A Study of Management Information System (MIS) Competency and Adoption Strategy among Oil Companies in Libya

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2009

DECLARATION

I declare that all the work described in this thesis was undertaken by my own research (unless otherwise acknowledged in the text) and that none of the work has been previously submitted for any academic degree. All sources of quoted information have been acknowledged through references.

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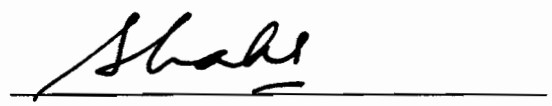

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Abstract

The objectives of the research was to examine the relationship between MIS competency and MIS strategy adoption to maximize the utilized of resource management on oil companies in Libya and also to examine the influence of MIS adoption factors such as subjective norm, usefulness and ease of use of the product influence on MIS competency on companies in Libya on the perspective of resource management of the product. This study is important to contribute to better understanding for production process on how important MIS strategy, competency and strategic MIS. It will help companies to make some changes based on the result of this research. The research confirmed the relationship between subjective norm, perceived usefulness and ease of u contribute were positively related to MIS competency. It provides estimates of the research model and suggests which components of the adoption item will get more successful in Oil Companies. The research models are being pursued in the adoption of organization competency to succeed. Through this research companies able to understand the all level production and see how well the management has done its part to watch over their MIS strategy. This study is designed to provide the benefit for management practitioners, especially for stakeholder in oil companies in Libya. For practitioners, the aim is to offer a holistic and in-depth overview of how to forms the product through the determination of MIS competency and strategy. Furthermore, this study confirmed to enhance and develop MIS strategy to make products and all activities using MIS as efficient and effective. This study also significance to fill the gaps in the literature review and contribute to the increase of strategy in the firm, company and organizations. This study also intends to help practitioners to understand what factors influence the MIS strategy using competency and strategic MIS.

Keyword: MIS Competency, Subjective Norm, Perceived Usefulness, Perceived Ease of Use.

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CHAPTER 1

OVERVIEW OF THE RESEARCH

1.1 Background of the Study

With the development of technological revolution and economic globalization and the fundamental change of social production method, human capital and social capital has become the key factors for a business organization to achieve competitive advantage (Li and Hu, 2007). Management information system (MIS) is charged with improving the strategy of organizations and people related on MIS through the employ of information technology. MIS is a multifaceted discipline which combines technologies, personnel, processes, and organizational mechanisms. Clearly, the success of MIS is measured in terms of individual and organizational strategy (Chen and Cheng, 2008).

For nearly 50 years the development of information systems (IS) was almost entirely perceived as a technical discipline. IS professionals, with a certain level of help from users, set about developing IS in the various functional areas of firms. They were supported by IS development and project management methodologies, as well as a range of other tools and techniques. A large number of high-profile system development failures put the technical focus of the discipline at the centre of discussion (Stuart Maguire and Tom Redman, 2006).

It is only recently that the "softer" aspects of the IS development process have achieved a higher profile. For instance, it could be argued that from changing one line of computer code to the implementation of an integrated, organization-wide IS is

primarily about the management of change. However, competence in the area of change management is not guaranteed within the skill portfolio of IS professionals. Competence in organization development may be required to ensure that a new IS provides an organization with long-term benefits, especially MIS through rescaling and a coherent training programme for staff.

Most firms are looking for efficiency and effectiveness gains from the introduction of IS. The very fact that increasing numbers of IS are company-wide means that the repercussions from their implementation are becoming more far-reaching. IS now requires more co-operation and communication across departmental boundaries. It follows that project leaders should have communication and people skills, as well as project management expertise. There may be a strong correlation between those competences inherent in the MIS function and those required to ensure that an IS implementation is successful in an organizational context (Stuart Maguire and Tom Redman, 2006).

In today's global business products are increasingly expected to display effort, motivation and initiative in modern organizations. It is not only human competence depends on the success of an organization, but also how it motivates product and produce the high quality or product and services to an organization. The essential key to an organization's success and survival is adaptability. Company need to have the right products that are able to be managing at the speed of change and address business issues creatively.

The company could never stand without having products. Products are the main reason a company could exist for a long time. They are the ones who play the major roles and make a lot of contributions to the company. So company should pay attention on them in order to keep them in high quality. That will also influence the productivity of the company that will lead to achieving the company's objectives. But getting competent and committed products had been a huge challenge for most company nowadays (O'Malley, 2000). Therefore, it is important for every organization to see the level of their strategy.

Although the concepts of strategy measurement and strategy management have existed for many years, there is increasing demand that agencies begin to transform their organizations to institutionalize these practices. For an organization to achieve its goals, it is essential for each product to be produce in the situation of understand by individual roles of employee and responsibilities for goal achievement, and there must be continuous dialogue between employee to set strategy expectations, monitor progress, and evaluate results. Thus, an organization's strategy goals can only be achieved MIS through its products. An effective strategy measurement and management system links individual and teamwork behaviours to the organization's business strategies, goals, and values.

1.2 Problem Statement

Information technologies and Information systems provide enormous potential for enhancing productivity of human resources in both public and private sectors. However, net returns on IT/IS's capital have been observed to be higher in many of the developed countries than in developing countries. This is because IT/IS have

enhanced productivity and competitiveness in various organizational processes including management of human resources in both public and public sectors. Using some examples from both developed and developing companies, the study will demonstrates how IT/IS can enhance productivity of the product. However, still most of the organizations are yet to catch up with the above productivity enhancement observed in developed countries. This research discusses some of the prerequisites needed to attain high productivity from IT and IS and also pitfalls and drawbacks.

In the early part of the 20th century, tax and wage legislation was introduced to businesses, and by 1943 federal tax was mandated. To comply with these new requirements, a new function/profession was created—the payroll professional. (Patricia, 2007) This was a huge responsibility, with significant consequences for miscalculation and non compliance. Payroll clerks struggled manually MIS through hundreds and, at larger firms, thousands of payroll records, often with human error, making auditing, efficiency, and control a virtual impossibility.

For some companies, technology could not come soon enough. As the 1980s came to a close, academics discussed the changing role of MIS. They speculated that many MIS organizations would transform from a police and polite administrator role into a more strategic role in the business. Many thought leaders were beginning to suggest practices MIS for products were actual resources, who, if taken care of, could improve their contribution to the company. This, of course, required that the MIS function move closer to the business.

This was also a time for legitimizing the MIS function. Professional organizations such as the International Association for Human Resource Information Management (IMISIM) were founded as a place for MIS professionals to meet, learn about, and share new practices and technologies to help their businesses be more efficient. As the 1990s approached, the pace of competition continued to quicken as customers became more sophisticated in their demands and Internet technologies began to emerge and tear down the barriers to entry for competition.

Manufacturing and services organizations alike began to decentralize functions, while trying to maintain centralized control MIS standardized processes and information. Many manufacturing organizations, which had long embraced such quality improvements as Total Quality Management (TQM), began to rely more heavily on offshore facilities and companies that were spun off into separate businesses to bring products and services to market. While TQM and other similar business methodologies may have remained, manufacturers struggled with the human side of decentralized business, including basic insight into the demographics of the extended global workforce (Patricia, 2007).

By the mid-1990s, the Internet, or the Worldwide Web, was a common topic of both social and business discussions. Many businesses had branded corporate intranets that provided information for their products, virtual bulletin boards for information ranging from internal job postings to a calendar of events, even allowing products to post "for sale" notices of private property. More and more, companies were providing workers with home access to corporate systems via an intranet. Furthermore, companies were able to offer products a way to manage their personal

and personnel information, working toward work/life balance, while employers were able to keep products connected to their own information, enabling a better, more accurate depiction. In a time when the buzzword for products was "empowerment," corporations began to focus on deploying applications that could give products all the tools and information they needed to perform their jobs and make better decisions.

There is lot of positive impact and inputs after implementing the information technologies in Human Resources Management and Supply Chains Management but there still there is lot of mystification existing. By implementing digital technologies like attendance systems, pay roll management, e-leave system, access cards, online applications and others, job strategy monitoring system also may put some negative impressions. There's lot of cultural and social belongings existence and that's definitely put some impact on the overall MIS strategy. Also, old aged product sometime react to take some training and bears some fear about new technology especially with computer and software.

In addition to that new technologies reduced the need of human resources and also make all things more robotic and error free. An important question which arises is: how the IT/IS put positive impact on improvement of organization's overall strategy and productivity and also is there any negative really exists or not?. Furthermore, this study addressed problem statement as bellow:

- How the overall strategy and progress of development of an organization can be affected by any erroneous technology implementations?
- How it can put pressure on the management?

Furthermore, management information system (MIS) is charged with the intention to improve the strategy of organizations in the use of information technology. However, individual and organizational in companies lack of the knowledge of MIS and also deploy information technologies in an organizational setting. It is because it is needed a requirement of a wide range of competencies. In additional, most of the activities involved manually. Thus, it is time-consuming which manual of work would leads to low productivity, low efficiency, and low efficiency. Therefore, it is necessary to study the resources based MIS to determinants of how IT is deployed in the organization, which in turn can affect MIS strategy.

1.3 Research Questions

The research questions of this study aims to be answered concern the resources based MIS are as below:

1. To what extend the relationship between MIS competency and MIS strategy adoption on the product management among oil companies in Libya?
2. How the influence of MIS adoption influence on organization competency among oil companies in Libya?

1.4 Research objectives

The objectives of the research are as in the follows:

1. To examine the relationship between MIS competency and MIS strategy adoption to maximize the utilized of resource management on oil companies in Libya.
2. To examine the influence of MIS adoption factors such as subjective norm, usefulness and ease of use of the product influence on MIS competency on

companies in Libya on the perspective of resource management of the product.

1.5 Significance of the Study

This study is important to contribute to better understanding for production process on how important MIS strategy, competency and strategic MIS. It will help companies to make some changes based on the result of this research. This research will also be a start for companies to understand the all level production and see how well the management has done its part to watch over their MIS strategy.

This study is designed to provide the benefit for management practitioners, especially for stakeholder in oil companies in Libya. For practitioners, the aim is to offer a holistic and in-depth overview of how to forms the product through the determination of MIS competency and strategy.

This research hopes to enhance and develop MIS strategy to make products and all activities using MIS as efficient and effective. This study also significance to fill the gaps in the literature review and contribute to the increase of strategy in the firm, company and organizations. Furthermore, this study also intends to help practitioners to understand what factors influence the MIS strategy using competency and strategic MIS.

1.6 Scope of the Study

The scope of the study is basically limited to products in oil companies in Libya. Hence the researcher will study on MIS factors such as competency that contribute to

the MIS strategy. Therefore, measures such as MIS strategy and MIS will be evaluated in a specified context of use among products in the organization. Researcher will determine the detail of the product as the unit analysis of the study. Some alternative related to the sample of the study. Furthermore, researcher will observe the possibility to the product examination. Network, time limitation and utility of the product will involve in the investigation of MIS competency and MIS strategy using resource based management perspective.

CHAPTER 2

LITERATURE REVIEW

2.1 Conceptual Development to Management Information System (MIS)

Every company has their own strategy evaluations system to help align products and their resource to the overall organization strategy. Effective strategy evaluation is a continuous, ongoing process. It involves asking two main questions which are; "Is the work being done effectively?" and "Are product supported MIS their skills and abilities being fully utilized?"

On the other hand, what is most significant at the organizational level is that learning is now a collective experience. The stages of learning may be similar, but learning is now the result of an interactive, interdependent process. In this model, environmental jolts or surprises such as a new regulation, a new competitor, market downturns, new technology, customer dissatisfaction or new demands, a new vision, or some other change in the status quo trigger learning.

Active scanning of the environmental context of the organization, both internal and external, enables the organization to proactively shape responses. The culture or ideology of the organization serves as a filter to direct the organization's attention. MIS their separate functions, key people (separately and collectively) in the organization arrive at a strategy for responding to the trigger. The strategy's success is due in part to the organization's ability to act cohesively. This requires alignment of vision about what to do, share meaning about intentions, and the capacity to work

together across many different kinds of boundaries. This collaborative capacity leads to collective action.

Once the organization responds, individuals and departments make assumptions about the effectiveness of that response. There are consequences for both individuals and organizations as a result of these actions. If the response has been to integrate a new technology, for example, considerable learning may be required at the individual level before the organization has a new capacity. Organizational learning is the net result of this cycle. What is learned is what the organization retains such as a new capacity, a new understanding of what does not work, or a new procedure or technology.

MIS strategy is a result of the application of their effort. At the same time, product's effort is driven by their perceived expectancy perceptions on fairness of human resource decisions, such as reward distribution, promotion decisions and etc. Therefore, organization learning theory will effect products' perceptions on strategy evaluation fairness and human resource decisions.

On the other hand, movement toward a learning organization is a long term process. The best we might expect to learn is that the presence of learning organization practices correlate with the perception that the organization is faring better both in terms of knowledge and financial capital. Because the early stages of learning can also include phases of unlearning and steep learning curves, measures such as these may not show much progress or may even show a setback in perceived results. In this sense, these findings do not shed light on whether practices are linked to strategy

as much as they show covariance with strategy. Yet, workplace learning is part of the knowledge capital of the organization, and we believe that it may lead to improved financial strategy. These measures are important therefore as one way of measuring the value added of the MIS strategy function.

2.1.1 Defining MIS strategy

Pfeiffer (1994) had figure a number of authors have argued that recent systemic changes in firms' labour and product/service markets have elevated the importance of human resource issues and practices. Against this backdrop, researchers and practitioners have been exhorted to adopt a more exploration perspective on MIS strategy.

Researchers in the strategic management field have traditionally concentrated on technical innovations in practices, focusing on the effects of selection, policy, appraisal and rewards on individual-level outcomes of job satisfaction or strategy. Further, these sub discipline innovations have occurred in relative isolation from one another (Wright & McMahan, 1992). It is concerned with how organizational characteristics shape policy implementation practices and priorities and how these strategic MIS practices contribute to the bottom line (Martell & Carroll, 1995).

It is widely accepted that any change in management inevitably has some sort of impact on all those affected by the organization. "When managers endeavour to alter organizational structures, they must take into account how these actions will be perceived" by their products (Robbins, 2005). The importance of understanding how the changes will be perceived amongst the workforce, in advance of the

transformation, is critical to the successful implementation of change. Managers must become aware of the various concerns, expectations, hopes, and fears that their products will have when the plan for change is announced.

Anticipating and confronting these perceptions and reactions is the cornerstone to enacting meaningful change (Frederickson & Perry, 1998). Perhaps the best explanation for this strategy is that people's behaviour is based on their *perception* of what reality is, not on reality itself (Robbins & Langton, 2001). Guiding products MIS a transitional stage by honestly addressing their concerns helps to ensure that the reality perceived by the products is aligned with reality itself.

Strategy based strategic management for all individual inside of the company can be important tool; for motivating higher level of strategy and enhancing organization effectiveness. Therefore in order to determine the types of the resource improvement in the organization, strategy appraisal can be atoll for evaluating MIS strategy. It could help managers to identify who are qualified for the improvement of their organization.

2.1.2 Information Technology Implementation

In the beginning was the filing cabinet sitting in the corner of the Personnel Office. Drawers full of hanging files arranged in alphabetical order, the dust they collected only being disturbed by the Personnel Manager or an Administrative Assistant when an product did something like change an address. Systems were very much about recordkeeping, with such things as static information about products, their addresses and other personal information.

As organizations grew in complexity, other information about products came to be recorded as well, such as training records and payroll information. However, these would usually have been kept by the appropriate functional department: the Training Manager would keep the training records and the Payroll Department the payroll information, and, as Rudyard Kipling might have observed, never the twain shall meet? Computer technology of the 1970s and 1980s moved things on, particularly the introduction of desktop PCs and networking in the 1980s.

Databases specifically designed to meet the needs of Personnel came on to the market and many organizations started to transfer their paper records on to computer (Hopkins, Bryan.2003). Thus was born what are now known as Human Resource Information (or Management) Systems. In the early part of the 20th century, tax and wage legislation was introduced to businesses, and by 1943 federal tax was mandated. To comply with these new requirements, a new function/profession was created—the payroll professional.

