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The Need for User Competency on the Success of Management Information System Implementation in Oil Companies in Libya.

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Abstract: *In the current constantly advancing technological world, stakeholders are doing their best to ensure that their respective companies remain highly successful in delivering quality products and services. To be precise, top company stakeholders are fighting tooth and nail to aid in implementation of technologies that promote their competitiveness in the global market. On this sense, this report focuses on the implementation of quality technological innovations in the day-to-day operations of Libya's oil companies. To be specific, major emphasis has been laid on the need to adopt management information systems (MIS) and play a significant role in bringing in a positive impact on user competency at Libya's oil companies (Otman&Karlberg 2007).*
This study begins by introducing the research topic and analyzing the current operations in Libya's oil companies. It further analyzes the fundamentals of management information systems.

I. Background

In the current constantly advancing business world, the need to adopt innovative technologies is one of crucial subjects of concern in promoting achievement of the business goals. Among the key technologies that have dominated the global business environment is the utilization of management information systems (MIS). In essence, there are significant variations on the application of information technology from one organization to another. This is usually dependent on factors such as the physical size and nature of operations in an organization.

In simple terms, a management information system entails a set of well-integrated software components that work together to enhance optimal performance of an organization in its day-to-day business operations. The most important feature is that these components work together as a single coherent unit to aid in achieving the predefined system functionalities, which include promoting efficiency in executing daily business operations. Here, all the operations of different company departments are integrated into one major manageable system (Deepshikha&Namita, 2011).

There is a wide number of operational benefits brought about by the adoption of management information system. It provides an organization with high quality management components that focus on enhancing operations such as strategic budget control and monitoring financial performance. This plays a significant role in replacing the obsolete and non-integrated report generation systems that have always been complex to manage. The MIS includes a number of technologies, which includes a combination of MIS Personnel, technological processes and organizational operation mechanisms.

It is essential to clarify that the success of an MIS is determined by its ability to promote the performance of employees and the company large. In this sense, the successful deployment of any type of an information technology in a business environment hugely depends on a number of competency levels. This includes user competency, which is about having a skilled workforce along with creation of a quality platform for organizational change. (Tim et al., 2011).

Additionally, research outlines that an MIS lays major emphasis on using technology to improve the performance of organization and the targeted MIS personnel (Pepparda& Ward, 2004). Alongside this is promoting the competency of the respective management information system as a unit.

A large number of organizations adopt competency systems to aid in simplifying organizational management and enhance staff competency levels. Through the use of mainstream competency systems, individual employee competence can easily be assessed particularly on dimensions, which include Project Management and Programming. This plays a significant role in aiding speedy and resourceful allocation of employees or staff members into a consultation firm. Based on the definition of competence in an organization, the competence systems help in developing not individual user competency but also for the organization at large.

In spite of the fact that competence systems are well-designed to suit organizational success goals, the rate of use of these systems has been significantly low. In most cases, the use of competence systems is only

limited to implementation in the top personnel offices of the organizations. Considering the efforts and resources employed in adopting an MIS, this character of focus being limited to top management is a significant challenge in enhancing business success. Furthermore, it greatly cripples significant business advantages offered by the competence systems (Rikard, 2002).

Understanding of business needs, objectives, priorities and authorisation for information systems projects all needed to be recognised in such plans (Battaglia, 1991). Organisations plan for new information systems to become more competitive in the marketplace; through such planning, they strive to align their business strategy with IS strategy (Henry et al., 2008).

II. Method

Study Design

The investigation is primarily based on the principles of descriptive qualitative research. It is essential to clarify that descriptive research entails performing surveys and different types fact-finding probes. In essence, descriptive is research is mainly aimed at providing precise depiction of the current state of affairs of a particular research subject. One of the unique characteristics of this method is that the research professional at hand possess no control on the key variables of the research work. Instead, he or she is only tasked with reporting about the key aspects on what has happened or is happening in the research. In addition, the researcher can also be tasked with discovering the causes of different aspects of a research component regardless of the fact he has no control on the research variables. It is further vital to stress that all kinds of surveys are a key attribute in the application of descriptive research. Most importantly, there a significant number of research methods applied in the implementation of descriptive research. These methods are comparative and Correlational (Stankosvka& Lavender, 2011).

