Deployment of Information Technology Capabilities and Competitiveness of Consultancy Firms in Nairobi County, Kenya

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ABSTRACT

The business environment is never static, but constantly changing according to the influence of global and national competitive forces and other environmental factors. Firms respond to the conditions surrounding them by adjusting their purpose and shape via deployment of appropriate strategic capabilities to subdue the environmental challenges and enhance competitiveness. Increasingly many firms have resorted to heavy investments in IT capabilities, to cope with the changing business environment. However, only some firms receive pay offs while many others do not. This study is of the view that the difference in competitiveness of firms with respect to the heavy IT investments, is in how the individual firms uniquely deploy IT capabilities. However, there is scarcity of information on the deployment of IT capabilities as a source of competitiveness. This study undertook to explore how the deployment of information technology may be used to build competitiveness among consultancy firms in Nairobi County, Kenya. This study tested the null hypothesis that IT capabilities have no relationship with firm competitiveness. This study adopted a positivist philosophy approach, cross-sectional explanatory research design and random sampling method in order to obtain the primary data. From the total population of 265 consultancy firms in Nairobi, a target sample of 157 consultancy firms was picked via Microsoft excel generated random numbers. Data collection was done via structured questionnaires, after which multiple regression analyses were used to analyze the data. External validity of the questionnaire was complied with by adequate sample size, which for this study was 157. The reliability of the research instrument was tested via test-retest method on the same pilot sample and the instrument refined to achieve a Cronbach alpha coefficient of 0.855. The study found that IT capabilities positively influence firm competitiveness. Consequently, study recommends that the consultancy firms in Nairobi
County should pay more attention to the level of IT capabilities utilized and use more online interaction with customers and suppliers, enhance the level of automation of processes and customer information, in order to enjoy higher level of firm competitiveness in terms of better cost efficiency, more differentiated services and better service quality.

*Keu words: firm competitiveness, IT capabilities, strategic capability, dynamic capabilities, resource based view, technological orientation.*
1. INTRODUCTION

Local and international businesses over the last ten years have been facing increasing turbulence in the environmental conditions. This turbulence is not only from the local firm industry where business establishments produce similar products or provide similar services, but also from the global arena. According to Porter (2008), firms have to employ sound strategic management techniques in order to survive and prosper in the turbulent business environment and not be misled by the current trend towards operational effectiveness without clearly defined strategies. The firm faced by the rapidly changing business environment, has to concern itself with how to reconfigure its resources in order to cope with the changing business environment and how to retain its competitive edge in the industry. There are aspects of strategic management that can be useful to the firm operating in a turbulent environment which include strategic capability, dynamic capability and firm competence (Porter, 2008; Micek, 2012). It is imperative that the firm evolves its strategic management practices dynamically in order to build strategic capabilities to be at pace with the fast changing business environmental conditions (Teece, Pisano & Shuen, 1997). This study focused on the aspect of IT dynamic capabilities and its deployment in service firms to develop and sustain competitiveness.

1.2 The Research Problem

Some studies on IT capabilities have been conducted at the global level. Even though the studies suggest that firms are increasingly relying on IT to enhance agility and performance, they lack empirical evidence to demonstrate how IT influences firm competitiveness. Few studies
acknowledge the evolutionary trend towards knowledge and organizational competence but do not cover the contribution of IT. Porter (2008) provides a weak treatment of IT which does not cover the influence of IT on firm competitiveness. Prahalad and Hamel (2008) do not address the influence of IT in the development of core competence of the firm. Even though Wang and Mahoney (2009) concur that RBV contributes to sustainable performance of the firm, their study failed to link IT with firm competitiveness.

Among the empirical studies that have been conducted in the Kenya local environment, there is none that directly relates to the influence of IT capabilities on competitiveness of the firm. Onyango (2009)’s focusing on the determinants of competitive performance of Kenya SMEs in Nairobi has no link with IT capabilities. Studies exploring the effect of formal strategic management in Kenyan Medium sized Enterprises (MEs) postulate that formal strategic management positively affects the performance of MEs, however, the studies do not cover at all the influence of IT capabilities on the firm performance. Even though Mugambi (2011) confirmed that Profit Impact of Market Strategies (PIMS) positively influence corporate performance in Kenya, the study was limited in that it did not investigate the relationship between information technology capabilities and firm competitiveness.