This was a huge responsibility, with significant consequences for miscalculation and noncompliance. Payroll clerks struggled manually MIS hundreds and, at larger firms, thousands of payroll records, often with human error, making auditing, efficiency, and control a virtual impossibility. For some companies, technology could not come soon enough. Those who could afford it, like GE, pioneered the automation of the complicated and cumbersome payroll process. GE implemented the first home-grown mainframe payroll solution; they also had the first automated payroll system to process the tens of thousands of products across the United States. At the end of

the 20th century, social legislation such as Affirmative Action, Equal Employment Opportunity, the Occupational Safety and Health Act, and the Product Retirement Income Securities Act created a demand for companies to collect, store, manage, and report more personnel data than ever before.

It had become very difficult to keep up with legislation and to put it into a practice that did not cost significant time and money. At the same time, products were becoming more and more aware of their rights, evidenced by the emergence of lawsuits and challenges to corporate policies. What had previously been accepted was now under scrutiny. The consequences for non compliance or discriminatory practices were significant fines and monetary rewards for victims of wrongdoing. Due to legislated corporate responsibility for compliance of workforce practices and worker safety, a new function was created— the personnel department. Combined with the payroll department in many businesses, the personnel department was primarily responsible for managing personnel information, data, and processes, and ensuring that the business was compliant with employment legislation.

The MIS function served as a police officer of sorts to ensure that employment practices were adhered to MIS the business. But MIS was also the polite group in the business—often responsible for coordinating company picnics and other outings, sending birthday notes to products, and carefully treading in a business where little value was placed on the business impact of MIS. As the century progressed, so did technology. As mentioned above, some companies, like GE, forced the issue by creating their own technology before one was available on the market. Payroll vendors began to emerge, offering not only technology, but in some cases, also

services to outsource this function. With the onslaught of legislation, companies began to look seriously at technology to gain control over workforce information without significantly increasing costs to the business.

With other companies, sophisticated, and often complicated colour-coded filing systems were used to store product data, but reporting remained an issue. Vendors began to promote ERP solutions that combined personnel data and payroll applications. Some vendors also integrated financial controlling systems with the MIS systems, so that companies could not only make more efficient financial decisions, but also increase control over where corporate dollars were spent. Companies could leverage the MIS systems to generate reports that demonstrated compliance with legislation, thereby protecting against costly fines, lawsuits, and bad publicity. With technology, businesses were beginning to automate processes that, although important and critical to achieve, did not contribute value.

The payoff of technology was not just compliance, operational efficiency, and control; it also helped to focus resources on other activities beyond keeping manual records. (Hal G. Gueutal, Dianna L. Stone, 2007). As the 1980s came to a close, academics discussed the changing role of MIS. They speculated that many MIS organizations would transform from a police and polite administrator role into a more strategic role in the business. Many thought leaders were beginning to suggest practices MIS which products were actual resources, who, if taken care of, could improve their contribution to the company.

This, of course, required that the MIS function move closer to the business. This was also a time for legitimizing the MIS function. Professional organizations such as the International Association for Human Resource Information Management (IMISIM) were founded as a place for MIS professionals to meet, learn about, and share new practices and technologies to help their businesses be more efficient. Improved access to information and the ability to connect different systems together are the fundamental reasons why e-MIS can prove to be an effective way for an organization to acquire competitive advantage. As an e-MIS system grows and its tentacles pull in more and more separate databases you will find that the added value benefits begin to dwarf the cost savings. Synergy is indeed the keyword. (Hopkins, Bryan. 2003)

Every MIS department is in the midst of a seemingly endless transformation, one that not only encompasses the function of the MIS department, but also its role within the business, the relationships it maintains, and the technology it uses and is responsible for deploying. It is clear that transformation of MIS is inevitable. More and more, businesses are realizing that people are the only true differentiating factor in long-term competitive success. For so long, workforce strategies have not been aligned with business objectives.

MIS technology was focused only on automating back-office functions and was not necessarily leveraged MIS out the business to give products, managers, and executives the tools they needed to make better personal decisions, let alone better people management decisions. (Dianna, Kimberly M. Lukaszewski, 2005). Now that human capital management permeates the business, companies are committed to deploying the right collaborative tools to products so that they can not only make

better decisions about such personal options as healthcare or 401(k) investments, but also Leverage collaborative tools that enable better teamwork across and outside of the business. With this teamwork comes innovation, access to better and more relevant information, and so forth.

MIS can now contribute to the many capabilities that impact key strategy drivers and ultimate business strategy, workforce productivity, and leadership developments. With a more strategic role that extends beyond ensuring efficiency in back-office functions, MIS is primed to help businesses change the way they leverage their people to compete and deliver unmatched customer satisfaction. MIS will continue to create strategic value for the business. (Dianna, Kimberly M. Lukaszewski, 2005). Overall, this review aimed to be justify that how information technologies now merge with human resources management practices and how the use of Information Technologies (IT) to enhance MIS Productivity in the Corporate Sector now a day.

2.1.3 Adoption of MIS

A social psychology model frequently used to explain a variety of behavioral intentions is the Theory of Planned Behavior (TPB; Ajzen, 1985, 1991). The TPB is an extension of the theory of reasoned action (TRA; Fishbein and Ajzen 1975), and the TRA is an improvement over Theory of Information Integration (TII; Norman Anderson 1971). The TPB extended the TRA by the addition of Perceived Behavioral Control (PBC) because the TRA has difficulty explaining behaviors over which one does not have volitional control.

The TPB model proposes that intention to perform a behavior is the immediate antecedent of that behavior (Courneya, Bobick and Schinke 1999; Ajzen 2002). Whereas intention, in turn, is determined by three conceptually independent variables labelled attitude, subjective norms and perceived behavioral control (PBC). TPB has successfully been used in previous studies to control undesirable behaviours, indicating good correlations between behaviour and planned behavioural control.

According to TPB, an individual's competency of a certain behavior is determined by his or her intent to perform that behavior. Intent is itself informed by attitudes toward the behavior, subjective norms about engaging in the behavior, and perceptions about whether the individual will be able to successfully engage in the target behavior. According to Azjen (1985), an attitude toward a behavior is a positive or negative evaluation of performing that behavior. Furthermore, attitudes are informed by beliefs, norms are informed by normative beliefs and motivation to comply, and perceived behavioral control is informed by beliefs about the individual's possession of the opportunities and resources needed to engage in the behavior (Azjen, 1991). Azjen compares perceived behavioral control to Bandura's concept of perceived self-efficacy (Bandura, 1997). TPB also includes a direct link between perceived behavioral control and behavioral achievement.

The present research drew upon one of the most established social psychology theories about the way in which perceptions influence actions, the Theory of Planned Behavior (TPB, Ajzen 1988, 1991). TPB has been widely applied to aid the understanding of a variety of health-related behaviors successfully. In this study of consumers' perceptions towards purchase behavior, the TPB provides a systematic

and comprehensive framework which allows the assessment of personal, social and psychological factors. The main purpose of this study is to analyze psychosocial predictors that affect consumer purchase behavior and decision making and to test whether the TPB model is applicable to be used in OIL COMPANY context alongside the TPB constructs.

Given two individuals with the same level of intention to engage in a behavior, the one with more confidence in his or her abilities is more likely to succeed than the one who has doubts (Azjen, 1991). As a general theory, TPB does not specify the particular beliefs that are associated with any particular behavior, so determining those beliefs is left up to the researcher. The attitude-behavior relationship has been a popular topic in a variety of fields of study and research over the past 30 years. In psychology, this relationship has been studied to better understand what influences our actions and to learn more of how the brain works. In the business world also, to learn to better persuade consumers and learn what campaigns will result in a positive attitude toward a product or service. There are three main models form the backbone of studies concerning Attitude-Behavior

Relationships in academia. They are Norman Anderson's Theory of Information Integrated, proposed in 1971, Ajzen and Fishbein's Theory of Reasoned Action and Planned Behavior, publish in 1980 and 1991 as shown in Figure 1. At first glance, the three models seem similar, but further exploration shows that the main premises of these models differ greatly. Besides research done in testing these two models there has been a large amount of time donated to other aspects of the attitude behavior relationship.

A variety of consumer behavior theories derived from the social sciences: psychology, sociology, social psychology or economics have been put forward over the years (Kalafatis, Pollard, East and Tsogas 1999). Many researchers have suggested the intention models from social psychology can explain the behavior as well as behavioral intentions of individual (e.g. Ajzen and Driver 1992a; Bamberg, Ajzen and Schmidt 2003). A social psychology model frequently used to explain a variety of behavioral intentions is the Theory of Planned Behavior (TPB; Ajzen, 1985, 1991).

The TPB (shown in Figure 2) is an extension of the theory of reasoned action (TRA; Fishbein and Ajzen 1975), and the TRA is an improvement over Theory of Information Integration (TII; Norman Anderson 1971). The TPB extended the TRA by the addition of Perceived Behavioral Control (PBC) because the TRA has difficulty explaining behaviors over which one does not have volitional control. The TPB model proposes that intention to perform a behavior is the immediate antecedent of that behavior (Courneya, Bobick and Schinke 1999; Ajzen 2002). Whereas intention, in turn, is determined by three conceptually independent variables labeled *attitude, subjective norms* and *perceived behavioral control (PBC).*

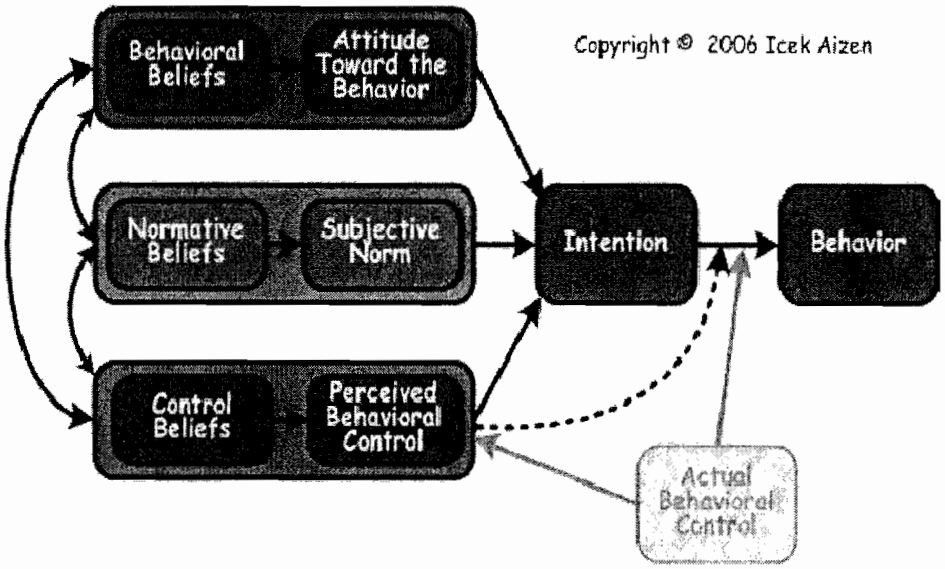


Figure 2.1 Theory of Planned Behavior

Source: *Ajzen, I. (2002b), "Constructing a TPB Questionnaire: Conceptual and Methodological Considerations" Available:*

http://wwwunix.oit.umass.edu/~aizen/pdf/tpb.measurement.pdf [2007, April 17]

One of the main indicators of the validity of a theory is that it needs to be demonstrated that the particular theory works under a variety of context (Bamberg, Ajzen and Schmidt 2003). Empirical reviews of the TPB have supported the predictive ability of behavioral intention in many different contexts. For instance, past research has tested the TPB model in a variety of behavioral intentions research, including exercise behavior (e.g. Courneya, Bobick and Schinke 1999; Norman, Conner & Bell 2000; Blanchard, Rhodes, Nehl, Fisher, Sparling and Courneya 2003; Rhodes and Courneya 2003a, 2003b;

Rhodes, Courneya and Jones 2005; Rhodes, Blanchard & Matheson 2006), sports and leisure consumption behavior (e. g. Ajzen and Driver 1992 a, b; Cunningham and Kwon 2003; Kerner 2005; Lam & Hsu 2006), green purchase behavior (e.g. Kalafatis, et al. 1999; Onghununtakul 2004), and technology adoption (e.g. Morris and Venkatesh 2000; Shim, Eastlick, Lotz and Warrington 2001; Pavlou 2001; Pavlou and Chai 2002; Chuchinprakarn 2005; Nysveen, Pedersen and Thorbjørnsen 2005; Pavlou and Fygenson 2006).

The TPB model has also been widely applied to food-related behavior (e.g. Armitage and Conner 1999; Sparks, Conner, James, Shepherd and Povey 2001; Choo, Chung & Pysarchik 2004; Tarkiainen and Sundqvist 2005; Mahon, Cowan & McCarthy 2006). Specifically, researchers have examined the consumption of dietary supplements (i.e. Conner, Kirk, Cade and Barrett 2001, 2003; Dodge, Ford and Perko 2003; Jasti, Siega-Riz and Bentley 2003; Neuhouser 2003) mostly in UK and US context and healthy eating behavior (i.e. Backman 1999; Povey, Conner, Sparks, James and Shepherd 2000; Conner, Povey, Sparks, James and Shepherd 2003; Payne, Jones and Harris 2004; Hagger and Chatzisarantis 2005).

Other than that, a number of previous studies have also used the TPB as conceptual model to explain consumer purchase intention and behavior (e.g. Chiou 1998; Kalafatis, et al. 1999; Magnusson, Arvola, Hursti, Åberg and Sjödén 2001; Puntoni 2001; Cook, Kerr and Moore 2002; Chiou, Huang and Chuang 2005; Tarkiainen and Sundqvist 2005). In all these studies, the researchers have introduced a modified version of the TPB model in their study and the results were different from those of the original TPB model.

As mentioned before, TPB is a well-researched model that has been shown to predict behavior across a variety of settings. As a general model, it is designed to explain most human behaviors (Ajzen 1991). Hence, it is reasonable to expect that TPB-based model could effectively explain consumer purchase behavior. Hence, this study aims to propose, operationalize, and empirically examine an extended model (i.e. with the inclusion of self-identity) that explains and predicts consumer purchase behavior.

Another approach in adoption is technology acceptance model. It was created by Davis, 1989 and Davis et al 1989. Its was adapted from the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975). Further more to strengthen this model theory of planned Behavior (Ajzen, 1985 and Venkatesh, 1999) is also included whereby the behavior of an individual can be controlled according to this model. Researchers have extended the TAM general measures by explicitly including other IT acceptance variables, such as extrinsic and intrinsic motivators (Davis et al., 1992; Igbaria et al., 1995), task-to-technology fit (Keil et al., 1995; Satzinger & Olfman, 1995), prior experience (Taylor & Todd, 1995b), and computer self-efficacy (CSE) (Compeau & Higgins, 1995; Igbaria & Iivari, 1995), among others.

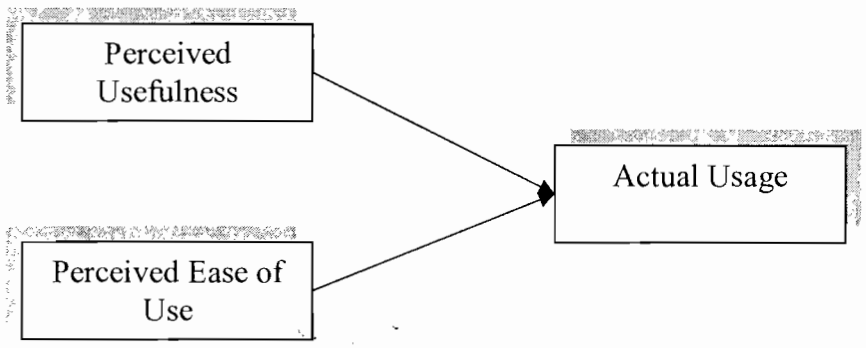
The purpose of this model is to examining the determinants of computer technology acceptance and the utilization among users (e.g. Moore and Benbasat, 1991; Mathieson, 1991; Davis, 1989; Davis et al., 1989; Taylor and Todd, 1995).

The TAM uses two distinct but interrelated beliefs, perceived usefulness and perceived ease of use, as the basis for predicting end-user acceptance of computer

technology. Of the two TAM variables, studies have found perceived usefulness to have the strongest influence (Davis et al., 1989; Keil et al., 1995; Satzinger & Olfman, 1995; Taylor & Todd, 1995a; Igbaria et al., 1996).

