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Scaling up use of Mobile Marketing by Small and Medium Size Enterprises

Case Study of Nairobi County

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DECLARATION

This project is my original work and to the best of my knowledge this research has not been submitted for any award in any University.

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This project report has been submitted in partial fulfillment of the requirement of the Master of Science Degree in Information Technology Management of the University of Nairobi with my approval as the University supervisor.

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ABSTRACT

In this era of globalization, the demands and growth of technology has led to an increase in the usage of information technology especially for Small and Medium Enterprises (SMEs). Among these technologies is mobile marketing which has become an essential factor for SMEs to compete with industry demands. With the increased mobile services subscriptions by consumers, SMEs are exposed to vast markets to tap into. It is against this background that this research sought to identify the extent of mobile marketing by SMEs in Nairobi County, the factors affecting the scaling up of mobile marketing by SMEs, how SMEs can leverage on the mobile marketing technologies to enhance their competitiveness in this competitive globalized business environment and in turn adopt a model that can be used by SMEs to scale up mobile marketing. A case study of SMEs within Nairobi County was used for the purpose of the research. The data was collected from Small and Medium Size Enterprises within Nairobi County. The target respondents were SME owners and managers. Data collection was done mainly through online questionnaires and was analyzed through Partial List Squares Structured Equation Modeling (PLS-SEM) which included measures of path model analysis, coefficient of determination and significance of path coefficients to find out the significance of latent variables affecting the scaling up of mobile marketing by SMEs. Results from the study showed high internal consistency, discriminant and construct validity of the data collection tools. The study established that TOE framework was the most viable framework for SMEs to use in the scaling up mobile marketing. The latent variables, *relative advantage of mobile marketing* was highly significant towards the scaling up of mobile marketing with a significance level of 3.205, *organizational technical resources* was highly significant with a significance level of 2.007 and the *perceived reception of users towards mobile marketing* was identified as highly significant towards the scaling of mobile marketing with a significance level of 2.762. On the other hand the research established that the latent variable *compatibility* had a relatively low significance level of 0.0708 towards scaling up of mobile marketing and *size of organization* had a relatively low significance level of 0.68. The scaling up of mobile marketing is influenced by technological, organizational and environmental factors. This study contributes to body of knowledge by providing a model that can be used by SMEs to scale up mobile marketing in their firms.

Key words: Mobile Marketing, SME, IT Adoption and TOE.

Table of Contents

ACKNOWLEDGEMENTS.....	iii
ABSTRACT	iv
LIST OF FIGURES	viii
LIST OF TABLES.....	ix
LIST OF ABBREVIATIONS.....	x
GLOSSARY OF TERMS	xi
CHAPTER ONE.....	1
INTRODUCTION	1
1.1 Background.....	1
1.2 Problem Statement.....	3
1.3 Objectives.....	3
1.4 Significance	3
CHAPTER 2	4
LITERATURE REVIEW	4
2.1 Fundamentals of Mobile Marketing	4
2.3 Small and Medium Size Enterprises	5
2.4 Mobile Technology.....	5
2.5 Mobile Marketing	6
2.6 Types of Mobile Marketing	6
2.7 Mobile Marketing Technologies – The emerging Mobile Marketing trends.....	7
2.8 Benefits of Mobile Marketing	8
2.9 Challenges of Mobile Marketing	9
2.10 Theoretical Frameworks	9
2.10.1 Technology Organization Environment (TOE) Framework.....	9
2.10.2 Unified Theory of Acceptance and Use of Technology	10
2.10.3 Technology Acceptance Model (TAM).....	11
2.10.4 Research Framework	13
CHAPTER THREE	16
RESEARCH METHODOLOGY.....	16
3.1 Introduction	16

3.2 Research Design	16
3.3 Instrument development and design	16
3.4 Population of the Study	16
3.5 Sampling Design	17
3.6 Pilot study	18
3.7 Data Analysis.....	18
3.7.1 Validity Test	18
3.7.2 Reliability Test	18
CHAPTER 4:	20
RESULTS AND DISCUSSION	20
4.0 Data Collection Tool Development	20
4.1 Pretesting	20
4.2 Preliminary analysis and results	20
4.3.1 Age of Respondents.....	21
4.3.3 Understanding of Mobile Marketing	22
4.4 Technological Factors on the scaling up of Mobile Marketing by SME's in Nairobi County	23
4.5 Environmental factors on the scaling up of Mobile Marketing by SME's in Nairobi County	26
4.6 Organizational factors on the scaling up of Mobile Marketing by SME's in Nairobi County	28
4.7 Model Estimation	29
4.7.1 Validity and Reliability tests	29
4.7.3 Convergent Validity	31
4.7.4 Discriminant Validity	32
4.7.5 Path modeling Analysis	32
4.7.5 Coefficient of determination (R ²)	33
4.7.6 Significance of Factors and Path Coefficients.....	34
5.8 Summary of Results.....	35
CHAPTER FIVE	37
CONCLUSION AND RECOMMENDATION.....	37
5.1 Introduction.....	37
5.2 Achievements.....	37
5.2.1 Research Objectives.....	37
5.2.2 Research Objective #1	37

5.2.3 Research Objective #2	38
5.2.4 Research Objective #3	38
5.3 Conclusion	39
5.4 Research Contributions.....	40
5.4 Recommendations.....	40
5.5 Future Research	41
REFERENCES	42
APPENDICES	47

LIST OF FIGURES

Figure 2.1: Technology Organization Environment, TOE Fleischer, 1990.....	10
Figure 2.2: Unified Theory of Acceptance and Use of Technology.....	11
Figure 2.3: Technology Acceptance Model.....	12
Figure 2.4: Proposed Conceptual Framework	15
Figure 4.1: Age of Respondents.....	21
Figure 4.2: Post-test Reliability test.....	31
Figure 4.3: Post-test1 AVE coefficients.....	32
Figure 4.4: Path modeling analysis.....	33
Figure 4.5: Bootstrapped predictive Model	35
Figure 5.1: Scaling up Mobile of Marketing Model	39

LIST OF TABLES

Table 2.1: Comparison of models for review.....	12
Table 2.2: Definition of Constructs.....	14
Table 4.1: Level of Education.....	21
Table 4.2 Understanding of Mobile Marketing.....	22
Table 4.3: Percentage of employees who use can use mobile marketing.....	22
Table 4.4: Technological factors mean and Std. Deviation.....	23
Table 4.5: Environmental factors mean and Std. Deviation.....	26
Table 4.6: Organizational factors mean and Std. Deviation.....	29
Table 4.7: Validity and Reliability.....	30
Table 4.8: Discriminant validity.....	32
Table 4.9: Factor Loading	33
Table 5.0: Path co-efficient of t-test values.....	35
Table 5.1: Mean, STDEV, T-Values, P-Value.....	36
Table 5.2: Summary of research objectives and questions.....	37

LIST OF ABBREVIATIONS

SMEs	Small and Medium Size Enterprises
GSMA	Global System for Mobile Communication Association
CAGR	Compound Annual Growth Rate
EDGE	Enhanced Data Rates for Global Evolution
GPRS	General Packet Radio Service
Wi-Fi	Wireless Fidelity
SMS	Short Message Service
GPS	Global Positioning System
USSD	Unstructured Supplementary Service Data
TAM	Technology Acceptance Model
TOE	Technology Organization Environment
UTAUT	Unified Theory of Acceptance and Use of Technology
CAGR	Compound Annual Growth Rate
GSMA	Global System for Mobile Communication Association
PLS – SEM	Partial Least Squares – Structured Equation Modeling
CBD	Central Business District

GLOSSARY OF TERMS

Conversion Rate - Mobile conversion rate is the percentage of people who opted in to your mobile marketing campaign, out of the total number of people who saw the campaign.

Compound annual growth rate (CAGR) is the rate of return that would be required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment's lifespan

CHAPTER ONE

INTRODUCTION

1.1 Background

Mobile phone usage has risen exponentially offering marketers with new opportunities to serve and reach many clients. There has been an enormous growth in mobile technology and mobile applications across the world. The Global System for Mobile Communication Association (GSMA) did a survey in 2017 that indicated that over 5 billion people across the globe had subscribed to mobile services. Globalization has resulted to an increase in the use of information technology by Small and Medium Size Enterprises (SMEs). Mobile marketing has become an essential factor for Small and Medium Size Enterprises to consider for them to compete with the industry demands (GSM Association, 2018).

Mobile usage in Africa has realized a significant uptake. According to the GSMA report 2018, mobile penetration in Sub-Saharan Africa stood at 44 per cent in 2017. The report indicates that mobile adoption is set to grow at a growth rate of 4.8 per cent for the duration 2017 to 2022, which doubles the global growth rate. The growth rate is predicted to get to the 50 per cent level by 2023. The report furthers shows that Nigerians used their mobile phones for internet searches 86 per cent of the time in 2017, up from 76 per cent in 2016 and 81% of the information Kenyans searched for on the internet in 2017 was done using smartphones marking a 7% growth from 74 per cent in 2016 .

The Communication Authority of Kenya quarter 4 report as at 30th June 2018, points out that mobile service subscriptions in Kenya stood at 45.5 million. Indicating a 13.2 percent increment as compared to 40.2 million subscriptions recorded in June 2017. This shows the vast exposure to consumers that Small and Medium Size Enterprises can get through the usage of mobile phones as a means of marketing in Kenya. Small and Medium Enterprises (SMEs) drives a nation's economy, according to Sogorb-Mira (2005).

A study done by Grand View Research, Inc global shows that the market size of mobile marketing is anticipated to reach USD 223.41 billion by the year 2025, growing at a CAGR of 22.8% over the period of forecast. The surge in the use of mobile phones to access content available online coupled with the growth of mobile marketing technologies has been projected to propel the global

mobile marketing. In addition, the increased use of social media platforms and users accessing content on the internet, is anticipated to further propel the mobile marketing. The usage of mobile marketing technology is rapidly becoming an essential marketing tool for marketers to adopt (Leppaniemi and Karjaluoto, 2008).

The tremendous growth in businesses has resulted to a stiff competition among SMEs leaving innovation key for any business growth. This has necessitated to the use of technologies by SMEs globally as a means of staying relevant in competitive markets. Information Technology exposes Small and Medium Size Enterprises to vast market opportunities. However, SMEs locally mainly use the traditional marketing solutions to stay competitive rather than adopting new forms of technology like mobile marketing to stay relevant in the industry (Bayo Moriones et al., 2007). To generate growth SMEs must be stimulated to adopt new technologies that shape their innovative services and products. Against a background of stiff competition, information technology solutions can enhance SMEs competitiveness leading to efficiency and effectiveness for business sustainability.

Empirical studies depict that small and medium size enterprises (SMEs) strive to attain profitability and competitiveness without adoption of suitable mobile marketing technologies at the appropriate market levels (Harvie et al., 2010). As a result, mobile marketing applications are now significant to SMEs. SMEs can leverage on these applications to initiate communication with clients and business transactions. The aspect of location and time in mobile devices is steadily shifting the paradigm of mobile marketing by SMEs (Sultan et al., 2009).

