

**CHALLENGES FACING MAJOR MOBILE APPLICATION DEVELOPMENT
COMPANIES IN KENYA IN THEIR INTERNATIONAL OPERATIONS**

BY

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT FOR THE
REQUIREMENTS OF MASTER OF BUSINESS ADMINISTRATION (MBA)
DEGREE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

NOVEMBER, 2013

DECLARATION

This research project is my original work and has not been presented for a degree in any other University.

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Date.....

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This research project has been submitted for examination with my approval as University Supervisor

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ACKNOWLEDGEMENTS

I would like to thank Almighty God for giving me the strength to complete this project study.

I take this opportunity to express my profound gratitude and deep regards to my supervisor Mr. Eliud O. Mududa for his exemplary guidance, monitoring and constant encouragement throughout the course of this project.

My fellow classmates and individuals who assisted me in various ways towards the completion of this project.

I can't also forget the entire management of UoN for their cooperation towards providing library facilities where I accessed much information concerning this research study.

Lastly, I thank my parents, brothers, sisters, cousin and friends for their constant encouragement without which this assignment would not be possible.

DEDICATION

This research project is dedicated to my parents Mr. and Mrs. Joseph Murigi, my brothers and sisters and my cousin Nancy Wanjira for their moral support and encouragement throughout the process of conducting this study. God bless you abundantly.

ABSTRACT

Business environment influences organisational strategy (Miller and Friesen, 1993). Miller and Friesen (1998) states that increases in environmental dynamism and hostility are related to specific changes in the amount of analysis which characterizes strategy-making activity. Hostile environments intensify challenges to the company, and often complicate these challenges. Studies on international operations typically focus on issues at the operational level, such as quality systems or productivity. There are very few studies investigate international operations from challenges facing companies in their international operation. This study thus sought to fill the existing research gap by conducting and by answering the question: What are the challenges facing major mobile application development companies in their international operations? In this study, descriptive survey research design was used. The study selected five major Mobile application development companies in Kenya which includes Kenya Ushahidi, Virtual City, Craft Silicon, Cellulant and Mobile Planet Limited. The study sample 4 respondents from each organization, thus a sample of 20 respondents was used in the study. Self-administered drop and pick questionnaires will be distributed to operations managers and staff currently employed by these mobile application developments in Kenya. Descriptive statistics was employed; this included the use of weighted means, standard deviation, relative frequencies and percentages. The study found that mobile application development companies are face with challenges in their international operations to a great extent. The study further revealed that the challenges faced by mobile application development companies in their international operation were ; technical challenges, know-how and technology barrier ,innovation culture, emerging economies exports, market size constraint ,skilled and professional workforce availability, total quality management, political and economic climate, governance and regulatory barrier, supply chain and long lead times among others . The study further concludes that good quality is what differentiates a product and can lead to attaining and maintaining market share.

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CHAPTER ONE

INTRODUCTION

1.1 Background Of The Study

A strategic decision that is part of a company's corporate strategy is international operations (Dunning, 1988). International operations and global sales of products and services have expanded intensively in the last years. However, very few studies have investigated the challenges facing major mobile application development companies in their international operations. In the last few decades, many firms have established a presence in foreign markets (Bartlett and Ghoshal, 1989). The international business literature recognizes that location choices can be decisive for successful international operations. For operations managers, the implication is that developing global operations strategies is highly recommended.

The traditional contingency theory suggests that business environment influences organizational strategy (Miller and Friesen, 1993) and to strengthen the firm's strategic position by gaining better access to scarce resources like labor, knowledge etc. (Chen & Chen, 1998). Firms that consider entering foreign markets have to cope with uncertainty, due to a lack of information, uncertainty about the reliability of information, and a general liability of foreignness (Johanson & Vahlne, 1977). The strategic management and marketing literature show that incumbent firms employ defensive strategies to discourage market entry of new competition or defend their markets once a new competitor enters their markets (Yeung et al., 2003).

The changing nature of the international business environment calls attention to the impediments to internationalization (Evans and Brandson, 2005). Mobile development companies are involved in the development of mobile applications. The initial stage of the mobile telephony in year 2000 in Kenya was met with a lot of challenges by both customers and the industry players.

1.1.1 International Business Operations

An increase in the internationalization of companies and markets appears to be one of the most significant trends in today's business environment (Vida and Fairhurst, 1998). Large retail operations are increasingly international in their operations and orientation (Myers and Alexander, 2007). The changing nature of the international business environment calls attention to the impediments to internationalization (Evans *et al.*, 2008). The retailer aiming to expand its business in a global market faces with the complexity and uncertainty inherent in the dynamic nature of the market, for example, new business environments, unfamiliar consumer preferences, location choices for performing business activities, and effective co-ordination of global operations (Burt *et al.*, 2003).

In today's environment the risks associated with strategic errors are significant (Dawson, 2003), and companies are forced to constantly adapt to fast-changing circumstances. It is argued that an operations strategy is a vital ingredient for the success of many retailers (Yu, 2011). Companies seeking to achieve success in global markets must formulate appropriate operations strategies that are suited to the external environments, and employ resources in ways that support these strategies (Yu, 2011).

A few previous studies in manufacturing environments have found evidence of a relationship between environmental factors and operations strategy (Anand and Ward, 2004). However, all of these studies involved collecting samples drawn from multiple manufacturing industries and deriving conclusions purely based on a purely statistical analysis of pre-formatted questionnaires. Also, there is no previous study that focuses on the link in the context of retail operations. Over years there have been some calls for more case and field research in operations strategy (Stuart *et al.*, 2002), especially in the service sector.

Although the approaches to a company's internationalization have received considerable recognition in the academic community, few empirical studies have examined how the retail internationalization process evolves, particularly regarding how to formulate retail operations strategy in emerging economies (Vida and Fairhurst, 1998). Some scholars (Prasad *et al.*, 2001) have called for more research that examines international operations strategy development in a developing country context.