Apparently, the currently existing literature seems to focus mainly on the resource-based view and to a lesser extent on dynamic capabilities. There is a scarcity of literature on the IT capabilities that the firm needs to develop in order to attain and sustain competitiveness; and especially in relation to the role that IT plays in development of competitiveness of the firm in the modern fast changing business environmental conditions. Only a few strategy scholars have attempted to explore whether IT capabilities have any influence on the firm performance.
Further, the extent to which consultancy businesses in Kenya have deployed IT capabilities to gain and enhance competitiveness is not clearly known. Further research focusing on the deployment of IT capabilities as a source of competitiveness in Kenya, is therefore still required.

As a result of these gaps, there still remains a big question in strategic management today as to how the deployment of IT capabilities blend together with other firm resources and capabilities to produce some form of firm competitiveness. This study is of the view that the observed difference in the competitiveness of firms with respect to the heavy IT investments, is in how the individual firms differently deploy IT capabilities. The purpose of this study was to establish the influence of IT capabilities on competitiveness of consultancy firms in Nairobi. This study is valuable to several stakeholders for several reasons. The findings of the study bridge the knowledge gaps in the relationship between IT capabilities and firm competitiveness. The findings of the study also contribute in helping business firms to recognize the importance of IT capabilities in building and sustaining firm competitiveness in the modern business environment. Business firms will use the findings to formulate appropriate policies and guidelines on strategic responses to modern global competitive challenges, to better the performance. In the same vein, the findings of the study assist the government in formulating favourable policies to promote the deployment of IT capabilities by consultancy companies.

2. LITERATURE REVIEW
2.1 The concept of Strategic Capability

Strategic capability is defined by Teece et al. (1997, p. 516) as “the firm’s ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments”. Johnson, Scholes and Whittington (2005) define strategic capability as “the adequacy and the suitability of the resources and competences of an organization to survive and prosper”, while Joakim (2010), defines strategic capability as “high–level routines, resources and competences that are recognized as important in order to create and sustain a competitive advantage”. Strategic capabilities thus reflect an organization’s ability to achieve new and innovative forms of competitive advantage, given the changing nature of the environment (Barrales-Molina, Bustinza & Gutierrez-Gutierrez, 2012).

As businesses compete with one another for customers, market share and revenue, they employ tactics according to the specific strategies of the individual firms. The process of shaping strategies and putting them into action is the responsibility of the strategy managers of the firm (Floyd & Wooldridge, 1992). However, not all businesses have the same advantages when it comes to developing and deploying strategy (Porter, 2008). The development and deployment of the appropriate strategy for a given business environment requires adequate strategic capability of the firm.

2.2 The Concept of Dynamic Capabilities

The concept of dynamic capabilities is grounded in the Resource Based View (RBV) of strategic management, while the RBV is grounded in the Industrial organization economics (IOE)
IOE has been used to provide a theoretical rationale for the adoption of the RBV theory on firm’s performance (Hoskisson, Harrison & Dubofski, 1991). The resource-based approach focuses on the relationship between firm’s resources and performance. Villalonga (2004), building on the work of Itami (1987) on the theory of “invisible assets”, acknowledges the “invisible asset” theory as complementary to the resource-based theory. The “invisible assets” theory argues that information-based invisible assets, such as technology, customer trust, brand image, corporate culture and management skills, are the real sources of competitive advantage because they are difficult-to-imitate. Villalonga postulates that “intangible assets” positively contribute to the development of sustainable competitive advantage.

