

MOBILE MARKETING IN UBIQUITOUS ERA. FACTORS DETERMINING INTENTION TO ADOPT MOBILE MARKETING: A CASE OF PUBLIC ORGANIZATIONS IN ZANZIBAR

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ABSTRACT

Mobile marketing technology has revolutionized organizations' strategies to interact with customers. The technology valued as a critical marketing channel leads to a competitive advantage for the organizations. Despite of these advantages to the vendors, public organizations in Zanzibar have yet to adopt it in marketing communication. This paper investigates the factors influencing the intention to adopt mobile marketing technology in public organizations in Zanzibar. Through extended TOE theory, survey data was collected from sixteen public organizations and 281 valid responses were obtained from management personnel. SEM analysis revealed technology characteristics and managerial intention were the most influential factors in public organizations' adoption of mobile marketing. organizational and environmental factors were insignificant. The main contribution of this paper is that when the TOE model is extended to include managerial intention the model relates more specifically to organization adoption of mobile marketing. Limitations are also explained and recommendations for future studies.

Keywords: Organization, Adoption, Toe, Mobile Marketing.

1. INTRODUCTION

The new marketing innovation evolved in recent years progressed from the world revolution in the communication industry. The revolution entails the changes in communication from fixed line to mobile device communication through the introduction of cellphones, tablets, and laptops using the wireless network. This mobile marketing innovation provides great potential for the organization and consumers as being a marketing channel for developing countries (Chan et al., 2022) as well as in emerging market as well (Chimborazo et al., 2021) mobile marketing sales has increased tremendously in few years. as in 2017 Boston Consulting Group (BCG) examined the mobile marketing channel in United States (US), China, India, Brazil, South Korea and Germany. They found that the economic contribution of mobile marketing has reached USD 6.4 trillion. Compared to Statista Research Group (2023) in 2022 mobile marketing sales in worldwide grew to 327 billion US \$, therefore surpassing the PC channel.

Mobile marketing can be regarded as a tool of promotion strategy for the organization. However, mobile marketing should be considered as a new innovative channel for commercial transactions, due to the capability of integrating additional facilities that allow marketers to provide specific services to mobile users (Chimborazo et al., 2021). It offers an interactive facility for the

communication process, that combines push, pull, and dialogue marketing form. According to Huang., (2012), and Riquelme et al., (2011) mobile marketing is the sole medium that achieves greater consumer responses than other media of promotion since consumer permission and acceptance play a vital role in achieving responses and interaction in communication. Thus, this channel provides some benefits to mobile phone users as they have the ability to customize and access the vendor platform at any time and any place they are (Hui, Haji and Zhang, 2018). Researchers have also revealed that users encounter obstacles in attempting to conduct business using mobile phones, as a result, many of them have shown to have a negative attitude toward this innovation leading to hesitate using mobile marketing (Lazaro, 2017; Sabokwigina et al., 2013). However, due to the increased connectivity of mobile phone in peoples' life, the obstacles to using mobile phone device in business transaction is quietly eliminated.

The review of the literature on mobile marketing revealed the need for further research on public organizations' intention to use mobile phone devices in marketing their products and services. Numerous studies have predicted the SMEs and Multinational corporations' adoption of mobile marketing (Maduku, 2016; Ifinedo, 2012; Okazaki and Taylor 2005. However, there is insufficient knowledge of the factors affecting mobile marketing adoption in public organizations in developing countries and Africa in particular. In these countries there is a surging rate of mobile phone usage reported to reach 515 million people in Sub-saharan Africa which is 46 percent of the population by 2021 (GSMA, 2022) which expected to prompt rapid changes in consumer behavior since they become mobile cultured. The innovation of mobile marketing channels provides an opportunity for both public and private organizations investing in this innovative channel to increase market share and improve customer loyalty so that to compete in the global mobile market.

Among developing Sub-Saharan regions, South Africa, Nigeria and Kenya are recorded to be the fastest-growing mobile marketing in the region, however, the exponential rise in mobile phone subscriptions across the African countries offers huge and untapped opportunities for success (Aznar, 2022). This paper focuses on Tanzania, where smartphone possession reached to 64.1 million subscribers in June 2023 (TCRA, 2023) to a population of 66.46 million (Datarepotal.com 2023). Sales through mobile phone are predicted to reach US \$ 26.8 million of total e-commerce in the country and is expected to grow more over the next four years, due to the fastest growing retail channel as mobile money is in the country (Statista, 2023).

There is a vast of studies on mobile marketing adoption in Tanzania published in recent years (Chille et al., 2021; Abraham, 2018; Maisara, Hamad and Yussuf, 2022; Kapinga and Montero 2019) Despite its size and substantial mobile marketing growth public organization adoption of mobile marketing is less understood. The present study attempts to fill the research gap on mobile marketing adoption in public organizations of Tanzania by testing a model based on the Technology Organization and Environmental (TOE) theory of DePietro, Wiarda, and Fleischer, (1990). Thus, the study aims to empirically identify the factors affecting the adoption of mobile marketing by public organizations such as the Zanzibar Social Security Fund in Tanzania, where the mobile channel revealed high growth potential. This paper contributes to the body of knowledge by analyzing mobile marketing adoption in public organizations within developing countries with high growth rates of mobile phone subscription and does so through a model which includes the variables TOE framework that are more relevant due to the organization context of this study.

The structure of this paper is depicted as follows; Starting with an introduction followed by a review of literature. From the literature review hypotheses will be justified and presented in the research model of the organization adoption of mobile marketing. The research methodology describes the way data will be collected, the choice of unit of analysis and the method to analyze data. Analysis and discussion of the findings will be presented and finally the conclusion of the study will be presented, implication and limitations of the study highlighted and propose the lines for future research.

2. LITERATURE REVIEW

The Mobile Marketing Association (MMA) (2009) defines mobile marketing as a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through and with any mobile device or network. It involves starting of relationships, acquire, generate activity and stimulate social interaction with organization and customers. Mobile phones become a vital and distinctive marketing channel that consumers can have access to it and use at any time and any place due to ubiquity characteristic of mobile marketing channel, therefore it regarded as an extension of a brand or store to people's hand. This make this channel to be more convenience compared to e-commerce, thus provide vast opportunities due to the feature the mobile marketing channel has such as mobility, interactive and time saving (Duzgun and Yamamoto, 2017; Chimborazo et al., 2021). In addition, the adoption of mobile marketing channel offers organizations advantages such as to improve brand strategies, cost reduction, increase customer relationship (Mimosette and Paul 2015; Aras, 2011; Okazaki and Taylor 2007), besides this channel real time tracking customers' browsing and ability to pop into through contextual offers sent to their mobile phones (Chimborazo et al., 2021; Lariviere et al., 2013). It can be said that the innovated mobile marketing channel constitutes facilities that allow a new means of interaction between customers and vendors organization, with retailers, brands and even consumers to consumers at any place and at any time (Aras, 2011; Shankar et al., 2010; Andrews et al.,2016).

