Investing In Information Technology To Acquire A Competitive Advantage In Egyptian Companies: A Mixed Methods Approach

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Abstract

Management has been challenged to achieve competitive advantages using Information Technology (IT). However, how to utilize IT still remains ill-defined. Accordingly, the study at hand intends to assess the effect of Information System resources and capabilities on companies' performance. The theoretical framework has been adopted from the widely used Resource Based theory in order to examine the relationships between the identified constructs.

A mixed methods approach was employed, allowing the use of both quantitative and qualitative approaches. A structured questionnaire was devised to survey a large number of senior managers and the data collected was analyzed statistically using the Partial Least Squares multivariate technique. Semi-structured attributes allowed a more probing study of small numbers of Chief Executive Officers (CEOs) and Chief Information Officers (CIOs) at five case study organizations that were selected to enable detecting and analyzing similarities and differences amongst the case study organizations. A positive relationship was recognized between IS Resources and IS Capabilities. Similarly, but rather hypothetically, the relationships between IS Capabilities and IT support for Core Competencies; and consecutively company performance, were positive as well. Conclusions were derived and a structural model is proposed to suit the Egyptian context.

Keywords: Competitive Advantages, IS Resources, IS Capabilities, Information Technology.

Introduction

Information Technology continues to play a vital role in business organizations. In this essence, the revolution in information technology has altered the sources of competitive advantage for businesses, in addition in greatly influencing how information, services and products are handled and exchanged (Peslak, 2012). There are various theories which attempted to analyze the role of a company's available resources and capabilities as a source of profit (Roxas and Chadee, 2011). These ideas would fuse into a general analytical model known as the resource-based view (RBV) of the firm (Barney, 1991). The expanded use of RBV as a cornerstone for firm strategy is the result of two developments. First, as the global market for many industries has become volatile, a focus on internal resources and capabilities rather than unpredictable external market forces has been viewed as a more secure basis for the development of strategy. Second, it has become clear that having and maintaining a competitive advantage is the primary source of profitability for a firm rather than the attractiveness of its industry (Mahoney and Pandian, 1992).

Management has been challenged to understand how firms gain and maintain competitive advantages. Still, how best to utilize IT in order to achieve a competitive advantage remains ill-defined. This brings a calling need for having a full structural model which accurately depicts production relationships and demand drivers in order to relate IT investments to organization changes and measure economic performance. Accordingly, the research at hand aims to provide a road map for 2 The competitive advantage of IT in Egyptian firms: A resource based perspective

Egyptian business managers by measuring and analyzing the extent to which organizational investments influence the value of IT investments and whether the benefits of IT investments are disproportionately difficult to measure or not.

Achieving Competitive Advantage

The challenges facing companies differ based on the development of countries (Porter, 2001). Resources and capabilities interact in a dynamic process to enable firms to establish core competencies. The shaping of strategy to achieve competitive advantage is an ongoing process (Rothaermal, 2008) (Laudon and Laudon, 2012). Therefore, firms must strategically position themselves so that product or service mimicry by competitors is difficult. The complex interactions between a company's various processes explains why competitors often find it difficult to imitate each other (Rothaermal, 2008). Porter (1998) also suggests that a differentiation strategy focuses on some advantage inherent in the product, such as higher quality even at premium prices. Competitors will find it difficult to mimic the product, and differentiation strategies can be undertaken through a variety of means.

IT –Organization Performance

Although IT investment has a significant role and has an undeniable impact on companies' performance, it has not been the focus of wide interest in Arabic literature and it did not attract many Arab studies. A review of literature shows that studies have either investigated the impact of investment in IT on the overall performance of the

company or the impact of investment in IT on the financial performance of the company (Laudon and Laudon, 2012).

In a study by Sriram and Stump (2004), the role of IT in strategic communication, developing internal relations among companies, and improving the purchasing process has been studied and analyzed. The two researchers developed a model consisting of the previous variables to show the incentive of investing in IT. The sample of the study consisted of 530 companies. The study showed that IT investment affects performance and specially the purchasing process. They also concluded that it reflects the common understanding in the IT literature that IT is the engine that develops and improves productivity and performance in companies. In addition to that, they stated that IT investment can lead to development and improvement of internal relations among different companies, which reflects on improving overall performance. Not to mention all the other intangible effects for IT investment on companies either direct or indirect.