According to Strauss and Corbin (1991:17), qualitative research engrosses any particular type of research that plays a significant role in production of findings that possess three key characteristics namely; being meaningful, testable and scientifically exempted from any kind of contradictions. Furthermore, this type of research is focuses on the qualitative phenomena that relates to or involves quality or kind. In general, qualitative research lays major emphasis on comprehending a research phenomenon rather than just predicting or controlling it.

Data and Source of Data

The data of this study include the information about user competency of management information system applied in oil companies in Libya. The type of data used in this study is secondary data, which were obtained directly from data sources including documents that have been collected, such as articles, official websites, statistics and global reporting, and organizational structures. A documentation including a wide range of written materials production of qualitative information can be particularly useful in trying to understand the problem that may have existed on the ground in the area of research and case studies. Policy documents and mission statements, annual reports, minutes or meetings, and codes of conduct are valuable sources of data.

Data Collection

The data were collected through documentation gathering from the internet and requesting the data from the related company. To obtain comprehensive information, the researcher made some notes on the documentations to obtain more understanding and to make bit easy to interpret the data.

The data obtained from internet included the history and the profile of the company. The data that were requested from the company covered the user competency of management information system.

III. Findings And Discussion

It is vital to acknowledge the findings of this study in the implementation of the management information system in Libya's oil companies. As discussed in the previous chapters, management information systems entails a quality business application that collects, examines and processes organization data to aid in coming with quality reports necessary for making sound decisions and promoting the continuity of company's business operations. Reaching successful oil business goals is the focal point in the implementation of the management information system in Libya (O'brien&Marakas 2006). Upon, a deep study on this subject, the study reports the following as the findings.

Management Information System Implementation in Oil Companies in Libya

Among the top MIS applied in Libya is the Subsea Production System. This has and is widely used in the day-to-day operations of Libya's National Oil Corporation. The system operates as enterprise resource

planning (ERP), which integrates a number of features such as management of oil production, and sales, human resource management and inventory control. Libya's National Industrial Systems Company (NISCO) has incorporated the use of Open Spirit in the management of oil. Open Spirit engrosses a data management system and a geographical Information system, which is very important in smooth management of an oil company (Ahmed & Meehan 2011). Management Information Systems have always been used in the integration of the company data from all departments of Libya's oil company. The integration of these data is fundamental in making it easy for the oil companies to process business information and come up with sound reports for management to enjoy easy business oriented decision-making processes (Hitt, Ireland &Hoskisson 2013).

The system entails a quality model called business transactions used specifically in the handling of the day to day oil business operations. Along the side, it is a transaction processing system, which is vital in provision of efficiency, accuracy and accountability for each oil business conducted by a representative. The content of these two modules is stored in an all the time available storage centre called the operational databases.

To ensure that there is a well-managed availability of oil products, the system further provides an inventory management module. This module will act as a very essential tool in providing a bird's eye view of the content of each product at any particular time. To the management and the company at large, this feature is very crucial as it aids them prepare in a timely fashion to add quantity of a particular product before it gets to zero. Thus, the inventory module plays a significant role in promoting the business continuity of Libya's Oil companies. The inventory system is validated and stored in the database for valid oil transactions.

There is the oil production decision support system which is mainly used in aiding the top management in making sound decision about their respective oil production duties. Additionally, the oil expert system further ensures that there is high efficiency and accuracy in an oil company's business operations. Furthermore, the oil production and marketing module further plays a huge role in promoting delivery of high quality business transactions. This is very important in promoting the quality, quantity and standards of Libya's oil companies' operations.

User Competency in Management Information System in Libya's Oil Company

It is important to make it clear that, the success of any information system hugely depends on the competency levels of its users. In simple terms, user competency entails the set of appropriate features and technical attributes that provide individual's ability to perform a particular task effectively. In relation to MIS implementation, user competency covers the ability of Libya's oil company stakeholders to effectively use the system to enhance productivity.

In essence, the competence of Libya's oil company users in the utilization of the management information system is a very crucial component in promoting success. In fact, one of the key components that has been revealed in the implementation of management information system is the integration of competence systems. This study has been successful in defining competence at this level, which is about the proficiency of the respective company stakeholders such as employees in the utilization of the operations of an information system in the oil company..

To be precise, competence systems define how each user is expected to deliver in a competent environment, along with strategies for the growth of organizational and individual competency levels over time. Specifically, user competency acts as the building to the successful implementation of the targeted management information systems. In general, the competence component is aimed at defining the ability of the users to use information technology such as the management information system and come up with higher performance levels (Abdallah&Albadri 2011).