The existing literature suggests that in stable competitive environments, firms can sustain their competitive position by engaging in extensive and prolonged exploitation processes (March, 2007). D’Aveni, (2010) argues that in highly volatile and intensely competitive environments defined by rapid competitive moves, the firm must move quickly to build advantages and erode the advantages of their rivals. In competitive environments, the firm’s top strategic agenda is to increase its agility, i.e. to outpace competition by constantly exploring and pursuing new sources of competitive advantage. Thus dynamic capabilities can enable the firm to reconfigure and renew resources so as to achieve a new level of strategic capability that is in step with the changing business environment.

2.3 Information Technology as a form of Strategic Capability

There has been increasing interest in Information Technology (IT) due to its revolutionary role in the way people live, work, communicate, and organize their activities (Preece et al. 2003). The
review of the then existing studies on RBV by Wade and Hulland (2004) identified IT resources as a strategic component to the firm’s resources. Strategy scholars on RBV, tend to classify resources into a few broad categories, i.e. assets, core competencies, marketing resources, IT infrastructure, managerial IT skills, and IT capabilities (Prahalad & Hamel, 1990; Bharadwaj, 2000; Sambamurthy, Bharadwaj & Grover, 2003). IT capabilities is a multidimensional construct which encompasses both the technical and organizational dimensions. In the recent years, strategy scholars have re-framed the discussion on IT capabilities and re-defined IT capabilities as the firm’s ability to mobilize and deploy IT-based resources by integration and reconfiguration with other firm resources and capabilities (Peppard & Ward, 2004; Bhatt, 2005).

Ray, Muhanna, and Barney (2005) observe that IT resources and capabilities that are firm-specific and socially complex positively influence customer care service. Wu (2010) observes that from a resource-based perspective, competencies that are valuable, rare, inimitable and non-substitutable can provide some competitive advantage to the firm. Thus, firms that achieve higher levels of IT capabilities are expected to report better performance and enhance market share. Based on the RBV fundamental theory, other firm resources and skills when reconfigured with IT can be rare and firm specific, therefore providing competitive advantage for the firm.

2.4 IT Capabilities and Firm Competitiveness

From the foregoing literature IT has been identified as a strategic capability through its dynamic feature. However, the deployment of IT as strategic capability by the firm needs to be carried out uniquely in order to be a source of competitiveness. Melville, Kraemer and Gurbaxani (2004) are of the opinion that “information technology is valuable, but the extent and dimensions are
dependent upon internal and external factors, including complementary organizational resources of the firm and its trading partners, as well as the competitive and macro environment”. According to Carr (2004), it is not yet clear why certain firms who have invested heavily in information technology are not doing as well as other firms who have also invested heavily in information technology.

Porter (2008) captures the key strategies of competitive advantage as cost, differentiation and focus. According to Porter (2008), a firm can also focus on cost advantage or focus on differentiation advantage, by blending focus with cost and differentiation strategies respectively. A firm with competitive advantage enjoys at least one or a combination of the following features, i.e. lower costs than competitors in the industry, differentiated products and services, high product or service quality, focused low cost services or focused differentiated products and services. Firm Competitiveness is thus expected to be affected by the strategic capabilities of the firm. The higher the strategic capabilities of the firm, the better the competitive advantage of the firm is expected to be (Barney & Clark, 2007). Thus IT as a component strategic capability of the firm is expected to influence the competitive advantage of the firm (Porter, 2008).

2.5 Deployment of IT Capabilities for Firm Competitiveness

According to Henderson and Venkatraman (1989), the concept of strategic alignment was greatly influenced by the contingency theory, which postulates that “organizations that achieve the best fit between the organizational and environmental demands will achieve the best adaptation”. Chan, Huff and Copeland (1997) posit that IT strategic alignment is among the top issues with high concerns to firms in this highly dynamic business environment era. Chan et al. (1997), in
their study they suggest that IT strategic alignment is an important factor in business performance and that the companies with high IT strategic alignment perform better than those with low IT strategic alignment. According to Chan et al. (1997), IT strategic alignment is the “the fit between business strategic orientation and information technology orientation”.