The uptake of mobile marketing happens mainly in mature markets, where mobile phone penetration and high-speed, affordable mobile broadband are the prevalent norms (Chinomona, et al 2013). He further states that, it is important to explore the reasons behind the lagging uptake to understand why SMEs have low mobile marketing usage rates. The background of this study depicts that the uptake of mobile marketing by Small and Medium Size Enterprises (SMEs) is in its early stages. This study focused on determining how SMEs can scale up marketing through the use of mobile devices.

1.2 Problem Statement

Despite the recent upsurge of mobile phones by consumers and the mobile marketing technologies Small and Medium Size Enterprises are yet to take up mobile marketing (Berney, 2010). Berney asserts that Small and Medium Enterprises cannot function optimally without the implementation of appropriate mobile marketing, this is due to the ever changing opportunities and threats facing the Small and Medium Size Enterprises. The rate of usage of mobile marketing remains low amongst Small and Medium Size Enterprises despite the benefits it offers (Ghobakhloo et al., 2012). This study aims to identify the extent of mobile marketing and the factors affecting scaling up of mobile marketing in Kenya by SMEs in Nairobi County and in turn propose framework that can be adopted by SMEs to scale up mobile marketing.

1.3 Objectives

1. To identify the extent of mobile marketing adoption by SMEs in Nairobi County.
2. To identify the factors that affect the scaling up of mobile marketing by SMEs.
3. To adopt a framework for scaling up uptake of mobile marketing by SMEs in Nairobi County.

1.4 Significance

Mobile marketing is necessary for SMEs to realize their optimum business potential considering the consumers reach and the vast benefits they have at their disposal. In the wake of the slow uptake of mobile marketing by the Small and Medium Size Enterprises (SMEs), this study sought to identify the extent of mobile marketing in Nairobi County and the factors affecting the uptake of mobile marketing by SMEs and therein provide a framework to scale up the use of mobile marketing by SMEs. This study puts into perspective the technological, organizational, and environmental context of mobile marketing use in Kenya, the case study of Nairobi County. In addition, this study seeks to puts the work of other researchers into perspective and extend the existing literature on mobile marketing. This study therefore enables the adoption of a framework for Small and Medium Size Enterprises contemplating to scale up mobile marketing. The study will further help firms become familiar with issues that affect the scaling up of mobile marketing and help them make informed decisions

CHAPTER 2

LITERATURE REVIEW

2.1 Fundamentals of Mobile Marketing

The *Association of Mobile Marketing* outlines Mobile Marketing as ‘Practices that aids firms reach their clients in an interactive way using a mobile gadget. Mobile marketing characteristics comes down to three influencing factors. These factors are device market penetration, physical and location. A mobile device is an efficient marketing tool because of these characteristics (1) portability, (2) networked, easy to get information, (3) visual content and textual, and (4) convergence of services and functions (Seligman, 2017).

Several factors have contributed to sustained development of mobile marketing: worldwide penetration of mobile gadgets, acquisition of mobile gadgets with large screens and high connectivity speeds (3G and 4G). Mobile marketing provides location and situation dependency, exclusiveness, targeted communication to customers, interaction and immediate transaction as compared to traditional forms of marketing.

2.2 Scaling up of Mobile Marketing

Harvey *et al.* (2010), did a research on the taking up of mobile marketing in Malaysia. The study highlights the following six characteristics; trialability, permissibility, compatibility, relative advantage, complexity and perceived risk that play key roles in influencing a consumer’s decision to take up mobile marketing. Armstrong and Kotler (2009) argues that the take up of mobile marketing can be understood by looking into factors that affect intention to adopt mobile marketing. Recently, researchers have begun to note the importance of gaining consumers’ trust in relation to privacy and security for the mobile marketing communication channel to be accepted. Bauer (2005) further elaborated that trust is essential for a clients’ inclination to allow the reception of marketing content on their mobile devices. Risk relates to the concept of trust (Mitchell, 1999) and in mobile marketing consumers are likely to have queries about unauthorized data access, unsolicited tracking of usage and data manipulation patterns.

Sunday’s *et al.* (2019), research looked at the adoption of mobile marketing by Small and Medium Size Enterprises in Nigeria with the aim of developing a framework for mobile marketing adoption. The study employed the TOE framework and identified aspects that affect the taking up of mobile marketing adoption. Aspects that relate to technological context included operational

effectiveness, safety issues, simplicity, expandability and adaptive capability while organization context-related factors include diversity in knowledge, the extent of business collaboration and shared understanding.

Brown (2006) asserts that privacy concerns are sensitive to mobile marketing owing to the personal nature of mobile gadgets. In addition, there are concerns of intrusion pertaining to the utilization of the personal data used to send customized mobile marketing content to consumers (Leppaniemi et al., 2006). He further asserts that constant messaging from the service providers may irritate consumers because of the irrelevant content and ill timing of the marketing content. The significance of marketing content can only be determined by the consumer. Therefore, necessitating the need of mobile marketers to interact with consumers and allow them decide on what types of marketing content are permissible. Carroll *et al.*, (2007) highlights that user permission is also an important variable in mobile marketing due to consumers' concerns of high degree of spam messages. According to Kavassalis (2003), end-users' permission to opt-in with vivid opt-out guidelines must also be present if mobile marketing is to be efficient and effective. In this case, permissible mobile marketing content may be seen as an approach to reduce clutter.

2.3 Small and Medium Size Enterprises

Kenya's Vision 2030 points out the key role that Small and Medium Size Enterprises undertakes in the development agenda that seeks to change Kenya into a developed nation. The SME industry has been pointed and mapped out as an essential driver for attainment of the Vision 2030 agenda. In Kenya the role played by SMEs in the economic growth is magnanimous. According to a National Economic Survey done by Central Bank of Kenya (CBK), Kenya's 2017 Gross Domestic Product (GDP) was anticipated to grow by 6.4 percent with 3 percent growth being contributed by SMEs. The report further shows that SMEs make up 98 percent of all business in the country, generating over 30 percent of the jobs yearly. The 2014 survey highlights that 80 per cent of the jobs created that year were predominantly SMEs. This depicts the number of SMEs in Kenya is on the rise which in turn translates to stiff competition among SMEs. Technologies like mobile marketing should be adopted by SMEs to help them have more clout in the market.

2.4 Mobile Technology

Mobile technology is an indispensable part of life. This is mainly due to the convenience of mobiles and the varied functions of mobile devices. According to (Rowles, 2017) mobile technology involves the use and movement of devices by individuals freely. Typically mobile technology entails mobile gadgets, Personal Digital Assistants (PDA) and tablets (Vatanparast,

2009). According to (Sadia, S. 2011) the growth in technology has altered business outlook extensively. Consequently, mobile technologies have the capacity to change the economic niche of businesses through the generation of new emerging markets and establishing new opportunities that are already in existence. Mobile technology offers communication avenues targeting consumer sections in an economical way and consumers directly through the use personalized messages.

2.5 Mobile Marketing

According to Maya (2012), a mobile channel allows SMEs to sell their products through sharing of the products information. According to (Grewal et al, 2015), it is necessary for mobile marketers to possess the dynamic abilities to send appropriate content to the right audiences. Mobile marketers should track needs of consumers and have the capacity to develop appropriate marketing stratagems. To signify the potential of SMS marketing in Kenya, the Communication Authority's quarterly report indicates that the SMS service in Kenya has sustained an upward trend. This growth has been attributed to the lucrative SMS packages availed by mobile operators.

2.6 Types of Mobile Marketing

The types of mobile marketing techniques include:-

2.6.1 Social Media Marketing

Marketing through social media is popular with marketers (Tuten, 2016). It gives marketers a platform to advertise their merchandises from their social media platforms at a low or no cost. Most SMEs use social media effectively and efficiently by posting their products on their Facebook, Instagram, and Twitter handles.

2.6.2 Short Message Service (SMS) Marketing

Short Message Service is a messaging platform that enables marketers to send text messages between mobile phones (MMA, 2013). According to (Seligman, 2017) SMS marketing is a popular method of mobile marketing amongst marketers. He states that, "SMS marketing is a marketing channel that allows businesses to message customers with marketing messages through SMS, or text messaging." SMS marketing an effective way for marketers to get in touch with clients.

2.6.3 QR Codes

A Quick Response code is a barcode read by mobile devices with a camera (Rowles, 2017), QR Codes work by scanning the code with a mobile gadget using a QR code reader. QR Codes can be integrated into any type published materials ranging from, flyers, print advertisements, brochures,

event displays, and posters to business cards. This makes QR codes ideal for mobile marketing. QR codes and Bar codes can be scanned to get more info on anything. Thus, when you scan a QR code of a company it may directly take you to their website or may lead you directly to the page where you can compare it with other products of the same nature.

2.6.4 Mobile applications & In-game Mobile Marketing

Small and Medium Size Enterprises are tapping into different mobile and gaming applications to market their businesses. Through this form of marketing SMEs are able to market their products to thousands of users who use different applications daily. This model of marketing occurs by prompting pop up ads when consumers are using the applications. Studies show that of all the time people spend on smartphones, 50% of it is used in playing games. So marketers are trying to grab the attention of customers by sneakily inserting ads inside the gaming apps. That way, the ad flashes when you play the game.

2.6.5 Location-based Marketing

Local based marketing is a mobile marketing technique that uses a mobile phone's location to notify the gadget's owner about any offers of business or opportunities within the gadget's vicinity (Schmeisser, 2013). Typically, location-based notifications are sent to phones via SMS text messages. Geo-fencing is the enabling technology. Many apps including Google and Facebook ask for your present location. This way they can push ads and marketing messages for businesses in that area.

2.7 Mobile Marketing Technologies – The emerging Mobile Marketing trends

Mobile technology is redefining mobile marketing, there are various mobile marketing technologies that are being adopted in well-established markets (Rowles, 2017). These technologies redefine mobile marketing and create different online, physical, as well as electronic experiences.

Some of the upcoming technologies being adopted by organizations in marketing their products are;

2.7.1 Beacon Technology Marketing

According to (Statler et al., 2016), Beacons are minute devices that emit Bluetooth Low Energy signals to nearby mobile phones. The one-way radio waves emitted to the mobile phones communicates and interacts with mobile applications and pushes notifications of any offers and products to the consumers . Small and Medium Size Enterprises can adopt beacon technology as marketing technology to target users in proximity marketing.

2.7.2 Augmented Reality Marketing

According to (Bonsor, 2010), Augmented Reality is a term for an indirect view of physical, real-world settings whose elements are augmented via laptop-generated sensory enter, including sound or portraits. A graphical 3D object floats from the real environment whilst considered through a mobile device. Its objective is to make target customers experience products virtually at the comfort of their home using their smartphone or tablet hence changing the way marketers engage with customers.

2.7 3 Chatbot Marketing

Chatbots are software programs that imitates intelligent conversations with humans. Several brands such as Uber, are using chatbots successfully to communicate with customers as well as drive interactions with clients. Chatbots are a cutting-edge marketing tool for brand names. Chatbots provide a great opportunity for brands to engage in a personal and smart ways with their audiences (Hawkins, 2019). There is a big move from traditional media platforms to messaging platforms such as Facebook Messenger or WhatsApp.