It is vital to note that there is a significant set of skills that the users of the management information system must possess in order to promote its successful implementation. The management information systems are solely focused on promoting the ability of the company to be highly competitive in the current speedy advancing oil industry. In this sense, the following set of skills stand out as the focal user competency skills necessary for the success of Libya's oil companies (Hallett 2002). These skills are as stipulated in the diagram below.

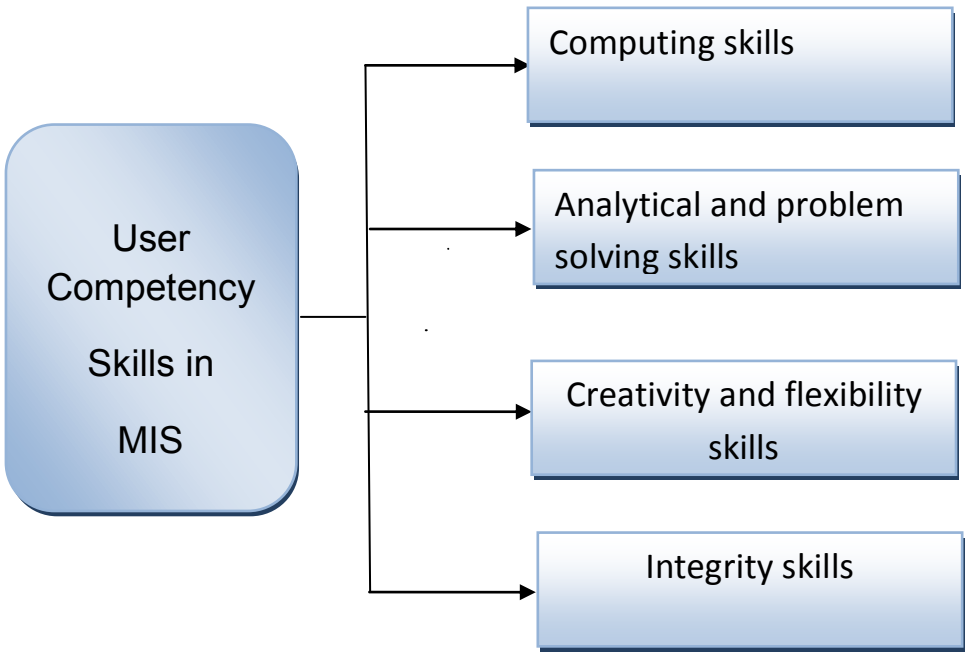

Figure.3: A model design ofUser Competency Skills in MIS. (Ehteshami& Wright 2011).

Computing Skills

Firstly, it is essential that the employees at Libya's oil company encompass

significant computing skills particularly on data entry, word processing, use of computer databases and computerized information processing. These skills are a fundamental need in the smooth use of the management information system, which is the key to ensuring that data processing at the companies takes place with a lot of accuracy, efficiency and effectiveness (Ehteshami& Wright 2011).

Analytical and problem solving skills

Secondly, the users have to posses analytical and problem solving skills, which will aid them in becoming more creative and innovative as they interact with the management information system. In fact, the availability of analytical and problem solving skills will play a significant role in ensuring that the users learn how to use the system at a fast rate thus aid in improving the productivity of Libya's oil company (Hallett 2002).

Creativity and flexibility skills

Creativity and flexibility are also highly important skills in the implementation of management information system. To be specific, creativity skills will play a significant role in promoting a user's ability to generate and apply new ideas and solutions. Additionally, flexibility is essential particularly in preparing the users to accept changes on the technicalities applied in the execution of their daily functions. Thus, users will have a well developed mental platform that fits in well in the new idea, which is crucial in coming with sound solutions that promote the success of the company.

It is clear right from the outset that lack of technological knowledge in most of Libya's Oil stakeholders is a crucial challenge to acceptance of new operational system such as the MIS. This is due to the fear of issues such as technology can be a threat to their respective job positions. In this sense, creating a group of flexible users will ensure that they can give their best in accepting change and promote the success of the new technology. Flexible users are easy to knowledgeable enough to accept changes that are aimed at promoting success of their companies (Ehteshami& Wright 2011).

Integrity skills

Lastly but certainly not the least, integrity is a key skill in the implementation of management information system at Libya's oil companies. Integrity focuses on the ability of a user to adhere to standards and procedures available in a particular system. That is every operational system has its predefined set of standards and procedures that act as the basis to successful implementation of the targeted functionalities. It is hereby

essential that this subject is put into close consideration particularly in enhancing user competency and promoting the success of Libya's Oil companies.