Studies on the adoption of mobile marketing by organizations have aroused a great interest to the researchers, with a view to highlight the factors that influence organization to market their products through mobile phones. In this regard we should mention some of the studies that adapted TOE framework to explain adoption of mobile marketing.

Table 1: Studies Adapted TOE framework

Author and title	Objective	Method	Variables
Eze et al., (2019) Mobile marketing technology adoption in service SMEs; a multiperspective framework Nigeria	To explore factors of mobile marketing adoption in SMEs Extended TOE theory	Qualitative interview Data-driven Thematic analysis using NVivo	Organizational factor; Shared understanding, Extent of business collaboration and Diversity in knowledge. Technology factor Operational effectiveness, Adaptive capability, Simplicity, Safety issues and Expandability Environmental factor; Training period, Service delivery, Customer satisfaction and Competition Value Anticipation Cost, Business growth, Differentiation and Return on investment
Rahab and Hartono (2012) Indonesia	Adoption of Information Technology on Small Businesses: The Role of Environment, Organizational and Leader Determinant TOE framework	Structured questionnaires Partial Least Squares method	Leader determinant; Leader innovativeness, Leader IT knowledge Organizational determinant; Business size, Employees knowledge Information intensity Environmental determinant; competitiveness

<p>Mimosette and Paul (2015)</p>	<p>Cameroon Adoption of Mobile Marketing in the Social Field: A Reading from Influence and Resistance Factors</p> <p>TOE framework</p>	<p>case studies</p>	<p>Technology factor;</p> <p>Performance expectancy, Perceived ease of use</p> <p>Organization factor;</p> <p>Business sector, Environmental factor;</p> <p>Influence of partner, Perceived receptiveness</p> <p>Managerial factor;</p> <p>Perceived financial advantage</p> <p>Building brand image</p>
<p>Maduku et al (2016)</p> <p>South Africa</p> <p>TOE theory</p>	<p>Identify drivers of mobile marketing adoption intention by SMEs</p>	<p>Structured questionnaires</p> <p>SEM analysis</p>	<p>Technology factor;</p> <p>Relative advantages, Perceived ease of use and Compatibility</p> <p>Organization factor;</p> <p>Top management support, Financial resources and Employees capability</p> <p>Environmental factor;</p> <p>Partner support, Competitive pressure</p> <p>And Customer pressure</p>

<p>Ifinedo (2011) In Canada.</p>	<p>An empirical analysis of factors influencing Internet E-Business technologies adoption by SMEs in Canada</p>	<p>Structured questionnaires Partial Least Squares method</p>	<p>Technology; Relative advantages, Perceived ease of use, Compatibility Organization; Management support, Organization readiness Environmental; Government support, Partner support, Competitive pressure, Customer pressure Control variable; Firm size revenue, Firm size workforce, Industry sector firm age</p>
<p>Chimwei (2019) Kenya</p>	<p>Scaling up use of mobile marketing by SMEs case in Nairobi County</p>	<p>Structured questionnaires Partial Least Squares method</p>	<p>Organization factor; Organization size, financial and technical resources Technology factor; Relative advantage, complexity, compatibility Environmental factor; Influence of competitors Perceived reception from target population</p>
<p>Chiu et al., (2017)</p>	<p>An integrated perspective of TOE framework and Innovation Diffusion in broadband mobile applications adoption by</p>	<p>Questionnaires SEM</p>	<p>Technology Organization Environment and Initiation</p>

	Enterprises Extended TOE model		
Rahayu and Daya (2015) Indonesia	Determinant Factors of E-commerce Adoption by SMEs in Developing Country: TOE framework	Structured questionnaires multiple regression analysis	technological factors, organizational factors, environmental factors and individual factors

Note: TOE=technology Organization Environment Model; SME= Small Business Enterprises; B2B= Business to Business; EC= Electronic Commerce; IT= Information Technology

One of the theoretical frameworks used in organization adoption of technology is TOE model developed by DePietro, Wiarda, and Fleischer, (1990). This present multi-perspective framework that incorporates the influence of organization, technology, and environment for the firms' successful adoption process of the innovated technology by the organization.

The TOE model suggested that the adoption of innovations depends on contingent organizational factors, macro-environment, and technological factors. Therefore, this study influenced to adopt TOE framework to guide this research in determining the organization adoption of mobile marketing as the new phenomenon in the developing countries such as Tanzania. The reason for this selection is that the framework takes into consideration the external and internal multi-perspective dimension. Environmental and technology factor that have an external impact on firm's decision to the adoption of technology. Although TOE model has many positive opinions, however, Ghobakhloo and Tang (2013) raise some criticisms on this model. They argued that the model ignores individual attributes in the model. Thus, this study extends the TOE framework to include management factor identified as the vital external factor impacts on the execution of the innovation within the organization.

2.2 Research hypothesis and model

The TOE model provided the study framework for our research model with its variables; technology factors, organization factor and environmental factor. The individual variables and the underlying logic supporting each research hypothesis are defined below.

2.2.1 Technology factor

Refers to the internal and external technology, which is necessary for the working efficiency of the organization. It comprises the technology owned and used within the organization and those that are within the technology environment but not yet adopted by the organization, and its usage

might bring efficiency within the organization (Harfoushi et al., 2016; Maduku 2016). Organization decisions on the adoption of technology are determined by the relative advantage expected to benefit the organization, the effort needed to grasp the knowledge of technology usage, and the cost associated with the uses of the adopted technology (MacLennan and Belle, 2012).

The relative advantage of mobile marketing is the perceived benefit facilitated by the ubiquity characteristic of the mobile communication medium, personalization, ubiquitous and above all the on users' preference and choice hence improving efficiency, B2C relationships and market share (Ifinedo, 2012; Rettie et al 2005, Rohm and Sultan 2005). Therefore, mobile marketing enables the firm to measure responses from the advertisement.