1.1 2 Challenges Involved In International Business Operations

The traditional contingency theory suggests that business environment influences organisational strategy (Miller and Friesen, 1993). A review of the literature reveals that the dimensions of dynamism and hostility have commonly been used to characterize business environment. Miller and Friesen (1998) stated that increases in environmental dynamism and hostility are related to specific changes in the amount of analysis which characterizes strategy-making activity. Hostile environments intensify challenges to the company, and often complicate these challenges. Environmental hostility is characterized by intense price competition, rising business costs, low profit margins, severe regulatory restrictions,

shortages of labour and/or raw materials, and unfavorable demographic trends, which offer few opportunities to exploit (Miller and Friesen, 1993). Therefore, greater analytical effort must be devoted to understanding and mastering threats (Khandwalla, 1992).

On the other hand, environmental dynamism refers to the extent of the unpredictability of change within the company's environment (Dess and Beard, 1994). This change can arise from many sources, including the rate of change and innovation in the company's principal industries, the introduction of new products and services, and the uncertainty or unpredictability of competitors' actions and customers' preferences (Miller and Friesen, 1993). Mobile application companies operating in a dynamic environment have to contend with rapid changes in technology, customer needs and preferences, as well as competitive action (Miller and Friesen, 1993).

Companies are increasingly entering global markets, since the globalization confers access to foreign markets, high growth rates, cheap labour, and other advantages (Dawson, 1994). Although international expansion offers many benefits to the companies operating, there is also the increasing level of uncertainty and complexity in the multiple and geographically dispersed operating environments (Myers and Alexander, 2007). Multinational companies face cultural barriers and complex environment when expanding internationally, for instance they face multiple political, economic, legal, social and cultural changes at varying rates in each country they do business in (Evans and Bridson, 2005). Such environmental factors have a stronger impact on internationalization than do others (Evans and Bridson, 2005).

In an era of globalization, success or failure of a business will depend on whether it can compete effectively in global markets (Palmer and Quinn, 2007). Dawson (1994) stated that the strategy of internationalization is commonplace in retailing. The companies must “think global” but “act local” (Quelch and Hoff, 1996). Given the company's resources and capabilities in relation to the dynamic business environment, a company must decide to what extent its strategy, particularly marketing and operations strategies will be standardized or adapted (Evans *et al.*, 2008).

Environmental uncertainty and its dimensions of dynamism and hostility have received extensive coverage in the operations strategy literature (Yu, 2011). The alignment between environment and operations strategy is critical for companies to achieve success (Hayes and Wheelwright, 1994). Operations strategy literature suggests that it is similarly critical that the operations strategies of companies are suited to the external environments in which they operate (Leong *et al.*, 1990). The necessity of fit of the operations strategy with external environmental factors is supported by a few empirical studies (Pagell and Krause, 2004).

1.1.3 Mobile Telephony Industry In Kenya

In the 21st Century, the telecommunication industry has evolved to become the fastest growing, competitive and the most vibrant industry in Kenya. This is mainly after the introduction of the Mobile phone services in the year 2000. Safaricom and Airtel (then Kencell) were the first companies to venture into this business. The last decade has seen the birth of Essar's Yu and Orange companies in this industry.

This has consequently increased the competition among these companies which has had a positive effect on the consumer. For instance, calling costs have decreased in comparison to five years ago. In addition, the companies have had to become more innovative in order to survive and be relevant in the market. This has seen the introduction of Mobile phone money transfer, mobile phone bill payments, mobile phone banking, and many other services that have revolutionized the way we carry out business in Kenya.

In the mobile telephony market segment, there were 29.2 million mobile subscriptions as at 31st March 2012 compared to 28.08 million as at 31st December 2011. This represents a growth of 4.0 per cent in total mobile subscriptions. The growth in mobile subscriptions is an indication of operators' determination to continue growing their subscriber base and increasing access to mobile telephony services in the country. While the mobile telephony subscriptions continue to show a growth trend, the main fixed line (fixed terrestrial lines and fixed wireless) subscriptions continued to record a downward trend. The number of subscriptions declined from 283,546 recorded in the previous quarter to 272,101 during the period under review, representing a 4.0 per cent drop (CCK Report, 2012).

In the Internet/data market segment, the number of subscriptions increased by 5.5 per cent, from 6.1 million recorded in the previous period to 6.4 million during the quarter under review. Mobile data/internet subscriptions continued to dominate the internet market with 98.8 per cent of the total Internet/data subscriptions being from the mobile Internet/data sub-market. Number of Internet users rose by 4.7 per cent, from 11.3 million users posted the previous period to 11.8 million users during the quarter under review (CCK, Report, 2012).

Broadband subscriptions increased significantly by more than three-fold, from 131,829 subscriptions posted the previous quarter to 651,738 subscriptions during the quarter. Broadband subscriptions represented 10.0 per cent of the total Internet/data subscriptions. To promote effective competition in the mobile market segment, in April 2011, the Commission introduced the Mobile Number Portability (MNP), a service that allows the consumers the flexibility and the convenience to retain subscribers' numbers upon switching service providers. The uptake of this service has continued to show mixed signals in the mobile market segment since its inception. During the quarter under review, there were a total of 6,646 in-ports up from 2,407 in-ports recorded during the previous quarter, representing an increase of 176.1 per cent (CCK, Report, 2012).

1.1.4 Major Mobile Application Development Companies in Kenya

Mobile development companies are involved in the development of mobile applications. Mobile application development is the process by which application software is developed for low-power handheld devices, such as personal digital assistants, enterprise digital assistants or mobile phones. These applications can be pre-installed on phones during manufacturing, downloaded by customers from various mobile software distribution platforms, or delivered as web applications using server-side or client-side processing (e.g. JavaScript) to provide an "application-like" experience within a Web browser. Application software developers also have to consider a lengthy array of screen sizes, hardware specifications and configurations because of intense competition in mobile software and changes within each of the platforms. In Kenya among the major mobile application

development companies, include Ushahidi, Virtual City, Craft Silicon, Cellulant and Mobile Planet Limited (CCK, Report, 2012).

1.2 Research Problem

An increase in the internationalization of companies and markets appears to be one of the most significant trends in today's business environment (Vida and Fairhurst, 1998). Business environment influences organisational strategy (Miller and Friesen, 1993). Miller and Friesen (1998) states that increases in environmental dynamism and hostility are related to specific changes in the amount of analysis which characterizes strategy-making activity. Hostile environments intensify challenges to the company, and often complicate these challenges. Environmental hostility is characterized by intense price competition, rising business costs, low profit margins, severe regulatory restrictions and shortages of labour (Miller and Friesen, 1993).