2.8 Benefits of Mobile Marketing

Mobile marketing is an affordable way to market products or services and to enhance customer loyalty (Hopkins et al, 2012). Mobile marketing techniques such as sending text messages is a very effective mode of mobile marketing considering that more than 90 percent of mobile phone holders read every text message they receive. Mobile marketing enables marketers to reach more clients at lower costs in comparison to the traditional forms of marketing. 91 per cent of mobile cell phone users maintain their cell phone within one arm's reach for the duration of the day. Content creation for mobile marketing, be it textual or multimedia, is less expensive and simpler as compared to the creation of content for other forms of media (Hopkins et al, 2012). Users habitually share offers

with families and friends, implying SMEs can get vast exposure at no extra effort. There are more people who own mobile phones as compared to other devices like laptops, this implies that mobile marketing reaches diverse audiences.

2.9 Challenges of Mobile Marketing

Consumers are easily turned off by wrong marketing content, when marketers send content at the wrong time and is targeted to the wrong platforms. Some mobile marketers engage in promotional activity without the user's permission which irritates potential clients. Hopkins *et al.*, (2012) asserts that because of the small nature of a mobile phone device navigating a mobile phone could be cumbersome for most users to look through details of an advert as a result, advertisements may go unviewed. The lack of in-house expertise is a big challenge for marketers is an impediment for many SMEs who would like to venture into mobile marketing. Heisterberg *et al.*, (2018). Mobile devices have a low conversion rate in comparison to other traditional forms of marketing which is a huge impediment towards the scaling up of mobile marketing. In addition, consumers have concerns over the privacy and security in mobile marketing, this forms a barrier to the scaling of mobile marketing. (Kavassalis, 2003).

2.10 Theoretical Frameworks

Researchers have been adopting different theoretical frameworks in their studies, theories such as; Technology Acceptance Model (TAM) (Davis et al. 1989), the TOE framework (Tornatzky and Fleischer 1990) and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al. 2003, Ajzen 1991), DOI (Rogers 1995) in their various studies.

The theoretical starting point of the study established literature on aspects that affect the scaling up of mobile marketing. This section reviews existing theoretical models on technology adoption.

2.10.1 Technology Organization Environment (TOE) Framework

TOE theory framework established in 1990 (Tornatzky and Fleischer 1990) brings out three contexts of a firm that affect the implementation and adoption of technological innovation within an organization. The three aspects are defined as; organizational context, technological context, and environmental context. Technological context defines the internal and external technologies that apply to organizations. Organizational context on the other hand defines descriptive measures of an organization which includes size, scope and structure. Environmental context looks at the ground within which an organization performs its operations with competitors and transactions

with the government (Tornatzky and Fleischer 1990). The main dependent variable for TOE theory is Technology Adoption (or Likelihood of Adoption, Intention to Adopt, and Extent of Adoption) (Tornatzky & Fleischer 1990). Key independent variables of the theory are; Technological Context Organizational Context Environmental Context (Tornatzky & Fleischer 1990).

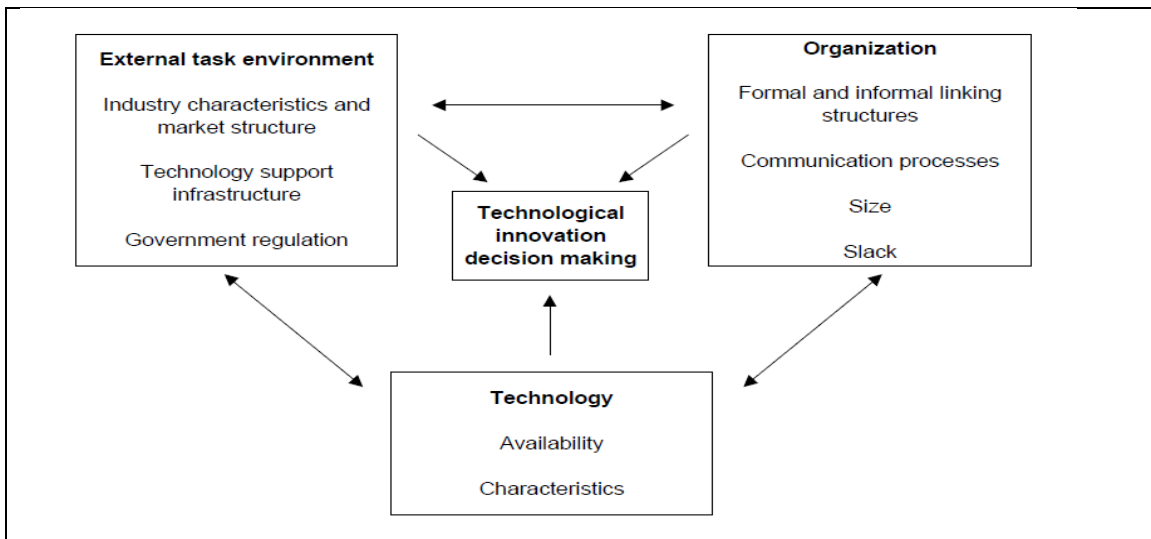


Figure 2.1 Technology Organization Environment, TOE Fleischer, 1990

2.10.2 Unified Theory of Acceptance and Use of Technology

The UTAUT theory elucidates how client plans to use an innovation and consequent utilization behavior. UTAUT states that there are four variables: 1) effort expectancy 2) performance expectancy 3) facilitating conditions and 4) social influence Performance expectancy determined by individual perception that operating a system will increase performance. Effort expectancy is the perceived easiness in using an application system. Social influence is the individuals' perception of what other people next to him/her trust that he or she ought to utilize a specific application framework. Facilitating conditions allude to the arrangement of support for clients as far as PC equipment and programming important to chip away at a specific application framework (Venkatesh *et. al.*, 2003). Differences influence technology use as explained by the UTAUT model. Moreover, various individual these individual differences are age, gender, and experience.

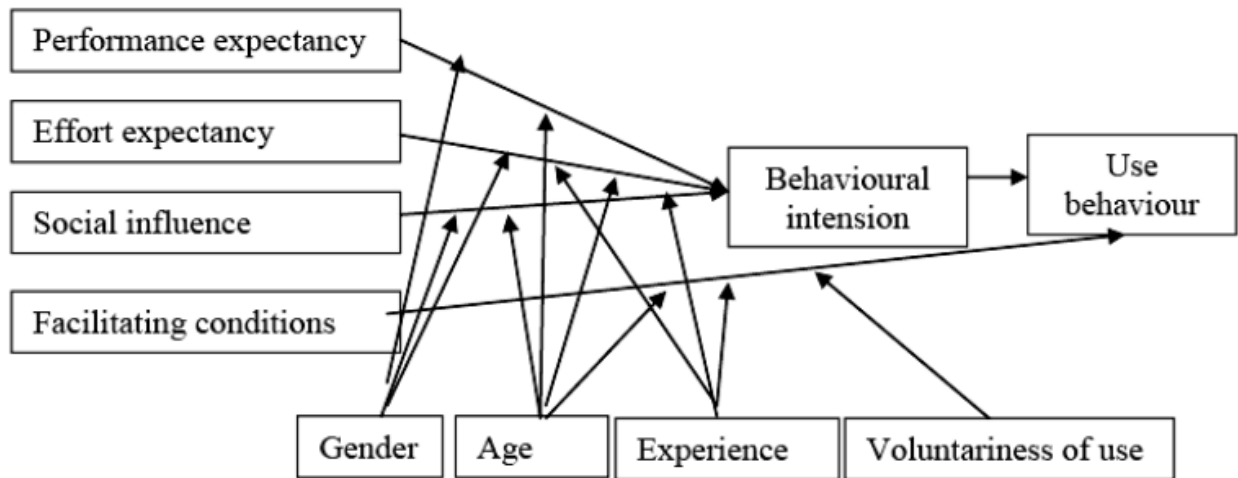


Figure 2.2 Unified Theory of Acceptance and Use of Technology adapted from (Venkatesh et. al., 2003)

2.10.3 Technology Acceptance Model (TAM)

TAM depicts how users use and accept new technology. It explains the aspects that influence consumers' decisions on how to use technology. Davis (1989) defined perceived usefulness as “the extent to which one perceives that using a given system would improve one’s job performance”. He further defined perceived ease-of-use as “the extent to which one believes that using a given system would be devoid of effort”. It is a valuable tool in improving customer and service quality as well as forecasting satisfaction.

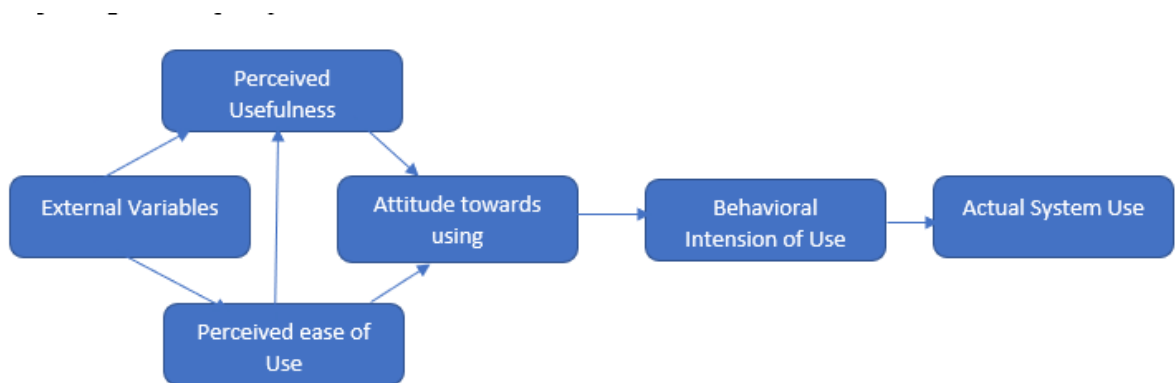


Figure 2.3 Technology Acceptance Model Adapted From Davis, Bagozzi Et Warshaw (1989)

Comparison of the three models reviewed

Table 2.1: Comparison of technology models reviewed

S/NO	TAM	UTAT	TOE
Perceived Usefulness	•		
Perceived ease of use	•		
Performance expectancy		•	
Effort expectancy		•	
Social influence		•	
Facilitating Conditions		•	
Technological characteristics			•
Size of organization			•
Communication process			•
Slack			•
External technological Infrastructure			•
Government regulation			•
Industry characteristics			•

This study reviewed the Technology Organization Environment (TOE) Framework, Unified Theory of Acceptance and Use of Technology and Technology Acceptance Models of technology adoption. The literature demonstrates that TAM and UTAUT are deterministic models in that they

emphasize on consumers and disregards the various interplays of other aspects that affect mobile marketing by SMEs.

2.10.4 Research Framework

The extensive number of theoretical frameworks used in other researches has provided several constructs that affect the scaling up of mobile marketing. To successfully implement this approach, the research adopts the Technology Organization Environment (TOE) as the framework adoption model to focus on the scaling up of mobile marketing by Small and Medium Size enterprises. The TOE model provides most of the variables within the study. Using three categories denoted from the TOE framework, the main factors in the technological context were identified as the perceived benefits of scaling up mobile marketing, the compatibility of mobile marketing with the devices and the complexity of the technology. In the organizational context, the main factors were identified as, the readiness of the organization in terms of size, the financial and availability of technical resources of while factors in the environmental context were identified as the influence of competitors and the perceived reception from the target population.

Identified elements of TOE

Technological Factors

This construct explains characteristics and features of the technologies in use and emerging technologies. The main factors in the technological context are the relative advantage of scaling up use of mobile marketing, the compatibility of mobile marketing with the devices and the complexity of the mobile marketing technologies.