Perceived ease of use is defined as to which a person believes that using a particular system will be free of effort. Among the beliefs, perceived ease of use is hypothesized to be a predictor of perceived usefulness. Both types of beliefs are influenced by external variables e.g. computer self-efficacy.

Figure 2.2 Technology Acceptance Model (TAM) by Davis (1989)



There is a significant effect of perceived ease of use on usage intention, either directly or indirectly through its effect on perceived usefulness (Agarwal and Prasad, 1999; Davis et al., 1989; Hu et al., 1999; Jackson et al., 1997; Venkatesh, 1999, 2000; Venkatesh and Davis, 1996, 2000; Venkatesh and Morris, 2000). In order to prevent the "under-used" useful system problem, Internet banking systems need to be

both easy to learn and easy to use. ITs that are easy to use will be less threatening to the individual (Moon and Kim, 2001).

Extensive research over the past decade provides evidence of the significant effect of perceived ease of use on usage intention, either directly or indirectly through its effect on perceived usefulness. Furthermore perceived usefulness is defined as the extent to which a person believes that using a particular system will enhance his or her job competency. It provides evidence of the significant effect of perceived usefulness on usage intention (Agarwal and Prasad, 1999; Davis et al., 1989; Hu et al., 1999; Jackson et al., 1997; Venkatesh, 1999, 2000; Venkatesh and Davis, 1996, 2000; Venkatesh and Morris, 2000). Toward the behavioural intention of using the information system.

2.2 Development of the Product and MIS

Paradigms, like mental models, are the ways in which we perceive and filter reality. When the demands and pressures for change within the organization intensify beyond just incremental changes, then it's one indicator that a paradigm shift is imminent. We can and should shift paradigms, even when previous paradigms are not yet failing us.

MIS about the product development in the future is not about "*more of the same.*" After all, the ways of MIS that led to success yesterday can become a major barrier to creating future success. The new realities require managers and leaders at all

levels to change how they think about how the following can or should contribute to results that add value:

1. The elements of organizational strategy;
2. The role of the organization in society;
3. The role of leaders (that is, the leader as a steward, not authoritarian or "parent");
4. The process for strategic MIS and planning;
5. The factors that influence MIS strategy;
6. The way problems are defined and the decision process (for example, level of participation);
7. The methods for creating and managing profound change successfully.

Effective strategic MIS and product development require everyone to shift their paradigms and agree on common destinations. This means that many people at all levels in an organization must usually unlearn previous ways of MIS and performing. They then must learn better ways to achieve desired/required strategy.

Strategy appraisal is widely used for administrating wages and salaries, giving strategy feedback and identifying product weaknesses and strengths. The important part of appraising strategy is to establish product goals, which should be tied with to the company's strategic goals. The strategy appraisal process tells top performers that the company values their product development. A good appraisal process ensures that all products doing similar jobs are evaluated according to the same standards. Company use strategy appraisal to help them assist control and guide them how to set up their company to meet the competitive advantages (Robbins,

2005). We can conclude that strategy appraisal can be a better tool for evaluating individual strategy. The objective is to align responsibility and accountability at every organizational level. On an organization level, strategy refers to the degree and quality of effort, cooperation, absenteeism, lateness, compliance with standards and commitment displayed by individuals (Cronje et al, 1995).

It is the translation of potential into behaviour, can be viewed in terms of standards individuals must achieve in their work and it can be seen as the desired result of behaviour (Ivancevich & Matteson, 1996). Strategic MIS and MIS strategy of product development depends on the individual's capacity, willingness and opportunity to perform their task in organization. The direction, intensity and duration of effort expended by individuals influence the quality of their job strategy (Ivancevich & Matteson, 1996).

MIS strategy includes a number of objectives (Ivancevich & Matteson, 1996). The objective outcomes can be measured and include turnover and absenteeism, personal behaviour outcomes and reflect the individual's reactions to the work (eg staying with the job or quitting due to physiological and health problems). The intrinsic and extrinsic outcomes (eg variety, autonomy, supervision) are related to individuals' actions and hence also influence their job strategy (Ivancevich & Matteson, 1996). Furthermore, MIS strategy is the product development or actions executed by individuals that lead to the attainment of goals, standards, quantities or other types of outcomes (Ali, 2000). Their strategy is carried out within a specific organizational context, which directly or indirectly influences it. In particular, job satisfaction,

motivation, absenteeism, productivity and commitment are influenced by the organizational culture, climate, strategy and structure, and therefore also job strategy.

The aforementioned are also important when considering the impact of the psychological contract on job strategy as it has been viewed to be the driving force behind behavior in the workplace. When the organization is perceived to have broken this contract, products could display job dissatisfaction, decreased commitment, low morale and decreased job strategy. It is essential that the expectancies of each party to this contract be clarified, particularly in this time of contingency employment and constantly changing business environment. Some of the individuals' expectancies that are contained in the psychological contract will include those that are important to maintain the self-concept (eg self-esteem, meaningfulness, self-actualization).

The product development is influenced by the self-concept. The extent that the work environment, occupation and task influence the job strategy of individuals' will be determined by their drive for self-actualization, need for positive regard, values and self-esteem. Greater congruence between work environment and individuals' self-concept could result in increased job strategy. The individual's personality, cognitive abilities and competencies also influence MIS strategy (Meyer, 1982). This implies that organizations must create a product development that enhances individual and system which is related to every activity in organization flow, while maximizing the match between individual needs and capabilities and those of the organization. The effectiveness of such efforts could be measured by implementing an effective strategy appraisal system.

2.3 Competency of Management Information System

The development of information systems (IS) has for many years been regarded as the domain of the technical expert. In what appears to be a growing number of instances, IS appear to be having negative effects on the organization. A regular spate of system failures may have identified serious flaws in the system development process. Organizations may often be significantly affected by the implementation of IS. (Gallagher, 1991; Gray and Kinealy, 1996; Analoui, 1998; Ball, 2001).

Historically, IS have been developed using the system development life cycle (SDLC). This has been the prevailing methodology for medium and large system projects, however, the use of accepted methodologies for IS development have not guaranteed the successful implementation of information systems (Laudon and Laudon, 2005). In many cases IS development is being undertaken by groups who have no experience, or interest, in key areas of business strategy and organizational development and this has implications for the success of the IS (Brooke and Maguire, 1998). IS are often being driven only by technical goals. In many cases the end point of the involvement for the technical team is the day the new information system goes "live". Yet, in many cases this is where the problems start for the organization.

Strategy appraisal is a formal management system that provides for the evaluation of the quality of an individual's strategy in an organization. The appraisal is usually prepared by the product's immediate supervisor. The procedure typically requires the supervisor to fill out a standardized assessment form that evaluates the individual on

several different dimensions and then discusses the results of the evaluation with the product. Too often, strategy appraisal is seen merely as a once-a-year drill mandated by the personnel department. But in organizations that take strategy appraisal seriously and use the system well, it is used as an ongoing process and not merely as an annual event. Worldwide, strategy appraisals are used in nearly all organizations.

Corporations use different tools and have a number of goals for strategy appraisals, often resulting in some confusion as to the true purpose of strategy appraisal systems. However, at its core, the strategy appraisal process allows an organization to measure and evaluate an individual product's behavior and accomplishments over a specific period of time (DeVries et al., 1981).

Strategy appraisal serves over a dozen different organizational purposes starting from providing feedback to products about their strategy to Improving overall organizational strategy. It also using to determining who will get promotion, facilitating layoff or downsizing decisions, encouraging strategy improvement, motivating superior strategy, setting and measuring goals, counseling poor performers, determining compensation changes, encouraging coaching and mentoring, supporting manpower planning or succession planning, determining individual training and development needs, determining organizational training and development needs, confirming that good hiring decisions are being made and providing legal defensibility for personnel decisions (Whisler, T.L. and Harper, S.F., 1962).

The total quality management movement, heightened competitive pressures, declining profits, and an increasingly litigious workforce combined to slowly change the strategy appraisal environment (Edwards & Sproull, 1985). "A strategy management system that combines planning, management, and appraisal of both strategy results and competency behaviours is called a "mixed model" of strategy management or a "total" strategy management approach. Mixed models assess and reward both strategy and competence; what products actually did and how they did it.

Mixed models are particularly appropriate when organizations are in uncertain and rapidly changing environments, where results are not under product control; for qualitative/process service jobs, where there are no measurable outcomes of strategy; and for jobs intended for development of future strategy" (Spencer & Spencer, 1993).

There are many reputable sources - researchers, management commentators, psychometricians - who have expressed doubts about the validity and reliability of the strategy appraisal process. Some have even suggested that the process is so inherently flawed that it may be impossible to perfect it (Derven, 1990). At the other extreme, there are many strong advocates of strategy appraisal. Some view it as potentially "... the most crucial aspect of organizational life" (Lawrie, 1990). Between these two extremes lie various schools of belief. While all endorse the use of strategy appraisal, there are many different opinions on how and when to apply it. There are those, for instance, who believe that strategy appraisal has many important

product development uses, but scorn any attempt to link the process to reward outcomes - such as pay rises and promotions.

The strategy appraisal process provides an opportunity for introducing organizational change. It facilitates the process of change in the organizational culture. The interactive sessions between the management and the products, the mutual goal setting and the efforts towards the career development of the products help the organization to become a learning organization. Conducting strategy appraisals on a regular basis helps it to become an ongoing part of everyday practice and helps products to take the responsibility of their work and boosts their professional development (Armstrong, 2006).

Various studies in the field of human resources have already proved that strategy appraisal process can affect the individual strategy (in a negative or positive way), thus having an impact on the collective strategy. Organization overall growth absolutely depends on what human capital are working really well (Bacal, 1999). When the individual working in their right track and with good strategy the company can thing if not otherwise the company can able to make a good business (Landy, Zedeck & Cleveland, 1983).

For centuries, organizations survived quite well a without formal strategy appraisal system, which begs the question "Why do formal strategy appraisal systems exist?" As organizations evolve toward large organizations with professional management, a more formal strategy appraisal system serves as an asset in administrative decision making. Regardless of the system in place, decisions must be made regarding who

receives raises and promotions and who is terminated. These decisions are aided by a process that monitors and evaluates an product's progress and allows for intra-organizational comparisons of individual strategy. Thus, the answer is that formal systems simply have replaced informal ones.

These formal strategy appraisal systems are not perfect and they continue to rely primarily upon human information processing and judgment – imperfect processes, at best. There are many advantages to using a formal system if strategy appraisals are designed and used properly (Murphy and Cleveland, 1995). It facilitates organizational decisions such as reward allocation, promotions/ demotions, layoffs/recalls, and transfers. It may also assist managers in developing products. It serves to assist individual product's decisions regarding career choices and the subsequent direction of individual time and effort. Additionally, strategy appraisals may increase product commitment and satisfaction, due to improvements in organizational communication. A properly administered strategy appraisal system may be an asset to an organization.

However, if the tools and goals of the strategy appraisal process are incongruent with organizational goals, the resulting strategy appraisal system may, in fact, be a detriment to effective organizational functioning (Barrett, 1967). Furthermore, in a team environment, some believe individual strategy appraisals interfere with teamwork by overemphasizing the individual.

In fact, many have suggested (for example, Deming) that there is no need for strategy appraisal in the organizations of the future. Additionally, ineffective strategy

appraisal systems may result in mixed messages concerning which aspects of job strategy are most and least important, due to the oblique contingency between individual behavior and organizational rewards. Finally, due to the differing (and often conflicting) needs of stakeholders (the organization, appraiser, and product), the process itself is often a source of unmet expectations for all concerned (Murphy and Cleveland, 1995). In 1813, an Army General submitted an evaluation of each of his men to the U.S. War Department.

This is generally looked upon as the start of formal strategy appraisal in the United States. The Army General used a global rating, with descriptions of his men such as "a good-natured man" or "a knave despised by all" (Bellows and Estep, 1954). The Federal Civil Service of theUnited States began giving merit ratings, also known as efficiency ratings, in the late 1800s (Graves, 1948; Lopez, 1968; Petrie, 1950). In the 1840s and 1850s, Congress required efficiency ratings of clerks which contained information on competence, faithfulness and attention (White, 1954). However, these reports were not used for selection, retention or promotion which continued to be at the discretion of the bureau head and Secretary of the department. In response to the public concern for economy and efficiency, a Division of Efficiency was created within the Civil Service Commission in 1912 (Van Riper, 1958).

In the late nineteenth and early twentieth century, strategy appraisals were used primarily by military and government organizations – due to their large size, hierarchical structure, geographic dispersal, and the necessity to promote the top performers to higher organizational levels. At this time, most private organizations used informal measures to evaluate individual strategy and make subsequent

administrative decisions. Historically, strategy appraisals have been used for administrative purposes, such as retention, discharge, promotion, and salary administration decisions (DeVries et al., 1981; Murphy and Cleveland, 1995; Patten, 1977).

However, in this early era, with weak human resource management departments and a lack of understanding of strategy appraisal systems, administrative decisions were often made independently of, and even ran counter to, strategy appraisals (Whisler and Harper, 1962). In addition to, and perhaps because of, supervisors who did not take strategy appraisals seriously, the unions of this era advocated seniority-based decisions over strategy-based decisions. Thus, a loose correlation between appraisal results and administrative decisions was permitted, which gave individual supervisors discretionary power in relation to human resource outcomes (e.g. promotions, salary increases).

As MISIS or integration Information Technology and Information Systems boosted up the report, analysis, make ease of the organizations overall work strategy but there is some drawback also. But over the last decade the IT integrations of MIS is surely put some significant impacts (Kotler, 2002). This chapter has outlined the state-of-the-art on presenting overviews on the MISM and IT/IS integration and presented the basic approaches of those. In particular, the chapter also surveyed a number of related materials for this work. Building and completing earlier work, multiple strategies on motivation were also highlighted. The actual discussion and approaches to be undertaken for the thesis is subject of the next chapter which is the methodology.

2.4 Competency of Management Information System (MIS)

Mintzberg (1994) clearly emphasizes that competency of MIS is not merely "alternative nomenclature for everything falling under the umbrella of strategic management". It is a particular way of thinking with specific and clearly discernible characteristics. In explaining the difference between strategic planning and subjective norm, perceived usefulness and ease of u,

Mintberg (1994) argued that strategic planning is the systematic programming of pre-identified strategies from which an action plan is developed. Competency of MIS, on the other hand, is a synthesizing process utilizing intuition and creativity whose outcome is "an integrated perspective of the enterprise." The problem, as he sees it, is that traditional planning approaches tend to undermine, rather than appropriately integrate, competency of MIS and this tends to impair successful organizational adaptation. These sentiments are echoed by two other leading theorists in the field, Prahalad and Hamel (1989), who describe traditional approaches to planning as "form filling." They refer to subjective norm, perceived usefulness and ease of u as "crafting strategic architecture" but emphasize Mintzberg's general themes of creativity, exploration, and understanding discontinuities.

Ian Wilson (1994) suggested that competency of MIS is merely thinking about strategy. According to him, "The need for competency of MIS has never been greater . . . This means continuing improvement (in competency of MIS) has profoundly changed the character of competency of MIS so that it is now more appropriate to refer to it as competency of MIS." This attempt to define competency of MIS as

some kind of new and improved version of competency of MIS leads to considerable confusion in attempting to elucidate the full implications of competency of MIS in its purest sense.

Ralph Stacey (1992) stated the competency of MIS is ". . . using analogies and qualitative similarities to develop creative new ideas . . . (and) designing actions on the basis of new learning." This differs from competency of MIS which focuses on following preprogrammed rules. Raimond (1996) follows a similar line of reasoning by dividing competency of MIS into two modes: "strategy as intelligent machine" (a data-driven, information processing approach) and "competency as creative imagination." The former would be what we would generally consider competency of MIS, while the latter would be competency of MIS. This dichotomy between the creative versus the analytic is pervasive in the discussions on the subject of competency of MIS.