Global competitors are challenging not only the large international markets, but also limited, specialized, and regional markets, markets that small firms thought were safe from such competition. In business environment the risks associated with strategic errors are significant. Companies wanting to enter and compete in global markets must formulate effective operations strategies, adhere to them, and employ resources in ways that support these strategies, international operations strategies constitute the leading strategies that shape their competitive vitality and determine their prosperity (Evans and Bridson, 2005). Studies on international operations typically focus on issues at the operational level, such as quality systems or productivity. There are very few studies investigate international operations from challenges facing companies in their international operation. A few studies have investigated

the international configuration of operations and the effectiveness or adaptation of these configurations to foreign markets (Quelch and Hoff, 1996).

Local studies done on mobile telecommunication include; Maina(2003), perceived service quality, The case of mobile phone services, Towett (2005), did a study on perceived risks on the use of mobile telephone services among consumers in Nairobi , Odhiambo (2008) did a study on determinants of customer satisfaction. The case of mobile phone subscribers in Nairobi, Muturi (2010), did a study on factors that determine customer loyalty to a mobile phone service provider, a case of mobile phone users in Nairobi and Ngobia (2011) did a study on the basis of competition in the mobile phone industry in Kenya. To the researcher best knowledge there is no known local study that has been done on the challenges facing major mobile application development companies in their international operations. This study thus sought to fill the existing research gap by conducting and by answering the question: What are the challenges facing major mobile application development companies in their international operations?

1.3 Research Objectives

To determine the challenges facing major mobile application development companies in their international operations.

1.4 Value of the Study

The study will be of great importance to the management of mobile application development companies as they will get enlightenment on the possible challenges facing their international operation and design strategies that will help them overcome those challenges.

The study will be of great importance to policy maker in the field of international business as they will design policies that will help international firm overcome the challenges of international operation. The Government of Kenya will also find this study an invaluable source of information by identifying the factors that play a major role in the practice international operation.

The study will be of importance to future scholars and academicians as it will add on to the growing body knowledge and form a basis for further research. This will act as a source of reference for studies to be done on challenges facing international operations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature on the challenges facing major mobile application development companies in their international operations. In specific the study reviews that theoretical foundation of the study, international business and challenges facing international operations

2.2 Theoretical Foundation of the Study

Traditional FDI theory predicts that firms will invest in foreign markets in order to generate economic gains by exploiting firm specific capabilities (e.g. products and knowledge), and to strengthen the firm's strategic position by gaining better access to scarce resources like labor, knowledge etc (Chen & Chen, 1998). Firms that consider entering foreign markets have to cope with uncertainty, due to a lack of information, uncertainty about the reliability of information, and a general liability of foreignness (Johanson & Vahlne, 1977).

As a result of increased competition from both domestic and global competitors, shrinking market size, and declining market growth rates, companies seek opportunities in global markets. However, the success of entry into new markets often depends on the reaction of incumbent firms already in the markets. The strategic management and marketing literature show that incumbent firms employ defensive strategies to discourage market entry of new competition or defend their markets once a new competitor enters their markets (Yeung et al.,

2003). However, there is also evidence that not all firms engage in defensive marketing (Kuester et al., 1999).

Incumbent firms attempt to deter entry of new competition into their markets long before new competition even considers market entry. Similarly, incumbent firms defend their markets by retaliating once new competition enters their markets (Chen and Miller, 1994). In competitive situations where multiple incumbents exist, some incumbents wait for others to act first, and then follow or do nothing. Some incumbents who are unable to compete against the new market entrants choose to exit the market (Nargundkar et al., 1996).

Firms engaged in competition find that their actions are mutually dependent, that is, the outcome of marketing actions of one firm depends to some degree on the response of its rivals. Failing to consider competitor reaction may cause a firm to draw the wrong conclusions about the outcome of such actions (Putsis and Dhar, 1998). Therefore, successful firms look onward by taking a dynamic view of competition as a series of moves and countermoves. However, despite its importance, many firms often pay little attention to the reaction of competitors in their decision-making and usually think, at best, in terms of only one move instead of multiple moves (Reibstein and Chussil, 1997). Various studies have contributed to knowledge about market entry decision. Coupled with firm specific resources and capabilities, the three major motivations that push firms to enter a foreign market are identified as market seeking, resource seeking and efficiency seeking foreign direct investments.

2.3 International Business

International business is a term used to collectively describe all commercial transactions (private and governmental, sales, investments, logistics, and transportation) that take place between two or more nations. Usually, private companies undertake such transactions for profit; governments undertake them for profit and for political reasons (Daniels, Radebaugh and Sullivan, 2007). It refers to all those business activities which involves cross border transactions of goods, services, resources between two or more nations.

International business may be defined simply as business transactions that take place across national borders. This broad definition includes the very small firm that exports (or imports) a small quantity to only one country, as well as the very large global firm with integrated operations and strategic alliances around the world (Grant, 2000). International business grew over the last half of the twentieth century partly because of liberalization of both trade and investment, and partly because doing business internationally had become easier.

2.3 Challenges Facing International Operations

Firms in the internal market faces variety of challenges in the international operation, they ranges from skilled and professional workforce availability , supply chain and long lead times , emerging economies export threat , market size constraint, governance and regulatory barrier, political and economic climate, innovation culture, technical challenges, know-how and technology barrier, quality control and total quality management (TQM).

2.3.1 Skilled and Professional Workforce Availability

This is defined as the enterprise accessibility to a workforce that is capable of performing the needed tasks. Increased demand, lack of workforce training, or migration drainage may lead to workforce shortage, (Chao, 1998). Attracting the white collar and skilled labor work force ceased to be confined within a country, it is now regional and international. With information flow and ease of transportation, mass leakage of this type of workforce across the borders became the norm. This dynamics could be regulated on a regional level but should not be eliminated since that will infringe on personal freedoms, (Frumkin, 2006).