Environmental Factors

This construct explains the operational facilitators and inhibitors. In the environmental context the influence of competitors and the perceived reception from the target population are significant in the study.

Organizational Factors

This construct explains the characteristics of an organization. These include organization size, management structure, organizational working culture, organization's human resource, organizational technological resources infrastructure and organizational financial resources. Organizational factors are illustrative and pertain to readiness and use of resources.

Table 2.2: Definition of Constructs

Variable	Definition of Construct
Technological	
Relative Advantage	The extent to which an invention is deemed as being better than the idea it supersedes.
Complexity	The degree to which an innovation is perceived as being relatively difficult to use and understand.
Compatibility	The extent to which an innovation is deemed as consistent with the existing values and the needs of potential adopters.
Environmental	
Influence of competitors	Competition and high rivalry increase the likelihood of scaling up of mobile marketing to attain competitive advantage
Perceived reception from target population	Poor perception of mobile marketing influences the scaling up process and is an inhibitor towards mobile marketing
Organizational	
Organizational size, financial and technical resources	Comparing to large businesses small businesses face limited resources resulting in difficulty in innovation adaption.

The research therefore hypothesizes: -

H1: Relative advantage has influence on the scaling up of mobile marketing by SMES

H2: Compatibility has influence on the scaling up of mobile marketing by SMEs

H3: Complexity has influence on the scaling up of mobile marketing by SMEs

H4: Influence of competitors has direct effect on the scaling up of mobile marketing by SMEs

H5: Perceived reception from target population has direct influence on the scaling up of mobile marketing by SMEs

H6: Organizational readiness has influence on the scaling up of mobile marketing by SMEs

The proposed conceptual model;

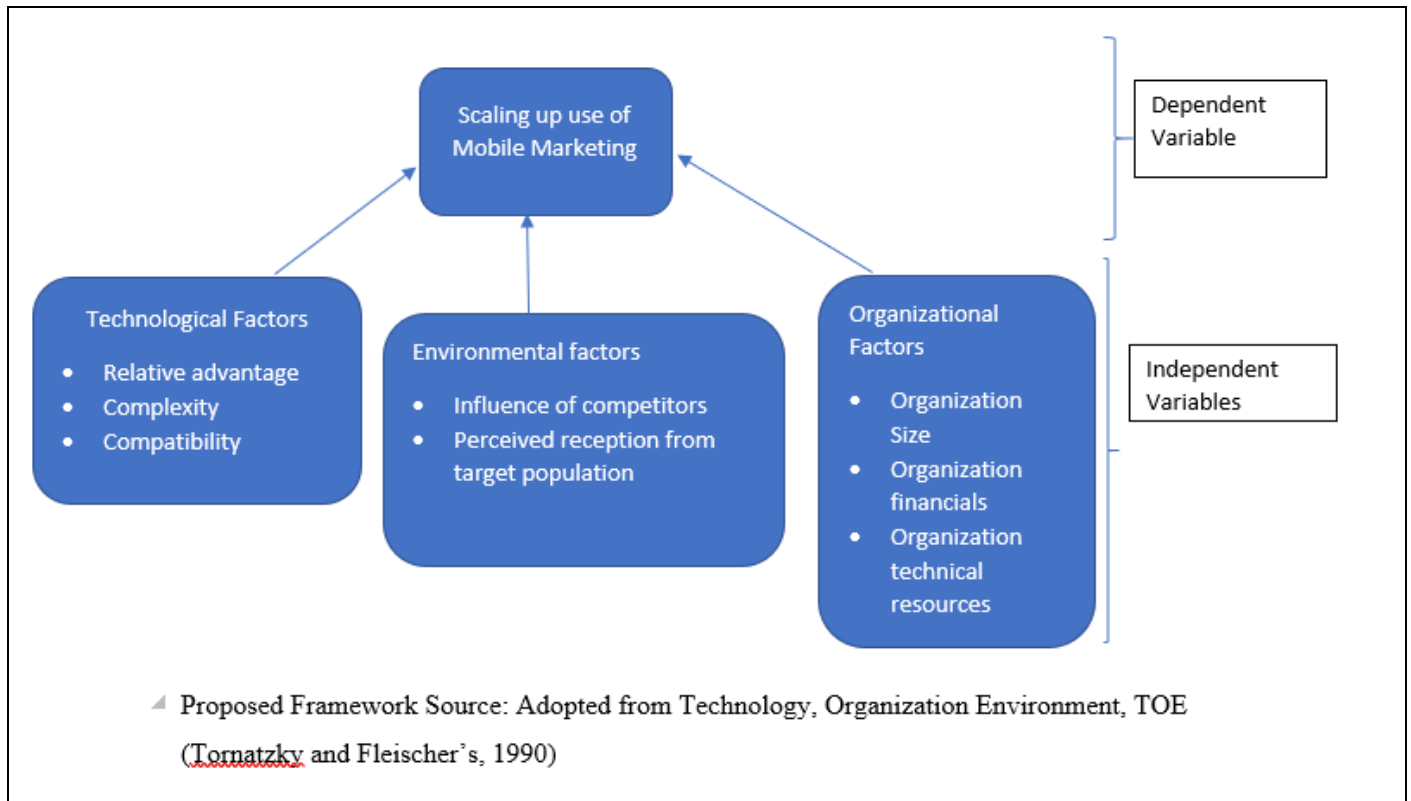


Figure 2.4: Proposed Conceptual Model

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology outlines data collection, measurements and data analysis with the aim of achieving the objectives of a research project (Christensen, 2008).

3.2 Research Design

Different research designs exist, the study chose a descriptive survey with both quantitative and qualitative data. A survey denotes the method of obtaining information concerning a phenomenon that is being studied from all or a selected number of respondents within the area of study. In a survey, the researcher scrutinizes those phenomena which exist in the universe independent of his action (Kothari, C.R, 2004).

The types of case studies are exploratory, explanatory, and descriptive. An exploratory study is applied to describe the hypothesis to be applied in succeeding study. Exploratory study brings out an understanding of research problem and is applied for instance where little literature is available about the topic of study and hence a real life example has to be investigated. A descriptive study on the other hand leads to a wealth of detailed analysis of a specific occurrence and its context.

3.3 Instrument development and design

The research design tool had 2 sections; with one section focusing on the demographic aspects and the other covering the statistical measurements for the variables in the conceptual framework.

The constructs in the conceptual framework were: Relative advantage, Complexity, Compatibility, Influence of competitors, Perceived reception from target population, Organization Size, Organization Financials and Organization technical resources.

3.4 Population of the Study

A well-defined population warrants that findings and results apply to the correct category of elements in the society. The population was adjudged as an infinite population and targeted Small and Medium Size enterprises owners. This study targeted SME's managers and owners of SME's located in Nairobi County within the Central Business District (CBD). Nairobi County has 98,600 registered SMEs within the CBD (Nairobi County, 2017).

3.5 Sampling Design

This study assumed stratified sampling design technique. It facilitates the involvement of all elements that comprise the population Kothari (2004). A sample size is the sub-set of the large population (Cooper and Schindler, 2006). All SME's registered SMEs within Nairobi County were factored in this study.

Cochran's formula was adopted in computing the sample size since the population was infinite.

$$n = \frac{z^2 (p)(1-p)}{e^2}$$

Where n=the desired sample size

z = Standard normal deviation set at 95% confidence level or 1.96

p = Percentage picking a choice or response (SME Managers and Owners, 0.214 of the population of SME's)

Calculation= (SME's in CBD/ SMEs in Nairobi County) * 100 = $\frac{21,100}{98,600} * 100\% = 21.4\%$
(0.214)

98,600

q = 1-p (the proportion without characteristics)

e=level of statistical significance (degree of freedom=0.05)

$$n = 1.96^2 (0.214)(1-0.214)/(0.05)^2$$

n=249 respondents

e= is the desired level of precision aka confidence interval

A random sample of 249 Small and Medium Size Enterprises were used in the study.

3.6 Pilot study

A pilot study involving 25 respondents was carried out to test the suitability of the research instrument as well as to unearth likely hitches for the main study. The key determinants to test for the usefulness of the research tool were reliability and validity tests. Each variable has at least 3 questions. The scale questions were determined on a 5-point scale with points as strongly agree, agree, neutral, strongly disagree and disagree,

3.7 Data Analysis

Data analysis involved several stages. First, the data collected from the questionnaires was edited to ensure completeness and consistency in the data collected. Analysis of data was carried out by means of statistics such as percentages and representation using bar graphs, pie charts and tables. The second phase was processing of the data using Smart PLS analysis software,

Data analysis was correlational and descriptive. Correlational analysis was key in determining how the various TOE constructs influenced the scaling up of mobile marketing. It also depicted what variance was more influential than the rest. Partial Least Squares based Structure Equation Modelling (PLS-SEM) algorithm was used to test variables measured from the questionnaires. PLS method is preferred for predictive testing using the SmartPLS 3 software. Descriptive analysis was used to measure of central tendency mean and mode.

3.7.1 Validity Test

Validity test measures the quality of a research. A research that has high validity the variables are closely linked to the study's intended focus. There are several tests that measure validity but the important tests to be used in this study is concurrent and predictive validity tests. As for concurrent validity the researcher tested the future new data in comparison with the results of the current tested data.

3.7.2 Reliability Test

For reliability the research used Cronbach alpha test. It is a feature in SmartPLS software that is used to measure internal consistency; it depicts how closely variables in a group are related. Cronbach alpha is a co-efficient of reliability

The formula to Cronbach alpha is :-

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

N:-Number of items

C-bar:- Average inter-item covariance among the items

V-bar:- Average variance.

The formula depicts that if you increase the number of items (N), there is an increase of Cronbach's alpha. An acceptable reliability coefficient (Cronbach alpha value) is 0.7 and above in most science research situations.

CHAPTER 4:

RESULTS AND DISCUSSION

This chapter explains the preliminary and the actual data collection and analysis that was carried out during the research. It also discusses the relationships observed between the independent and dependent variables.

4.0 Data Collection Tool Development

An online questionnaire comprising of 15 close ended questions were formulated. A preliminary test of the tool was done by sending the questionnaire to a small sample population of 25 business owners and managers to the various target population.

4.1 Pretesting

There were 15 out of the 25 responses sent out that responded. This is an acceptable response of 60%. The sample was then taken through analysis using the Partial Least Squares Structural Equation Modeling (PLS-SEM).

4.2 Preliminary analysis and results

The data collected was downloaded as a comma delimited version (CSV) file. The document was then uploaded for analysis onto the SmartPLS 3 software. PLS was adopted because it works well with a small sample size and its predictive accuracy is paramount.

4.3 Demographic Data

The demographic variables measured in this study include; age of the respondents, job designation, level of education and the number of staff in the organization who understand mobile marketing.