Based on the Massachusetts Institute of Technology model, Henderson and Venkatraman (1992) developed the Strategic Alignment Model (SAM), which has become quite popular among the strategy scholars. The Henderson and Venkatraman (1992) strategic alignment model is anchored on four key interrelated domains, i.e. business strategy; IT strategy; organizational infrastructure processes; and IT infrastructure and processes. According to the SAM, alignment is achieved in two dimensions, i.e. at the strategic level, between the business strategy and IT strategy; and at the tactical level between the organizational infrastructure and processes and the IT infrastructure and processes.

Chan and Reich (2007) postulate that orientation of IT deployment is towards strategic alignment of the organizational business strategy and the information technology systems. Chan and Reich (2007) define IT strategic alignment as the degree to which the mission, goals and business plans are shared and supported by IT strategy. While McKeen and Smith (2003) argue that strategic alignment exists when the goals and activities of the organization and information systems remain in synergy. Chan and Reich (2007) describe “alignment” as fit, connection integration, bridging, fusion, consistency and co-variation.

3. CONCEPTUAL FRAMEWORK

The conceptual framework for this study had two main variables, namely firm competitiveness
as the dependent variable and IT capabilities as the independent variable. The diagrammatic representation of the conceptual framework is as depicted in figure 1.

![Conceptual Framework for the Study](image)

**Figure 1 : Conceptual Framework for the Study**  
(Source : Researcher, 2015)

The role of the variable of firm competitiveness was the dependent variable. The role of IT capabilities was the independent variable, while sensing, shaping, seizing and reconfiguration were the sub-variables of the independent variable.

The context of the study was that of consulting firms. The consulting firm is a team of experts (also referred to as consultants), that offers specialized services to an organizational or individual client. The consultant services often entail helping the client to develop a game plan or strategy to achieve a specific objective for the organization. The consulting firms can be categorized into several different sectors including, financial, information technology, management, human resources, legal, hotel and hospitality, engineering and politics (Kipping & Clark, 2012).

The main business challenges of consulting firm include, building good reputation, financial uncertainty, gaps between assignments, development and mobilization of the required skills sets and resource base, development of strategic alliances and business relationships. For example, a study on Chinese consulting firms in Shenzhen suggested that Chinese consulting firms lag behind their rival foreign firms in design and technical capability, experience in international projects, project management ability and financial capacity (Ling & Gui, 2009; Aaker, 2012;
Kipping & Clark 2012). Another main concern of both local and foreign owned consultancy firms is business expansion (Phelps, Adams & Bessant, 2007). Parida, Westerberg, Ylinenpa and Roininen (2010) are of the opinion that negative reputation can adversely affect the competitiveness of business firms. Consultancy firms with little experience are perceived as lacking the ability to provide quality services and are unable to satisfy several critical assignments simultaneously. Often more competitive firms are selected and given business for their clout and name recognition. Thus consultancy businesses including those in Nairobi, Kenya have an uphill task to substantially build competence so as to effectively compete with the established firms. Therefore it is important for the consultancy businesses to develop strategic capabilities that can boost the firms’ reputation and enhance competitiveness. IT capabilities can aid the consultancy firms to build competitiveness by unique integration with other firm resources, to promptly respond to the changing business environment. In summary the study hypothesized that deployment of IT capabilities would influence the competitive level of consultancy firms. Thus the study tested the null hypothesis, Ho: IT capabilities has no influence on the competitiveness of consultancy firms in Nairobi.

4. RESEARCH METHODOLOGY

4.1 Research Design and Population

Because this study heavily relies on objective data collection and analysis in order to achieve useful results, it adopted the positivist philosophy as recommended by Saunders (2009). Positivist philosophy posits that reality is stable and therefore can be observed and described from an objective point of view without interfering with the phenomenon being studied.
In order to define new relationships between variables, an explanatory approach was adopted for this study. Belanger and Allport (2008) carrying out a study on “technologies in knowledge telework” employed a cross-sectional explanatory research design. Cuervo-Cazurra and Genc (2008) in their study on “transforming disadvantages into advantages: developing country multi-national enterprises in the least developed countries” also adopted a cross-sectional research design. This study adopted the cross-sectional research design.