2.3.2 Supply chain and long lead times

Supply chain is defined as a system of organizations, people, technology, activities, information, and resources involved in moving a product or service from supplier to customer and lead time is the latency (delay) between the initiation and execution of this activity (George and Prabhu, 2003). Developed countries are fully vertically integrated; therefore, procurement is not an issue. Components ordered are delivered next day while in developing countries there is a significant lead time. Just in time ordering and delivering in developing countries means that the enterprise should hold an inventory of big size with good variety, (Grueber, 2009). For small markets holding that big inventory is not justified because the high demand is not available. These results in longer lead times compared to their counterpart competitors in developed countries, reducing their responsiveness, flexibility, and competitiveness, (Hidalgo, Molero & Penas, 2010).

2.3.3 Emerging economies exports' threat

The large emerging economies' exports has reduced or even eliminated the comfort zone for most consumer market, (Huizingh, 2011). For example, the Chinese business model is quite dramatic in the ability to adapt to the demand and requirements. A typical quote for Chinese businessmen is that: “it is not how much it is, it is how much you want it for?” The size of the giant enterprises in the large emerging economies is such that they are able to have a very slim profit margin and still survive, flourish, and eliminate the competition, (Saul and Wöcke, 2007). The Chinese investors have even tapped into the natural resources of the developing countries and started draining it. This is happening, for example, with the Egyptian marble industry, many factories' production is reserved for at least a year. Rui and Yip (2008) show that the Chinese firms are making foreign acquisitions to make up for competitive disadvantages in certain market segments such as the marble industry. The Chinese business model is establishing a benchmark for the other emerging economies such as the Indian, Brazilian, Turkish, South African, etc, (Porter and Tanner, 2004).

2.3.4 Market size constraint

Market size is defined as the number of buyers and sellers in a particular market. The emerging economies' threat made the manufacturing enterprise more sensitive to the market size. This is due to the economy of scale, i.e. the higher the production, the lower the production cost per unit, and hence, the lower the selling price per unit, making manufacturing operations more competitive. In small markets, due to the small market size,

manufacturing of consumer products is not a viable investment option, (Pant and Rajadhyaksha, 1996).

2.3.5 Governance and regulatory barrier

Developing countries, in general, lack the institutional regime, of which is the legal system that could be weak, resulting in corruption and high-crime rates. The type of regulations mandated by the local government impacts the enterprise either directly or indirectly. The regulations were the shield for protecting local manufacturing base, (OECD, 2009). However, these barriers were eliminated by globalization and the international treaties. Nevertheless, there is a need to support the local manufacturing base by many forms such as reducing tariffs on production input and machinery in addition to granting them certain taxation benefits. The enterprises that were able to have an acceptable quality to cost ratio survived, (OECD, 2009). However, unstable and/or dynamic regulatory system makes it difficult to anticipate enterprise's future. Political pressure or demand in developing countries could institute a new regulation in no time regardless of the consequences. If done without enough studying and planning, a complete sector could be endangered, (Nichter and Goldmark, 2009).

2.3.6 Political and Economic Climate

It is the stability of the political regime and economical regulations to promote investments. The political normalization or tension within a region could highly impact the trade across the borders. Developed nations overcame these conflicts and developed collaboration models that served all involved. However, the developing nations divert their internal political and

economic pressure and leads to external conflicts and confrontations. The mounting internal pressure could be due to poverty, deficient health care, inflation, unemployment, lack of freedom of expression and political frustration,(Mamaghani, 2010). The economic divide between neighboring countries could cause similar challenges to political regimes. This political and economic divide will create an artificial barrier to free trade and free travel between such countries leading to a regional economic suffering, (Lederman, Olarreaga & Payton, 2010).

2.3.7 Innovation culture

Innovation is the process of renewing existing processes and products. Innovation is a major drive for any economy and highly impacts manufacturing operations .It is extremely important to realize the importance of innovation on the sustainability of national economic growth, (Keupp and Gassmann, 2009). This puts a big burden on policy makers in shaping polices and legislations that promote innovation starting from the education system through research centers ending at the industrial and service activities. The emerging economies are a living witness to this. They invested heavily in education, R&D. Innovation is similarly important for the enterprises' growth. It impacts enterprise's operations, profitability and growth. Innovations to be realized need innovators and a catalyst environment that provides proper tools, space, culture, incentives, and funding. Most of the aforementioned conditions need capital, which is why only big size enterprises could afford it (de Jong and Vermeulen, 2006; Chudnovsky et al., 2006). However, this should not underemphasize the role of the management in promoting creativity and innovation within the organization.

2.3.8 Technical challenges, know-how and technology barrier

Technical challenges are related to production operations and technologies. Any disturbance of the production processes will negatively impact productivity and hence, profitability. While the know-how and technology barrier are the trade secrets and knowledge needed to operate a business. The technical issues that lead to quality or production problems will impact productivity, and therefore, may hinder the ability to compete. Resolving technical issues is pending mainly on identifying the problems, (Cheng, Blankson, Wu and Chen, 2005). If finance permitting, when issues are recognized the proper resources are identified to tackle and resolve the challenge. Many organizations are forced to adapt to their technical limitations due to non-justifiable resolution cost. The barrier of entry to any industry depends on the minimum know-how and/or technology needed. High-technology barrier will result in lower competition and higher return on investment (ROI). However, without continuous improvement and ongoing R&D, the technological gap could not be maintained. In addition to that, products could be copied and enterprise competitiveness will be compromised (McAdama et al., 2008).

2.3.9 Quality control and total quality management (TQM)

Product quality is the conformation of the product to the design specifications and functional requirements. A good quality is what differentiates a product leading to attaining and maintaining market share, (Inderst and Mueller, 2007). Quality should be handled at two levels: at the corporate level to drive sales and market share and at the national level to build pride in “Made in country XYZ”. This is why a National Standards and Quality Monitoring

Institute should enforce a minimum quality and after sales levels for all industries within the country. Few abusing enterprises could harm a complete sector or country. Chao (1998) showed that although country of assembly may affect the product quality perception, country of design does not; therefore, product design could be a competitive advantage sector for developing countries, while production takes place in a better reputation manufacturing country.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focused on the research design, methods of data collection, the population, data collection instruments and procedures, and the data analysis.