In general then, it can be argued that competency of MIS and acting within a certain set of assumptions and potential action alternatives as well as challenging existing assumptions and action alternatives, potentially leading to new and more appropriate ones. The first element is a understanding. A competency of MIS has a mental model of the complete system of value creation from beginning to end, and understands the interdependencies within product. Senge (1990) also stresses the significance of mental models in influencing our behaviour.

New insights fail to get put into practice because they conflict with deeply held internal images of how the world, images that limits us to familiar ways of

competency of MIS. That is why the discipline of managing mental models - surfacing, testing, and improving our internal pictures of how the world works - promises to be a major breakthrough (Mintberg, 1994).

2.4.1 Defining MIS strategic

The mental model of how the world works must incorporate an understanding of both the external and internal context of the organization. According to James Moore (1993) these mental models must lead to the perception of a business in a context larger than that of the industry in order to facilitate innovation. Thus the ability to manage in these converging arenas requires that we think strategically about the alliances we make within these competing networks and how we position ourselves within this ecosystem.

In addition to understanding the external business ecosystem in which a firm operates, strategic thinkers must also appreciate the inter-relationships among the individual internal parts that, together, constitute the whole, as well as the fact that the whole is greater than the sum of its parts.

Senge (1990) used the term systems MIS to describe the same phenomenon, and suggests that it is arguably the most critical of the five disciplines of the learning organization. He advocates that systems MIS are what makes all other types of learning work in harmony and points out that a fundamental problem for business organizations is the failure to see problems as elements of systems failures because "most of an organization's problems are not unique errors but systems issues."

The systems perspective enables individuals to clarify their role within the larger system and the impact of their behavior on other parts of the system, as well as on the final outcome. This approach addresses, therefore, not only the fit between the corporate, business, and functional levels of strategy, but very importantly, the person level. According to Liedtka (1998), it is impossible to optimize the outcome of the system for the end customer, without such understanding.

The potential for damage wrought by well-intentioned but parochial managers optimizing their part of the system at the expense of the whole is substantial. Thus, from a vertical perspective, strategic thinkers see the linkages in the system from multiple perspectives and understand the relationship among the corporate, business, and functional levels of strategies to the external context, as well as to the personal daily choices they make. From a horizontal perspective, they also understand the connections across departments and functions, and between suppliers and buyers.

The second element of strategic MIS is that it is commitment such as intent-focused and intent driven. Hamel and Prahalad (1994): Strategic intent is our term (that) implies a particular point of view about the long-term market or competitive position that a firm hopes to build over the coming decade or so. Hence, it conveys a sense of direction. A strategic intent is differentiated; it implies a competitively unique point of view about the future. It holds out to products the promise of exploring new competitive territory. Hence, it conveys a sense of discovery.

Strategic intent has an emotional edge to it; it is a goal that products perceive as inherently worthwhile. Hence, it implies a sense of destiny. Direction, discovery, and

destiny. These are the attributes of strategic intent. Liedtka (1998) puts it this way, Strategic intent provides the focus that allows individuals within an organization to marshal and leverage their energy, to focus attention, to resist distraction, and to concentrate for as long as it takes to achieve a goal. In the disorienting swirl of change, such psychic energy may well be the most scarce resource an organization has, and only those who utilize it will succeed.

Therefore, strategic MIS is fundamentally concerned with, and driven by, the continuous shaping and re-shaping of intent. The third element of strategic MIS is intelligence. The essence of this notion is the idea of openness to new experience which allows one to take advantage of alternative strategies that may emerge as more relevant to a rapidly changing business environment. Mintzberg (1999) sees this approach as underscoring the difference between emergent strategy and deliberate strategy.

2.4.2 Implementation of MIS competency

In practicing intelligent opportunism, it is important that organizations seriously consider the input from lower level products or more innovative products who may be instrumental in embracing or identifying alternative strategies that may be more appropriate for the environment. For example, Intel's predominant role in the microprocessor industry was largely the result of a renegade band of scientists acting in defiance of senior management's stated strategic objectives. Given this, one can well imagine the loss to industry if the focus is only on rigidly defined and mandated top-down strategies to the exclusion of other emerging strategies and voices of Dissent.

The fourth element of strategic MIS is level of innovation. This element determines the achievement of innovation as referred to MIS in time. According to Hamel and Prahalad (1994), strategy is not solely driven by the future, but by the gap between the current reality and the intent for the future. According to them:

Strategic intent implies a sizeable stretch for an organization. Current capabilities and resources will not suffice. This forces the organization to be more inventive, to make the most of limited resources. Whereas the traditional view of strategy focuses on the degree of fit between existing resources and current opportunities, strategic intent creates an extreme misfit between resources and ambitions. Thus, by connecting the past with the present and linking this to the future, strategic MIS is always "MIS in time."

In a nutshell, strategic MIS connects the past, present, and future and in this way uses both an institution's memory and its broad historical context as critical inputs into the creation of its future. This oscillation between the past, present, and futures essential for both strategy formulation and execution. Furthermore, Charles Handy (1994) feels we need both a sense of continuity with our past and a sense of direction for our future to maintain a feeling of control in the midst of change. From his perspective then, the real question is not what does the future we are trying to create look like, rather it is "having seen the future that we want to create, what must we keep from that past, lose from the past, and create in our present, to get there."

Strategic MIS has been gaining increasing popularity in the literature on organizational planning. However, the lack of clear articulation as to the nature and implications of this concept has lead to considerable confusion. For example, strategic MIS has been presented as a somewhat higher order of strategic planning; as an alternative to strategic planning; and as an approach that is downright incompatible with strategic planning. Inadequate delineation of the precise characteristics of this concept has also impeded its implementation by practitioners and its further development by educators.

Careful review of the emerging body of thought on this subject, however, is that strategic MIS, properly defined, is not only critical to the survival of the organization in these times of rapid and accelerating change, but more importantly, can be effectively accommodated within a progressive strategy-making regime to support strategic planning (Mintzberg, 1994).

Therefore, what is being proposed in large measure in this study is a dialectical framework within which strategic planning and strategic work in tandem, rather than one in which strategic planning impedes the flourishing of strategic MIS. Two different models have been presented to illustrate the feasibility of this proposition, with a view to assisting both the practicing strategists as well as academics.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The literature review in the previous chapter indicates the definition of the key terms of this research and also the conceptual of the research. This chapter will be covering the research methodology which will consist of research design, hypotheses and the research method. This part provide a discussion about the research methodology including research place, research design, population and sample, data collection instrument, data analysis procedure, and the variables measurement.

The purpose of this study is to test the hypotheses which explain the variance in the dependent variable (MIS strategy) by establishing the nature of the relation ship between the dependant variable and the independent variables through the testing of the hypotheses. The questions in the competency and strategic MIS will carefully distribute the data required, to show trends, and common ideas and needs, while maintaining confidentiality for individual respondents in organization. The strategic MIS will select group in the various department of companies.

According to Cohen (1988), studies may either in nature or descriptive, or may be conducted to test hypotheses. The quantitative study with survey research is undertaken when not much is known about the situation at hand, or no information is available on how similar problems or issues have been solved in the past. A descriptive study is undertaken in order to ascertain and to describe the

characteristics of the variables of interest in a situation. Studies that use hypotheses testing explain the nature of a relationship or the differences among groups or the independence of two or more factors in a situation. This study will use a combination of the three methods discussed, that is, *survey, descriptive, and hypotheses testing*.

3.2 Research Design

Firstly researcher have to identifying and formulating the reserch problem and opportunity. The reserch process begins with the recognition of whether MIS competency and strategy has impact on to the MIS strategy.

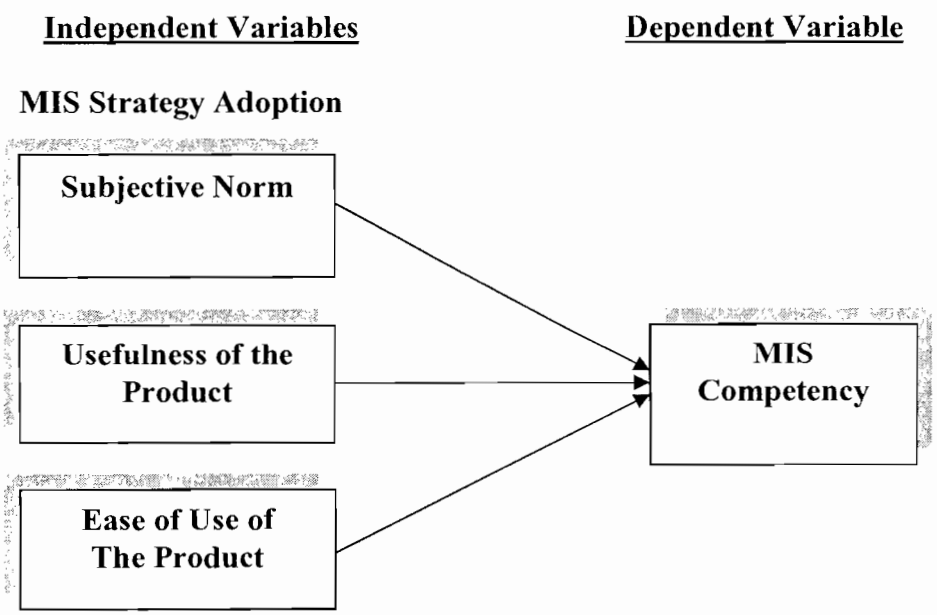
Secondly, researcher creating the research design is plan to follow the answers research objectives or hypotheses. Thus, researcher will attempt to provide management with the best information possible and already knows or understands the underlying relationships of the problem in companies.

Thirdly, researcher will be choosing a basic method of research. There are two reseach methods which are an interview and an questionnaire .As for an interview, it involes an interview interacting with respondents to obtain facts and their perception related to the MIS competency and strategy. For a questionnaire, it will provide an orderly and structured approach to data gathering. In this study, researcher will give all the questionnaires to subodinates of companies . *Fourthly*, Data Collection. *Fifthly*, Analyzing the data. The purpose of this analysis was to interpret and draw conclusion from the mass of collected data. Lastly, writing the discussion and limitations and future directions.

This questionnaire will be examined MIS competency and strategy through the score of the overall respondent. It will then be able to determine the level of strategy as per individual and as per group perception within a department. These two methods are to understand thoroughly what the whole scope of the research is all about. It is important to the relevance of the research itself whereby the study try to answer the question of whether MIS competency and strategy do have effect on MIS strategy.

3.3 Research Framework

Figure 3.1 Research Framework
A STUDY OF MANAGEMENT INFORMATION SYSTEM (MIS) ADOPTION STRATEGY AND ITS INFLUENCY ON COMPETENCY AMONG ORGANIZATION: A CASE STUDY OF OIL COMPANY IN LIBYA



3.4 Hypothesis

H1 *There is a positive influence between subjective norm and MIS competency*

H2 *There is a positive influence between Usefulness of the Product and MIS competency*

H3 *There is a positive influence between Ease of Use of the Product and MIS competency*

3.5 Population and Sample

This research is approached by using survey method. This research is based on the level analytical research type. In this method, there are several hypotheses constructed and to be tested. Those hypotheses are developed based on the research questions.

This study utilized a *stratified simple random sampling* approach because of it is one of the probability sampling design which every single element in the population has a known and equal chance of being selected a subject (Cavana, et al., 2001). Developing companies will be select as potential object to examine the MIS competency and strategy in the perspective of resource based management. The register companies will be randomly employed as the sample.

The observation will be made on the event which will be recorded in the form of Questionnaire, and choosing an appropriate study design with adequate sample sizes. Analyzing the data with appropriate methods and producing a final report that includes all the important details about the study.

3.6 Data Collection Technique:

The primary objective of this research is to test the research hypotheses, based upon the conceptual framework of this study. This study will use quantitative research approach and survey the product on organization. Questionnaire is designed and will be distributed to the sample of the research. A questionnaire using a seven-point scale will employ to collect the data for the constructs of the research model. Items from previous studies were modified for MIS strategy and MIS context. The measure using a seven-point Likert-scale ranging from "1" (strongly disagree) to "7" (strongly agree)

3.7 Data Analysis Procedure

There are several statistical techniques that can be carried out to draw accurate conclusion about MIS strategy. In this study, the data analyzed using descriptive statistics and inferential statistics. Descriptive statistics such as frequency and percentage will be used to measure the percentage of returned questionnaire and also be used to describe the respondents' profile.

The statistical software SPSS version 17 will employ to ensure the relevant issues is examined in a comprehensive manner. Both simple and advanced statistical tools and methods were used where appropriate for analyzing the relationship among the variables and the model. Therefore usage of statistical techniques will of according to commonly accepted research assumptions and practices. Following statistical analysis will perform for the data analysis for this study. Among the analysis method that will be used in SPSS are reliability test, factor analysis, t-test, ANOVA, correlation, and regression analysis.

3.8 Summary

This chapter discusses the research design, research framework and research hypotheses. Three hypotheses were drawn from the model. To be empirically test, the research questions will need to be transformed into a theoretical model, consisting of theoretical constructs, causal relationships and measures. The theoretical model is generally developed based on analysis of the literature.

The theoretical model forms the basis both for collecting and analyzing data, and may be modified as a result of the research. These hypotheses were set up with an aim to examine the relationship between variables in the model. The research methodologies will be employing to determine these hypothesized relationships were review.

CHAPTER 4

FINDINGS AND DATA ANALYSIS

4.1 Introduction

This chapter discussed all the findings which through statistical analysis to show the analysis and discussions as the results of the data analysis. This research is conducted in term to the hypothesis testing. The subjective norm, perceived usefulness and ease of u as predictors to the organization competency are confirmed

The observation made on the event which will be recorded in the form of questionnaire, and choosing an appropriate study design with adequate sample sizes. It discussed relationship between subjective norm, perceived usefulness and ease of u and organization competency. Analyzing the data with appropriate methods and producing a final report that includes all the important details about the study.

Chapter 4 also deals with construct assessment of the main study. The construct assessment provides a detailed discussion of scale and items reliability. Furthermore, the main study discusses respondent's demographic profiles and purification of the measurement variables. The scale reliability was assessed by cronbach's alpha, item-to-total correlations and reliability coefficients. The scale purification involved the cronbach's alpha of each items construct and variable model of constructs. Furthermore, the composite reliability was computed to verify the internal consistency of measurement scale.

Likert Scales was considered in this study, as the ordinality refers only to an ordinal relationship of values within a single item. Likert scales are by far the most common type of survey item, in which the usual response categories are "strongly agree," "agree," "don't know,", "disagree," and "strongly disagree." Researcher also insists such sets pass the cronbach's alpha or some other test of intercorrelation to confirmized all items in the research variables construct.

Data was collected from various departments of Arabian Gulf Oil Companies. Data analysis was determined from field researches. The data collected by distribute the questionnaire among 357 respondents among the various departments of Arabian Gulf Oil Companies. There are several statistical techniques that can be carried out to draw accurate conclusion about subjective norm, perceived usefulness and ease of u and organization competency. In this study, the data analyzed using descriptive statistics, correlation, and regression, Pearson correlation used to see the correlation among variables, and linear regressions to confirm the effect of the independent to dependent variables.

This chapter is structured to provide a detailed discussion of the results of empirical testing of the hypothesized variables interactions. The result of the final relationship of variables, the confirmation of research framework and the testing of the influence of the variables also presented.