This study looked at information technology as a source of competitiveness for consultancy firms in Nairobi and narrowed in on the listed consultancy firms in the Postel Directory (2013), to make the study viable in terms of cost and time. Therefore, the target population for this study was the list of all the 265 consultancy firms in Nairobi as at December 2013. Nairobi was selected because it is the capital city for Kenya and it is expected that the highest business consultancy concentration in the country is found here. This study borrows from several past studies in the USA and China which have used telephone directory based populations. For example, a cross-sectional study conducted in China by Zhang, Han, Huang, Wu, Dong and Xu (2008) adopted telephone directory based population and random digital dialing for the final sample. Another study by Rainie (2010) on internet, broadband and cell phone statistics in the USA, similarly adopted a telephone directory based population to sample the targeted respondents. The unit of analysis was the consultancy firm which was studied to analyze the effect of information technology capability on competitiveness across the selected firms; while the unit of observation was the department. The respondents for providing data for the study were senior managers in the departments of IT, marketing and strategy.
4.2 Sampling Design

This study adopted the suggestion by Kothari (2009) that the sample size for a known population size can be determined by using the formula \( s = \frac{z^2NP(1-P)}{\{e^2(N-1) + z^2P(1-P)\}} \); where \( z \) = the z value from the table at the desired confidence level, \( N \) = size of population, \( P \) = proportion of the population, and \( e \) = degree of accuracy (Kothari, 2009). For the population \( N = 265 \), the sample size works out to be 157, applying the above formula (\( e = 0.05 \), \( P = 0.5 \), \( z = 1.96 \)). This study used random sampling technique to select the respondents. The theoretical sample size of 157 was adjusted upwards to 200 to cater for non-response. From the list of consultancy business firms in Nairobi as at December 2013, this study employed the random sampling technique to pick the study sample of 200 consultancy firms, for detailed statistical analysis. Microsoft excel random number generation technique was employed (Kothari, 2009; Saunders et al., 2009). However, the number of questionnaires distributed was adjusted upwards to cushion the target sample against non-response. The total number of questionnaires distributed was 200 and those returned were 166, out of which 161 were valid after error correction. The overall response rate was 80.5%.

4.3 Validity of the Research Instrument

There are three types of validity that were relevant to this study, i.e. external validity, content validity and construct validity. This study took care of the external validity by ensuring adequate sample size. The final sample size was 161 which was slightly above the computed sample size of 157. Content validity in this study was ensured by generating the research constructs from the relevant theories in which the research was underpinned. The content validity of the research
instrument was tested via a pilot study before the main field study. In this study construct validity was checked via testing of the research hypotheses (Field, 2009).

This study mainly adopted established scales used in previous researches, with the necessary customization to fit the local study environment and study variables (Janssen, Alexiev, Den Hertog and Castaldi, 2012; Gallardo-Vazquez, Sanchez-Hernandez and Martinez-Azua, 2011; Berdine, Parrish, Cassill & Oxenham, 2008). In their study on measuring dynamic capabilities in a service innovation management, Janssen et al. (2012) obtained Cronbach alpha coefficients between 0.656 and 0.864 for the data collection instrument. Gallardo-Vazquez et al. (2011) in their study on orientation to corporate social responsibility and other business strategic variables, recorded alpha coefficients of 0.8348, 0.7918, 0.9075, 0.8974, 0.8351 and 0.8719 for the study variables i.e. social dimension, economic dimension, environmental dimension, innovation, performance and competitive success, respectively. The study by Berdine et al. (2008) on measuring competitive advantage for United States textile industry, had questions covering marketing, location of firm, customer service, relationship with suppliers, research and development, production efficiency, cost, reliability of delivery, product quality, sourcing for full-package, lead-time and flexibility of the firm. Results for the pilot study indicated corrected item-total correlation for the study variables IT capabilities and firm competitiveness as 0.719 and 0.806 respectively. The correlation above 0.7 indicates that the scale of the respective item is measuring the same thing as the overall scale; hence the research instrument was valid (Field, 2009).
4.4 Reliability of the Research Instrument