The perception of complexity occurs in the organization when experiencing changes or increases in the implementation of information technology (Alamsyah, Mazia, Hakim, and Sukajie, 2021). The organization's propensity to adopt the technology is suppressed by the employees' perception of the complexity of the execution of the technology adopted. However, it needs to be realized that for the development of organizations, technology needs to develop accordingly (Setiadi, 2018). Despite that, the perceived ease of use became a major inhibitor of the adoption of mobile marketing when the organization perceives the technology to be more complicated in its use (Maduku et al 2016, Mimosette and Paul 2015, Mutua et al 2013, Alshamaila et al 2013).

In compatibility of the technology innovated with the organizational culture, Ramdani and Kawalek (2007) found compatibility to have an impact on SME practitioners who's previously studied IT innovation. Ifinedo (2011) found SMEs do not perceive that e-business technology to be compatible with their existing values and practices and may hold a belief that such technologies do not meet their need. From this review, we postulated the following hypothesis.

H1₀: The perceived technology characteristic has no significant influence on mobile marketing adoption for public organizations

H1₁ The perceived technology characteristic has a significant influence on mobile marketing adoption for public organizations

2.2.2 Organization Factor.

From the TOE framework (DePietro, et al., 1990) Organizational context refers to the characteristics and resources of the firm, including the firm's size, the degree of centralization, the degree of formalization, managerial structure, human resources, amount of slack resources, and relations among employees. In exploring the firm's adoption intention organizational factors cannot be lagged behind. Management support is the main tool that offers continuous support not only during the project implementation but also throughout the operational phase of the system (Al-Adaileh 2009). Since they are the decision makers of any technology to be adopted that has an effect on the performance or effectiveness to the organizations (Achieng and Jagero 2014). Thus, the adoption of mobile marketing depends on the attitude and commitment of top managers toward the adoption of innovation (Achieng and Jagero 2014; Mutua et al 2013). The literature revealed that management commitment is a significant predictor of the acceptance of technological innovations in organizations, (Cao et al 2014; Lin 2014, Mutua et al., 2013; Jumayah. et al., 2013). Employee's IT expertise also increases the propensity to adopt innovative technology within the organization. DePietro et al., (1990) noted that the adoption of technical innovations requires the organization to have qualified employees and competent on learning innovative capabilities. availability of qualified employees depends on effective management planning strategies for the

development and training of technical skills for the sustaining of competitive environmental and technological change (Lin and Ho 2011). Studies of Lin and Ho (2011), Ramdani and Kawalek (2007), and Thong and Yap (1995) revealed organizations with a greater quantity of the right stuff with IT knowledge and capability increase the organization's propensity to adopt new innovation. Above all organizations need to be financially capable to be able to adopt the innovations such as mobile marketing. Since the adoption of technology requires huge or less investment and maintenance of hardware and software, hiring of technical experts and routine training for employees on the adopted technology ((Puklavec et al., 2014; Lin 2014; Rahab and Hartono 2012; Ismail 2015). The initial cost of adoption becomes a barrier for a small firm with a small capital structure Shin (2010) and Mallat (2007) in their mobile business adoption. Therefore, the following hypothesis developed from the review.

H2₀: The organization's internal position has no significant influence on mobile marketing adoption for the public organizations.

H2₁ The organization's internal position has a significant influence on mobile marketing adoption for public organizations.

2.2.3 Environment

It is defined by DiPietro, et al., (1990) as the arena in which a firm conducts its business. Environment includes industry, competitors, the macroeconomic context and government policy (Harfoushi et al., 2016, Mimosette and Paul, 2015, Lin and Ho, 2010). This research opts to assess the effect of partner support and competitive pressure as the organizations' environmental factors influence the adoption of mobile marketing to the emerging market.

Environment exerts competitive pressure which sometimes affects the organization's working condition as it influences the organization's strategies from the threat of losing competitive advantage in the marketplace (Oliveira and Martins 2011). In a competitive industry, the organization might adopt new technology without the internal demand for incremental change. Studies reveal that organizations that face strong competition tend to implement changes more aggressively and respond more quickly in a competitive environment, especially for large organizations (Harfoushi et al., 2016; Ismail, 2015; Lin, 2014; Cao et al., 2014).

Operating partners such as external information system (IS) experts who assist the organization's decision to adopt new technology. They became the change agents for most organizations lacking the essential knowledge of such technology (Rogers, 2003). Hence, unavailability of the external partner support causes a barrier to the adoption of innovation (Ifinedo 2012 and Al-Qirim 2007). This literature revealed differences on the relative effect, depending on the technology, culture, government regulation and institutional rules. For example, green practice adoption is strongly influenced by the Government's policies, while customer pressure and environmental uncertainty have no effect on green practice adoption in China (Lin and Ho, 2010). While the study of Wu et al (2003) in the US, customer power, and competitive pressure have an effect on the adoption of e-business. From the review we therefore, develop the following hypothesis.

H3₀: Environment forces have no significant influence on mobile marketing adoption for public organizations.

H3₁ Environment forces have a significant influence on mobile marketing adoption for public organizations.

2.2.4 Managerial Intention

In determining the organization's adoption of intention, the role of managerial intention should not be ignored. It is scarcely studied in the adoption of mobile marketing studies. Although it is the essential aspect of organization adoption as described by Rogers (1983) that, management, organization, and technology are essential for organization adoption of technology.

Managerial intention is concerned with improving financial advantage creating and maintaining customer engagement, image transferability, personal extensibility and return on investment (Bianchi, and Andrews, 2012; Mimosette and Paul 2015). The unique feature of mobile marketing is the possible direct interactivity between brand owners and customers. The high interactivity facilitates user recognition of the brand and increases the awareness therefore creating brand image and brand attitudes in the consumers' memory (Aaker 1991). A quasi-experimental study by Li and Stoller (2007) aimed to measure the effectiveness of mobile web ads on brand recall, brand association, and purchase intention. They found more exposure of mobile ads to consumers; tends to increase the purchasing intention of the branded product. Sultan and Rohm (2005) also mobile marketing technology creates consumers' attitudes and the possibility of a closer brand connection because of being with their cell phones on hand all the time. Okazaki and Taylor (2008) found the perceived brand-building performance and reputation of the company is the main driver of managerial intention toward the adoption of mobile advertising.