Ren and Dewan (2006), conducted a study about IT and its relation to risk and return in American companies. The study aimed at exploring the role of IT and its effect on company risks. It was conducted on a sample of 243 companies. The researchers stated that IT has an impact on risks; technology helps in decreasing the risk rates in companies that have high levels of IT systems. They also found that IT helps in increasing the return rates of the sample companies. Later in 2007, Huang's study about the effect of investment in IT on the performance of companies manufacturing rubber, an indirect relation between investment in IT and the performance of the employees in terms of the ease of work, and time saving and energy saving was found.

Richardson and Zmud (2001) studied the impact of advertising the investment in IT on the return on stocks and their market value. The study was conducted on a sample of 97 companies, and the two researchers concluded that on average there is no extra ordinary return caused by advertising the investment in IT, meaning that there is no reaction from investors or appreciation to the investment in IT, particularly if this investment is characterized by being not effective or necessary.

In an article by (Chan et al., 2012), the association between the strength of information technology controls over management information systems and the subsequent forecasting ability of the information produced by those systems is investigated. It examined three dimensions of information technology material weaknesses: data processing integrity, system access and security, and system structure and usage. Results support the contention that information technology controls, as a part of the management information system, affect the quality of the information produced by the system.

Resource Based Theory
A large portion of the IT-business literature has used the Resource-Based View (RBV) (Roxas and Chadee, 2011) as a framework over the last two decades. RBV has been used in numerous fields such as Human Resource Management, Knowledge Management and Strategic Management in order to explain how a given resource affects company performance and interacts with other resources. This study evaluates

IT under the rubric of RBV in order to better understand the relationship between IT capabilities, other resources, and ultimately company performance.

RBV suggests that a firm is a collection of resources, tangible and intangible, human and non-human, collected together in an administrative framework. Proponents of the theory have used RBV to analyze the heterogeneity of resources and their effects on company performance (Baradwaj, 2000). Baradwaj further defined the properties of resources which provide competitive advantage. These properties are a resource's value, rarity, inimitability and non-substitutability.

Information System Resources
This section will build upon the premise that resources are the bedrock of an organization's capabilities. Ravichandran and Lertwongsatien (2005) suggested three broad classifications of IT resources. The first classification is that of Human Resources (HR). In this study, HR refers to the skill and proficiency of staff to perform IT related functions. The expertise of a company in relation to IT is determined by its HR, which is often influenced by factors such the tenure of staff and company specific training and knowledge. The second classification is IT infrastructure sophistication. This classification refers to the capability of IT infrastructure to respond to strategic changes and meet business needs. IT infrastructure must be flexible, enabling a business to take advantage of opportunities and quickly adjust its strategy, and it must deliver accurate, relevant information. The third classification is IT Partnership Quality. This classification includes both internal and external partnerships. Internal alignment between IT and the other resources of a business is essential so that IT providers may understand the relationships between the resources and objectives of the organization (Schryen, 2013). Relationships with external vendors can aid in establishing skills in areas which IT staff have not yet mastered. External vendors can therefore help improve internal IT functions and increase performance.

IS Capabilities
Resources have been described as either tangible (such as IT infrastructure) or intangible (such as Partnership Quality). Capabilities refer to an organization's coordinated use of such resources which correlate with business objectives and provide results (Jarvenpaa and Leidner, 1998). As capabilities are coordinated, they are also "shared." Schreyogg and Kliesch-Eberl (2007) suggest that capabilities are to be found throughout a company. They also identified three general areas of capabilities: problem solving and complexity, practicing and success, and reliability and time.

Core Competencies
A core competency is an aggregation of competencies that is cross-organizational. As an aggregation of competencies, a core competency is a source of diversification strategies which help reduce risk and transfer knowledge. The relevant literature describes three classifications of core competencies: market-based access competencies, integrity-related competencies, and functionality-related competencies.

Ravichandran and Lertwongsatien (2005) describe market-based access competencies as those which engender the understanding of the prevailing customer base, as well as the recognition of opportunities in new markets. Integrity-related competencies are those which enable a company to produce dependable products and services that are of superior quality. Functionality-related competencies are those that guarantee the delivery of value-driven products and services to customers.