3.2 Research Design

In this study, descriptive survey research design was used. Descriptive survey portrayed an accurate profile of persons, events, or situations (Robson, 2002). Survey allows the collection of large amount of data from a sizable population in a highly economical way. It allowed the researcher to collect quantitative data, which was analyzed quantitatively using descriptive and inferential statistics (Saunders et al, 2007).

3.3 Target Population

The population of interest of this study was seven mobile application companies that are operating in Kenya. The study selected five major Mobile application development companies in Kenya which includes Kenya Ushahidi, Virtual City, Craft Silicon, Cellulant and Mobile Planet Limited. The study being a survey means that data was collected from the five mobile application companies. Descriptive survey was preferred to bring out all the unique characteristics of mobile application industry hence making the study credible for

generalisation. The study sample 4 respondents from each organization, thus a sample of 20 respondents was used in the study.

3.4 Data Collection

In order to establish the challenges facing major mobile application development companies in their international operations, self-administered drop and pick questionnaires will be distributed to operations managers and staff currently employed by these mobile application developments in Kenya. Questionnaire was designed to identify and establish the determinants of branding strategy amongst these mobile application development companies. The study target four respondents from each of these mobile application development companies and administered with the questionnaire. The study selected the operations managers and staff in the operation department. This made it easier to get adequate and accurate information necessary for the research. The researcher used a likert scale questionnaire as the main data collection instrument. Secondary data source was employed with previous documents or materials to supplement the data received from questionnaires.

3.5 Data Analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. Descriptive statistics was employed; this included the use of weighted means, standard deviation, relative frequencies and percentages. The data was coded to enable the responses to be grouped into various categories. Descriptive statistics was used to summarize the data. This includes percentages and frequencies, tables and other graphical

presentations as appropriate was used to present the data collected for ease of understanding and analysis.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings obtained from the field. The chapter presents findings on the challenges facing major mobile application development companies in their international operations. Descriptive statistics was used to discuss the findings of the study. The study targeted a sample size of 20 respondents from which 17 filled in and returned the questionnaires making a response rate of 85%. This response rate was satisfactory to make conclusions for the study.

4.2 Background information

The study sought to determine the respondent department , from the findings the study found that respondent were from various department , finance , operation , marketing , administration , human resource and ICT department . This is an indication that all departments in the company were represented.

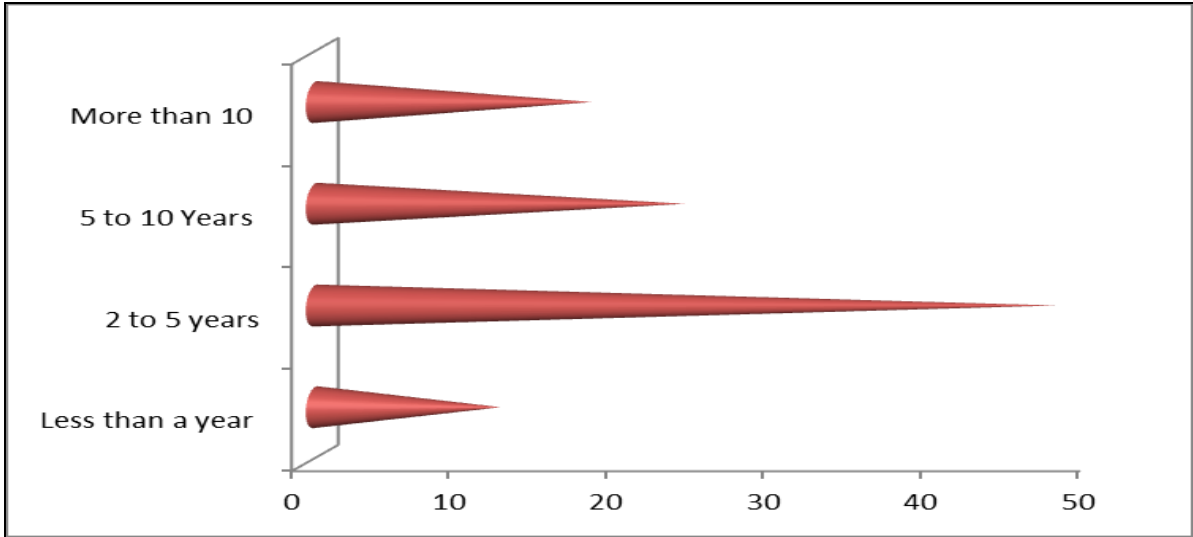


Figure 1: Length of service in the organization

The study requested respondent to indicate the number of years they had served for. From the findings the study established that 47.1 % of the respondents had worked for a period of ranging 2 to 5 years 23.5% of the respondent indicated that they had worked for a period raging between 5 to 10 years 17.6% of the respondents had served for more that years, whereas 11.6% of the respondents indicated to had worked for a period of less than 3 years, this implies that majority of the respondents had served for a considerable period which indicates that most of the respondents had vast knowledge which could be relied upon by on the challenges facing mobile application development companies in their international operations.