The relevant methods of reliability for this study were the test-retest and internal consistency methods. Internal consistency reliability refers to the consistency of results across items, usually measured with Cronbach’s alpha coefficient. Cronbach’s alpha coefficient is the correlation coefficient for the repeated tests and usually a value of 0.7 or more is acceptable to indicate reliability of an instrument (Tabachnick & Fidell, 1996). The reliability of the research instrument used for this study was tested via a pilot test as described below.

The pre-testing of the research instrument was performed with a sample size of 40, which recorded a Cronbach alpha coefficient of 0.855, which is above the threshold of 0.7 recommended by Field (2009), indicating that the instrument’s internal consistency is high and hence high reliability. The Cronbach alpha coefficient for the research instrument in the main survey was 0.836 for the study sample of 161, which compared well with the pre-test value of 0.855 (the slight variation of 0.019 is attributed to the different sample sizes between pre-test and final study samples). The research instrument for the study was therefore reliable.

4.5 Data Collection and Analysis

Data collection was done by use of a predetermined questionnaire as the main research instrument (Saunders et al., 2009; Barako & Gatere, 2008), developed to match the operationalized variables in the conceptual framework and administered by research assistants. The questionnaires were administered to senior managers in the IT, marketing and strategy departments.
The data collected in this study was subjected to a pre-analysis process for further error detection and correction, before coding of the questionnaires (Pallant, 2010). The data from each respondent was averaged per variable, using the geometric mean technique to appropriately scale any outliers (Vandesompele et. al, 2002; Wu, & Ye, 2009). Thereafter, descriptive statistics were used to further clean up the data to prepare it for inferential analysis by use of multiple regression multivariate techniques. To test the relationship between IT capabilities and firm competitiveness, the following simple linear regression model was employed (MacKinnon & Fairchild, 2009; Hayes, 2009), i.e. \( Y = b_0 + b_1X + e \) (where \( Y = \) firm competitiveness, \( X = \) IT capabilities).

This study adopted the suggestion by Field (2009), to detect multicollinearity by examination of the correlation coefficients between two explanatory variables and flagged any correlation coefficient greater than 0.9 for exclusion of one of the variables. The correlation coefficient between the study variables i.e. firm competitiveness and IT capabilities was 0.721. The observed correlation coefficient value for the study variables fell within the range (0.3 – 0.9) recommended by Field (2009). Further, there was no correlation of more than 0.9 that was significant at 5% level of confidence. Thus the findings of the study reported were not invalidated by multicollinearity.
5. RESULTS

5.1 Respondent Characteristics

Approximately 48% of the respondents were under financial and information technology sectors, while about 22% were under other sectors. The respondents under management services category were about 12%. The remaining 30% were under human resources, legal, hotel and hospitality, engineering and politics with relatively small individual composition between 2.5% and 5.0%. 42.9% of these respondents were located in the central business district (CBD) of Nairobi City.

About 58% had annual revenues below Kshs 50 million, 24% between Kshs 50 million – 500 million and 17% above Kshs 500 million. These demographics suggest that over 60% of the consultancy firms in Nairobi County are offering financial, information technology and business management services and are mainly small and medium sized enterprises.