Research Methodology

The goal of this study is to carry out an empirical analysis of the effect of IT within the Egyptian economy. A quantitative study focuses more on numbers and measurement of variables, which makes it more suitable when dealing with a large number of research objects. Structured questionnaires were designed and distributed. The questionnaire results were statistically analyzed. The existence and relative strengths of the relationships between the variables were analyzed using the Partial Least Squares (PLS) technique (Maitra and Yan, 2008) (Abd El-Aziz, 2012). PLS is useful as an analytical tool due to its capability to measure relatively small sample sizes (Pirouz, 2006). In addition, PLS is also a components based modeling tool which can simultaneously measure structural paths as well the measurement model.

A qualitative study concentrates on investigating and interpreting the social reality, such as culture and working environment. Focus is on different people's opinions and interpretations, which often make interviews a good technique. Qualitative method mainly focuses on different people's opinions and interpretations, which often make interviews a good technique. Since the IT Resources and capabilities are bound to the organizations considering them; with the use of interviews, this study was able to collect full and detailed empirical data for five firms. Interviews have actually strengthened the depth of the study, making it more profound.

A case-study approach has been used in this study where five organizations were selected for comparison. Organizations were mainly selected according to their type, since the aim is to study different firms. The sample companies will be thoroughly studied and data concluded will be compared against each other. Studying several firms enables one to detect and analyze similarities and differences amongst the firms. Since Firm Performance is influenced by many aspects, such as; Human Resources, IT Infrastructure, IS Partnership Quality, IS Functional Capabilities, and IT Support for Core Competencies, a Case-study was considered advantageous. Nonetheless, case studies might have some drawbacks when it comes to the degree of generalization that can be overcome with the use of questionnaires.

Research Design

The research at hand is considered to use a mixed method approach, which involves both quantitative and qualitative approaches. In order to collect data, case-studies were chosen, where structured questionnaires were designed based on Ravichandran and Lertwongsatien (2005), and semi-structured interviews were conducted with CEOs and CIOs at the case studies under investigation in order to understand the

impact of IT resources and capabilities on company performance in the Egyptian context.

In order to collect primary data for the study, a case-study approach has been used in this study where five organizations were selected for comparison for qualitative method organizations were mainly selected according to their type, since the aim is to study different firms.

The interviews used for this study are considered to be semi-structured; consisting of different categories (themes) with appropriate questions, and the Likert Scale survey method was chosen (see section 3.7 for more on the Likert Scale) for quantitative method, the questionnaire itself was sent out through mail and an interviewing process, and data collection was abetted by way of an internet survey.
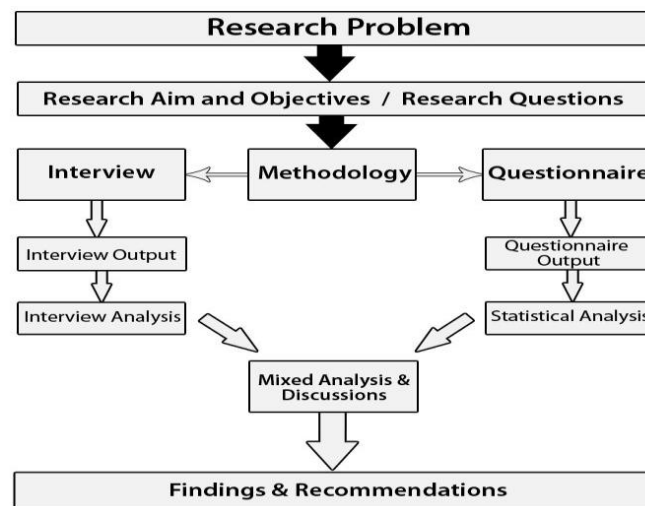

Figure 1: Research Design

Data Collection

As part of the investigation a mixed methods approach was utilized, where both quantitative and associated methods were used.

Qualitative Approach

During the selection process of the sample organizations to be used in this study, an email was sent to fourteen Egyptian companies that were believed to be the top companies in the region. Out of these organizations, five have responded and approved being part of the study. Semi-structured interviews were designed and conducted with CEOs or CIOs at the respective firms. To be able to grab a complete picture; different types (Manufacturing, Utilities, Retails & Services) of organizations were emailed. At the interviews then discussions will be about how organizations are currently working with their IS resources and capabilities, both on an imaginative as well as a practical way. While interviewing the CEOs, they have discussed, from their own perspectives, the way by which organizations think about IT, how their visions are developed and the means by which they transform IT into practice. Moreover,

when interviewing the CIOs, they stated their opinions about how the vision and the strategies are transformed into practice.