Direct interaction with customers is another concern of management in attempting to adopt mobile marketing. In this advanced communication technology era people communicate through messages, such as SMS, WhatsApp, we chat, Bluetooth, Instagram, and Facebook all applicable via cellphones, business vendors enforce integrate marketing communication in the consumers' cell phones (Huhn et al., 2017; Lin et al., 2016; Wu et al., 2015). This has been confirmed by Okazaki and Taylor (2008) that the managerial intention of companies to deliver marketing messages through mobile devices was connected to the way that SMS messages were perceived and accepted by consumers. Also, intention raised due to the imposed mobile business rules safeguarding consumers' privacy, lead to an increase in consumer willingness to adopt mobile marketing, thus resulting to more mobile business transactions than brick and motor stores (Wu et al 2015; Lin et al., 2016; Okazaki and Taylor., 2008). From these empirical reviews, we postulate the following hypothesis.

H₀: Managerial intention has no significant influence on mobile marketing adoption for public organizations.

H₁: Managerial intention has a significant influence on mobile marketing adoption for public organizations.

Based on the literature review, the proposed research model and hypothesis development are presented in Figure 1.

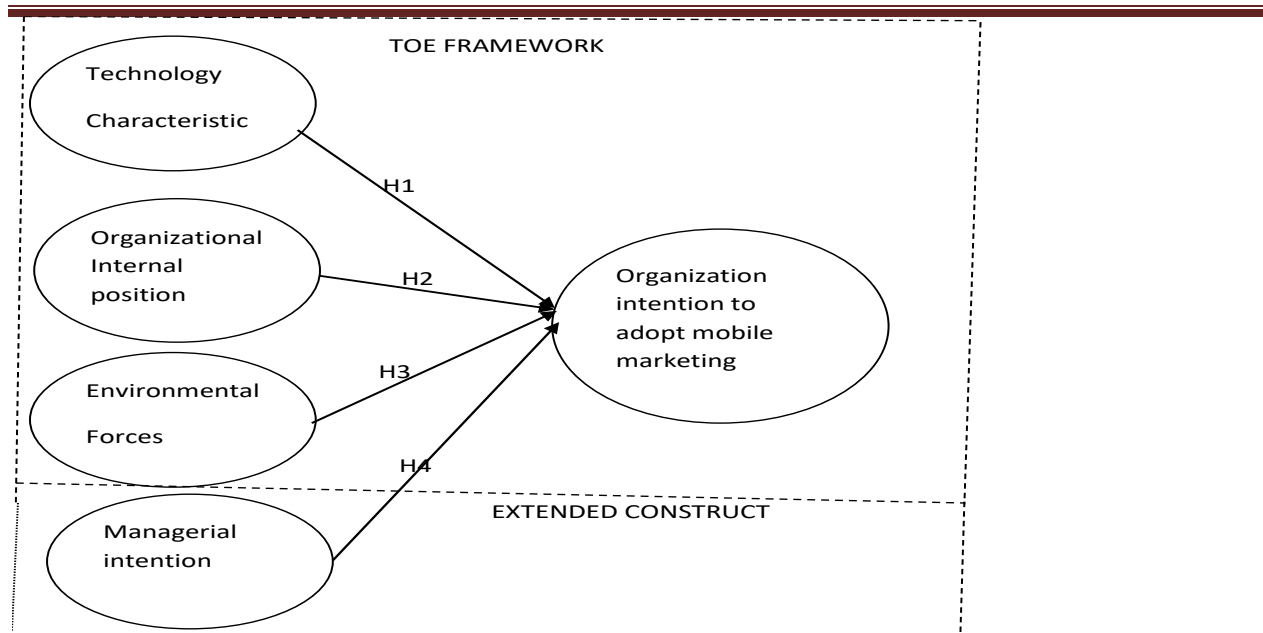


Figure 1; Conceptual Model

3. RESEARCH METHODOLOGY

The study opted the functionalist paradigm since this paradigm deal with the sociology of objectivist and regulation dimensions as suggested by Burrell and Morgan (1982) and Alshamaileh (2013) for organizational studies concerned with technology adoption. Besides this paradigm allows the positivist approach in collecting cross-sectional survey data quantitatively and use statistical method to evaluate them in understanding the relationship between drivers influencing adoption and mobile marketing adoption.

The sample targeted for this study is the top and middle-level managers in public organizations in Zanzibar. These public organizations intend to provide service to society, so they are required to communicate with society to ensure the service reaches to the targeted population. For example, ZSSF needs to communicate monthly contribution alert to employers. Provide monthly contribution statement to employees, notification on procedures for benefit claims and eligibility criteria. Zanzibar Insurance Corporation needs to communicate the vitality of insurance to society, living insurance, Islamic insurance, and contribution and benefit claim launching procedures. Zanzibar Water Authority offers water service to the society. They need to communicate on the water supply timetables, and alerts of monthly bill payment. In Zanzibar, many public organizations still do not view mobile phone technology as the channel to reach the target group in the society. Based on the ubiquitous reach, direct interaction and personalization of the mobile marketing channel as stipulated by researchers (Yousif, 2012; Chille et al., 2021; Duzgun and Yamamoto, 2017) could help these organizations to effectively and efficiently reach society and provide better service to the target population in the society. Therefore, the public organization of Zanzibar are counted as the target population in this study.

The survey was conducted for three months from May to mid-August 2022. The researcher visited

the public organizations under the Revolutionary Government of Zanzibar which are directly selling products/ services to society. The volunteer sampling method was used in order to get the sample. Public organizations were first screened to get a set of characteristics resemble with the study, that is those which sell products and services directly to society. This sampling method fit this study to enable the researcher to get response from those employees who are strongly enough on management issue to respond to the survey questionnaires. Therefore, researcher contacted the human resource department to ask the management to fill the questionnaire forms which left to them for a period of three weeks before collection. In the organization all the management teams were included in the sample, therefore they were explained the main objective of the study, together with the ethics of the data collection and analysis. Among the 297 contacted only 281 responded to the questionnaires, and the final useful sample who responded full to the questionnaire items was 273, which was then considered for further stages the analysis process. The socio-demographic profile of respondents in the sample consisted of 64% men and 36% women of whom 29.3% were between the age of 51 to 63. 47.6% were respondents aged between 40 to 50 and 23.1% were between the age of 25-39. The majority of respondents (78%) were university graduates with masters/PhD levels, while few of respondents (22%) have postgraduate/ bachelor degrees. All respondents are currently used mobile smart phones with experience of more than five years in the mobile phone world. About 53% of respondents mentioned that they usually use mobile phone for communicating purpose and less in social media. 29% usually use mobile phone for 40 to 100 times daily in social media. While 18% of respondents mentioned that they only use mobile phone for communicating and reading.