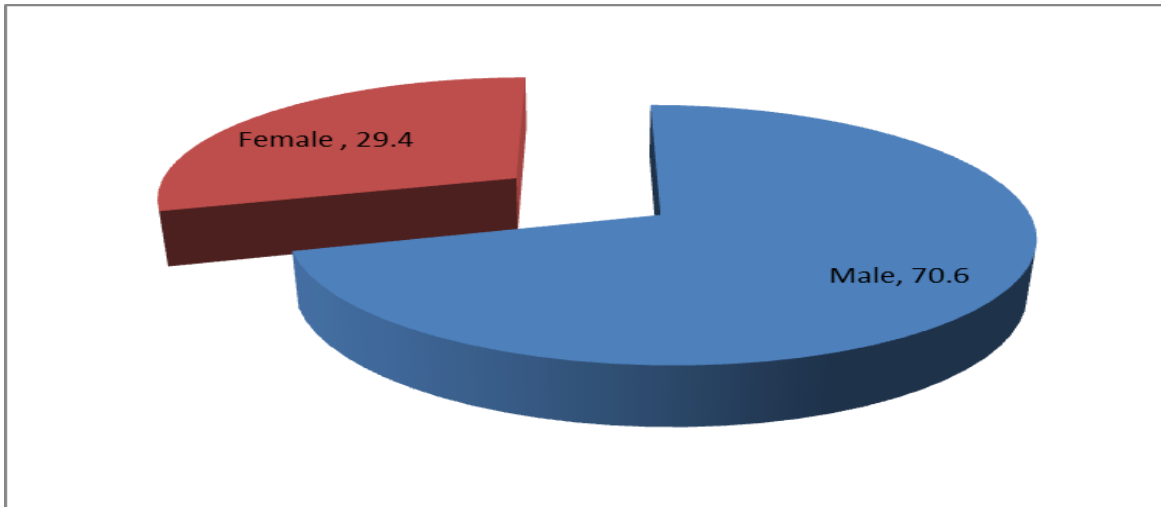


Figure 2: Gender of the respondent

The study sought to determine the gender of the respondent and therefore requested the respondent to indicate their gender. The study found that majority of the respondent as shown by 70.6% were males whereas 29.4% of the respondent were females, this is an indication that both genders were involved in this study and thus the finding of the study did not suffer from gender bias

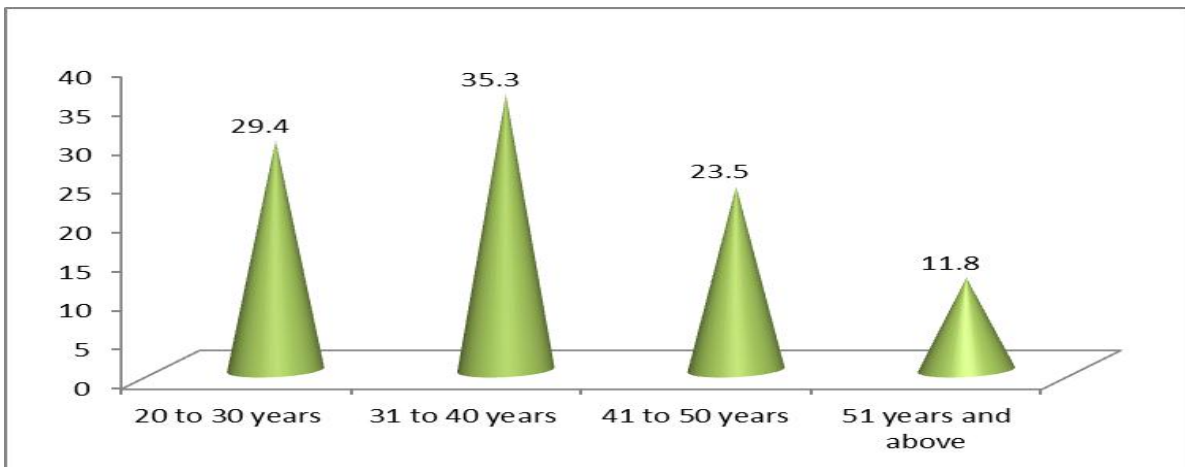


Figure 3: Age distribution

The study requested the respondent to indicate their age category, from the findings, 35.3% of the respondents were aged between 31 to 40 years, 29.4 % of the of the respondent indicated they were aged between 20 to 30 years, 23.5% of the respondents indicated that they were aged between 41 to 50 years, whereas 11.8 % of the respondents indicated that they were aged above 51 years. This is an indication that respondents were well distributed in terms of their age.

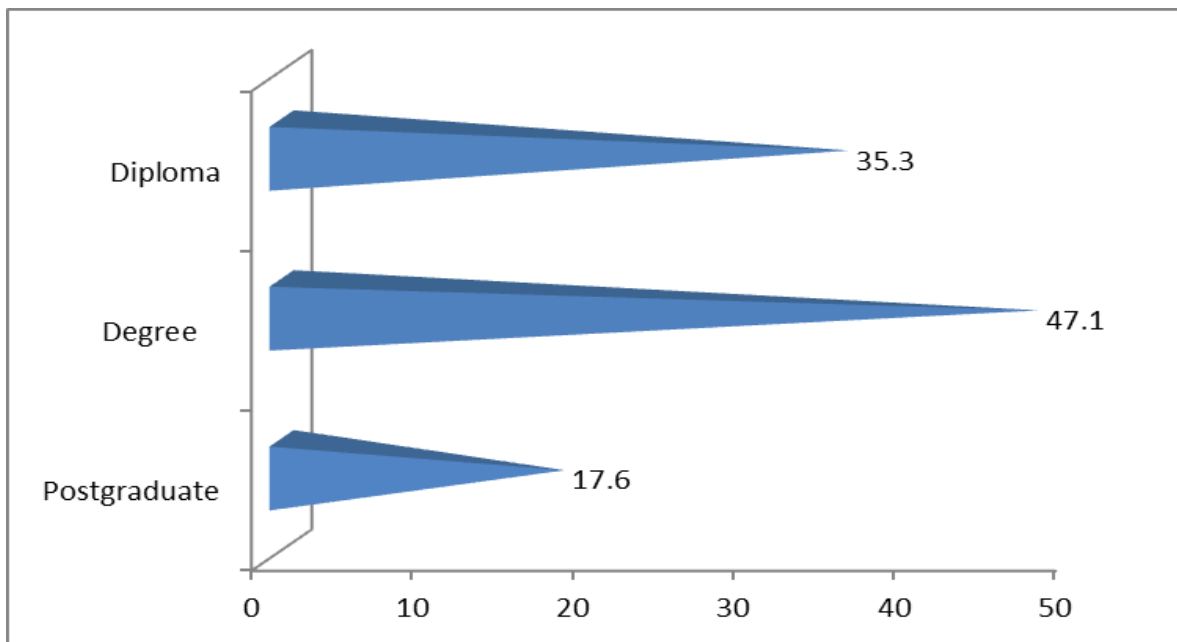


Figure 4: Level of Education

The study requested the respondent to indicate their highest level of education. From the findings it was established that 47.1% of the respondent indicated their highest level as degree, 35.3% of the respondent indicated their highest level as college diploma, whereas 17.6 % of the respondents indicated their highest level as post graduate. This is an indication

that most of the respondents focused in this study had university degrees as their highest level of education.