The interviews used for this study are considered to be semi-structured; consisting of different categories (themes) with appropriate questions. When conducting a semi-structure interview, the respondents can form their answers in their own words (Bryman et al., 2005); which could help get a deeper insight of the case study at hand. This differs from a structured interview, that has a standard format and preset response categories. In this study, semi-structured interviews were the primary research method used; established with 7 questions based on the framework.

This study begins by summarizing the interviews as dialogues divided into appropriate categories (or themes in order to follow the structure of the interview-guides). One method of doing this is to list the similarities as well as the differences in order to enhance the likelihood of finding details and maybe even making up new categories if necessary. After the secondary comparative analysis is done hypotheses and conclusions are produced, based on the patterns and processes discovered and compared to the existing literature (Eisenhardt, 1989).

Quantitative Approach

The questionnaire was sent out to senior IT managers and CEO within the survey population via mail and as well as interview. Respondents had the opportunity to assess company performance over the last three years based on operating performance four-item scale and market based performance three-item scale.

In measuring IT support for market-access and IT support for integrity-related competencies, a five-item scale was utilized for each of them. In order to measure IT support for functionality-related competencies, a seven-item scale was utilized. IS capabilities, including planning, systems development, support, and operations, were all measured along a six-item scale.

IS Human Capital, defined as the skill of the personnel, was measured on a four-item scale. IS Human Resource Specialization was measured along a six-item scale. The flexibility of IT infrastructure, composed of the sophistication of network and planning, was measured by a six-item scale. Data and core applications were measured along a four-item scale. IS partnership quality, defined by both the internal and external qualities of the partnerships, was measured using a six-item scale. Information intensity was measured using a three-item scale.

The population sampled within this study includes manufacturing and services, telecommunication, insurance, retails, utilities, services, and banks. As well as, other companies listed on the Egyptian Stock Exchange have also participated. The questionnaire was tailored for the senior management of IT departments and CEOs at the respective firms.

The survey questions were mailed to senior executives and management working in IT department within Egyptian companies. 79935 listed companies in Egypt were selected the companies due to the ease of access to information (The General Authority for Investment, jan-2012). There is no specific sector in Egyptian Market was selected. Four hundred questionnaires were sent out and three hundred forty nine responses were received, resulting in an 87% response rate. Although a high response

rate was achieved, the number of respondents in this study was considerably bigger than that achieved by Ravichandran and Lertwongsatien (2005).

Sixty three percent of the companies that responded to the survey belong to the Manufacturing and services group within the Egyptian market. The remaining thirty seven percent was made up of the groups such as Services seven Percent, Telecommunication three percent, Insurance three percent, Retails twelve percent, Utilities seven percent, Others four percent and Bank one percent. These companies had staff numbers ranging between 100 and more than 1000 employees. All of the responding companies had the head office located in Egypt.

Combining Quantitative and Qualitative Methods
Two methods of data collection were used in this study; a questionnaire survey (quantitative) and semi-structured interviews (qualitative). The questionnaire survey was conducted to elicit the opinion of Egyptian managers regarding the effect of IT within the Egyptian economy. The semi-structured interviews were conducted to collect more information about the impact of IT resources and capabilities on company performance. Each of the approaches (quantitative or qualitative) has different strengths and weaknesses. A mixed-method approach (triangulation) allows the strengths and weaknesses of methods to be counter-balanced (Miles and Huberman, 1994).

Research Findings

Quantitative Analysis
The data was collected using the survey method. The survey questions were mailed to senior executives and management working in IT department within Egyptian companies. There are 79935 listed companies in Egypt, eighty three of which were selected due to the ease of access to information (The General Authority for Investment, jan-2012). There is no specific sector in Egyptian Market was selected. Four hundred questionnaires were sent out and three hundred forty nine responses were received, resulting in a eighty seven percent response rate. A hundred percent of the responses received were usable and therefore none were rejected due to incomplete information. Although a fairly high response rate was achieved, the number of respondents in this study was considerably bigger than that achieved by Ravichandran and Lertwongsatien (2005). This was due to the using of interview technique plus mailing method.

Sixty three percent of the companies that responded to the survey belong to the Manufacturing and services group within the Egyptian market. The remaining thirty seven percent was made up of the groups such as Services seven Percent, Telecommunication three percent, Insurance three percent, Retails twelve percent, Utilities seven percent, Others four percent and Bank one percent. These companies had staff numbers ranging between 100 and more than 1000 employees. All of the responding companies had the head office located in Egypt.