4. RESULTS

Measurement Model, The CFA was conducted to measure the reliability of the model and whether the items load into respective factors. The results show that the second-order CFA model fitted the data well CFA results as achieved a χ^2/df of 1.8, RMSEA of 0.054, TLI of 0.948, CFI of 0.953 and RMR of 0.027. Therefore, based on Hu and Bentlers (1999) suggestion an RMSEA of less than 0.06 and a CFI and TLI > 0.95 indicate relatively good model data fit in general. Standardized factor loading ranged from 0.7 to 0.9, thus met the good range based on Hair et al., (2010) as depicted in Table 2. The construct reliability, convergent validity and discriminant validity were assessed, and revealed composite reliability (CR) values between 0.84 to 0.93. the average variance extracted (AVE) values of 0.54 to 0.72 as shown in Table 2 below, therefore the measured constructs have achieved the convergent validity to the satisfactory level as suggested by Fornell and Larcker (1981) where they reach the AVE value of > 0.5 and composite reliability coefficient of > 0.7. Besides the construct and discriminant validity maintained as the value of AVE appeared to be greater than the squared correlation coefficient as depicted in Table 3 (Fornell and Larcker, 1981).

Table:2 Results of Measurement Model

Variable	Question	Cronbach	Standar	Average	Composite
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		Alpha	dized loading	Variance Extraxted (AVE)	Reliability (CR)
Managerial Intention	Corporate awareness of our company in the markets will increase due to Mobile marketing.	0.914	0.698	0.628	0.909
	Mobile marketing will increase the Brand awareness of our products		0.828		
	Because of mobile communications, we need to make use of different promotional campaigns to different target markets.		0.797		
	Mobile marketing would be customized to consumers' profile to maximize the effectiveness of location advertising		0.784		
	Mobile marketing would be much pleasant and entertaining to our customers		0.810		
	Because of mobile communications, marketers will provide timely advertisement campaigns more effectively.		0.831		
	Our organization have used other social media to communicate with society		0.816		
The idea of using mobile marketing would be highly acknowledged in our organization	0.795				
Our organization would highly recommend other organization for adoption of mobile marketing	0.777				
Our organization intend to adopt mobile marketing regularly in the future	0.706				
Technology characteristic	Mobile marketing would enable our firm to	0.93	0.784	0.727	0.93

	communicate with our customers effectively				
	Mobile marketing would assist to develop a better relationship with our customers		0.855		
	The skills needed for mobile marketing would be too complex for employees of our organization.		0.889		
	Use of mobile marketing is compatible with all aspects of our business operations.		0.862		
	Mobile marketing would enable our firm to market our product and service in a better way		0.871		
organizational Position	Top management would provide necessary support for mobile marketing adoption	0.943	0.814	0.702	0.933
	Top management would be enthusiastic about adopting mobile marketing		0.818		
	Our organization would have financial resources for adopting mobile marketing		0.872		
	Our marketing budget would be sufficient to support the adoption of mobile marketing		0.884		
	Our employees would be capable of using mobile marketing and solving marketing problem easily		0.845		
	Our employees would be capable of using mobile marketing to interact with customers		0.791		
Environmental Pressure	It is necessary to have adequate technical support for mobile marketing adoption.	0.848	0.739	0.541	0.854
	We believe that a good relationship with other parties will be crucial.		0.759		
	Our choice of mobile marketing would be strongly		0.754		

	influenced by what our competitors are doing				
	Our organization would adopt mobile marketing in response to what competitors has doing		0.757		
	There is a trend in my industry to more utilize the mobile phone business communications		0.663		

Table 3: Discriminant Validity; Correlation Matrix and AVE values Latent model

FACTOR	MI	IAMM	Tech	ORG	ENV	Square of AVE
MI	1					0.792
IAMM	0.349	1				0.762
Tech	0.382	0.392	1			0.852
ORG	0.333	0.270	0.262	1		0.837
ENV	0.416	0.276	0.241	0.546	1	0.735

Note: IAMM: Organization Intention to adopt Mobile Marketing, ORG: Organizational Position, MI: Managerial Intention, Tech: Technology Characteristic, ENV: Environmental Pressure. AVE: Average Variance Extracted

The latent model was analyzed to test the hypothesis. Firstly, by analyzing the model fit indices on the structural path and revealing the acceptable fit for the data in the proposed model. $\chi^2 = 527.218$, $df = 289$, $p = .00$, χ^2/df is 1.8 which is satisfactory for the sample of $N > 200$, $RMR = .027$, $RMSEA$ values 0.0540 which indicates of good fit between the hypothesized model and the observed data (Byrne, Barbara p101; Hu and Bentler, 1999). the $NFI = 0.903$ acceptable cutoff (Byrne 1998), CFI value 0.953 meet the cutoff criteria of the recommended threshold of 0.95 (Hu and Bentler 1999) the result caused by the low observed correlations for most of the variables in the study.

Among the hypotheses, managerial factor registered positive effects on the organization's intention to adopt mobile marketing ($B = 0.344$ $p < 0.000$), and technology characteristics also have a positive significant effect on the organization's intention to adopt mobile marketing ($B = 0.273$ $p < 0.000$), therefore $H1_1$ and $H4_1$ were accepted and null hypotheses. The unexpected result appeared as organizational factors did not influence the adoption of mobile marketing ($B = 0.075$ $p > 0.05$), thus $H2_1$ was rejected and the null hypothesis was accepted. Environmental pressure was

not found to affect the organization's intention to adopt mobile marketing ($B=0.124$ $p>0.05$) and therefore $H3_1$ was rejected and the null hypothesis was accepted. The structure model of the extended TOE framework is presented in Figure 2 below