To be precise, there exists significant conceptual importance of having a workforce that has integrity skills. This is because, this workforce can easily adhere to the targeted data requirements of the MIS, which are crucial in ensuring that the system does not face challenges of users inputting the wrong data types. In this sense, having users that have the skill of integrity will ensure that they adhere to the data requirements for the MIS. This is very fundamental in promoting easy implementation of the targeted MIS in Libya's oil companies (Ehteshami& Wright 2011).

In general, this study figured out that user competency is clearly a crucial subject of concern in the enhancement of the productivity of Libya's oil companies. Successful promotion of user competency required major emphasis to be laid on the people, technology and the organization data. People initiate the execution of system functionalities, along with inputting the required data. Technology focuses on the implementation of predefined functional requirements based on the system data. The integration and processing of the company data on the basis of the predefined technologies acts as the building block to successful implementation of the manage ment information system. Essentially, the success of all this revolves around the subject of user competency thus making it crucial that company workers are equipped with the necessary skills for successful implementation of the targeted management information system (Hallett 2002).

Obstacles in the Implementation of Management Information System

There is a change that affects the organizations in Libya. This change is from the traditional (centralized approach) to a strategically organized approach where each department has a definition of all the services it is expected to deliver to the company. In the traditional (centralized) form of management, an oil company, there are no clear or distinct departments. This hinders progressive business continuity of Libya's Oil companies. However, the adoption of the approach of an MIS simplifies organizational management necessary in enhancing productivity of the Oil Company and promoting competitiveness in the global oil industry (Otman&Karlberg 2007).

Having a quality feedback criterion from the customers has also been found out as a fundamental aspect in ensuring that a company assesses its competitiveness in the oil industry and the global market at large. This study found out that lack of a clear feedback platform at most of Libya's oil companies has also been a hindrance in the advancement of their respective business operations (Turner 2005). Research further outlines that the implementation of the management information system will play a very important role in ensuring that the top management have a clear understanding of the progress of their respective oil companies.

Accepting positive change is a very essential aspect in ensuring that an oil company remains competitive in the current ever-advancing technological world. To be specific, organizational came out as a key finding in this research. On this basis, the implementation of the management information system in Libya's oil company can add immense value to the particularly through the adoption of changes in the execution of business processes (Hallett 2002). The MIS will aid in smooth defining of the company's departments, which is a fundamental need in ascertaining that there is no contradiction on the areas of operation for each company department. This research hereby found out that the MIS implementation has been a very important tool in promoting in Libya's Oil management companies (Ahmed & Meehan 2011).

Benefit of Management Information System to Libya's Oil Companies

Significant research in Libya's oil operations reveals that, in recent years, Libya has undergone drastic reduction in the levels of oil production. This has been influenced by the introduction of sanctions by international community. In addition, the rise of conflicts in the oil rich regions in the country has further deteriorated the interest of most foreign investors. To be specific, the ability to maintain a friendly environment for oil companies to return to Libya has been a subject of great concern. Furthermore, the need to have quality adoption of information technology in the day-to-day oil operations has also made it so important that the different stakeholders suffer from smooth management of the oil companies. The implementation of management information systems has made it easier to handle all these cases in that it provides a clear platform for each stakeholder to make sound decisions. Libya has had a number of concerns mainly over the oil prices and the future of oil production, which is a key component in the competitiveness of the country in the oil

industry (Speight 2011). This study has revealed that the above need has been factor in the implementation of management of information system in Libya's oil companies. The major goal is to enhance competition and meet the standards of most global oil companies in their daily operations.

The role of the management information system in the oil company has been identified as processing of accounting needs, controlling and executing daily operations and generation of time-based reports. In this sense, the management information system is always aimed at ensuring that the top management and employees of a company employ quality and efficient operations in the execution of their respective company duties. In fact, the MIS simplifies the ability of an oil company's human resource department to understand the value added by each staff member in the company productivity. The uniqueness of the management information system is brought about by the fact that it integrates major managerial functions into one coherent component. Specifically, the ability of the management information to examine and analyze the operations of different segments of an organization makes it a very crucial software in promoting successful business continuity of Libya's oil companies (Ehteshami& Wright 2011).

This study has further figured out that the management information system is a very important application in the smooth management of the operations of an oil company. Among the most common features integrated in the management information system are expert systems, executive information systems and decision support systems. Essentially, this provides a bird's eye view of all the key areas of operation of a company thus playing a huge role in promoting success of Libya's Oil companies (Speight 2011).