5.2 Descriptive Analysis

The annexed Table 1 summarizes the descriptive characteristics of the variables investigated in the research. The descriptive statistics for firm competitiveness indicated the aggregated parameters for the sub-variables of firm competitiveness are low cost services ($\mu = 4.823, \sigma = 1.461$), differentiation of services ($\mu = 4.857, \sigma = 1.402$), focus ($\mu = 4.750, \sigma = 1.577$) and quality of service ($\mu = 5.308, \sigma = 1.304$). The mean scores for three of the sub-variables of firm competitiveness, i.e. low cost services, differentiation of products and focus are slightly below the 5.0 level mark in the measurement scale, implying that the level competitiveness is perceived to be at medium level. The fourth sub-variable, quality of service ($\mu = 5.308$), was the best rated.
The descriptive statistics for the sub-variables of the independent variable, IT capabilities were also computed. The aggregated mean for the sub-variable of sensing capability was 4.672 which is less than the mean of the composite variable of IT capabilities ($\mu = 4.911$), suggesting that sensing impacts less on the composite variable on the measurement scale. The aggregated mean score for the sub-variable of shaping was 4.932, implying a substantial impact on the composite variable of IT capabilities. The sub-variable of seizing had an aggregated mean of 5.252, which predicts more impact than sensing and shaping on the composite variable. The reconfiguration sub-variable consisted of two further sub-variables, i.e. automation of processes and integration of processes. The aggregate mean score for automation of processes was 5.269, while that for integration of processes was 4.814, resulting in an overall aggregated mean score for the reconfiguration sub-variable of 5.041. The overall mean score for reconfiguration is approximately the same as that for the composite variable of IT capabilities, pointing to a substantial influence on the composite variable, at the level of somewhat high in the measurement scale.

A further check was done to confirm the normality of the population sample for the study via histogram and normal probability plots (P-P) of the residuals, depicted histogram of standardized residuals showing that the distribution of the residuals was approximately normal. The normal P-P plots of the residuals falls approximately on a straight diagonal line from left to right, thus confirming the normality of the sampled population (Field, 2009).

5.3 Test of Hypothesis
The data collected from the field was formatted using Microsoft Excel in preparation for inferential analysis. The sub-variables scores were averaged into composite measures using the geometric mean, for each respondent firm. Geometric mean helps to reduce the effect of outliers and also normalize the research data (Vandesompele et al., 2002; Wu, & Ye, 2009). To test the hypothesis, the index for firm competitiveness as the dependent variable was regressed upon the index for IT capabilities as a composite independent variable. The results obtained from the regression analysis are annexed in Table 2.

The R square for the regression of firm competitiveness on IT capabilities is 0.519, which means that the independent variable IT capabilities explain 51.9% of the variation in firm competitiveness. From the ANOVA results, the F-ratio F(1, 159) = 171.657 for this relationship is significant at p < 0.001, which indicates that the model significantly predicts the outcome of the relationship between IT capabilities and firm competitiveness. The beta un-standardized coefficient for IT capabilities value of 0.613 is also significant at p < 0.001, which means that when IT capabilities changes by one unit in the measurement scale, firm competitiveness changes positively by 0.613 units. The coefficient for the constant term is 1.748, implying that when IT capabilities is zero, firm competitiveness would have a default value of 1.748. Therefore the null hypothesis, which stated that IT capabilities has no relationship with the development of competitiveness of consultancy firms in Nairobi, is not supported and so the alternative hypothesis is accepted. The implication is that there exists a significant positive relationship between IT capabilities and firm competitiveness among consultancy firms in Nairobi County. The overall model equation suggested by the foregoing discussion, adopting the un-standardized coefficients (as summarized in table 2), can then be as: Firm competitiveness = 1.748 + 0.613 IT Capability + e.

6. DISCUSSION AND IMPLICATIONS
This study set out to test the hypothesis that IT capabilities has no relationship with firm competitiveness. This study relied on the previous theoretical framework and empirical studies. From the theoretical framework, the study used the postulates of the RBV theory. The main argument from the RBV theory used is that unique combination of resources aids the firm’s strategic capability and subsequently enhances firm competitiveness. The study also relied on the previous empirical study by Chan and Reich (2007) on the Strategic Alignment Model for deployment of information technology resources. The model argues that strategically aligned deployment of IT resources by the firm enhances the firm’s unique combination of resources. The observation from the test of the hypothesis is consistent with the theoretical framework, where increased strategic capability is expected to drive up the competitiveness of the firm (Barney & Clark, 2007). However, it is observed that IT capabilities explains only 51.9% of the variation in firm competitiveness. This study is of the opinion that the balance of unexplained variation in firm competitiveness can be explained by the RBV theory (Sirmon, Hitt, Ireland & Gilbert, 2011), with the inference that IT capabilities has to be uniquely combined with other firm resources in order to provide a competitive edge. Further, part of the unexplained variation in firm competitiveness can be explained by the view by Chan and Reich (2007) that firm IT systems and processes need to synergize with the organizational strategy in order to add value to the organization.

