9).

Similar comments were made by participants A2, A5, A12, A13 and A14, and others. In support of this assertion, studies (Lim *et al.*, 2011; Cavusoglu *et al.*, 2004) have examined the

financial return on IT and found that return on investment triggers investment in technology. Profit is linked directly to customer satisfaction, and businesses tend to be profitable where the mobile marketing applications adopted provides services aimed at meeting their needs and those of their customers. The value small business managers attach to mobile marketing devices is directly linked to how much profit these devices generate.

Conclusions and implications

Conclusion

The study revealed 16 factors influencing the adoption of mobile marketing technology adoption based on the extended TOE framework developed in this study. Factors related to the technology context include operational *effectiveness, adaptive capability, simplicity, safety issues and expandability*, while organisation context-related factors include *shared understanding, the extent of business collaboration and diversity in knowledge*. Also, *training period, service delivery, customer satisfaction and competition* are factors associated with the environmental context, and value anticipation related factors include *cost business growth, differentiation and return on investment*. However, while these factors influence mobile marketing technology adoption, the extent to which these factors shape mobile marketing adoption varies from technology, organisation environment and value anticipation contexts. For example, technology context-related factors accounted for 73 per cent of the total supporting cases; organisation context-related factors accounted for 61 per cent of the total supporting cases, while environment and value anticipated factors represent 80 and 58 per cent of the total supporting cases, respectively.

Implications

The extended TOE framework developed in this study which was to understand the factors shaping the adoption of mobile marketing technology in SMEs have some implications. The framework provides a frame of references ([Agarwel, 2000](#); [Macredie and Mijinyawa, 2011](#)) to understand factors shaping mobile marketing technology adoption. The operational definitions of the codes and the factors depicted in the framework may serve as an analytical tool for scholars to understand and explain factors influencing mobile marketing technology adoption. The study has been able to identify additional codes and the associated factors which fall outside the three elements of TOE frameworks. The code and the associated factors aided the extension of the TOE framework thereby adding and enriching the existing variables associated with TOE. According to [Macredie and Mijinyawa \(2011\)](#), the inability of researchers to effectively defined factors and theoretical concepts has been an issue in the analysis and validation of the factors. Therefore, the theoretical and empirical constructs and the associated factors can be used to develop a hypothesis to validate the relationships between the constructs and the factors. It is possible for researchers to carry out a cross-sectional or comparative study to validate and better understand factors influencing the adoption of mobile marketing devices.

From the practical point of view, [Dedrick and West \(2003\)](#) argued that models and frameworks are relevant and useful for practitioners and decision-makers seeking to develop models for IT application. Therefore, the framework could also serve as a frame of reference to SMEs seeking to have a deep insight and a common understanding of the factors influencing the adoption of mobile marketing devices. Also, the framework could be used by managers for a strong justification for the courses of action ([Banbaset and Moore, 1992](#); [Macredie and Mijinyawa, 2011](#)) in the adoption of mobile marketing technology. SME managers and other decision-makers could use the argument in the study and the practical insight in this study to create awareness among staff on the benefits and challenges

associated with the use of mobile marketing technologies. Finally, because the TOE framework has a strong exploratory and explanatory capabilities, the framework provides room for the development of a diverse range of insights into the factors shaping the adoption of mobile marketing technology adoption. SMEs and other decision makers can apply the framework and further identify various concepts associated with the technological, organisational and environmental and value anticipation related factors of mobile marketing technology adoption.

Research limitations

The limitation of this study emerged because of the use of qualitative methodologies about the research design, rigour in the collection and management of the large volume of the raw data, the data analysis and the credibility of the findings. This may lead to unforeseen respondent and research bias in the data analysis which may lead to a limited understanding of alternatives and insights into the factors influencing the adoption of mobile marketing (Macredie and Mijinyawa, 2011). Hence, other measures and approaches such as case study and mix-method could be deployed to validate the findings further.

Regardless of the confidence of the researchers in the use of thematic data analysis approach and the findings presented in this study, the framework has its limitation. From the data analysis, evidence suggests that factors presented in this paper are limited. There are other factors which were identified during the analysis but were not included because of their limited supporting cases and evidence. Therefore, more studies are required in this area in order to identify other factors prevalent within the service sectors and other industries or organisations in Nigeria using a different methodological approach.

Although, it can be argued that the framework has analytical generalizability because of the theory building approach deployed in identifying the factors. However, one of the limitations of qualitative study has been the issue of theoretical generalizability of the framework. Hence, the generalizability of the framework needs to be established across a broader range of the population. Future studies may apply confirmatory statistical techniques to test and ascertain the validity and reliability of the framework across a broader population of mobile marketing technology adopters in Nigeria. Such studies may be used as a benchmark for the theoretical constructs and the factors that may lead to the success or failure of mobile marketing technology adoption.

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