4.3.1 Age of Respondents

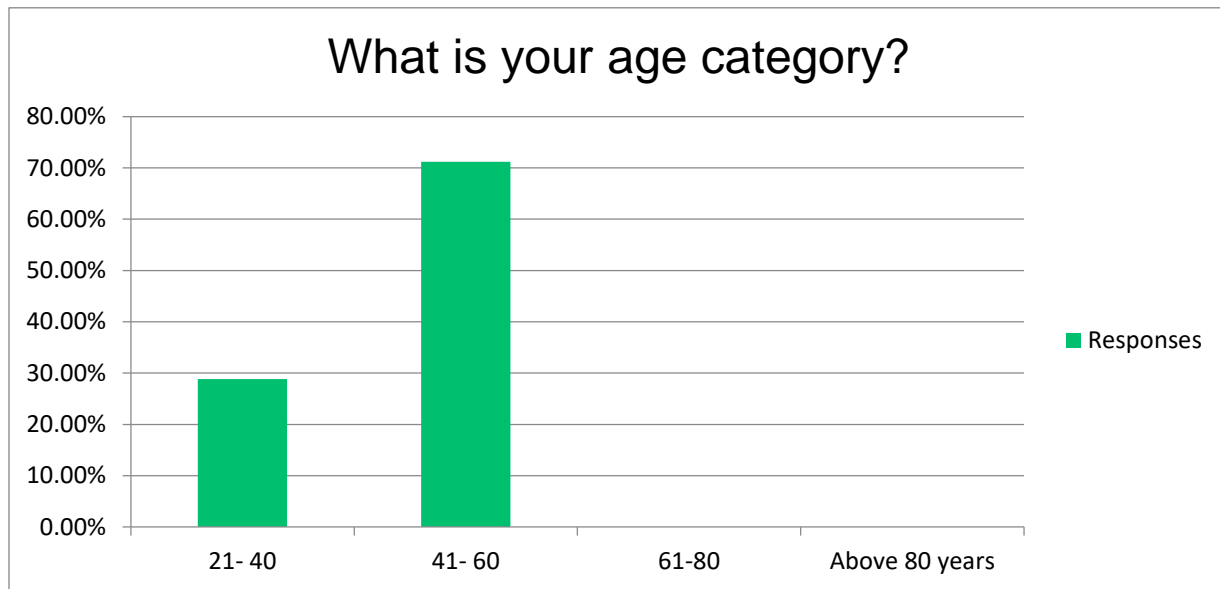


Figure 4.1 Age of Respondents

Figure 4.1 depicts that most of the respondents (71%) were aged between 41-60 while 29% of the respondents were aged between 21-40. The findings deduce that a number of business managers and owners are above the age of 40.

4.3.2 Level of Education

Table 4.1 Level of Education

Education Level	Frequency	Percent
Primary	0	0%
Secondary	0	0%
Certificate/Diploma	9	6.72%
Bachelors	89	74.79%
Masters	20	16.81%
Other (please specify)	2	1.68%
Total	120	100%

The findings shown in table 4.1 depict that a number of the respondents; 74.79% had attained a bachelor's degree. Further, 6.72% of the respondents presented that they attained a College Diploma/Certificate. 16.81% of the respondents, indicated that, they had achieved post-graduate education. A significant number of participants indicated that they had attained decent education, which indicates high literacy levels. The fact that the study was undertaken within an urban region that has numerous institutions of higher learning is deemed to be the factor in the high literacy level.

4.3.3 Understanding of Mobile Marketing

The data in table 4.2 represents the levels of understanding of mobile marketing by correspondents.

Table 4.2 Understanding of Mobile Marketing

Understanding of Mobile Marketing	Responses	Percentage
Learned through experience	91	75.83%
Learned through training	10	8.33%
No knowledge on mobile marketing	19	15.83%

The findings depicted in table 4.2 showed that most of the respondents; about 75.83% learned of mobile marketing through experience. Further, about 8.33% learned mobile marketing through trainings while 15.83% of the correspondents had no knowledge on mobile marketing.

4.3.4 Employees using Mobile Marketing

Table 4.3 represents percentage of employees who use can use mobile marketing

Percentage of employees in an organization who can use mobile marketing	Responses	Percentage
< 10%	13	11.02%
11-20%	18	15.25%
21-30%	12	10.17%
31-40%	15	12.71%
41-50 %	16	13.56%
> 50%	45	38.14%

The findings in table 4.3 depicts that a number of respondents; 38.14 had over 50% of their employees using mobile marketing. A further, 13.56% had 41%-50% of employees who can use

mobile marketing. 12.71% of the correspondents had 31%-40% of employees using mobile marketing. It is notable to note that 11.02% of the correspondents had less than 10% of employees who can use mobile marketing.

4.4 Technological Factors on the scaling up of Mobile Marketing by SME's in Nairobi County

The data in table 4.4 represents the Mean and Standard deviation of respondent's opinions on the statements raised on SME technological factors.

Table 4.4 Technological factors mean and Std. Deviation

#	Technological factors	Mean	Median	Min	Max	Standard Deviation
Q1	Using mobile marketing technologies enhances communication effectiveness with clients	4.342	4	1	5	0.647
Q2	Using mobile marketing technologies improves our firms' efficiencies in business	4.184	4	1	5	0.708
Q3	Using mobile marketing advances the quality of services given to our customers	4.096	4	1	5	0.827
Q4	Using mobile marketing technologies assists our firm to acquire new market	4.298	4	1	5	0.748
Q5	Using mobile marketing enables our firm to provide new products or services	4.044	4	1	5	0.754
Q6	Using mobile marketing technologies increases the firm's profitability	4.000	4	1	5	0.749
Q7	Using mobile marketing technologies is easy for our employees	3.781	4	1	5	0.814

#	Technological factors	Mean	Median	Min	Max	Standard Deviation
Q8	Learning to use additional mobile marketing technologies services is easy for our employees	3.649	4	1	5	0.858
Q9	Using mobile marketing technologies aligns with the organization's business goals	4.053	4	2	5	0.699
Q10	Using mobile marketing technologies aligns with the existing technology infrastructure	3.929	4	2	5	0.773
Q11	Using mobile marketing technologies aligns with our firm culture and business values	3.965	4	1	5	0.805
Q12	Using mobile marketing technologies aligns with the management ideologies	3.912	4	2	5	0.695

The findings presented in table 4.5, cover the respondent's opinions on the innovation factors influence on the success of SME's in Nairobi County. A scale of 1 – 5 was used, where 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree. The respondents were in agreement that; Using mobile marketing technologies enhances communication effectiveness with clients registering a mean of 4.342, using mobile marketing technologies improves firms' efficiencies in business registered a mean of 4.184, using mobile marketing improves the firms efficiency of services offered to our customers with a mean of 4.096, using mobile marketing technologies enables our firm to acquire new market with a mean of 4.298, using mobile marketing enables our firm to provide new product or services with a mean of 4.044, using mobile marketing technologies increases the firm's profitability which recorded a mean of 4.00, using mobile marketing technologies is easy for our employees with a mean of 3.781, using mobile marketing technologies is easy to our employees with a mean of 3.684, learning how to use additional mobile

marketing technologies services is easy for our employees which recorded a mean of 3.649, using mobile marketing technologies aligns with the way our firm does business which recorded a mean of 4.053, using mobile marketing technologies aligns with the information system recorded a mean of 3.929, using mobile marketing technologies aligns with our firm business culture and values recorded a mean of 3.965 and using mobile marketing technologies, using mobile marketing technologies aligns with the management ideologies recorded a mean of 3.912.

The findings indicate that many players in the SME scene understand the essence of technology to mobile marketing. Research is key to creation of new technologies to further enhance mobile marketing.

4.5 Environmental factors on the scaling up of Mobile Marketing by SME's in Nairobi County

Table 4.5 Environmental factors mean and Std. Deviation

	Environmental factors	Mean	Median	Min	Max	Standard Deviation
Q14	Business firms that use mobile marketing technologies have a higher number of clients	3.623	4	1	5	0.968
Q15	Business firms that use mobile marketing technologies have higher caliber than those which do not use mobile marketing	3.509	4	1	5	0.967
Q16	The firm gets feedback from consumers on the forms of mobile marketing in use	3.842	4	1	5	0.744
Q17	The firm is alert to mobile marketing technologies opportunities to gain competitive advantage	3.956	4	1	5	0.788
Q18	Security and privacy has impeded the firms use of Mobile Marketing by consumers	3.658	4	1	5	0.836
Q19	Our customers demand mobile marketing technologies services offered to them	3.605	4	1	5	0.895

The findings in table 4.5, present the respondents opinions on the influence of environmental factors to the scaling up of mobile marketing by SME's. A scale of 1- 5 was used where, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The

respondents agreed that Business firms that use mobile marketing technologies have a higher number of clients with a mean of 3.623; the respondents were also convinced that, SMEs that use mobile marketing technologies have a higher caliber than those which do not with a mean of 3.509. The respondents expressed that customers demand for mobile marketing technologies services offered to them with a mean of 3.658. Further, the respondents were in agreement that, Security and privacy has impeded the firm's use of Mobile Marketing by consumers with a mean of 3.658. The respondents expressed that

4.6 Organizational factors on the scaling up of Mobile Marketing by SME's in Nairobi County

Table 4.6 Organizational factors mean and Std. Deviation.

	Organizational factors	Mean	Median	Min	Max	Standard Deviation
Q21	Firm's employees are aware of benefits of mobile marketing application in business	3.842	4	1	5	0.854
Q22	Our firm has in-house IT infrastructure to support mobile marketing technologies	3.614	4	1	5	1.022
Q23	The firm had in-house IT skills and expertise to support mobile marketing technologies	3.632	4	1	5	1.054
Q24	The firm has enough financial resources to support adoption of mobile marketing technologies	3.921	4	2	5	0.69
Q25	Organization has a mobile marketing strategy	3.877	4	2	5	0.69
Q26	Organization has technical experts specialized in mobile marketing	3.429	4	1	5	1.024
Q27	Organization has implemented mobile marketing technologies	3.504	4	1	5	1.023

	Organizational factors	Mean	Median	Min	Max	Standard Deviation
Q29	Organization has in-depth mobile marketing resources	3.272	4	1	5	1.095

The findings in table 4.6 indicate the feedback obtained from the respondent's feedback on the subject of organizational factors on scaling of mobile marketing by SME's in Nairobi County. A scale of 1 – 5 was used where, 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree. The respondents were in agreement that, employees are aware of benefits of mobile marketing application in business with a mean of 3.842. The respondents were equally in agreement that, SME's already have in-house IT infrastructure to support mobile marketing technologies with a mean of 3.614. The respondents were convinced that SMEs have IT expertise and skills to support mobile marketing technologies with a mean of 3.632. The respondents were in agreement that SMEs have enough financial resources to support adoption of mobile marketing technologies with a mean of 3.921. The respondents were split on the issue of SMEs having technical experts specialized in mobile marketing, with a mean of 3.429 in addition the respondents were split on the issue of SMEs having in-depth mobile marketing resources with a mean of 3.272.

4.7 Model Estimation

The path model analysis entails the use of SmartPLS software. Results of PLS algorithm depicts independent variables, dependent variable and relationship between variables.