4.2 Profiles of Respondents

Questionnaires were distributed to 357 respondents who involved in department of Arabian Gulf Oil Companies. The subjects were 255 (71%) male and 102 (28%) female respondents. Detailed profiles are shown in tables and figures bellow:

Table 4.1 Gender of Respondents

	Frequency	Percent
Male	255	71.4
Female	102	28.6
Total	357	100.0

Figure 4.1 Genders of Respondents

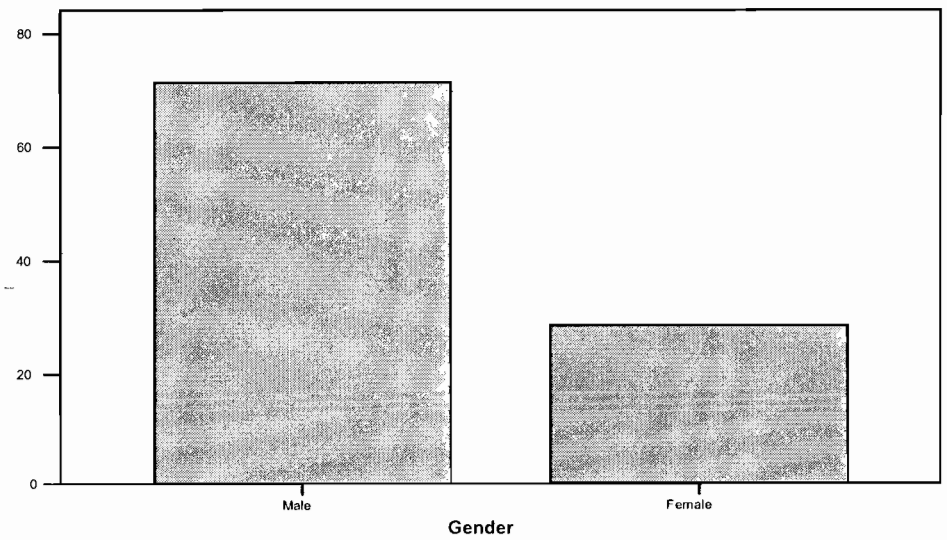


Table 4.2 Respondents Based on Departments

	Frequency	Percent
Manufacturing	41	11.5
Electric, gas and water supply	44	12.3
Construction	47	13.2
Wholesale and retail	31	8.7
Transportation/distribution	37	10.4
Communication	8	2.2
Finance, Insurance, and business services	14	3.9
Housing subsidies	41	11.5
Public services	36	10.1
Health	22	6.2
Education, training and development	31	8.7
Other services	5	1.4
Total	357	100.0

Table 4.2 shows the numbers of respondents based on their field of work, there were 11% Manufacturing, 12% Electric, gas and water supply, 13% Construction, 8% Wholesale and retail, 10% Finance, 10% Transportation/distribution, 2% Communication, 3% Finance, Insurance, and business services, 11% Housing subsidies, 10% Public services, 6% Health, 8% Education, training and development and 1% Other Services.

Furthermore, based on educational level there were 1% Certificate, 19% Diploma, 66% Bachelor Degree, 9% Master Degree and 2% Phd Degree. And based on Age there were 3% less or equal to 20, 15% 31-40, 44% 41-50, and 37% more than 50.

Table 4.3 Education of Respondents

		Frequency	Percent
Valid	Certificate	6	1.7
	Diploma	70	19.6
	Bachelor degree	239	66.9
	Master Degree	34	9.5
	Phd degree	8	2.2
	Total	357	100.0

Figure 4.3 Educations of Respondents

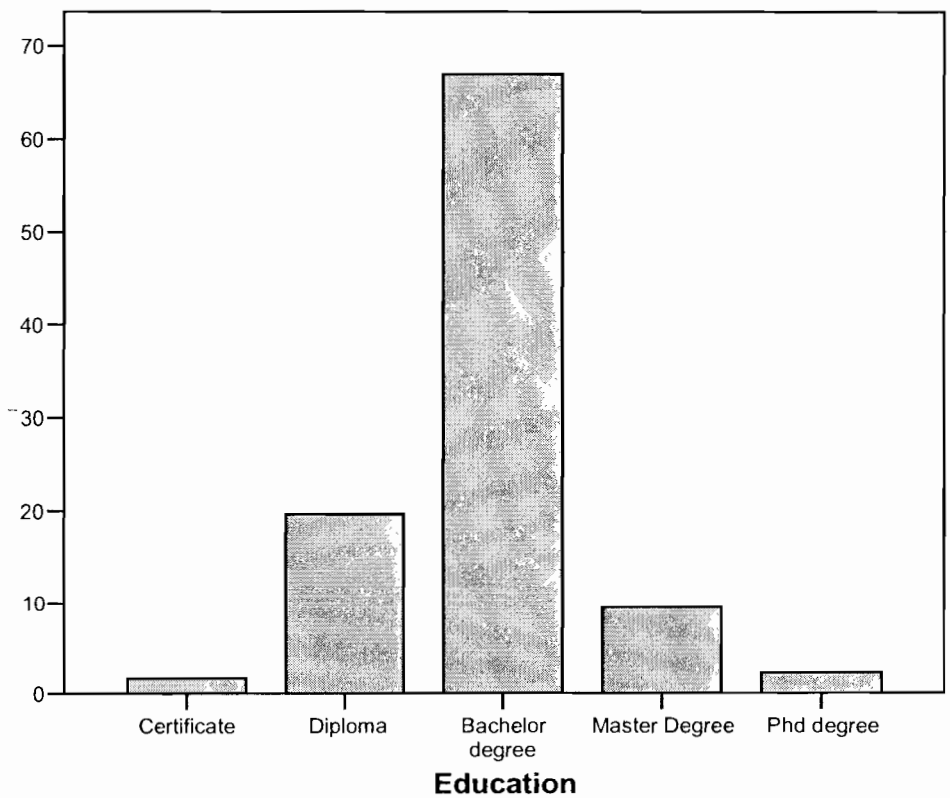


Table 4.4 Ages of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less or equal to 20	11	3.1	3.1	3.1
	31-40	56	15.7	15.7	18.8
	41-50	158	44.3	44.3	63.0
	More than 50	132	37.0	37.0	100.0
	Total	357	100.0	100.0	

Figure 4.4 Ages of Respondents

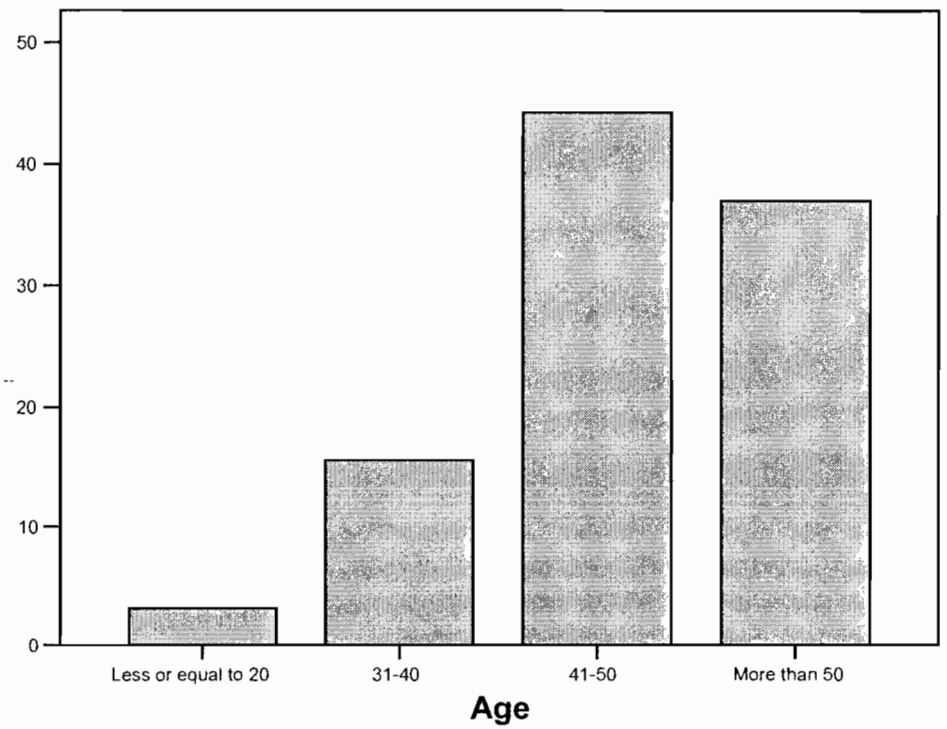


Table 4.5 Job Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chief Executive Officer (CEO)	11	3.1	3.1	3.1
	Chief of Department	3	.8	.8	3.9
	Operation Manager	57	16.0	16.0	19.9
	Staff	136	38.1	38.1	58.0
	Others	150	42.0	42.0	100.0
	Total	357	100.0	100.0	

Figure 4.5 Job Level

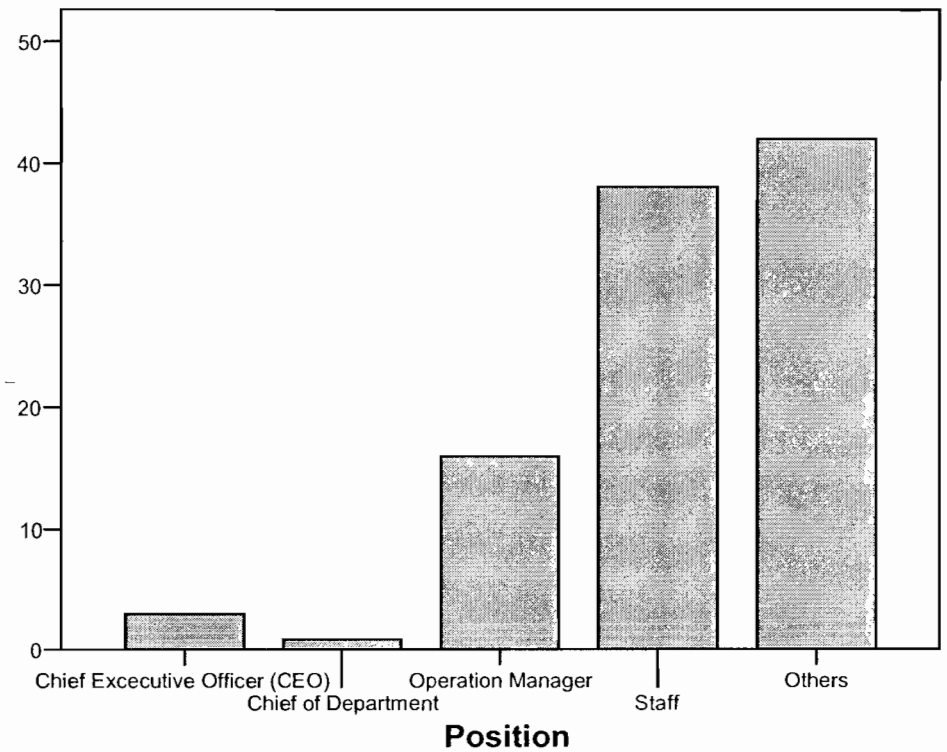


Table 4.6 Length of Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	126	35.3	35.3	35.3
	5-10 years	133	37.3	37.3	72.5
	11-20 years	90	25.2	25.2	97.8
	> 20 years	8	2.2	2.2	100.0
	Total	357	100.0	100.0	

Figure 4.6 Lengths of Services

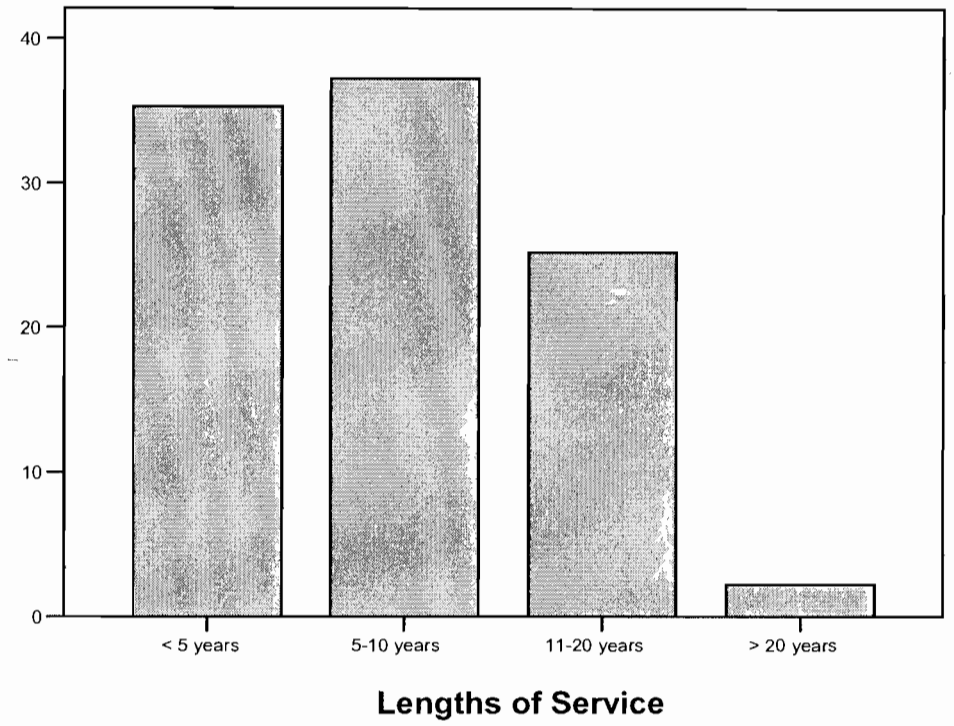


Figure above shows the respondents based on their job level there were 3% chief executive officer (CEO), 0.8% chief of department, 16% operation manager, 38% staff and 42% others. Based on the time of involved in the company, there were 35%

respondents work more than 5 years, 37% 5-10 years, 25% 10-20 years, and 2% respondents work for more than 20 years.

4.3 Reliability of Research Variables

Through the internal consistency, researcher measured the estimation how consistently individuals respond to the items within a scale. Note that measures of internal consistence are not tests of the unidimensionality of items in a scale. The cronbach's alpha will represent the level of the reliability of the items and variables.

All measures obtained from the data of 357 individuals (N=357) were subjected to reliability to assess the dimensionality of the measurement scale. Only items with a high factor loading and no cross loading greater than a 0.40 were retained. Scale reliability was assessed in term of items-to-total correlation and Cronbach's alpha higher than 0.7 was used to determine the internal consistency of the measurement scale.

Reliability, which is a type of association used to correlate a variable with itself, usually in assessing inter-rater similarity on a variable, is also discussed. Reliability is the correlation of an item, scale, or instrument with a hypothetical one which truly measures what it is supposed to. *Cronbach's alpha* is a measure of the intercorrelation of items. If alpha is greater than or equal to .7, then the items are considered unidimensional and may be combined in an index or scale. Researcher uses the more stringent cutoff of .7. (Cohen and cohen, 1988).

4.3.1 Reliability of Subjective norm, perceived usefulness and ease of u (IV) - (Cranach's Alpha = 0.91)

- **Subjective norm:**

To assess whether the items that were summed to create the subjective norm, score formed a reliable scale, Cranach's alpha was computed. The alpha for thirteen items was .899, which indicates that the items form a scale that has reasonable internal consistency reliability.

Table 4.7 Reliability Statistics of Subjective Norm

Cronbach's Alpha	N of Items
,899	13

Table 4.8 Item-Total Statistics of Subjective Norm

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SN1	48,09	51,166	,772	,884
SN2	48,08	51,437	,769	,884
SN3	48,18	52,462	,636	,890
SN4	48,08	50,918	,787	,883
SN5	48,47	50,761	,737	,885
SN6	48,49	52,256	,676	,888
SN7	48,14	52,310	,713	,887
SN8	48,16	52,142	,704	,887
SN9	48,59	55,423	,373	,903
SN10	48,68	52,192	,524	,897
SN11	48,17	56,472	,546	,895
SN12	48,09	54,955	,612	,892
SN13	48,18	59,805	,110	,912

- **Perceived Usefulness:**

To assess whether the items that were summed to create the perceived usefulness, score formed a reliable scale, Cranach's alpha was computed. The alpha for ten items was .892, which means that the instrument used in the questioner were reliable.

Table 4.9 Reliability Statistics of Perceived Usefulness

Cronbach's Alpha	N of Items
,892	10

Table 4.10 Item-Total Statistics of Perceived Usefulness

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
USE1	36,11	36,195	,466	,893
USE2	35,96	33,139	,743	,874
USE3	36,32	33,101	,692	,878
USE4	36,35	34,340	,621	,883
USE5	36,09	35,153	,579	,885
USE6	36,08	33,577	,702	,877
USE7	36,01	34,309	,683	,879
USE8	36,02	34,595	,616	,883
USE9	36,08	34,505	,598	,884
USE10	36,29	33,752	,629	,882

- **Perceived Ease of Use:**

To assess whether the items that were summed to create the Perceived Ease of Use, score formed a reliable scale, Cranach's alpha was computed. The alpha for seven items was .687, which indicates that the items form was reasonable internal consistency reliability.