The job profiles of the respondents were concentrated at the senior or executive level within the respective companies. Some of the job titles of the respondents included: Chief Information Officer (CIO), Senior IT Manager. The survey was targeted at these levels to ensure that the respondent had sufficient visibility across business units as well as knowledge about the strategy of the business.

Ninety four percent of the respondents were senior or executive IT managers with the remaining six percent being the chief executive officers (CEO). These respondents were identified either via known personnel within the companies or via the Data monitor key personnel search.

PLS is interpreted in two stages. The first step evaluates the measurement model and the second step in the analysis examines the structural model as a whole. "The measurement model subsumes the composition of the latent variables while the structural model depicts how the latent variables are interrelated" (Allen and Rao, 2000).

Measurement Model

The graphical outpu8t of the measurement model for this study. The square blocks represent the exogenous variables which were modeled as indicators of the latent constructs, represented by the oval shaped figures. The analysis was done using LISREL software tool.
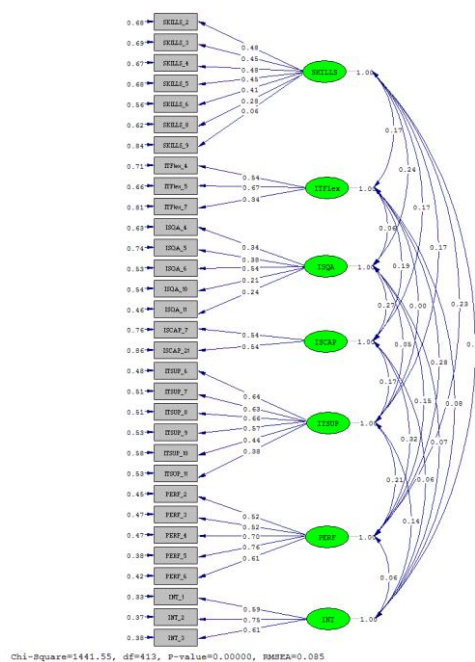

Chi-Square=1441.55, df=413, P-value=0.00000, RMSEA=0.085

Figure 2: The Measurement Model

All of the factor loadings are highly positive. This represents the first step of the PLS analysis, indicating whether these measures should be included in the model. The factor loadings indicate how the individual indicators contribute to the construct,

whereas the path coefficients indicate how they contribute to the overall relationships between the constructs, P-value is the chance that the relationship you are observing is observed by pure chance. So if you obtain a p-value of 0.01, it means that there is a 1% chance that the relationship between the independent variable(s) and the dependent variable that your model established doesn't actually exist.

IS Human Resource Capital is also well measured by SKILLS_2, SKILLS _3, SKILLS _4, SKILLS _5, SKILLS _6, SKILLS _8, SKILLS _9 with all factor loads highly positive at 0.48, 0.45, 0.48, 0.45, 0.41, 0.28, 0.06 respectively and significant at the 90% significant level in contrast with their small standard errors.

The estimated factor loadings for IT Infrastructure Flexibility are highly positive for ITFlex_4, ITFlex _5 and ITFlex _7, at 0.54, 0.67 and 0.34 respectively and significant at $P < 0.1$ (90% significance level).

IS Partnership Quality construct is also well measured by ISQ_4 with a factor loading at 0.34, ISQ_5 with a factor loading at 0.38, ISQ_6 with a factor loading at 0.54, with ISQ _10 and ISQ _11 following as measures with a factor loading at 0.21 and 0.24 respectively.

IS Capabilities is also well measured by ISCAP_7, ISCAP_21 with all factor loads highly positive at 0.54, 0.54 respectively and significant at the 90% significant level in contrast with their small standard errors.

IT Support for core competencies is also well measured by ISSUP_6, ISSUP _7, ISSUP _8, ISSUP _9, ISSUP _10, ISSUP _11 with all factor loads highly positive at 0.64, 0.63, 0.66, 0.57, 0.44, 0.38 respectively and significant at the 90% significant level in contrast with their small standard errors.

Firm Performance construct is also well measured by PERF_2 with a factor loading at 0.52, PERF _3 with a factor loading at 0.52, PERF _4 with a factor loading at 0.70, with PERF _5 and PERF _6 following as measures with a factor loading at 0.76 and 0.61 respectively.

Information Intensity is also well measured by with INT_1, INT _2, INT _3 all factor loads highly positive at 0.27, 0.50, 0.32 respectively and significant at the 90% significant level in contrast with their small standard errors.