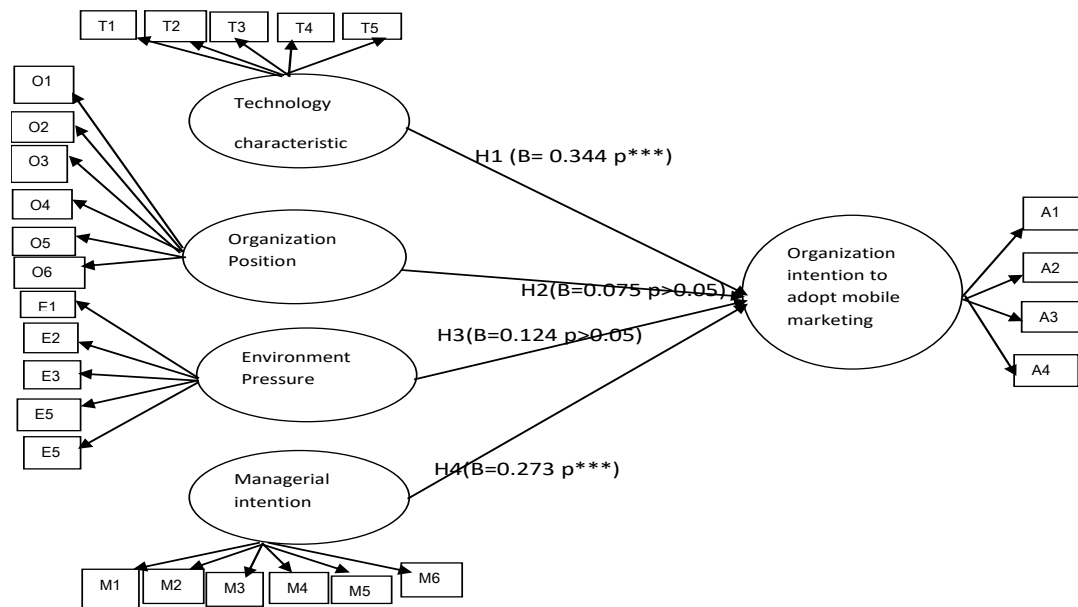


Figure 2: SEM results (Source; Authors' data 2023)

5. DISCUSSION

Technology characteristics appear to be the prerequisites of an organization's intention to adopt marketing technology. The factor appears to be most significant at $p<0.001$. The expected technology performance arises from per cost of mobile marketing compared to other channels currently used such as newspaper, radio and television. The respondents i.e. management of the organization have a high perception of the mobile marketing technology benefit, such as the extensive coverage of the marketing messages due to the reach of the market to ubiquitous characteristics of the channel. Personalization and tailoring of the marketing message to specified target customers based on their pre-identified preferences, direct interaction with customers so as to increase Business-to-customer relationships and hence increase market share through voluntary interactivity of customers with business organization. Thus, public organizations increase the propensity to adopt mobile marketing technology when they expect performance due to the unique characteristics of mobile marketing such that to improve sales and marketing performance. propel these organizations to intend the adoption of mobile marketing technology.

The finding is in relationship with previous studies of Maduku et al., (2016) and Rahayu and Day (2015), they concomitantly admit that the performance expectancy of mobile marketing is an important driver of the organization (SMEs') intention to adopt mobile marketing. Cao et al., (2014), Jumayah et al., (2013), and Lee, (2004) when firms perceive that innovation such as mobile marketing offers more benefits over the traditional channel such that to increase market performance then this characteristic it is more likely to draw intention to adopt innovation. This also happens to SMEs in Canada (Ifinedo 2011) organizations however SMEs are generally

encouraged to adopt Internet/E-Business technologies when they have a clear understanding of the expected benefits of introduced innovation over existing practices.

However, the result confronted other researchers on technology adoption. Setiowati et al., (2015) and Zailani et al., (2014) found the expected outcome could not influence organizations' intention to adopt technological innovation.

The result showed also that managerial intention has a favorable influence on the intention to adopt mobile marketing. This indicates that respondents perceive mobile marketing to be an effective tool for building brand image and increasing brand awareness. Since mobile marketing involves one-to-one direct communication, expected to attract consumers and increase brand awareness. Push messages and pool messages sent through SMS and Multimedia messaging services (MMS) increase the wide coverage of marketing the organization brand, due to its ubiquitous reach of the message to all targeted mobile phone users, irrespective of remote or urban areas and in fact may ask direct for a direct response from customers. Hence mobile marketing become a need of management to maximize the effectiveness of advertising campaign since all mobile phone supports message applications. The result is in relationship with the previous findings of Haslinda et al., (2016); Smutkupt et al., (2012); Okazaki and Taylor (2008), Okazaki (2005), and Rettie (2006), concomitantly they found managers are more likely to adopt mobile marketing if they perceive it will help to build the brand. It is a long-term intention that changes in consumer mindsets can lead to improved market performance and shareholder value.

The organizational factor was insignificant in influencing the intention to adopt marketing technology. Thus, hypothesis H2 was rejected and the null hypothesis was accepted. In public organizations, management commitment is high in the adoption of technology that is compatible to the organization's mission and expected to improve the service rendered to society. All of the sampled organizations have an ICT department to enable the technical operation in facilitating easy provision of service to the society, thus employees are capable of performing any technology operation and mobile application as well. Public organizations are capable enough in financial and employees' skills because they are financed by the government. Therefore, the cost of adopting mobile marketing technology is quite low to affect the organization's intention toward mobile marketing adoption. Besides the existence of IT departments in public organizations, employees got technical support and become capable of using technology in daily operations. Thus, using mobile phone technology for marketing purposes is not a challenging task for them. The finding is in relationship with Abbasi et al., (2022) and Alshamaileh, (2013), however, is not parallel with other studies of Maduku et al., (2016); Mutua et al., (2013); Mohammed et al., (2013) and Surgent (2012). Since these studies are based on SMEs employee's capability of using technology and financial resources imposed a great barrier to the organization's intention to adopt technology in business operations.

Under the environmental construct, the result fails to recognize the significant effect of environmental pressure on the public organization's intention to adopt mobile marketing. Therefore, this led to the rejection of hypothesis H3₁ and the acceptance of the null hypothesis H3₀. Most of the sampled organizations were monopolies in products/ services rendered to society. Even in industries with private organizations competition, public organizations focus much on the provision of service to society not competing with private organizations. Thus, environmental competitive pressure does not push organizations to adopt mobile marketing. The finding also could be associated with the state of mobile marketing in Tanzania as still new as revealed by

Chille et al., (2021) and Abraham, (2018). There is limited knowledge on how mobile marketing could be used to improve marketing performance, hence organizations are not convinced or enforced by the environment customers and competitors to adopt such technology. This study is consistent with Rahayu and Day (2015) and Maduku et al., (2016), when they found SMEs' in South Africa was not compelled by the competitors to influence their decision to adopt mobile marketing.

This study confronts with other studies of Ghobaghloo et al., (2011) and Oliveira and Martins (2010) when they found the firms enforced by environmental pressure to adopt the innovation for the strategic change and business performance. This mostly happen to SMEs who operate in industry which is more competitive and have high rate of innovation.