Table 4.11 Reliability Statistics of Perceived Ease of Use

Cronbach's Alpha	N of Items
,687	7

Table 4.12 Item-Total Statistics of Perceived Ease of Use

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EOU1	23,29	13,526	,404	,651
EOU2	23,63	12,819	,460	,634
EOU3	23,59	12,748	,502	,623
EOU4	23,47	13,244	,455	,637
EOU5	23,41	13,749	,372	,659
EOU6	23,59	13,428	,356	,664
EOU7	23,48	14,155	,243	,696

4.3.2 Reliability of MIS Competency Variable (DV)

Table 4.13 Reliability Statistics of MIS Competency

Cronbach's Alpha	N of Items
,905	13

Table 4.14 Item-Total Statistics of MIS Competency

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MIS1	49,25	45,596	,666	,896
MIS2	49,17	45,629	,661	,896
MIS3	49,27	47,329	,520	,902
MIS4	49,25	45,279	,695	,895
MIS5	49,14	45,664	,617	,898
MIS6	49,46	44,474	,627	,898
MIS7	49,30	42,968	,730	,893
MIS8	49,58	44,346	,587	,900
MIS9	49,45	44,748	,618	,898
MIS10	49,46	44,721	,636	,897
MIS11	49,46	45,850	,537	,902
MIS12	49,31	46,090	,589	,899
MIS13	49,28	46,462	,574	,900

Furthermore, to assess whether the twenty five items that were summed to create the organization competency score formed a reliable scale, Cronbach's alpha was computed. The alpha for twenty 13 items was 0.905, which indicates that the items form a scale that has reasonable internal consistency reliability. Thus, the reliability test shows that the organization competency variable has a confident level of reliability results.

All measures exhibited high reliabilities with coefficient alphas ranging from 0.895 to 0.900, exceeding or approaching the acceptable level of 0.70 (Cohen, 1988) in all cases. Overall, the measures performed well and in conclusion, according to the

findings from the study, all measures were considered reliable for further analysis in the main study

4.4 Relationships among Variables

Table 4.11 shows that Subjective norm and Perceived usefulness and Organization Competency variables were significantly correlated in the strong positive correlation (0.908 and 0.841). According to Cohen & Cohen the p more than 0.8 represent the strong relationship. Perceived ease of use was found in the low level of relationship with MIS competency (p=0.146).

Table 4.15 Correlations Statistic between Subjective Norm, Perceived Usefulness and Ease of Use and MIS Competency

		MIS Competency	Subjective Norm	Perceived Usefulness	Perceived Ease Of Use
Pearson Correlation	**MIS Competency**	1,000	**,908**	**,841**	**,146**
	Subjective Norm	**,908**	1,000	,833	,122
	Perceived Usefulness	**,841**	,833	1,000	,132
	Perceived Ease Of Use	**,146**	,122	,132	1,000
Sig. (1-tailed)	**MIS Competency**	.	,000	,000	,003
	Subjective Norm	,000	.	,000	,010
	Perceived Usefulness	,000	,000	.	,006
	Perceived Ease Of Use	,003	,010	,006	.

4.5 Results of Hypotheses Testing

4.5.1 Hypothesized the influence of Subjective Norm on MIS Competency

The present study have a significant regression coefficient for subjective norm, *(p = 0.000)* and determined a significant influence from subjective norm to the employee competency for 82.4%. This study confirmed that the subjective norm was significantly correlated and influences the MIS competency as dependents variable. What this is telling us is that each of the subjective norm, perceived usefulness and

ease of use was confirmed as a variable uniquely contributes to the regression equation. That is, each of the variables adds something to explaining the variance in the dependent variable.

Table 4.16a Regression between Subjective norm on MIS Competency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,908[a]	,824	,824	,23449	,824	1666,678	1	355	,000

a. Predictors: (Constant), Subjective_Norm

Table 4.16a shows that Subjective norm and MIS Competency variables were significantly influence in the strong positive regressions (0.824). R^2 is 0.824, therefore 82.4% of the cases will be correctly predicted by the regression equation. $\mathbf{R^2}$, also called *multiple correlations* or the *coefficient of multiple determinations*, is the percent of the variance in the dependent explained uniquely or jointly by the independents. R-squared can also be interpreted as the proportionate reduction in error in estimating the MIS competency when knowing the subjective norm.

Table 4.16b ANOVA table of Subjective norm on MIS Competency

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91,642	1	91,642	1666,678	,000[a]
	Residual	19,520	355	,055		
	Total	111,161	356			

a. Predictors: (Constant), Subjective_Norm

b. Dependent Variable: MIS_Competency

Linear regression was conducted to investigate how subjective norm can influence MIS competency. The results (table 4.16b) are statistically significant F (1, 355) = 1974.632, p< 0.000. The identified equation in table 4.16c to understand the relationship was: *MIS Competency = 0.724 + 0.838 Subjective Norm + ε.* The adjusted R squared value was 0.824. This indicates that 82.4 % of the variance in MIS Competency was explained by the Subjective norm variable **(Hypothesis 1 Accepted).** According to Cohen (1988) this is a large effect from independent to dependent variable.

Table 4.16c Coefficient Table between Subjective norm on MIS Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,742	,083		8,889	,000					
	Subjective_Nor	,838	,021	,908	40,825	,000	,908	,908	,908	1,000	1,000

a. Dependent Variable: MIS_Competency

4.5.2 Hypothesized the influence of Perceived Usefulness on MIS Competency

Linear regression analysis table 4.17a was employed to determine whether perceived usefulness has an effect to MIS competency of organization, the result of linear regression analysis revealed that, there was a positive relationship between these two variables at the significance level 0.000. The linear regressions analysis for these variables showed a positive coefficient R^2 is 0.708, therefore adjusted R^2 70.7% of the cases will be correctly predicted by the regression equation. The results (table 4.17b) are statistically significant F (1, 355) = 859.601, p< 0.000. The identified equation in table 4.17c to understand the equation was: *MIS competency = 0.933 + 0.780 Perceived Usefulness + ε.*

Table 4.17a Regression between Perceived Usefulness on MIS Competency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,841[a]	,708	,707	,30252	,708	859,601	1	355	,000

a. Predictors: (Constant), Perceived_Usefulness

Table 4.17b ANOVA table of Perceived Usefulness on MIS Competency

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78,672	1	78,672	859,601	,000[a]
	Residual	32,490	355	,092		
	Total	111,161	356			

a. Predictors: (Constant), Perceived_Usefulness

b. Dependent Variable: MIS_Competency

The adjusted R squared value was 0.707. This indicates that 70.7 % of the variance in MIS Competency was explained by the perceived usefulness variable **(Hypothesis 2 Accepted).** According to Cohen (1988) this is a high effect of predictor on dependent variable.

Table 4.17c Coefficient Table between Perceived Usefulness on MIS Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,933	,110		8,510	,000					
	Perceived_Usefulr	,780	,027	,841	29,319	,000	,841	,841	,841	1,000	1,000

a. Dependent Variable: MIS_Competency

4.5.3 Hypothesized the influence of Perceived Ease of Use on MIS Competency

The present study have a significant regression coefficient for perceived ease of use *(p = 0.000)* and also determined a significant influence from perceived ease of use to the MIS competency for 2.3%. This research confirmed that the perceived ease of use and ease of use was significantly correlated and influences the MIS organizational competency as dependents variable. What this is telling us is that perceived ease of use was confirmed as a variable uniquely contributes to the linear regression equation. That is, each of the variables adds something to explaining the variance in the dependent variable.

Table 4.18a Regression between Perceived Ease of Use on MIS Competency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,161[a]	,026	,023	,55225	,026	9,491	1	355	,002

a. Predictors: (Constant), Perceived_EaseOfUse

Table 4.18b ANOVA table of Perceived Ease of Use on MIS Competency

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,895	1	2,895	9,491	,002[a]
	Residual	108,267	355	,305		
	Total	111,161	356			

a. Predictors: (Constant), Perceived_EaseOfUse

b. Dependent Variable: MIS_Competency

Table 4.1ba shows that perceived ease of use and MIS Competency variables were significantly correlated in the strong positive influence (0.026). Adjusted R^2 is 0.023, therefore 2.3% of the cases will be correctly predicted by the regression. $\mathbf{R^2}$, also called *multiple correlations* or the *coefficient of multiple determinations*, is the percent of the variance in the dependent explained uniquely or jointly by the independents. R-squared can also be interpreted as the proportionate reduction in error in estimating the dependent when knowing the independents. This study confirmed the small effect (2.3%) of perceived ease of use on MIS competency.

Table 4.18c Coefficient Table between Perceived Ease of Use on MIS Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,371	,242		13,916	,000					
	Perceived_EaseOf	,186	,060	,161	3,081	,002	,161	,161	,161	1,000	1,000

a. Dependent Variable: MIS_Competency

Linear regression was conducted to investigate how perceived ease of use can influence MIS competency. The results (table 4.18b) are statistically significant F (1, 355) = 9.941, p< 0.000. The identified equation in table 4.18b to understand the

relationship was: *MIS Competency = 3.371 + 1.186 Perceived Ease of Use + ε.* The adjusted R squared value was 0.023. This indicates that 2.3 % of the variance in MIS Competency was explained by the perceived ease of use variable **(Hypothesis 3 Accepted).** According to Cohen (1988) this is a small effect from independent to dependent variable.

4.6 Summary

Table 4.16 to 4.18 above shows that linear regressions were conducted to determine the direct regressions of subjective norms, perceived usefulness and perceived ease of use on MIS competency of organization. The independent variables were significantly predicted of MIS competency as hypothesized.

Linear regressions of the MIS competency was employed as statistical technique for determining what proportion of the variance of a continuous, preferably normally distributed, variable is associated with, or explained by, two or more other variables, taking into account the associations between those other variables (Tabachnick and Fidell, 2007). For the hypotheses testing, there are three direct paths as main ways in which linear regressions is used to determine which variables explain the greatest and significant proportions of the variance in the variable of interest and what these proportions are. The findings confirmed all predictors have a significant influence on MIS competency. Subjective norm and perceived usefulness found as high effect to dependent variable than perceived ease of use.

All measures exhibited high reliabilities with coefficient alphas ranging from 0.6 to 0.9, exceeding or approaching the acceptable level of 0.70 (Cohen, 1988) in all cases.

All measures survived a reliability level with high loadings and possessed unidimensionality. Overall, the measures performed well and in conclusion, according to the findings from the study, all measures were considered reliable and unidimensional for the hypothesis testing analysis in the main study.

According to Cohen and Cohen (1988), the positive significant correlation coefficient confirmed the high relationship between subjective norm, perceived usefulness and ease of use and MIS competency, furthermore the significant influence level show that subjective norm, perceived usefulness and ease of use has an impact to the MIS competency. The present study determined the confident level of the reliability of the items, high association of variables and also confirmed the positive influence of subjective norm, perceived usefulness and ease of use to the MIS competency of organization.

CHAPTER 5

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The MIS competency in Oil Companies in Libya is defined in terms of this study was the exploration of the influence of subjective norm, perceived usefulness and ease of use of the product to the organization and also related in terms of the likely services and competency changes expected to occur through the subjective norm, perceived usefulness and ease of use applications to business functions of company. These changes include the understanding, commitment, intelligence and level of innovations of product in the company activities. At the end, it has conclusively found answer to all research questions and research objectives and found evident to all hypotheses formulated.

The questionnaire sees a complete picture of the way different things are connected, what to focus on and measure, together with direction and clarity. The understanding of subjective norm, perceived usefulness and ease of use and used to look up the MIS competency to make the examination appear to be connected, making a kind of wholeness or optimum solution. It seems to generate a perceived relevance to the Oil Company in Libya

The result of correlation and linear multiple regressions in assessing the variables or the empirical relationship between subjective norm, perceived usefulness and ease of use to the MIS competency was positively significant as hypothesized. The positive

association between independent and dependent variable was supported. Furthermore, empirical research supporting the theoretical development of organization competency has been conducted. Analyze subjective norm, perceived usefulness and ease of use is the scientific activities and as a combination of representing (theory) and this study confirmed subjective norm and perceived usefulness has a high effect than perceived ease of use on MIS competency.

5.2 Discussions

5.2.1 Profiles of MIS Competency of Petroleum Company in Libya

Based on 357 employees of Oil Companies at Libya, it translated into reports based on the statistical inference of correlations and linear regressions analysis of their subjective norm, perceived usefulness and ease of use and MIS competency. It was define a way to deliver the information contained in the reports in a way that would be meaningful and could translate into company process improvements. Through the survey research method, data were grouped into reports appropriate to the selected audience such as managerial line, general employee and supporting staff. Standards were defined to report data in a valid, user-friendly way, displaying information as it related to defined target goals.

The categories in demography variables of respondent were represented in the study were restricted to medium-contact and high-contact person. In conclusion, the survey achieved a good distribution in terms of gender, education level, age, department, length of service and their job level. Based on the demographic analysis of 357 respondents, the multi-items measures were subjected to a series of validity and reliability checks. The items of subjective norm, perceived usefulness and ease of u

and organization competency are valid and reliable for the multi-item scale; the set of items that correspond to each theoretical construct was initially subjected to an examination of Cronbach's alpha. Thus, all measures appeared to be unidimensional, internally consistent, reliable and valid for hypothesis testing.

5.2.2 Results of Hypotheses Testing

The multivariate technique was employed to assess the interaction among predictors on MIS competency. The result of correlation, the regression and multiple regressions in assessing the variables or the empirical relationship between subjective norm, perceived usefulness and ease of use contribute were positively related to MIS competency as hypothesized. The positive association between independent variable (Subjective norm, perceived usefulness and ease of use) and MIS competency was supported. Furthermore, based the findings and data analysis based on 357 respondents the set of items that correspond to each theoretical construct was initially subjected to an examination of Cronbach's alpha are confident reliable more than 0.7 as recommended. Thus, all measures in the subjective norm, perceived usefulness and ease of use and organization competency were appeared internally consistent, reliable and valid.

The pearson correlation and linear regressions output show the significant value of the interaction of variable in the model. Based on Cohen and Cohen (1988) the relationship between subjective norm and perceived usefulness on MIS competency represent the strong relationship. The result of correlation showed that subjective norm, perceived usefulness and ease of use variable was positively related to MIS competency. The high influence of subjective norm, perceived usefulness and

perceived ease of use to the MIS competency confirmed the hypothesis. The main objective is achieved, and this chapter concludes the relationship and level of influence of subjective norm, perceived usefulness and ease of use as predictors to the MIS competency.

5.3 Conclusions

The main objectives of this study are to investigate there is relationship between subjective norm, perceived usefulness and ease of use and MIS competency. MIS Competency is defined in terms of product of organization using MIS. Furthermore, the terms of the likely behavioral and competency changes expected to occur through competency applications to business functions of company. These changes include subjective norm, perceived usefulness and ease of use. At the end, it has conclusively found answer to all research questions and research objectives and found evident to the hypothesis formulated.

The positive association between combinations among all independent variables (Subjective norm, perceived usefulness and ease of use) was supported. Descriptive research supporting such theoretical development has been conducted. Analyze Strategic this research also supported the conceptual development of the Subjective norm, perceived usefulness and perceived ease of use by Mintzberg (1994) as the interaction of MIS Competency.

Furthermore, the dimensions of MIS competency such as identify organizational strategy, define outputs and measures, develop measurement system, ensure employee readiness, competency measures, and competency relative to largest

competitors was support the study that have done by Poister (2003). This thesis success to answer the research questions, reaches the objective, and confirmed the hypothesis of the exploration of subjective norm, perceived usefulness and ease of use and organization competency in Oil Company in Libya.

5.4 Recommendations

Empirical research supporting such theoretical development has been conducted. Analyze subjective norm, perceived usefulness and ease of use is the scientific activities and as representing (theory) to increase product competency. This research also supports the conceptual development of subjective norm, perceived usefulness and ease of use to the organization competency.