4.3 Challenges Facing Major Mobile Application Development

This section reviews the various challenges facing major mobile application companies in their international operation in Kenya.

Table 1: Whether mobile application companies face challenges in their international operations

Opinion	Frequency	Percentage
Yes	15	88.2
No	2	11.8
Total	17	100

The study sought to reveal whether mobile application development companies face challenges in their international operations from the findings 88.2 % of the respondents agreed that mobile application development companies face challenges in their international operations, whereas 11.8%of the respondents were of the contrary opinion. This clearly shows that major mobile application development companies face challenges in their international operations.

Table 2: Extent to which firms a face challenges in their international operations

Extent	Frequency	Percentage
Very great extent	6	35.3
Great extent	10	58.8
Moderate extent	1	5.9
Total	17	100

The study sought to establish the extent to which Mobile application development companies face challenges in their international operations. From the findings 58.8% indicated o a great extent, 35.3% of the respondents indicated to a very great extent whereas 5.9% of the respondents indicated to a moderate extent. This is an indication that mobile application development companies face challenges in their international operations to a great extent.

Table 3: Factors affect the organization international operations.

Factors	Very great extent	Great extent	Moderate extent	Less extent	Not at all	Mean	Std deviation
Skilled and Professional Workforce Availability	4	12	1	0	0	1.82	0.30
Supply chain and long lead times	2	11	4	0	0	2.12	0.27
Emerging economies exports' threat	10	5	2	0	0	1.53	0.25
Market size constraint	8	8	1	0	0	1.59	0.25
Governance and regulatory barrier	3	12	2	0	0	1.94	0.29
Political and Economic Climate	4	11	2	0	0	1.88	0.27
Innovation culture	3	13	1	0	0	1.38	0.32
Technical challenges, know-how and technology barrier	13	4	0	0	0	1.24	0.33
Quality control and total quality management	4	12	1	0	0	1.82	0.30

The study sought to establish the extent to which the above factors affects the organization international operations, from the findings the following factors were indicated to affect organizational internal operation to a very great extent, Technical challenges, know-how and technology barrier as shown by a mean of 1.24 Innovation culture as shown by a mean of 1.38, factors which were indicated to a great extent include, Emerging economies exports'

threat as shown by a mean of 1.53, Market size constraint as shown by a mean of 1.59 Skilled and Professional Workforce Availability as shown by a mean of 1.82, Quality control and total quality management as shown by a mean of 1.82, Political and Economic Climate as shown by a mean of 1.88 ,Governance and regulatory barrier as shown by a mean of 1.94, Supply chain and long lead times as shown by mean of 2.12. this shows that there were various factors which were affecting the major mobile application development companies in their international operation.

Table 4: Challenges facing major mobile application development companies

Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Std deviation
Increased demand, lack of workforce training, or migration drainage may lead to workforce shortage	2	13	2	0	0	2.00	0.32
Attracting the white collar and skilled labor work force seized to be confined within a country, it is now regional and international	5	8	4	0	0	1.94	0.20
In developing countries there are longer lead times compared to their counterpart competitors in developed countries, reducing their	6	8	4	0	0	2.00	0.21

responsiveness, flexibility, and competitiveness							
Emerging economies' exports has reduced or even eliminated the comfort zone for most consumer market	3	12	2	0	0	1.94	0.29
Emerging economies threat made the manufacturing enterprise more sensitive to the market size	4	11	2	0	0	1.88	0.27
The higher the production, the lower the production cost per unit, and hence, the lower the selling price per unit, making manufacturing operations more competitive	6	9	2	0	0	1.76	0.23
There is lack of institutional regime, of which is the legal system that could be weak, resulting in corruption and high-crime rates	4	10	3	0	0	1.94	0.24
Type of regulations mandated by the local government impacts the enterprise either directly or indirectly	5	9	3	0	0	1.88	0.22
Developing nations divert their internal political and economic pressure and needs to external conflicts and confrontations	6	8	3	0	0	1.82	0.21
There is lack of polices and legislations that promote innovation starting from the education	3	11	3	0	0	2.00	0.27

system through research centers ending at the industrial and service activities							
Technical challenges are related to production operations and technologies	4	10	3	0	0	1.94	0.24
disturbance of the production processes will negatively impact productivity and hence, profitability	5	12	0	0	0	1.71	0.31
Product quality is the conformation of the product to the design specifications and functional requirements.	5	10	2		0	1.82	0.26
A good quality is what differentiates a product leading to attaining and maintaining market share	5	11	1	0	0	1.76	0.28

The study sought to establish the level at which respondents agreed with the above statements relating to challenges facing major mobile application development companies in their international operations, from the findings, the study established that majority of the respondents agreed that , disturbance of the production processes will negatively impact productivity and hence, profitability as shown by a mean of 1.71, a good quality is what differentiates a product leading to attaining and maintaining market share , The higher the production, the lower the production cost per unit, and hence, the lower the selling price per unit, making manufacturing operations more competitive as shown by a mean of 1.76 in each case , Product quality is the conformation of the product to the design specifications and functional requirements, Developing nations divert their internal political and economic

pressure and needs to external conflicts and confrontations as shown by a mean of 1.82 in each case, Type of regulations mandated by the local government impacts the enterprise either directly or indirectly, Emerging economies threat made the manufacturing enterprise more sensitive to the market size as shown by a mean of 1.88 in each case. Technical challenges are related to production operations and technologies, There is lack of institutional regime, of which is the legal system that could be weak, resulting in corruption and high-crime rates, Emerging economies' exports has reduced or even eliminated the comfort zone for most consumer market, Attracting the white collar and skilled labor work force seized to be confined within a country, it is now regional and international as shown by a mean of 1.94 in each case, There is lack of polices and legislations that promote innovation starting from the education system through research centers ending at the industrial and service activities, In developing countries there are longer lead times compared to their counterpart competitors in developed countries, reducing their responsiveness, flexibility, and competitiveness, Increased demand, lack of workforce training, or migration drainage may lead to workforce shortage as shown by a mean of 2.00 in each case. The above findings concurs with the findings of Pant and Rajadhyaksha, (1996), they urges that the higher the production, the lower the production cost per unit, and hence, the lower the selling price per unit, making manufacturing operations more competitive. In small markets, due to the small market size, manufacturing of consumer products is not a viable investment option. This is an indication that major mobile application compendia face various challenges in their international operation.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. This study therefore seeks to determine the challenges facing major mobile application development companies in their international operations.