6. IMPLICATION

From a theoretical perspective, this study extends the literature on mobile marketing by illustrating technological, organizational, environmental and managerial factors that affect public organization intention to adopt mobile marketing technology. The results showed that among TOE constructs only technological factors play a significant role in public organization's intention to adopt this technology while organizational and environmental factors have no effect. The nature of public organization in financial, employee's capability in technology use, and monopoly in operation can explain these results. The managerial intention as an extended factor in the TOE framework adds the strength of the model, as found to have much influence on public organization intention. The factor adds to the theoretical literature since from the authors' knowledge the knowledge of mobile marketing has been never measured in the context of public organization in Africa and in Tanzania in particular. Previously, mostly assessed SME in South Africa (Maduku et al., 2016) Nigeria (Eze et al., 2019) Kenya (Chemwei, 2017) Cameroon (Mimosete and Paul, 2015), therefore, this finding could be the roadmap for other researchers in the related field. Policymakers can develop policies that will effectively promote mobile marketing adoption in public organizations. In fact, this approach will influence public organizations' success and improve the country's economy, since the result will help management to consider the factors that will induce their intention to adopt this technology successfully.

7. LIMITATION AND FUTURE STUDIES.

In this study, some of the limitations have been encountered and shall be considered in future studies. The study adopts a cross-sectional and quantitative approach to collecting the data. Thus, the study results were established by inferential analysis and implicit proof. Further studies are recommended to be in longitudinal research design in order to have more explicit proof. Secondly, the factors affecting adoption based on the TOE model are three, there may be additional precursors such as political ties and cultural factors to test and validate TOE theory in other countries.

REFERENCE

- Abraham, J. (2018). Factors Influencing Adoption of Digital Marketing in Commercial Banks Operating in Tanzania: A Case of Dar -Es- Salaam City. *European Journal of Business and Management* Vol 7(2) p.44-62 10. 9.
- Aaker, D. (1991). *Managing brand equity: Capitalizing on the value of a brand name*. New York,

NY: The Free Press

Achieng, D. O., & Jagero, J. A. (2014). Management Support in Adoption of Computer Integrated Model in Financial Forecasting. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 4(2), pp. 170-179

Alamsyah, D Mazia, L Hakim, L and Sukajie, B (2021). Utilization of Technology and Perceived Complexity. *Proceedings of the International Conference on Industrial Engineering and Operations Management Sao Paulo, Brazil, April 5 - 8, 2021*

Al-Adaileh, R. M. (2009). An Evaluation of Information Systems Success A User Perspective - the Case of Jordan Telecom Group. *European Journal of Scientific Research*, 37 (2), 226-239.

Alshamaileh Y (2013). An Empirical Investigation of Factors Affecting Cloud Computing Adoption Among SMEs In The North East Of England. Faculty of Humanities and Social Sciences at the University of Newcastle

Andrews M, Goehring J, Hui S, Pancras J, Thornswood L (2016) Mobile Promotions: A framework and Research Priorities. *Journal of Interactive Marketing*. 34(1) 15-24

Andrew J. Rohm, Tony Gao, Fareena Sultan, Margherita Pagani., (2012). A brand in hand. A cross-market investigation of consumer acceptance of mobile marketing. Kelley School of Business, Indiana University.. [Http://dx.doi.org/10.1016/j.bushor.2012.05.004](http://dx.doi.org/10.1016/j.bushor.2012.05.004)

Aras G., (2011) The Use of Mobile Marketing- Status and Implication: Marmara University 11(1) 341-363

Aznar E. (2022) Mobile Marketing in Africa: Every thing advertisers need to know. Retrieved from www.blog.optickssecurity.com

Bianchi, C., Andrews, L., 2012. Risk, trust, and consumer online purchasing behavior: a Chilean perspective. *International Marketing Review*. 29 (3), 253-275

Burrell, G and Morgan, G. (1982) "Sociological Paradigms and Organizational Analysis. London: Heinemann.

Byrne, B. (1998). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*, 2 nd Edition Tylor & Fraqcncis Group, 270 Madison Avenue, New York NY 10016

Cao, Q., Jones, D. R., and Sheng, H. (2014). Contained nomadic information environments: Technology, organization, and environment influences on adoption of hospital RFID patient tracking. *Information & Management*, 51(2), 225-239

Chan, Y., Rahman. K, Mamun. A, Salameh, A, Wan H, and Alam, S. (2022). Predicting the Intention and Adoption of Mobile Shopping During the COVID-19 Lockdown in Malaysia. *SAGE Open* ; 12(2), 2022.

Chemwei (2017) Scaling up use of mobile marketing by SMEs case in Nairobi County. Retrieved from <http://erepository.uonbi.ac.ke/bitstream/handle/11295/109616/>

Chimborazo L, Frasquet M and Molla A, (2021). Explaining Mobile Commerce Usage Intention Based on Technology Acceptance Models in a Developing Market Context, Tržište/Market, Faculty of Economics and Business, University of Zagreb, vol. 33(1), pages 25-40.

Chille, F, Shayo, A, and Kara, N. (2021). Adoption of Mobile Marketing in the Telecommunication Industry of Tanzania: The Effects of Perceived Usefulness, Ease of Use, and Customer's Knowledge. *European Scientific Journal*, 17(12) 160-180

[Depietro R, Wiarda, E, and Fleicher M. \(1990\) The Context for Change, Organization, Technology and Environment. The processes of Technology Innovation 199\(0\); 151-175](#)

Duzgun F, Yamamoto GT (2017) SMS Promotion Effects on Consumer Behavior: A Turkish Case.