The P-values for all variables are less than 0.1. The R2 or variances explained for endogenous variables are all greater than .10 with the exception of SKILLS_9, ISQA_10 and ISQA_11.

Structural Model

Chi-Square=1441.55, df=413, P-value=0.00000, RMSEA=0.085
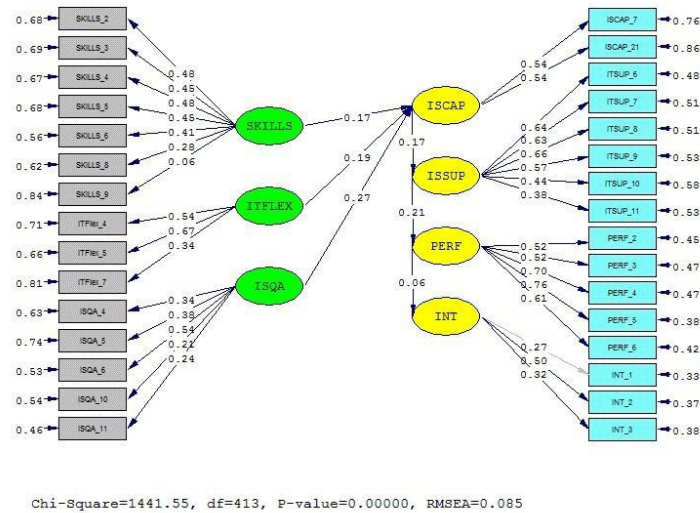
Figure 3: The Structural Model

The structural model describes the dependencies amongst the latent constructs. In this study there are seven latent constructs as reflected in Figure 4.10 Three of these constructs are exogenous (IS Human Capital, IT Flexibility and IS Quality), with the remaining four (IS Capability, IT Support, Performance, Information Intensity) endogenous. Thus far the relationships that are posited in this study have been specified in the measurement model. The test to determine whether the structural model was consistent with the observed data was done with the use of the software LISREL (Bacon, 1999). Allen and Rao (2000) indicated the importance of noting the fact that the causal model is never explicitly proven. On the other hand, it can be tested that the relationships hypothesizes in the measurement and structural model are consistent with what was reflected in the data. The path coefficient in the causal analysis reflects the values of the direct contribution of a given variable on another variable, given the effects of the other variables are also taken into account.

After reviewing the path coefficients in the structural model, the next step was to evaluate the model using the goodness of fit indices. Whilst the Chi-square value has historically been touted as the measure of fit, the Root mean square error of approximation (RMSEA) has increased in popularity in recent years to assess the fit of models with small data samples (Chou and Su, 2007). The goodness of a path model's fit to the sample data can be judged using the following two criteria: (1) a X2/df ratio of 5 or less (Marsh and Hocevar, 1985), and (2) an RMSEA less than or equal to .08 (Browne and Cudeck, 1993).

An RMSEA at 0.05 shows a very close fit. At greater than 0.05 and less than 0.1 is a fair fit. RMSEA at greater than 0.10 is poor fit. This model achieved an RMSEA which was marginally greater than 0.05 and less than 0.1.This resulted in a reasonable fit suggesting that this model is the good model to fully explain the performance of the company.

Research Hypotheses

The test to determine whether the structural model was consistent with the observed data was done with the use of the software LISREL. Allen and Rao (2000) indicated the importance of noting the fact that the causal model is never explicitly proven. On the other hand, the relationships structural model can be tested to check consistentcy with what was reflected in the data. The path coefficient in the causal analysis reflects the values of the direct contribution of a given variable on another variable, given the effects of the other variables are also taken into account.

Hypothesis 1: Structural Equation: IS_Capability = 1.995 + 0.171 IT_Flexibility + 0.291 IS Quality.

The path coefficient between IS Human Capital and IS Capability is positive at 0.17. The p-value is less than 0.1 therefore significant at the 90% level. The structural equation model therefore provides support for Hypothesis 1 which stated that there is a positive relationship between IS Human Capital and IS Functional Capabilities.

Hypothesis 2: Structural Equation: IS_Capability = 1.995 + 0.171 IT_Flexibility + 0.291 IS Quality.

The path coefficient between IT Infrastructure Flexibility and IS Capability is positive at 0.19. The p-value is less than 0.1 therefore significant at the 90% level. The structural equation model therefore provides support for Hypothesis 2 which stated that there is a positive relationship between IT Infrastructure Flexibility and IS Functional Capabilities.