4.7.1 Validity and Reliability tests

Reliability analysis checks on internal consistency i.e. the degree to which the measurements of a latent variable is repeatable (Goodhue 1998). Smart PLS uses various methods to prove reliability and validity as shown in table 4.7. Cronbach's alpha reliability test was used to carry out the test. All the variables passed the tests having path coefficients above 0.5 except the weighted average of complexity which had 0.47. The case needs to be investigated further

Table 4.7 Validity and Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Compatibility	0.968	1.042	0.973	0.926
Complexity	0.726	0.735	0.729	0.474
Influence of Competitors	0.85	0.896	0.866	0.767
Org Financials	0.968	0.974	0.97	0.941
Org Size	0.856	0.862	0.858	0.752
Org technical Resources	0.762	0.763	0.763	0.617
Reception from population	0.843	0.872	0.851	0.66
Relative Advantage	0.759	0.774	0.762	0.52
Scaling up of mobile marketing	0.769	0.769	0.769	0.625

Cronbach's alpha was used test reliability, SmartPLS also checks data for internal consistency using alpha test. The graphical representations shown in figure 4.2 below shows composite reliability and Cronbach's alpha generated using SmartPLS. The graph indicates that all constructs had reliability coefficients of more than given threshold of 0.70.

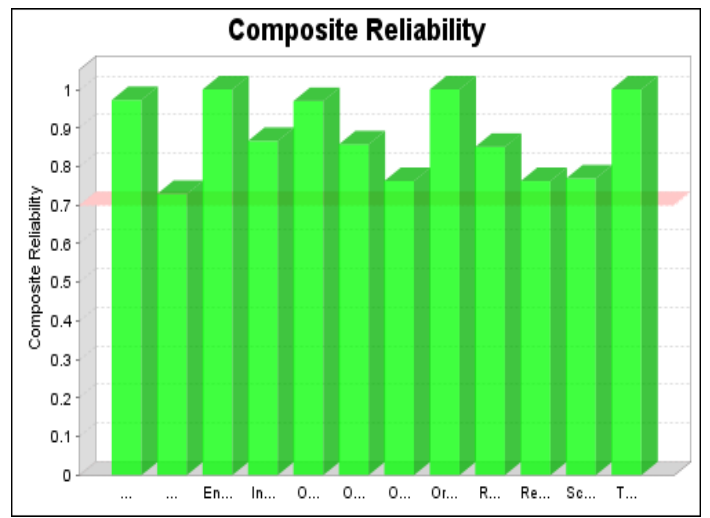
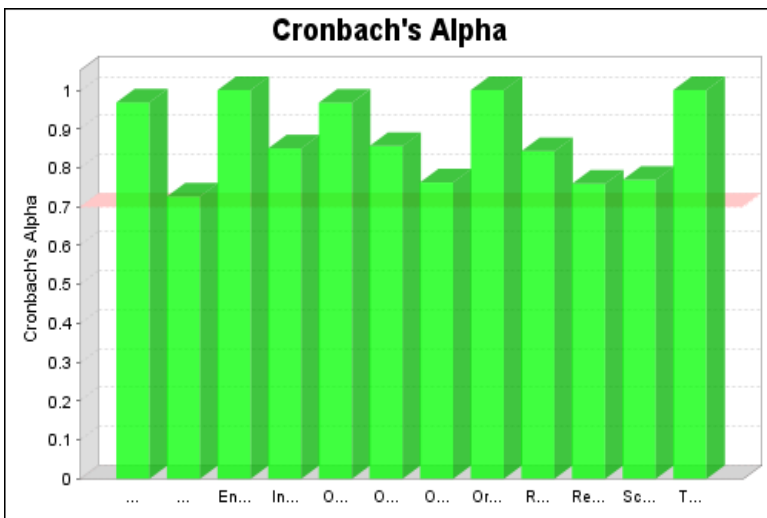


Figure 4.2 Post-test Reliability test

4.7.3 Convergent Validity

Checking on convergent validity in Figure 4.3, it is evident that seven out of the eight constructs scored AVEs coefficients above 0.50. However, complexity comes in at 0.456 necessitating the need for further investigation. These results indicate that measurement indicators highly converged to the latent variables they are intended to measure.

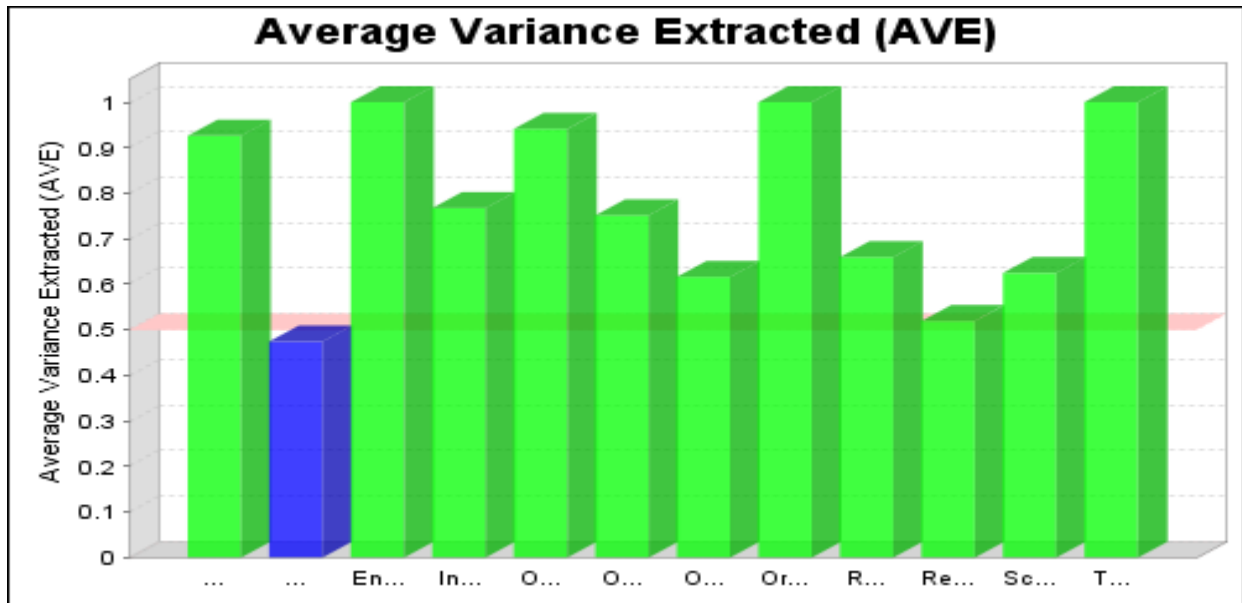


Figure 4.3 Post-test1 AVE coefficients

4.7.4 Discriminant Validity

Pattern of responses for each construct are used to examine an instrument for discriminant validity, comparison against responses of other constructs. To demonstrate discriminant validity, table 4.8 depicts calculated square roots of AVEs written diagonally. The model demonstrated good discriminant validity because the square root of AVE for all construct's correlated against other latent constructs with exception of *reception from target population* against *organization size* with (1.003). This is because all the other correlations of other latent variables placed vertically and across the lower triangle are lower than the square root of averages of the construct being singled out.

Table 4.8 Discriminant validity

	Compati bility	Complexi ty	Environme ntal Factors	Influence of Competitors	Org Financials	Org Size	Org technical Resources	Orgarniza tional Factors	Reception from population	Relative Advantage	Scaling up of mobile marketing	Technology Factors
Compatibility	0.962											
Complexity	0.402	0.689										
Environmental Factors	0.439	0.45	1									
Influence of Competitors	0.263	0.177	0.185	0.876								
Org Financials	0.214	0.354	0.199	0.325	0.97							
Org Size	0.542	0.537	0.431	0.444	0.332	0.867						
Org technical Resources	0.366	0.609	0.341	0.314	0.317	0.766	0.785					
Orgarnizational Factors	0.236	0.486	0.37	0.169	0.302	0.379	0.488	1				
Reception from populatio	0.539	0.503	0.334	0.446	0.399	1.003	0.694	0.411	0.812			
Relative Advantage	0.511	0.396	0.583	0.251	0.163	0.445	0.236	0.309	0.348	0.721		
Scaling up of mobile mark	0.521	0.475	0.555	0.173	0.212	0.492	0.575	0.431	0.37	0.53	0.791	
Technology Factors	0.267	0.314	0.378	0.103	0.077	0.172	0.144	0.106	0.086	0.593	0.458	1

4.7.5 Path modeling Analysis

In order to analyze respondent's feedback on the scaling up of mobile marketing by SMEs data was added onto the model. After creating the model, PLS algorithm was used to generate indicator loadings and path coefficients shown in Figure 4.4

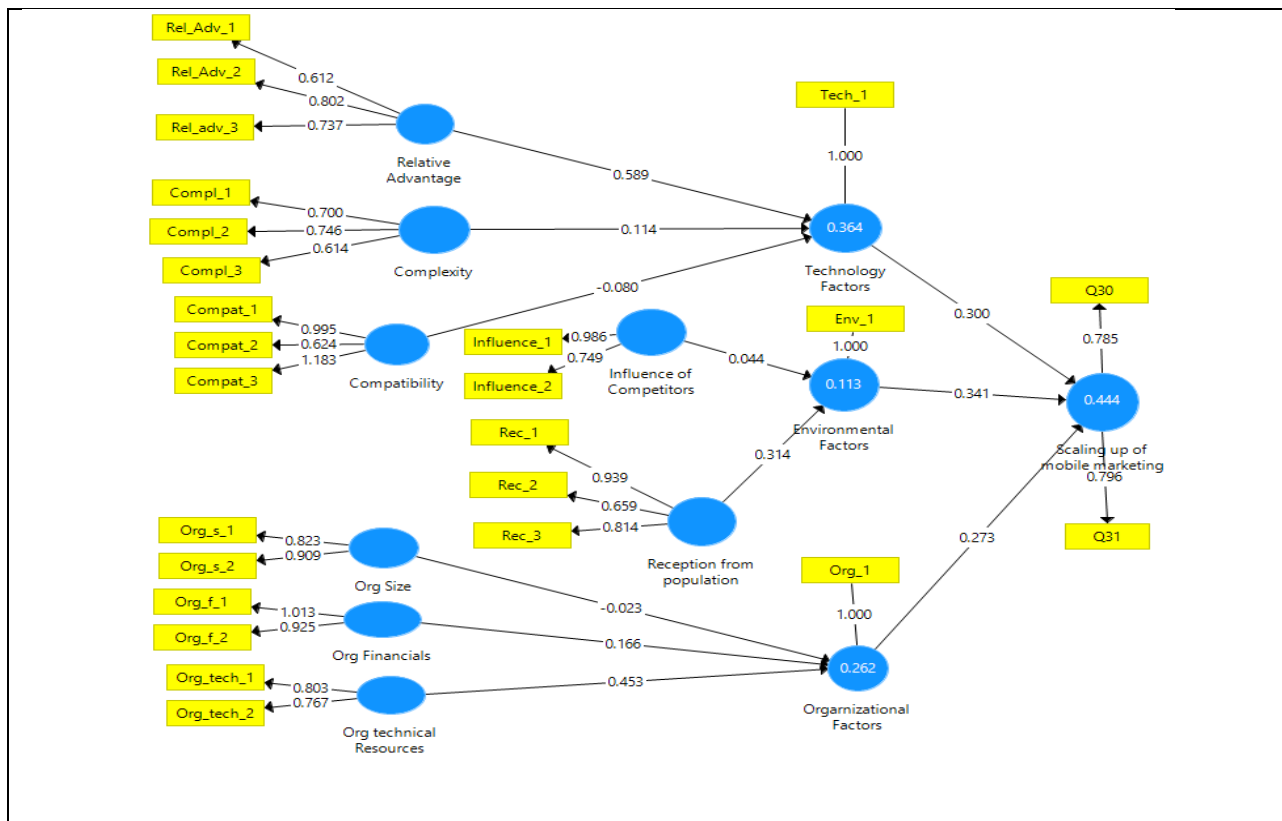


Figure 4.4 depicting path modeling analysis

Factor Loadings

A visual glance of the model shows that most of the factors loaded with coefficients above 0.7 as summarized in Table 4.9 below

Table 4.9 Factor loadings

Factor	Relative Advantage	Complexity	Compatibility	Org Size	Org Financials	Org Tech R	Competitors	Reception Population
Factor 1	0.612	0.700	0.995	0.823	0.803	0.803	0.986	0.939
Factor 2	0.802	0.746	0.624	0.909	0.925	0.767	0.749	0.659
Factor 3	0.737	0.614	1.183					0.814

4.7.5 Coefficient of determination (R²)

The coefficient of determination, R² is 0.44 for the scaling up of mobile marketing dependent variable. This suggests that Technology, Organization and Environment context explains 44% of the variance in the scaling up of mobile marketing.