-
- Internation Journal of Economics Management Sci 6: 397. DOI: 10.4172/2162-6359.1000397
- Eze S, Chinedu-Eze V, Bello A, Inegbedion H (2019). Mobile marketing technology adoption in service SMEs: a multi-perspective framework *Journal of Science and Technology Policy Management* 10(3) 1-29 DOI:[10.1108/JSTPM-11-2018-0105](https://doi.org/10.1108/JSTPM-11-2018-0105)
- Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Ghobakhloo, M., & Tang, S. H. (2013). The role of owner/manager in the adoption of electronic commerce in small businesses: The case of developing countries. *Journal of Small Business and Enterprise Development*, 20(4), 754-787.
- GSMA Report (2022) retrieved from <https://www.gsma.com>
- Harfoushi O, Akhorshaideh A, Aqqad N, Al Janini M, Obiedat R. (2016) Factors Affecting the Intention of Adopting Cloud Computing in Jordanian Hospitals. *Communications and Network*, 2016, 8, 88-101.doi.org/10.4236/cn.2016.82010
- Haslinda M. Shirly, C.H Li, Zuraida A. A, Nrhidayah M., (2016) “factors influencing the adoption of mobile marketing in Small medium enterprises in Malaysia” the European proceedings of social & behavioral sciences. e ISSN; 2357-1330 <http://dx.doi.org/10.15405/epsb.2016.08.65>
- Hu, L. and Bentler, M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Hui X, Haji, Nuru and Yang Z (2017) Exploratory Study on Consumers’ Motive to Accept Mobile Marketing in the Emerging Market; Tanzania. *Journal of Marketing and Consumer Research An International* .35(1)
- Hühn, A. E., Khan, J. V., Ketelaar, P., van t Riet, J. J., Batalas, N., König, R., Rozendaal, E., & Markopoulos, P. (2017). Does location congruence matter? a field study on the effects of location-based advertising on perceived ad intrusiveness, relevance and value. *Computers in Human Behavior*, 73, 659–668. <https://doi.org/10.1016/j.chb.2017.03.003>
- Ifinedo, P. (2011). An empirical analysis of factors influencing Internet/e-business technologies adoption by SMEs in Canada. *International Journal of Information Technology & Decision Making*, 10(4), 731–766
- Ismail S., (2006). Detailed Review of Rogers’ Diffusion of Innovations Theory And Educational Technology-Related Studies Based On Rogers’ Theory. *The Turkish Online Journal of Educational Technology* 5 (2) 3
- Jumayah A, Mahmoud A and Ahmad S and Mheidi A, (2013). The Factors That Affects E-Commerce Adoption in Small and Medium Enterprise: A Review. *Australian Journal of Basic and Applied Sciences*, 7(10), 406-412.
- Kapinga A and Montero C (2019) Mobile marketing application for entrepreneurship development: codesign with women entrepreneurs in Iringa, Tanzania. *The electronic journal of information system in developing countries*. 85(2)
- Lariviere B, Keiningham T, Cooil B, Aksoy L, M aalhouse E (2013)A longitudinal examination of Customer commitment and Loyalty *Journal of Service Management*. 25(1) 75-100
- Lin CY, Ho YH (2011), Determinants of green practice adoption for logistics companies in China. *Journal of Business Ethics*, 98(1): 67-83
- Lin (2014) Understanding the determinants of electronic supply chain management system adoption: Using the technology–organization–environment framework. *Technological*

Forecasting and Social Change. 86, (1), 80-92

Maduku D., Mpinganjia M, and Duh H (2016) Understanding mobile marketing adoption intention by South African SME's. A multi-perspective framework. *International Journal Information Management* 36 (2016) 711-723

Maisara S, Hamad, A and Yussuf S (2022) Effect of Consumer Perceived Risk on Online Purchasing Intention in Zanzibar: A Case of JUBIWADA. *International Journal of Accounting, Finance, and Risk Management*. 7(4) 181=187

Mallat, N. (2007). Exploring consumer adoption of mobile payments–A qualitative study. *The Journal of Strategic Information Systems*, 16(4), 413–432

Mimosette, F., and Paul D. (2015). Factors explaining the adoption of mobile marketing in Cameroon: Exploratory study on the use of SMS as method of transmission of social information. *African Journal of Marketing Management*, 7(2), 20-31.

Mohammed, .A., Almsafir K. and Alnaser M., (2013). The factors that affects e-commerce adoption in small and medium enterprise: A review. *Aus. J. Basic Applied Sci.*, 7: 406-412.

Mutua J, Oteyo N, and Njeru A (2013) The extent of E-commerce adoption among SMEs in Nairobi, Kenya. *Internarional Journal of Business and Social Science*. 4(9) 116-122

Okazaki S and Taylor C (2008) What is SMS advertising and why do multinational adopt it? Answers from an empirical study in the European market. *Journal of Business Research* 61 (2008) 4–12

Oliveira T and Martins M (2011) Literature Review of Information Technology Adoption Models at Firm Level. *Electronic Journal Information Systems Evaluation* Volume 14 (1) 2011

Rahab and Hartono (2012) Adoption of Information Technology on Small Businesses: The Role of Environment, Organizational and Leader Determinant. *International Journal of Business, Humanities and Technology* Vol. 2(4) 60-66

Rahayu and Daya (2015) Determinant Factors of E-commerce Adoption by SMEs in Developing Country: Evidence from Indonesia. *Procedia - Social and Behavioral Sciences* 195(1) 142-150

Ramdani, B. and Kawaiek, P. (2007) 'SME Adoption of Enterprise Systems in the Northwest of England: An Environmental, Technological and Organizational Perspective', in *IFIP WG 8.6 - Organizational Dynamics of Technology-Based Innovation: Diversifying the Research Agenda*. Springer.

Rettie, R, Grandcolas U and Deakins B (2005). Text message advertising: Response rates and branding effects. *Journal of Targeting, Measurement, and Analysis for Marketing* Vol. 13 (4), 304–312

Riquelme H. E, Rios. E and. Al Enezi S. O. (2011) Drivers of three SMS ad responses. *Journal of Targeting, Measurement, and Analysis for Marketing* Vol. 20, 1, 1–15

Rohm and Sultan (2005) The coming era of Brand in the hand MIT Sloan Management Review 47(1):83-95

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). *New York, US: Free Press*

Sabokwigina D, Malima G and Mpogole H (2013). SMS advertising in Tanzania: factors affecting consumer attitudes. *IST- Africa conference proceedings* ISBN:978-1-905824-38-0

Setiadi, A, Alamsyah D Purnama, S. Kurniadi D, and Oktora E. (2018). Implementation of Green IT In Education Industries. *Third International Conference on Informatics and Computing (ICIC)* p1–4

Shankar V, Ventakesh A, Hofacker C and Naik P. (2010) *Mobile Marketing In A Retail*

Environment; Current Insight And Future Research Avenue. *Journal of Interactive Marketing* 24(1) 111–120

Smutkupt P., Krairit D., Khang D. B. (2012). Mobile marketing and consumer perceptions of brand equity. *Asia Pacific Journal of Marketing and Logistics*, 24(4), 539–560.

Lin T.C., Paragas, F. Goh D and Bautista J.;(2016). Developing location-based mobile advertising in Singapore. A social-technical perspective. *Technological Forecasting and Social Change*, 103 (2016)334-349

Yousif, R.O. 2012. Factors Affecting Consumer Attitudes Towards Mobile Marketing. *Journal of Database Marketing and Customer Strategy Management*, 19: 147-162