Hypothesis 3: Structural Equation: IS_Capability = 1.995 + 0.171 IT_Flexibility + 0.291 IS Quality.

The path coefficient between IS Partnership Quality and IS Functional Capability is positive at 0.27. The p-value is less than 0.1 therefore significant at the 90% level. The structural equation model therefore provides support for Hypothesis 3 which stated that there is a positive relationship between IS Partnership Quality and IS Functional Capabilities.

Hypothesis 4: Structural Equation: IT Support for Core Competencies = 3.167 + 0.163 IS_Capability.

The path coefficient between IS Functional Capability and IT Support for Core Competencies is positive at 0.17. The p-value is less than 0.1 therefore significant at the 90% level. The structural equation model therefore provides support for Hypothesis 4 which stated that there is a positive relationship between IS Functional Capability and IT Support for Core Competencies.

Hypothesis 5: Structural Equation: Firm Performance = 2.716 + 0.210 IT Support for Core Competencies.

The path coefficient between IT Support for Core Competencies and Firm Performance is positive at 0.21. However, the p-value is less than 0.1 therefore significant at the 90% level. The structural equation model therefore provides support for Hypothesis 5 which stated that there is a positive relationship between IT Support for Core Competencies and Company Performance.

A positive and significant path coefficient was witnessed between the latent constructs. IS Human Capital, IT Infrastructure Flexibility and IT Partnership Quality both have a strong positive path coefficient to IT Capabilities. However, the path

coefficient between IT Capabilities and IT Support for Core Competencies is strong. Finally, IT Support for Core Competencies presents a positive path coefficient with Firm Performance.

Qualitative Analysis
The following contains the compilations from the interviews performed. The five firms interviewed are presented within its own section, starting with a presentation of each company.

The respondents for this study are listed below:

Table 4.13: Conducted Interviews

Company Name	Firm/Role	Firm Type	Length of Interview
A	CEO	Manufacturing	39min
B	CEO	Utilities	32min
C	CIO	Retails	42min
D	CEO	Services	51min
E	CEO	Manufacturing and Services	35min

The analysis is based on the research question and therefore focuses on the IT under the RBV model of Information System (IS) resources and capabilities and competitive advantage, of how organizations should follow to grow and fully exploit IT capability to achieve effective business performance?

IS Human Resource Capital
This question is intended to illustrate the IS staff skills and knowledge to manage IT projects in the current business environment and measured the ability of IS staff to work closely with customers and maintain productive user or client relationships.

Results showed that all 5 respondents believe that an increase in human resources will result in an increase in the effectiveness of processes like planning, development, operations and support (100 percent).

Theme: The shortage in IS resources investment will lead to a deficiency in the ability of IT to create and sustain competitive positioning in the market.

Supporting Statements:
- "IS teams at the company have excellent knowledge of the business, its priorities and its objectives".
- "The IS Department staff enjoy several capabilities that have contributed to the success of the department in recent years".
- " IS Department staff have the required skills and knowledge to operate and manage IT projects in the current business environment".
- "Systems (IS) department staff has the required capability to work closely and successfully with clients and preserve excellent relations with them".

- "(IS) staff has the ability to learn fast and apply new technologies when they are available".

It Infrastructure Flexibility

This question is intended to illustrate the capacity and speed of the firm's corporate network infrastructure adequately meets the IS staff current business needs.

Results showed that all 5 respondents believe that IT Infrastructure (which in this instance includes the data network, business systems and information) provides the foundation upon which the IT processes of planning, development and support can rely on (100 percent).

Theme: Changing one element in a complex IT infrastructure can cause ripples throughout the system, negating the local, short-term value of the new technology by imposing long-term maintenance costs. Infrastructure consolidation is, therefore, a major step toward reducing complexity.

Supporting Statements
- "The speed of the current infrastructure network is appropriate to the company's need".
- "All information systems and business-related data is shared through business units".
- "The technical infrastructure required to electronically link the company to external business partners and information systems is currently in place and available".
- "All software components may be easily re-used in other business applications".

Is Partnership Quality

This question is intended to illustrate whether the goals and plans for IT projects are jointly developed by both the IS department and the business units and Measured whether the Conflicts between IS departments and business units are rare and few in our organization.

Results showed that all 5 respondents believe that a lack of strategic direction from business can cause IT investments to be misdirected (100 percent).