The above observation contributes to the bridging of the knowledge gaps identified in the conceptualization of this study. Porter (2008) looked at how the porter’s five forces influence the competitive strategy of the firm together with the effects of corporate social responsibility and top management, but failed to show the exact contribution of information technology to firm
competitiveness. Another empirical study by Newbert (2008) concluded that value and rareness are related to competitive advantage and that competitive advantage mediates the relationship between rareness and firm performance. However, Newbert (2008) study was limited in scope, covering only rareness and values characteristics of the firm and was silent on how information technology can combine with value and rareness to enhance the competitiveness of the firm. A study by Prahalad and Hamel (2008) dealt more on the role of competence of top management in determining the competitive advantage of the firm, neglecting the role of other strategic resources of the firm including information technology. From the foregoing discussion, this study therefore contributes to the body of knowledge from the hypothesis tested, that IT capabilities make a significant positive influence on the competitiveness of consultancy firms in Kenya.

7. CONCLUSIONS

The focus of the study was to determine the relationship between IT capabilities and firm competitiveness for consultancy firms in Nairobi County. From the theoretical framework, the study used the postulates of the RBV theory. The main argument from the RBV theory used is that unique combination of resources aids the firm’s strategic capability and subsequently enhances firm competitiveness. The study also relied on the previous empirical study by Chan and Reich (2007) on the Strategic Alignment Model for deployment of information technology resources. Strategically aligned deployment of IT resources by the firm enhances the firm’s unique combination of resources. Therefore from a theoretical standpoint, the study concludes that the contributions of these theoretical frameworks are relevant for empirical work in the consultancy sector in Kenya. Secondly, from the research findings and the explanations offered,
the study concludes that IT capabilities has a significant positive influence on firm competitiveness for consultancy firms in Nairobi County and that the consultancy firms can enhance this relationship by using more online interaction with customers and supplier; which will lead to better cost efficiency, more differentiated services and better service quality.

8. Recommendations for Further Research

The study faced several limitations. Since the scope of this study was for consultancy firms in Nairobi County, the results should be used with some caution in terms of generalization to other counties in Kenya, because the contextual factors may not be the same. The possibilities for future research in this area are several. The study can also be replicated in other counties, to contrast any variations in regional demographics. With a good budget allocation, a national study can also be carried out to assess the impact of IT capabilities on firm competitiveness across all the major industries in Kenya. Alternatively, additional work needs to be done specifically on each of the business sectors in Kenya and especially the manufacturing and marketing sectors which are heavy users of IT. Another area for more research is to expand the scope of conceptualization in terms of the number of variables, to include all major variables that influence the competitiveness of consultancy firms in Nairobi County, Kenya.

REFERENCES
http://dx.doi.org/10.1002/smj.4250120403


multiple internal control genes. Genome biology, 3(7), research0034.


Table 1: Descriptive Statistics for the study

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<td></td>
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<tr>
<td>Differentiation</td>
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<td>5.3075</td>
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</tr>
</tbody>
</table>

IT capabilities

| Sensing            | 161| 4.6724 |
| Shaping            | 161| 4.9317 |
| Seizing            | 161| 5.2516 |
| Reconfiguration    | 161| 5.0412 |

Table 2: Regression Results for Firm Competitiveness upon IT capabilities

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta coefficients</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.748</td>
<td>.519</td>
<td>.516</td>
<td>.519</td>
<td>171.657</td>
<td>1</td>
<td>159</td>
<td>.000</td>
</tr>
<tr>
<td>IT Capabilities</td>
<td>0.613</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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