4.7.6 Significance of Factors and Path Coefficients

To estimate t-values, SmartPLS relies on a non-parametric procedure known as bootstrapping. Bootstrapping is an algorithm that uses one-tailed or two-tailed test to generate estimates of t-values for the indicators and path coefficients. After running the bootstrapping algorithm on the data, SmartPLS generated estimates of t-values at 5% significance level

Significance of Path Coefficients estimates t-values for the path coefficients to determine significance of path coefficients for the relationships shown in Figure 4.5.

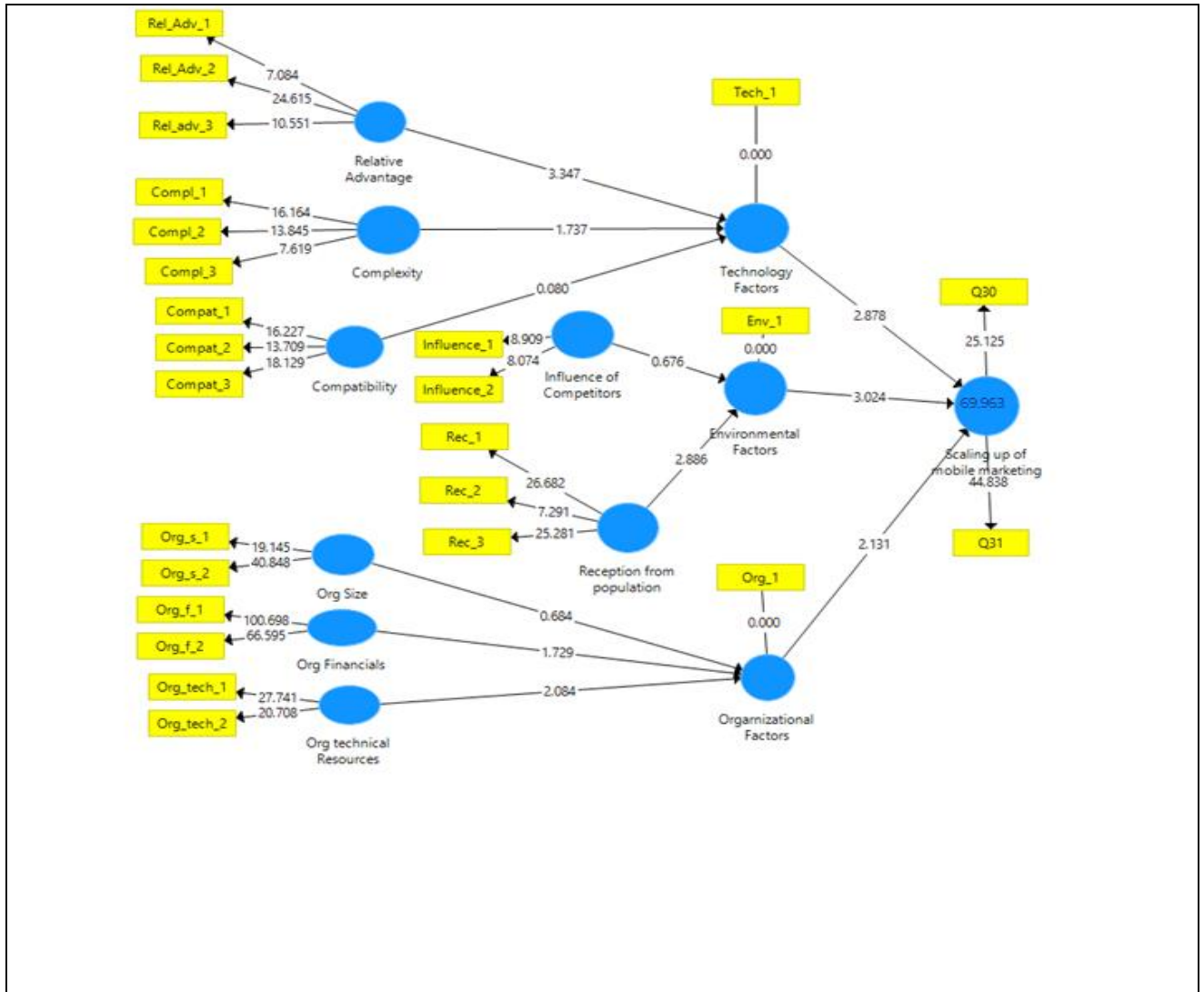


Figure 4.5 Bootstrapped predictive Model

Table 5.0 Path coefficients t-test values

	Relative advantage	Compatibility	Complexity	Influence of Comp	Financial	Size	Technical Resources	Reception Population
Scaling Up	3.205	0.0708	1.769	0.696	1.64	0.68	2.007	2.762

The Bootstrap result estimates the normality of data (Wong, 2013). This is through a two-tailed *t*-test with a significance level of 5%.

Table 5.1 Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Compatibility -> Technology Factors	0.008	0.015	0.103	0.078	0.938
Complexity -> Technology Factors	0.123	0.135	0.07	1.769	0.078
Environmental Factors -> Scaling up of mobile marketing	0.299	0.295	0.096	3.126	0.002
Influence of Competitors -> Environmental Factors	0.061	0.07	0.088	0.696	0.487
Org Financials -> Orgarnizational Factors	0.181	0.18	0.111	1.64	0.102
Org Size -> Orgarnizational Factors	0.102	0.122	0.149	0.684	0.494
Org technical Resources -> Orgarnizational Factors	0.313	0.301	0.156	2.007	0.045
Orgarnizational Factors -> Scaling up of mobile marketing	0.24	0.239	0.11	2.178	0.03
Reception from population -> Environmental Factors	0.288	0.288	0.104	2.762	0.006
Relative Advantage -> Technology Factors	0.482	0.47	0.15	3.205	0.001
Technology Factors -> Scaling up of mobile marketing	0.263	0.271	0.087	3.027	0.003

For the path coefficients to be significant, the *T*-statistics should be larger than 1.96. (Wong, 2013). In table 4.6 Compatibility, Influence of competitors and Organization size variables are below 1.96, thus not significant whereas all other variables are statistically significant.

5.8 Summary of Results Technological Factors

Based on the results there is a high significant effect between relative advantage and the scaling up of mobile marketing with $t=3.205$. On the other hand the compatibility of technology towards mobile marketing was relatively low with $t=0.0708$. Complexity of mobile marketing technology relatively low with $t=1.769$ which is lower than the required 1.96.

Organizational Factors

Based on the results the availability of technical resources in an organization was highly significant towards the scaling up of mobile marketing with $t=2.007$ while organization size significance was relatively low with $t=0.68$.

Organizational Factors

Based on the results the reception of population was highly significant towards the scaling up of mobile marketing with $t=2.762$ while significance of influence of competitors towards scaling up of mobile marketing significance was relatively low with $t=0.696$.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This study advances research in the area of mobile marketing by identifying significant factors that influence the scaling up of mobile marketing by Small and Medium Size Enterprises. The context of the study falls under mobile marketing domain which involved review of literature. The study was motivated by empirical studies that elucidate that despite the high uptake of mobile phones by users a number of SMEs are not using mobile marketing as a way of reaching out to potential clients. This study sort to identify the factors that inhibit mobile marketing and in turn provide a framework and recommendations on how Small and Medium Size Enterprises can scale up use of mobile marketing. The research problem informed the objectives and research questions.

5.2 Achievements

5.2.1 Research Objectives

The purpose of the study was to scale-up utilization of mobile marketing by Small and Medium Size enterprises. Table 5.2 below depicts the two objectives and questions posed in chapter one.

Table 5.2: Summary of research objectives and questions

S/NO	Objective	Question
1	To identify the extent of mobile marketing adoption by SMEs in Nairobi County	To what extent have SMEs in Nairobi County adopted Mobile marketing?
2	To identify factors affecting the scaling up of mobile marketing by SMEs	What factors affect scaling up of mobile marketing by SMEs?
3	Adopt a framework for scaling up uptake of mobile marketing by SMEs in Nairobi County	What framework best suites scaling up of mobile marketing by SMEs?

5.2.2 Research Objective #1

To address the first objective, it was necessary to answer the question, “*To what extent have SMEs in Nairobi County adopted Mobile marketing*”. The extent of adoption was measured using the percentage of employees in an organization who were able use mobile marketing and the number of employees in an organization who understand mobile marketing. 38% of the respondents affirmed that more than 50% of employees in can use mobile marketing their organization. Further

13.56% of the respondents affirmed that more than 41% and less than 50% of the employee's organizations can use mobile marketing. A proportion of 75.83% of the respondents indicated that they learnt mobile marketing through experience, 15.83% affirmed that they had no knowledge of mobile marketing while 8.33% of the respondents affirmed that they have learnt of mobile marketing through trainings done by their organizations. The result shows some level of commitment towards scaling up of mobile marketing by SMEs however there is need for SMEs to further scale up mobile marketing through building capacity of its employees on mobile marketing technologies.

5.2.3 Research Objective #2

To address the second objective, it was prudent to answer the question, "*what factors affect scaling up of mobile marketing by SMEs*". The factors that affected scaling up of mobile marketing were identified through literature to be technological, organizational and environmental. The most significant factors towards the scaling up of mobile marketing were identified as relative advantage, provision of technical resources by firms and perceived reception from target users. Scaling up of mobile marketing is quick where the relative advantage of mobile marketing has been fully comprehended by SMEs.

5.2.4 Research Objective #3

To address the third objective, it was prudent to answer the question, "*What framework best suites scaling up of mobile marketing by SMES and what informed its adoption*". Having identified significant factors that affect the scaling up of Mobile marketing by Small and Medium Size, the researcher delved further into literature to find out whether there are theoretical frameworks that can answer the third question basing on the factors that were answered in question two. In the literature review, several models were analyzed, and their strengths and gaps to scaling up of mobile marketing were identified. Having reviewed other models, it was evident that the TOE framework was advantageous as compared to other models in the scaling up of mobile marketing. This is because, TOE framework gives a holistic representation for its implementation, client adoption of technology, anticipating challenges and facilitation of better organizational capabilities through use of technology (Wang et al., 2010)

The study has found that some of the technological and environmental factors immensely influenced the scaling up of mobile marketing as compared to others. Thus scaling up of mobile marketing was found to be a function of relative advantage, organizational resources and reception from target population. Basing on the most significant factors that affect the scaling up of mobile

the model depicted in figure 5.1 was developed. The model in figure 5.1 below highlights relative advantage with a weight of 3.205, organization technical resources with a weight of 2.007 and Reception from population with a weight of 2.762 as being highly significant towards the scaling up of mobile marketing.