Subjective norm, perceived usefulness and ease of use are effective in aligning an organization's business areas and activities with its overall strategy, identifying critical financial and non-financial measures, identifying cause-and effect relationships among measures that may aid in problem diagnosis and encourage accountability across the organization. This perspective provides data regarding the internal business results against measures that lead to organization success. To meet the organizational objectives, organizations must identify the subjective norm, perceived usefulness and ease of use of their employee as a key business processes at which they must excel. Key processes are monitored to ensure that outcomes are satisfactory. Internal business processes are the mechanisms through which competency expectations are achieved.

In a company, employees who have subjective norm, perceived usefulness and ease of use are better able to improve quality and lower cycle times. Better quality can lead directly to improved measures of organization competency. Getting employees involved in picking measures and setting targets can help them to be more committed to reaching the goals.

5.4.1 Recommendation to the Body of Knowledge

The MIS of product competency is a management system (not only a measurement system) that enables organizations to clarify their vision and strategy and translate them into action. It provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic competency and results. When fully deployed, the competency transforms strategic planning from an academic exercise into the nerve centre of enterprises.

This thesis concludes that subjective norm, perceived usefulness and ease of use always be examined at the interaction level of its constitution and reproduction, i.e. within the regimes of representation and classification in which practitioners operate. Such regimes of representation and classification are immanent in a variety of managerial tools and organizational systems and must therefore be examined in greater details. This thesis also contribute to the knowledge of subjective norm, perceived usefulness and ease of u through the improvement of items that been used in organization competency measurement.

5.4.2 Recommendations to the Managerial Level

The implementation of the examination of MIS competency presents an opportunity for a performing Organization to look at its existing programs, services, and processes. Once appropriate metrics have been identified, data collection and tracking processes are put in place, the organization can begin to adjust its practices and evaluate its competency over time. A continuous feedback loop is formed, in which the organization can use measurement information to re-align initiatives as needed.

Competencys are effective in aligning an organization's business areas and activities with its overall strategy, identifying critical financial and non-financial measures, identifying cause-and effect relationships among measures that may aid in problem diagnosis and encourage accountability across the organization. This study confirmed that managers have to look up the development of the pattern of subjective norm, perceived usefulness and ease of use of the product. this study are the confident tools to assess the overall of subjective norm, perceived usefulness and ease of use.

This perspective provides data regarding the internal business results against measures that lead to financial success. To meet the organizational objectives and customers expectations, organizations must identify the key business processes at which they must excel. This research confirmed the subjective norm and perceived usefulness as the major contribution (84.7%) to the organization competency. The subjective norm, perceived usefulness and ease of use is a key process is monitored to ensure that incomes, process and outcomes of organization are satisfactory.

Internal business processes are the mechanisms through which competency expectations are achieved.

Through competency perspective its captures the ability of organization, information systems, and organizational alignment to manage the business and adapt to change. Processes will only succeed if adequately skilled and motivated employees, supplied with accurate and timely information, are driving them. This perspective takes on increased importance in organizations, In order to meet changing requirements employees may be asked to take on dramatically new responsibilities, and may require skills, capabilities.

In a company, the subjective norm, perceived usefulness and ease of use of employees on product who are skilled and trained are better able than unskilled workers to improve quality and lower cycle times. Better quality can lead directly to improved measures of competency. Getting employees involved in picking measures and setting targets can help them to be more committed to reaching the goals. The achievement of better competency in organization easily achieve when the subjective norm, perceived usefulness and ease of use perform in the right track of company activities.

5.5 Limitations of the study

As with any study, the findings obtained in the thesis display some shortcomings, these limitations need to be recognized when interpreting the findings of this thesis while also recognizing the opportunities they present for further research. The sample that was employed in this thesis has limited generalizability because of the

sampling plan used since the questionnaire distribution was conducted only in departments of Oil Companies in Libya.

The results may be applicable only to members of medium and high contact services. The findings then, are not necessarily generalizable to the whole industry and care should be taken in any generalization since only one independent variable was examined to explore the subjective norm, perceived usefulness and ease of u in organization competency. Further research have to examine the generalizability is required to enhance a better understanding of employee to the organization competency measurement through another variable involves in their environment.

5.6 Suggestions for Future Research

The research confirmed the relationship between subjective norm, perceived usefulness and ease of u contribute were positively related to MIS competency. It provides estimates of the research model and suggests which components of the adoption item will get more successful in Oil Companies. The research models are being pursued in the adoption of organization competency to succeed. Researcher suggests examining the subjective norm, perceived usefulness and ease of use as predictor to the organization competency through the moderating or mediating behavioral term of employee. Furthermore, in measuring culture variable is one of the best assumptions to mediate the possible way to achieve the better competency or organization.

Through the study of organization competency, many perspectives will captures the ability of employees, information systems, and organizational alignment to manage

the business and adapt to change. For further study the perspective should exactly represent the character of employee in their activities. Subjective norm, perceived usefulness and ease of u processes will get succeed if adequately skilled and motivated employees are connecting with the actual system and environment in the company.

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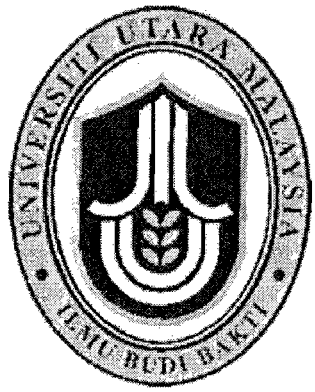

QUESTIONNAIRE

RESEARCH TOPIC:

A STUDY OF MANAGEMENT INFORMATION SYSTEM (MIS) CONPETENCY AND ADOPTION STRATEGY IN ORGANIZATIONS AMONG OIL COMPANY IN LIBYA

Dear Sir/Madam,

I am Universiti Utara Malaysia's (UUM) Master of Management final year student. UUM is a public university based in Malaysia. I am now conducting a study on management information system adoption and competency among oil companies in Libya. This research is a partial requirement for the award of the MSc degree.

I would appreciate if you could spare some time and thought in completing the survey questionnaire. I hope that you would co-operate by answering the questionnaire as sincerely as possible. This questionnaire consists of two parts. Part one consists of questions about your demographic profile while part two is about the MIS adoption that influences the competency.

Your response will be treated as confidential and the information obtained will be used for research purposes only. There is no right or wrong answer to the given question. Thank you for your willingness to participate in this study.

دراسة عن إدارة نظم المعلومات الادارية والكفاءات اعتماد الاستارتيجيات فى المنظمات فى شركات النفط فى ليبيا

سيدي العزيز / سيدتي ،

أنا طالب ماجستير ادارة فى السنة النهائية بجامعة اوتارا ماليزيا,وهى احدى الجامعات الحكومية مقرها فى ماليزيا. أنا الان اجرى دراسة على نظام ادراة المعلومات واعتماد الكفاءات بين شركات النفط فى ليبيا,وهذا البحث مطلب جزئى لمنحى درجة الماجستير.

سأكون ممتنا لو تفضلتم ببعض من وقتكم لاكمال الاستبيان الاستقصائى لهذه الدراسة. أرجو منك ان تتعاون من خلال الاجابة على الاستبيان باخلاص قدر الامكان,هذا الاستبيان يتكون من جزئين. الجزء الاول يتكون من اسئلة حول ملفك الشخصى بالشركة,أما الجزء الثانى فهو حول اعتماد نظم المعلومات الادراية التى تؤثر على الكفاءة بالشركة.

ان ردكم سيعامل بسرية تامة وسيتم استخدام هذه المعلومات لأغراض البحث فقط,ولا توجد اجابة صحيحة او خاطئة على السؤال المطروح. وفى النهاية اشكركم على استعدادكم للمشاركة فى هذه الدراسة.

مع شكرى وامتانى

Sincerely,

عبدالسلام سالم احمد

Abdulsalam Salem A 801122

Email :alsalamsalem@yahoo.com

HP :06(0172071451)

Universiti Utara Malaysia

Sintok, Kedah

PART ONE: RESPONDENT'S PROFILE

الجزء الاول: الملف الشخصى

Directions: Please complete the following questions. This information is confidential individual identities will not be revealed. This information will be combined only for summary and evaluation research. Place put a check (/) in front of all responses that are appropriate for you.

الرجاء إكمال الأسئلة التالية. هذه المعلومات سرية الهوية ولن يتم الكشف عنها. وستكون هذه المعلومات مجتمعة فقط لتلخيص وتقييم البحوث.الرجاء وضع علامة (/) أمام جميع الردود التي هي مناسبة لك.

1. Which of the following best describes your department main line of business?

1- مما يلي ماهو أفضل وصف لخط عملك الرئيسي ؟.

- ☐ Manufacturing الصناعة التحويلية
- ☐ Construction / Infrastructure of Oil Company البناء / البنية التحتية للشركة نفط
- ☐ Wholesale and retail تجارة الجملة والتجزئة
- ☐ Transportation/distribution النقل / التوزيع
- ☐ Communication Services خدمات الاتصالات
- ☐ Finance and insurance التمويل والتأمين
- ☐ Education, training and development services التعليم والتدريب وتطوير الخدمات
- ☐ Other services خدمات أخرى

2. How many full-time employees work in your department (including you):

2- كم عدد العاملين بدوام كامل فى القسم الخاص بك(بما في ذلك أنت)؟.

- ☐ 1. 5-10
- ☐ 2. 11-20
- ☐ 3. 21-30
- ☐ 4. 31-40
- ☐ 5. More than 40 أكثر من

3 .Gender:

3- الجنس :

☐ 1. Male ذكر ☐ 2. Female أنثى

4. Please indicate your age:

4- يرجى الإشارة إلى عمرك:

- ☐ 1. Less or equal to 20 أقل أو تساوي
- ☐ 2. 21-30
- ☐ 3. 31-40
- ☐ 4. 41-50
- ☐ 5. More than 50 أكثر من

5. Please indicate the highest education level of education achieved

5 - يرجى الإشارة إلى أعلى مستوى تعليم حققته؟:

- ☐ 1. Certificate شهادة
- ☐ 2. Diploma دبلوم
- ☐ 3. Bachelor degree درجة البكالوريوس
- ☐ 4. Masters degree درجة الماجستير
- ☐ 5. Ph.D. degree درجة دكتوراة

6. Do you have any professional qualification?

6- هل لديك أي مؤهلات مهنية ؟

- ☐ 1. Yes, please specify _____ نعم ، يرجى تحديد:
- ☐ 2. No. لا

7. Please indicate number of years that you have been with this company:

7- يرجى الإشارة إلى عدد السنوات التي قضيتها مع الشركة حتى الان:

- ☐ سنوات < 5 years
- ☐ سنين 5-10 years
- ☐ سنة 11-20 years
- ☐ سنة >20 years

8. Please indicate your job position:

8- يرجى توضيح مركزك الرئيسى بالشركة:

- ☐ 1. Chief Executive Officer (CEO) / Board الرئيس التنفيذي (المدير التنفيذي) / المجلس
- ☐ 2. Chief of Department رئيس قسم
- ☐ 3. Operation manager مدير العمليات
- ☐ 4. Staff موظف
- ☐ 5. Others. Please specify: _____ شيء ءاخر,يرجى التحديد:

9. Please indicate number of years that you have been in this position (refer to question8):

9- يرجى الإشارة إلى عدد السنوات التي اتممتها فى هذا المركز الوظيفى (يرجى الرجوع إلى السؤال رقم8):

- ☐ سنوات < 5 years
- ☐ سنين 5-10 years
- ☐ سنة 11-20 years
- ☐ سنة >20 years

10. How long have you involved in the Oil Company area?

10- منذ متى وانت فى مجال شركات النفط ؟

- ☐ سنوات < 5 years
- ☐ سنين 5-10 years
- ☐ سنة 11-20 years
- ☐ سنة >20 years

PART TWO: MIS ADOPTION AND COMPETENCY
الجزء الثاني : اعتماد نظم المعلومات الإدارية والكفاءة

Instructions: This section is related to the MIS adoption that influences the competency of the company. Please read each statement and circle the number next to the response indicating how much you agree or disagree with the statement as a description of you. You should only check (/) one box per statement. By completing this survey, you are providing your consent to participate in this study.

How agreed have you on each of the following 5-point rating scales. Indicate your response by circling one of the ranking from 'Strongly Disagree' (1) to 'Strongly Agree' (5) of each statement.

تعليمات : هذا القسم متصل باعتماد نظم المعلومات الإدارية التي تؤثر على كفاءة الشركة. يرجى قراءة كل بيان ورسم دائرة حول العدد الذى يشيرللأجابة ومدى اتفاقك او انتقادك لهذا البيان بوصفه وصفا لك. يجب عليك سوى الاختيار (/) في مربع واحد لكل بيان. عندما تنتهى من ملء هذا البيان،تعتبر موافقا على مشاركتك فى هذه الدراسة.

لتوافق او لا توافق عليك تقييم البيان من المقاييس والنقاط 5 التالية. يشيرالرقم (1) الى انك غير موافق بشدة وبالتدريج الى الرقم (5) وهى موافق بشدة من كل بيان.

Section A. MIS Adoption Strategy
A1. Subjective Norm

القسم ألف: إقرار استراتيجية نظم المعلومات الإدارية
1A. سلوك ذاتى

	Statements تصريحات	Scale مقياس				
1	*It would feel comfortable to do things over the Company product.* *الشعور بالراحة بالعمل بأشياء أكثر من منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2	*It could easily to do things over the Company product.* *سهولة أن تفعل أشياء أكثر من منتج الشركة*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3	*Strategy will get influence on the development of the Company product.* *استخدام استراتيجية مناسبة سيؤثر على تطوير منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4	*People would think that they have to use things over the Company product.* *الناس يعتقدون ان لديهم اشياء تستخدم اكثر من منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5	*My colleague would think that they should to do things over the company product.* *زملائ يعتقدون انه ينبغى فعل شئ أكثر من منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6	*My family would think that they should to do things over the company product.* *عائلتى تعتقد انه ينبغى فعل شئ أكثر من منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7	*To do things over the company product is a good idea.* القيام بأشياء أكثر من منتج الشركة هى فكرة جيدة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8	*To do things over the company product is a wise idea.* *القيام بأشياء أكثر من منتج الشركة هى فكرة حكيمة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9	*To do things over company product is an ideal like.* *القيام بأشياء اكثر من منتج الشركة فكرة مثالية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10	*Using the company product in my company would be pleasant.* استخدام منتج الشركة في بلدي شئ يسعد.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11	*Company product provide highly personalized services.* منتجات الشركة توفر خدمات شخصية للغاية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12	*Company product provides time and location-based services.* منتج الشركة يوفر الوقت وخدمات تعتمد على الموقع.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13	*Company product considerable commerce capabilities.* *منتج الشركة يعتبر ذو قدرات كبيرة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Source : Chin (2001

A2. Usefulness of the Product.

A2. فائدة المنتج

	Statements تصريحات	Scale مقياس				
1	*Using the company product would enable to accomplish business more quickly.* استخدام منتج الشركة من شأنها أن تمكن من إنجاز الأعمال بسرعة أكبر.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2	*Using company product would improve job competency.* استخدام منتج الشركة من شأنه أن يحسن الأداء الوظيفى.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3	*Using company product would increase productivity.* استخدام منتج الشركة من شأنها زيادة الإنتاج.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4	*Using company product would enhance effectiveness on the job.* استخدام منتج الشركة من شأنه أن يعزز فعالية في العمل.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5	*Using company product would make it easier to do the services.* استخدام منتج الشركة من شأنه أن يجعل من الاسهل القيام بالخدمات.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6	*It would find company product useful in strategy adoption.* *منتج الشركة سيكون مفيد باعتماد استراتيجية الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7	*Help is available for assistance with company product.* تتوفر تعليمات للحصول على المساعدة مع منتج الشركة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8	*Specialized instruction is available to me concerning company product.* *توفر تعليمات خاصة بشأن منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9	*Training for company product is available.* *توفر التدريب لمنتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
10	*The cost of owning and using company product is reasonable.* *تكلفة امتلاك واستخدام منتج الشركة شئ معقول.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Source: Vecantesh (2004)

A3. Ease of Use of the Product.