Theme: IS partnership quality, defined by both the internal and external qualities of the partnerships.

Supporting Statements:
- "The IS Team enjoys a trustful relationships with IT suppliers and service providers".
- "The company has established long term partnerships and alliances with suppliers and service providers".
- "Conflicts with IT suppliers and service providers are solved through discussion and not legal venues".
- "IS Department also works closely with suppliers and service providers to acquire information at the right time".

- "Very few conflicts occur between the IT Department and the different business units operating within the company".

Is Capability
This question is intended to illustrate the firm's systems development process flexibility; could it allow quick infusion of new development methodologies, tools, and techniques and Measured if the IS staff periodically do mock trials to test their disaster recovery plans.

Results showed that all 5 respondents believe that IT capability does have influence on company performance, though the relationship may be indirect rather than direct (100 percent).

Theme: Companies that actively pursue 'capability based competition' often find success, due to the fact that capabilities are a major element of competitive advantage.

Supporting Statements
- "The IS strategy is to try to make planning as comprehensible a process as possible with the planning function covering all organization's IT needs".
- "The IS Development process is highly flexible and allows for the quick insertion of new methodologies, tools and techniques".
- "Security systems are constantly re-evaluated and procedures are taken to avoid our areas of weakness".
- "IS Planning process begins at the Top Management, which is highly involved in IT planning".

IT Support for Core Competencies
This question is intended to illustrate the Measured the extent to which the use of IT and the Internet support the Re-engineering business processes , Enhancement of business process flexibility, and Integrating the firms supply chain.

Results showed that all 5 respondents believe that core competencies lead to improved organizational performance.

Theme: IT/IS resources and capabilities support core competencies which lead to improved organizational performance.

Supporting Statements:
- "IT Department works to support the company's capability to respond to customer requests"
- "The speed of new product development has also increased with the use of IT".
- "Improve the speed of products delivery".
- "Improve the organization's speed-to-respond to business opportunities and threats".
- "Increase of business flexibility".

Firm Performance (Evaluated Over The Past 3 Years)
This question is intended to illustrate the firm's ability to bring new products and services to the market faster than its competitors and measured whether the firm's productivity and profit have exceeded that of its competitors.

Results showed that all 5 respondents believe that IT spending creating more value.

Theme: There is consistent correlation between IT spending levels and financial performance.

Supporting Statements:
- "Positively affected the performance of the company in many ways".
- "Speed up the development of new products and services".
- "Allow the quick penetration of new markets".
- "Productivity and profitability rates have exceeded that of competitors and the financial performance".
- "Company has reached new standards".
- "The company was quicker than competitors in launching new products & services into the market".

Conclusion

The research conducted by Ravichandran and Lertwongsatien (2005) has been extended by this study that used Resource Based theory to explain how company performance is affected by investing in IS resources and capabilities. The research model presented in this study has particularly supported the positive influence that a flexible IT infrastructure and partnerships, at the right level, deliver to the business.

Data collection and analysis showed significant positive relationships between the following variables;
- IS Human Capital and Information System Functional Capability.
- IT Infrastructure Flexibility and Information System Functional Capabilities.
- IS Partnership Quality and Information System Functional Capabilities.
- IS Functional Capabilities and Information Technology Support for Core competencies .
- IT Support for Core Competencies and Company Performance.

For many industries, the Information Technology (IT) function has been now upraised from the operational level to the strategic level. Modern management has considered IT now as a necessary function and tool used at all managerial levels. IT would aid an overall process; for instance, from the development of new products to the support of sales and service, or from providing market intelligence to supplying tools for decision analysis. Besides, among the variant functions of IT, enabling Multi-national companies to acquire information from multiple systems and make it broadly accessible to managers and employees; is a critical one. These functions, together with the increased opportunities for using IT to achieve strategic

competitiveness has made it essential for CEOs to reexamine their IT knowledge in order to manage it effectively.

Technology has become integrated with almost every aspect of the business in many companies. At one time, the use of technology was just limited to running core applications, or processing key business information. Today, technology plays a role in almost everything businesses do, from every aspect of customer service to customizing their store formats, or matching their merchandising strategies to individual markets to meet varied customer preferences. Certainly as technology has become pervasive in the business, it has changed the way businesses work. CEOs have been increasingly recognizing the impact that technology decisions have on their business and their corporate culture. As a result, most of them are becoming less comfortable delegating technology decisions to others.

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