Upon a thorough analysis of the targeted operations of the management information system, this study has revealed a number of benefits that are fundamental in the success of Libya's Oil companies. These benefits include, the ability of the organization to maintain a qualified and effective mechanism for coordinating different departments of an Oil Company (Ehteshami& Wright 2011). It also provides a fast and reliable access to organization data. Additionally, the management information system eases the need for much labor in the daily operations of an Oil company. Furthermore, the system offers quality departmental and organizational techniques in the control of key services such as accounts, inventory and payroll. Through integration of the managerial information system with the internet, it further provides a better technique for maintaining contact with the rest of the world (Vandewalle 1998).

It is also important to acknowledge that this study has found out that management information system revolves around three main areas of concern. These areas include data confidentiality, integrity and availability. On data confidentiality, the system has clear sets of well-defined access privilege levels. These access privileges define the right people able to access and manipulate data in different segments of the oil company. This is a very important aspect in the success of Libya's oil companies since it aids in enhancing security in the company data. Most importantly, this protects an oil company's business data from any unauthorized access (Hitt, Ireland &Hoskisson 2013).

Data integrity in the management information system is another key aspect that makes the system a vital requirement for Libya's oil companies. It entails the ability of the system to ensure that the stored business content always supports atomicity. That is, data saved in the system maintains its current values until changed by an authorized accountable user of the management information system. This is also another very fundamental feature in the system as it promotes successful achievement of the profit-making goal of an oil company (Turner 2005).

About the feature of availability, this research indicates that it engrosses the ability of the system to maintain twenty-four-seven (24/7) processing of the targeted functionalities. Research indicates that most of Libya's oil company operations continue up to odd hours (Vandewalle 1998). That is, employees of Libya's most oil company have to operate in shifts (day and night). This is to maintain all time productivity in their respective areas of operations. In this sense, the ability of the system to maintain availability plays a huge role in ensuring that the company meets the goal of enhancing its business continuity.

Lastly but certainly not the least, another crucial finding in this research is that the implementation of the management information system will be of great importance in the planning of future productions and success of the set out business goals. Most importantly, the MIS aids in easy spotting of a company's strengths and weaknesses.This is influenced by the generation of high quality revenue reports and performance information for each of the company employees. In essence, this research stipulates that the MIS will be of great significance in maximizing the output levels of almost all of Libya's oil companies along with making them competitive in the current ever-advancing global oil market (Otman&Karlberg 2007).

IV. Conclusion

It is vital to note that improvisation of user competency is a very essential subject of concern in the promotion of business operations in Libya's Oil companies. As indicated right from the outset, high quality user competency in the companies can hugely be influenced by adoption of key innovations. To be specific, adoption

of management information systems in Libya's oil companies will be very fundamental in increasing user competency.

The implementation of the MIS is expected to provide a significant number of benefits to the user competency levels in the Oil Companies. These benefits include a highly skilled workforce, which is flexible and innovative enough to deliver services that will make Libya's Oil companies very competitive in the global industry. Most notably, the adoption of MIS will provide three key features on the companies' business operations. These are data confidentiality, integrity and availability, which are very crucial in enhancing the business operations and productivity of Libya's oil companies.

It is also important that a campaign strategy is implemented to encourage top Oil Company managers on the importance of adopting new technologies. Furthermore, government agencies should ensure that a peaceful work environment is guaranteed to aid in provision of the best room for implementation of the Management Information System.

In general, this report further outlines that, for the subject of user competency to be enhanced, it is important that Libya's Oil Company workers are empowered with a number of key skills. These include computing skills, which will be very essential promoting easy adoption of the targeted MIS in those companies. Computing skills include use of computer databases, data processing, spreadsheets and presentations. Analytical and problem solving are also vital to be empowered on those employees since they will become innovative enough to work smoothly with MIS. Thirdly, creativity and flexibility skills will prepare them to be the best agents of change thus playing a huge role in implementing the system. Lastly, integrity skills will be another important set of necessary skills for smooth adherence to the system standards and procedures.

In essence, computing, creativity and flexibility, analytical and problem solving and integrity skills will actually lay foundation to enhancing user competency and specifically promote smooth adoption of the targeted Management Information System. Thus, it is essential to conclude that the content of this study will play a very important in providing a positive impact to the user competency in Libya's Oil Companies.

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