3A سهولة استخدام المنتج.

	statements تصريحات	Scale مقياس				
1	*Learning to utilize company product would be easy.* تعلم كيفية استعمال منتج الشركة تكون سهلة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2	*I would find it easy to use company product to obtain decision-making information.* من السهل استخدام منتج الشركة للحصول على معلومات لصنع القرار.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3	*Interaction with the company product was clear and understandable.* التفاعل مع منتج الشركة كانت واضحة ومفهومة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4	*The company product to be flexible to interact with business activities.* *يكون منتج الشركة مرن للتفاعل مع الأنشطة التجارية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5	*It would be easy to become skillful at using company product utilities.* *من السهل أن تكون ماهرا فى استخدام مرافق منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6	*The dynamic progress about a new information technology, It would look for ways to company product improvement.* *دينامية التقدم نحو تكنولجيا المعومات الجديدة سوف تبحث عن سبل لتحسين منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7	*Among my peers, I am usually the first to explore new information technologies on Company Product.* *بين زملائى عادة انا اول من يكتشف تكنولوجيا معلومات جديدة على منتج الشركة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Source: Wang (2004)

Definition of the scale:

تعريف المقاييس:

1 – Very Dissatisfied. غير راضى جدا 2 – Dissatisfied. غير راضى 3 – Neutral. عادى 4 – Satisfied. راضى 5 – Very Satisfied راضى جدا

Section-B. MIS Competency.

كفاءة نظم المعلومات الادارية.

1	*The company product now day is prominent strategy.* منتج الشركة الآن هو استراتيجية بارزة اليوم.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
2	*The company product is safe.* *منتج الشركة هو منتج ءامن.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
3	*The company product saving cost and time.* منتج الشركة يوفر التكلفة والوقت.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
4	*The company product applications supporting the company business processes.* *منتج الشركة يطبق ويدعم عمليات الشركة التجارية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
5	*I think it would be very good to use the Company product for business activities in addition to traditional methods.* أعتقد أنه سيكون جيدا للغاية استخدام منتج الشركة للأنشطة التجارية ، بالإضافة إلى الأساليب التقليدية.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
6	*Using the Company product for business activities is a good idea.* استخدام منتج الشركة للأنشطة التجارية هو فكرة جيدة.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
7	*Overall, most of customer like using the Company product for business activities.* *معظم العملاء يفضلون اتخدام منتج الشركة للأنشطة التجارية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
8	*When using company product, I am sure that certain managerial and technical procedures exist to secure all the competency system.* *عند استخدام منتج الشركة ,أنا متأكد من ان الاجراءات والتقنية الادارية المعينة موجودة لتأمين جميع الكفاءات بنظام الشركة .*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
9	*When using company product, I am sure that certain managerial and technical procedures exist to protect personal competency.* *عند استخدام منتج الشركة ,أنا متأكد من وجود اجراءات ادارية وتقنية لحماية بعض الكفاءات الشخصية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

10	*When using company product, I am sure of the continuous availability (i.e., no breakdown) of the competency system.* *عند استخدام منتج الشركة, أنا واثق من توافر الاستمرار لا انهيار فى نظام الكفاءات.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
11	*When using company product, I am sure of the consistency of information processing.* *عند استخدام منتج الشركة, أنا واثق من الانسياق فى معالجة المعلومات.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
12	*Overall, I find the company product and services trustworthy.* *أنا أقر بأن منتج الشركة والخدمات جدير بالثقة.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
13	*When using company product, I am sure that I will be notified if competency of personal information will improve.* *عند استخدام منتج الشركة, أنا واثق أنه سيتم اعلامى عن معلومات بتحسن الكفاءات الشخصية.*	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Source: Meyer (2004)

THANK YOU FOR YOUR COOPERATION
شكرا لتعاونك

APPENDIX. STATISTICAL DATA ANALYSIS

Frequency Table

Departement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	manufacturing	41	11,5	11,5	11,5
	Electric, gas and water supply	44	12,3	12,3	23,8
	Construction	47	13,2	13,2	37,0
	Wholesale and retail	31	8,7	8,7	45,7
	Transportation/distribution	37	10,4	10,4	56,0
	Communication	8	2,2	2,2	58,3
	Finance,Insurance, and business services	14	3,9	3,9	62,2
	Housing subsidies	41	11,5	11,5	73,7
	Public services	36	10,1	10,1	83,8
	Health	22	6,2	6,2	89,9
	Education, training and development	31	8,7	8,7	98,6
	Other services	5	1,4	1,4	100,0
	Total	357	100,0	100,0	

Fulltime

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5-10	10	2,8	2,8	2,8
	11-20	5	1,4	1,4	4,2
	21-30	65	18,2	18,2	22,4
	31-40	135	37,8	37,8	60,2
	More than 40	142	39,8	39,8	100,0
	Total	357	100,0	100,0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	255	71,4	71,4	71,4
	Female	102	28,6	28,6	100,0
	Total	357	100,0	100,0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less or equal to 20	11	3,1	3,1	3,1
	31-40	56	15,7	15,7	18,8
	41-50	158	44,3	44,3	63,0
	More than 50	132	37,0	37,0	100,0
	Total	357	100,0	100,0	

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate	6	1,7	1,7	1,7
	Diploma	70	19,6	19,6	21,3
	Bachelor degree	239	66,9	66,9	88,2
	Master Degree	34	9,5	9,5	97,8
	Phd degree	8	2,2	2,2	100,0
	Total	357	100,0	100,0	

Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	2,2	2,2	2,2
	No	349	97,8	97,8	100,0
	Total	357	100,0	100,0	

Working

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	11	3,1	3,1	3,1
	5-10 years	3	,8	,8	3,9
	11-20 years	57	16,0	16,0	19,9
	> 20 years	136	38,1	38,1	58,0
	5	150	42,0	42,0	100,0
	Total	357	100,0	100,0	

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chief Excecutive Officer (CEO)	11	3,1	3,1	3,1
	Chief of Department	3	,8	,8	3,9
	Operation Manager	57	16,0	16,0	19,9
	Staff	136	38,1	38,1	58,0
	Others	150	42,0	42,0	100,0
	Total	357	100,0	100,0	

WorkingPosition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	131	36,7	36,7	36,7
	5-10 years	128	35,9	35,9	72,5
	11-20 years	90	25,2	25,2	97,8
	> 20 years	8	2,2	2,2	100,0
	Total	357	100,0	100,0	

Involved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5 years	126	35,3	35,3	35,3
	5-10 years	133	37,3	37,3	72,5
	11-20 years	90	25,2	25,2	97,8
	> 20 years	8	2,2	2,2	100,0
	Total	357	100,0	100,0	

Reliability

Case Processing Summary

		N	%
Cases	Valid	357	100,0
	Excluded[a]	0	,0
	Total	357	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,899	13

Item Statistics

	Mean	Std. Deviation	N
SN1	4,19	,905	357
SN2	4,20	,885	357
SN3	4,10	,938	357
SN4	4,20	,911	357
SN5	3,82	,977	357
SN6	3,79	,910	357
SN7	4,15	,865	357
SN8	4,12	,890	357
SN9	3,69	1,000	357
SN10	3,61	1,126	357
SN11	4,11	,623	357
SN12	4,19	,717	357
SN13	4,10	,853	357

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SN1	48,09	51,166	,772	,884
SN2	48,08	51,437	,769	,884
SN3	48,18	52,462	,636	,890
SN4	48,08	50,918	,787	,883
SN5	48,47	50,761	,737	,885
SN6	48,49	52,256	,676	,888
SN7	48,14	52,310	,713	,887
SN8	48,16	52,142	,704	,887
SN9	48,59	55,423	,373	,903
SN10	48,68	52,192	,524	,897
SN11	48,17	56,472	,546	,895
SN12	48,09	54,955	,612	,892
SN13	48,18	59,805	,110	,912

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	357	100,0
	Excluded[a]	0	,0
	Total	357	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,892	10

Item Statistics

	Mean	Std. Deviation	N
USE1	4,03	,867	357
USE2	4,18	,915	357
USE3	3,82	,974	357
USE4	3,80	,911	357
USE5	4,06	,861	357
USE6	4,06	,910	357
USE7	4,13	,847	357
USE8	4,13	,887	357
USE9	4,07	,919	357
USE10	3,85	,972	357

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
USE1	36,11	36,195	,466	,893
USE2	35,96	33,139	,743	,874
USE3	36,32	33,101	,692	,878
USE4	36,35	34,340	,621	,883
USE5	36,09	35,153	,579	,885
USE6	36,08	33,577	,702	,877
USE7	36,01	34,309	,683	,879
USE8	36,02	34,595	,616	,883
USE9	36,08	34,505	,598	,884
USE10	36,29	33,752	,629	,882

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	357	100,0
	Excluded[a]	0	,0
	Total	357	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,687	7

Item Statistics

	Mean	Std. Deviation	N
EOU1	4,12	,963	357
EOU2	3,78	1,037	357
EOU3	3,82	,996	357
EOU4	3,94	,954	357
EOU5	4,00	,958	357
EOU6	3,82	1,059	357
EOU7	3,93	1,084	357

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EOU1	23,29	13,526	,404	,651
EOU2	23,63	12,819	,460	,634
EOU3	23,59	12,748	,502	,623
EOU4	23,47	13,244	,455	,637
EOU5	23,41	13,749	,372	,659
EOU6	23,59	13,428	,356	,664
EOU7	23,48	14,155	,243	,696

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	357	100,0
	Excluded[a]	0	,0
	Total	357	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,905	13

Item Statistics

	Mean	Std. Deviation	N
MIS1	4,20	,737	357
MIS2	4,28	,738	357
MIS3	4,17	,694	357
MIS4	4,20	,743	357
MIS5	4,31	,780	357
MIS6	3,98	,896	357
MIS7	4,15	,933	357
MIS8	3,87	,960	357
MIS9	4,00	,877	357
MIS10	3,99	,859	357
MIS11	3,99	,851	357
MIS12	4,14	,763	357
MIS13	4,17	,737	357

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MIS1	49,25	45,596	,666	,896
MIS2	49,17	45,629	,661	,896
MIS3	49,27	47,329	,520	,902
MIS4	49,25	45,279	,695	,895
MIS5	49,14	45,664	,617	,898
MIS6	49,46	44,474	,627	,898
MIS7	49,30	42,968	,730	,893
MIS8	49,58	44,346	,587	,900
MIS9	49,45	44,748	,618	,898
MIS10	49,46	44,721	,636	,897
MIS11	49,46	45,850	,537	,902
MIS12	49,31	46,090	,589	,899
MIS13	49,28	46,462	,574	,900

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
MIS_Competency	4,1114	,55879	357
Subjective_Norm	4,0218	,60559	357

Correlations

		MIS_ Competency	Subjective_ Norm
Pearson Correlation	MIS_Competency	1,000	,908
	Subjective_Norm	,908	1,000
Sig. (1-tailed)	MIS_Competency	.	,000
	Subjective_Norm	,000	.
N	MIS_Competency	357	357
	Subjective_Norm	357	357

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Subjective_Norm[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MIS_Competency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,908[a]	,824	,824	,23449	,824	1666,678	1	355	,000

a. Predictors: (Constant), Subjective_Norm

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91,642	1	91,642	1666,678	,000[a]
	Residual	19,520	355	,055		
	Total	111,161	356			

a. Predictors: (Constant), Subjective_Norm

b. Dependent Variable: MIS_Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,742	,083		8,889	,000					
	Subjective_Nor	,838	,021	,908	40,825	,000	,908	,908	,908	1,000	1,000

a. Dependent Variable: MIS_Competency

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Subjective_ Norm
1	1	1,989	1,000	,01	,01
	2	,011	13,376	,99	,99

a. Dependent Variable: MIS_Competency

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
MIS_Competency	4,1114	,55879	357
Perceived_Usefulness	4,0765	,60285	357

Correlations

		MIS_ Competency	Perceived_ Usefulness
Pearson Correlation	MIS_Competency	1,000	,841
	Perceived_Usefulness	,841	1,000
Sig. (1-tailed)	MIS_Competency	.	,000
	Perceived_Usefulness	,000	.
N	MIS_Competency	357	357
	Perceived_Usefulness	357	357

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Perceived_ Usefulness[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MIS_Competency

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	,841[a]	,708	,707	,30252	,708	859,601	1	355	,000

a. Predictors: (Constant), Perceived_Usefulness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78,672	1	78,672	859,601	,000[a]
	Residual	32,490	355	,092		
	Total	111,161	356			

a. Predictors: (Constant), Perceived_Usefulness

b. Dependent Variable: MIS_Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,933	,110		8,510	,000					
	Perceived_Usefulr	,780	,027	,841	29,319	,000	,841	,841	,841	1,000	1,000

a. Dependent Variable: MIS_Competency

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Perceived_ Usefulness
1	1	1,989	1,000	,01	,01
	2	,011	13,616	,99	,99

a. Dependent Variable: MIS_Competency

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
MIS_Competency	4,1114	,55879	357
Perceived_EaseOfUse	3,9156	,59436	357

Correlations

		MIS_ Competency	Perceived_ EaseOfUse
Pearson Correlation	MIS_Competency	1,000	,146
	Perceived_EaseOfUse	,146	1,000
Sig. (1-tailed)	MIS_Competency	.	,003
	Perceived_EaseOfUse	,003	.
N	MIS_Competency	357	357
	Perceived_EaseOfUse	357	357

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Perceived_ EaseOf Use[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MIS_Competency

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	,146[a]	,021	,019	,55357	,021	7,749	1	355	,006

a. Predictors: (Constant), Perceived_EaseOfUse

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,375	1	2,375	7,749	,006[a]
	Residual	108,787	355	,306		
	Total	111,161	356			

a. Predictors: (Constant), Perceived_EaseOfUse

b. Dependent Variable: MIS_Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,573	,195		18,279	,000					
	Perceived_EaseOf	,137	,049	,146	2,784	,006	,146	,146	,146	1,000	1,000

a. Dependent Variable: MIS_Competency

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Perceived_ EaseOfUse
1	1	1,989	1,000	,01	,01
	2	,011	13,270	,99	,99

a. Dependent Variable: MIS_Competency

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
MIS_Competency	4,1114	,55879	357
Subjective_Norm	4,0218	,60559	357
Perceived_Usefulness	4,0765	,60285	357
Perceived_EaseOfUse	3,9156	,59436	357

Correlations

		MIS_ Competency	Subjective_ Norm	Perceived_ Usefulness	Perceived_ EaseOfUse
Pearson Correlation	MIS_Competency	1,000	,908	,841	,146
	Subjective_Norm	,908	1,000	,833	,122
	Perceived_Usefulness	,841	,833	1,000	,132
	Perceived_EaseOfUse	,146	,122	,132	1,000
Sig. (1-tailed)	MIS_Competency	.	,000	,000	,003
	Subjective_Norm	,000	.	,000	,010
	Perceived_Usefulness	,000	,000	.	,006
	Perceived_EaseOfUse	,003	,010	,006	.
N	MIS_Competency	357	357	357	357
	Subjective_Norm	357	357	357	357
	Perceived_Usefulness	357	357	357	357
	Perceived_EaseOfUse	357	357	357	357

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Perceived_ EaseOf Use, Subjective _Norm, Perceived_ Usefulnes s[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MIS_Competency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,921[a]	,849	,847	,21840	,849	659,147	3	353	,000

a. Predictors: (Constant), Perceived_EaseOfUse, Subjective_Norm, Perceived_Usefulness

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94,323	3	31,441	659,147	,000[a]
	Residual	16,838	353	,048		
	Total	111,161	356			

a. Predictors: (Constant), Perceived_EaseOfUse, Subjective_Norm, Perceived_ Usefulness

b. Dependent Variable: MIS_Competency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	,466	,105		4,433	,000					
	Subjective_Norm	,624	,035	,676	18,035	,000	,908	,693	,374	,305	3,276
	Perceived_Usefulr	,254	,035	,274	7,300	,000	,841	,362	,151	,304	3,285
	Perceived_EaseOf	,026	,020	,027	1,300	,194	,146	,069	,027	,982	1,018

a. Dependent Variable: MIS_Competency

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Subjective_ Norm	Perceived_ Usefulness	Perceived_ EaseOfUse
1	1	3,962	1,000	,00	,00	,00	,00
	2	,025	12,528	,02	,06	,05	,47
	3	,009	21,235	,98	,03	,03	,52
	4	,004	33,103	,00	,91	,92	,00

a. Dependent Variable: MIS_Competency