5.2 Summary of the findings

The study revealed that mobile application development companies face challenges in their international operations to a great extent. Among the factors affecting the organization international operations were technical challenges, know-how and technology barrier ,innovation culture, emerging economies exports, market size constraint ,skilled and professional workforce availability, quality control and total quality management, political and economic climate, governance and regulatory barrier, supply chain and long lead times .

The study further established that disturbance of the production processes has negative impact on productivity and hence profitability, a good quality is what differentiates a product leading to attaining and maintaining market share , the higher the production the lower the production cost per unit and hence the lower the selling price per unit, making manufacturing operations more competitive, product quality is the conformation of the product to the design specifications and functional requirements, developing nations divert

their internal political and economic pressure and leads to external conflicts and confrontations, type of regulations mandated by the local government impacts the enterprise either directly or indirectly, emerging economies threat made the manufacturing enterprise more sensitive to the market size, technical challenges related to production operations and technologies, there is lack of institutional regime of which is the legal system that could be weak resulting in corruption and high-crime rates, emerging economies' exports has reduced or even eliminated the comfort zone for most consumer market, attracting the white collar and skilled labor work force seized to be confined within a country, it is now regional and international, there is lack of policies and legislations that promote innovation starting from the education system through research centers ending at the industrial and service activities, in developing countries there are longer lead times compared to their counterpart competitors in developed countries, reducing their responsiveness, flexibility, and competitiveness, increased demand and lack of workforce training or migration drainage may lead to workforce shortage,

5.3 Conclusion

From the findings and summary the study concludes that mobile application development companies are face with challenges in their international operations to a great extent. The study further revealed that the challenges faced by mobile application development companies in their international operation were ; technical challenges, know-how and technology barrier ,innovation culture, emerging economies exports, market size constraint ,skilled and professional workforce availability, total quality management, political and economic climate, governance and regulatory barrier, supply chain and long lead times

among others . The study further concludes that good quality is what differentiates a product and can lead to attaining and maintaining market share.

5.4 Recommendations

From the finding the study recommends that in order to effectively deal with the challenges in mobile application development companies, there is need for mobile alienation companies in Kenya to have innovative culture which will help the company to come up with new product that will resonate with the market requirement. There is need for mobile application companies to have proper distribution network to ensure the products are readily available in the market. There is need for mobile development to conduct research so as to identify market demands and see how they can in cooperate the same in their innovation processes it will help the company to gain competitive advantage in their operations.

There is need for the government to review and streamline trade policies governing the industry for the sake of streamlining the operations within the industries. There is need for proper measures and mechanisms are put place which aim at stimulating creativity and innovation. There is need for the management of mobile application companies to adapt to the foreign countries culture as this will help in addressing the challenges in their international operation.

5.5 Areas For Further Research

The study sought to determine the challenges facing major mobile application development companies in their international operations. There is need for a similar study to be replicated on the challenges facing multinational firm in their international operations.

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APPENDICES

Appendix I: Questionnaire

Section A : Demographic Information

1. Name of the company
2. Which is your department?
 - Marketing
 - Administration
 - Finance
 - Operation
3. How long have you served in the company?
 - Less than 1year
 - 2 to 5 years
 - 5 to 10 years
 - More than 10 years
4. What is your gender?
 - Male
 - Female
5. What is your age bracket?
 - Below 20 years
 - 21 to 30 years
 - 31 to 40 years
 - 41 to 50 years

Above 50 years []

6. What is your level of education? (Tick where appropriate)

Post graduate []

Graduate []

Under graduate []

Section B: Challenges Facing Major Mobile Application Development

7. Are there challenges facing major mobile application development companies in their international operations?

Yes [] No []

8. To what extent does your firm face challenges in their international operations?

Very great extent []

Great extent []

Moderate extent []

Less extent []

Not at all []

9. What are the challenges facing major mobile application development companies in their international operations?

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10. To what extent does the following factors affects the organization international operations?

	Very great extent	Great extent	Moderate extent	Less extent	Not at all
Skilled and Professional Workforce Availability					

Supply chain and long lead times					
Emerging economies exports' threat					
Market size constraint					
Governance and regulatory barrier					
Political and Economic Climate					
Innovation culture					
Technical challenges, know-how and technology barrier					
Quality control and total quality management					

11. To what extent do you agree with the following statement relating to challenges facing major mobile application development companies in their international operations?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Increased demand, lack of workforce training, or migration drainage may lead to workforce shortage					
Attracting the white collar and skilled labor work force seized to be confined within a country, it is now regional and international					
In developing countries there are longer lead times compared to their counterpart competitors in developed countries, reducing their responsiveness, flexibility, and competitiveness					

Emerging economies' exports has reduced or even eliminated the comfort zone for most consumer market					
Emerging economies threat made the manufacturing enterprise more sensitive to the market size					
The higher the production, the lower the production cost per unit, and hence, the lower the selling price per unit, making manufacturing operations more competitive					
There is lack of institutional regime, of which is the legal system that could be weak, resulting in corruption and high-crime rates					
Type of regulations mandated by the local government impacts the enterprise either directly or indirectly					
Developing nations divert their internal political and economic pressure and needs to external conflicts and confrontations					
There is lack of polices and legislations that promote innovation starting from the education system through research centers ending at the industrial and service activities					
Technical challenges are related to production operations and technologies					
disturbance of the production processes will negatively impact productivity and hence, profitability					
Product quality is the conformation of the product to the design					

specifications and functional requirements.					
A good quality is what differentiates a product leading to attaining and maintaining market share					

12. In your opinion what do you think should be done in order to overcome the challenges facing mobile application development companies in their international operations?

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Thank you

Appendix II: List Of Mobile Application Development Companies in Kenya

1. Kenya Ushahidi
2. Virtual City
3. Craft Silicon
4. Cellulant
5. Mobile Planet Limited

Source: CCK 2012