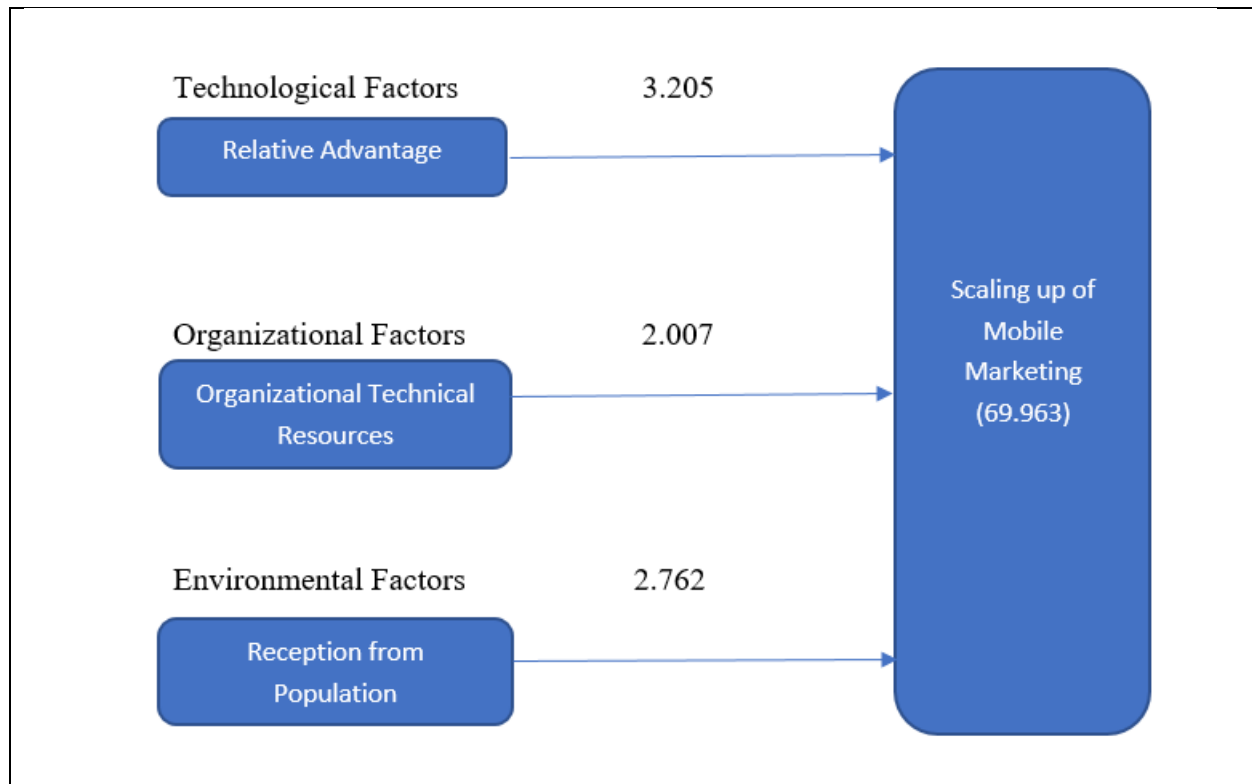


Figure 5.1 depicts the resulting model that SMEs can use to scale up model marketing. The model has factor loadings of the significance levels of each variable which result to a 69.963% scaling up of mobile marketing by SMEs.

. 5.3 Conclusion

The study notes that mobile marketing presents a huge potential for SMEs to grow their business through the huge client reach it provides. The common mobile marketing technologies are SMSs and mobile application adverts. The scaling up of mobile marketing by SMEs is influenced by technological, organizational and environmental factors. The most significant factors are the relative advantage of mobile marketing, the reception of target population and availability of technical resources from the organization. Scaling up mobile marketing is therefore faster where mobile marketing technologies adopted are less complex, the top management fully support the

scaling up of mobile marketing and ensures provision of technical resources to ensure optimum utilization of mobile marketing. The consumer perception of mobile marketing is a significant factor as well. The scaling up of mobile marketing is less influenced by the compatibility of mobile marketing technologies and organizational size.

5.4 Research Contributions

This study expands knowledge in the area of mobile marketing. Through the identification of the scaling up of mobile marketing drivers for SME owners and managers to implement mobile marketing. The findings of this research has a number of essential significance that may assist SMEs owners and managers to facilitate scaling up of mobile marketing in their firms. It is essential for business owners to encourage their employees in using new technology.

This study has demonstrated that Small and Medium Size owners and managers can leverage on mobile phones to enhance mobile marketing. Literature has demonstrated that there is a high mobile subscription rates by consumers which provide a huge market that marketers can tap into. Marketers need to identify the type of marketing technologies that best suits them and the consumers for maximum gain.

5.4 Recommendations

The study recommends the following to facilitate scaling up of mobile marketing by SMEs:

Building employee's capacity: there is need for SMEs to build the capacity of their employees to efficiently scale up the technology and use it to the advantage of the organizations

Data security and privacy: from the literature review users have concerns on security and user privacy. SMEs should adopt an approach of mobile marketing where consumers opt in or allow the reception of adverts. This will go a long way in ensuring clients receive adverts that they have subscribed to rather than spam adverts.

Metrics for measuring mobile marketing (Key Performance indicators): In order for SMEs to fully scale up mobile marketing there is need for SMEs to adopt metrics for measuring mobile marketing. The metrics should be based on the key items: The retention rates of mobile market, return on ad spend and the life value of the mobile marketing technique. SMEs owners and managers need to scale up mobile marketing to ensure that they have maximum reach to potential clients. They should ensure that they adopt the new mobile marketing technologies or trends and equip their employees through trainings to ensure they better understand mobile marketing.

5.5 Future Research

The study focused on adopting a framework for scaling up mobile marketing by Small and Medium Size Enterprises. The findings depict that industry players recognize the significance of technology to mobile marketing however the study did not narrow down to the actual tools and mobile marketing technologies available. There is therefore need for future researchers to research on tools of effective mobile marketing and development of custom-made mobile applications that will suite SMEs both the owners and consumers in Nairobi County. Research is therefore key to creation of new technologies to further enhance mobile marketing. This technologies are and are not limited to chatbots, augmented reality and beacon technology in mobile marketing. There is also need to research on how Artificial Intelligence, Internet of Things (IoT) and Big Data can be incorporated into mobile marketing.

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APPENDICES

Appendix I: Questionnaire

Questionnaire Dear Sir/Madam,

You are invited to take part in a research study on scaling up the use of mobile marketing by Small and Medium Size Enterprises. The data to be collected will aid in understanding the current status of mobile marketing and the challenges of Mobile marketing and modalities of scaling up of mobile marketing by SMEs in Nairobi County.

The information given will be held with high confidentiality and only be used for research purposes. Kindly answer below questions as accurately as possible.

1.0 General Information

1.1 What sector is your firm engaged in

Financial Sector

Hospitality

ICT

Legal Services

Travel and Tours

Retail

Agricultural

Other _____

1.2 What is your age category?

21- 40 years

41- 60 years

61-80 years

Above 80 years

1.3 What's your education level

- Primary
- Secondary
- Certificate/Diploma
- Bachelors
- Masters
- Others_____

1.4 Which category best describes the total number of employees in your firm

- 1-4
- 5-49
- 50-99
- More than 100

1.5 How best can you describe your understanding on the use of Mobile Marketing

- Learned through experience
- Learned through training
- No knowledge on mobile marketing

1.6 What percentage of employees in your firm can use mobile marketing technology

- < 10%
- 11-20%
- 21-30%
- 31-40%
- 41-50 %
- > 50%

Please indicate your level of agreement or disagreement with each of the following statements. For each statement below please circle the number that best describes your view on your firm

1.7 Table 1 The measuring items for Technological Factors

	Relative Advantage	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
Q1	Using mobile marketing technologies enhances communication effectiveness with clients	1	2	3	4	5
Q2	Using mobile marketing technologies improves our firm's efficiencies in business	1	2	3	4	5
Q3	Using mobile marketing improves the quality of services offered to our customers	1	2	3	4	5
Q5	Using mobile marketing technologies enables our firm to acquire new market	1	2	3	4	5
Q6	Using mobile marketing enables our firm to offer new product or services	1	2	3	4	5
Q7	Using mobile marketing technologies increases the firm's profitability	1	2	3	4	5
	Complexity					
Q8	Using mobile marketing technologies is easy for our employees	1	2	3	4	5
Q9	Using mobile marketing technologies is clear and understandable to our employees	1	2	3	4	5

Q10	Learning how to use additional mobile marketing technologies services is easy for our employees	1	2	3	4	5
	Compatibility	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
Q11	Using mobile marketing technologies aligns well with the way our firm does business	1	2	3	4	5
Q12	Using mobile marketing technologies aligns well with the existing information system	1	2	3	4	5
Q13	Using mobile marketing technologies aligns with our firm business values and culture	1	2	3	4	5
Q14	Using mobile marketing technologies aligns with the management goals	1	2	3	4	5

1.8 Table 2 The measuring items for Environmental Factors

	Influence of Competitors	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
Q15	Business firms that use mobile marketing technologies have higher calibre than those which do not	1	2	3	4	5
Q17	Business firms that use mobile marketing technologies have more prestige than those which do not in our society	1	2	3	4	5

	Perceived Reception from target population					
Q18	The firm gets response from consumers on our forms of mobile marketing	1	2	3	4	5
Q19	The firm is very alert to mobile marketing technologies opportunities to gain competitive advantages	1	2	3	4	5
Q20	Security and privacy has impeded the firms use of Mobile Marketing by consumers	1	2	3	4	5
Q21	Our customers demand mobile marketing technologies services offered to them	1	2	3	4	5

1.9 Table 3 The measuring items for Organizational Factors

	Organizational Size	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
Q22	Firm employees are aware of benefits of mobile marketing application in business	1	2	3	4	5
Q23	Our firm has already existing in-house IT infrastructure to support mobile marketing technologies	1	2	3	4	5
Q24	The firm had already in-house IT expertise and skills to support mobile marketing technologies	1	2	3	4	5
Q25	The firm had previous IT experience to support mobile marketing technologies application	1	2	3	4	5
	Organizational financials					

Q26	The firm has enough financial resources to support adoption of mobile marketing technologies	1	2	3	4	5
Q27	Organization has a mobile marketing strategy	1	2	3	4	5
	Organizational technical resources					
Q28	Organization has technical experts specialized in mobile marketing	1	2	3	4	5
Q29	Organization has implemented mobile marketing technologies	1	2	3	4	5
Q30	Organization has in-depth mobile marketing resources	1	2	3	4	5

	Scaling up of Mobile Marketing	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither agree or disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
Q32	Organization perceives mobile marketing as important aspect in the growth of the organization	1	2	3	4	5
Q33	Organization is keen on adopting current mobile marketing trends	1	2	3	4	5

End

Thank you for your participation

