

The Effect of Knowledge Management on Organizational Performance through Total Quality Management

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Abstract- The transition from an industrial society into a knowledge society makes effective benefits of knowledge and learning as vital elements of competitiveness. KM is a process through which an organization generates value of its knowledge-based assets. Organizations that want to be successful and gain sustainable competitive advantage need to focus more on permanent increase of value with the knowledge they possess. KM concept is one of fundamental ways to translate challenges and dangers of a modern, unpredictable business environment into an opportunity for successful performance and a cornerstone of competitive advantage. Necessity for effective use of KM in organizations is today's reality. Knowledge and continuous learning are key elements of the infrastructure of TQM system and plays a significant role in its success, but in spite of their importance for the implementation of TQ initiatives they are not well regarded by top managers and quality practitioners in modern businesses. Many executives do not understand the concept of knowledge, what is meant by KM? What are the components (practices) of a KM system? , and how the adoption TQM concepts and principles enable the creation and usage of knowledge within the organizations in an efficient and effective manner. The objective of this study is, therefore, to investigate whether TQM really is a knowledge enabler in practice, to determine the components of KM system, and to develop a theoretical framework that links the components of KM system with a key performance indicators. A list of eight main Hypotheses and 30 sub-hypothesis was developed. Further, the scope for a future study is to validate the developed conceptual model through testing the proposed list of hypotheses by collecting primary data from 75 small and medium organizations in Jeddah city (Saudi), using SPSS approach for hypotheses testing.

Index Terms- Total quality management (TQM), Knowledge Management, Top Management Commitment, Knowledge Culture, Communication, Information Gathering and Analysis, Training and Education, Benchmarking

1- INTRODUCTION

KM is a process that through creating, accumulating, organizing and utilizing knowledge helps achieve objectives and enhance organizational performance. KM also consists of strategy, cultural values and workflow. In order to maximize its value a change in strategies, processes, organizational structures and technologies needs to be made.

One of the key benefits of introducing KM practices in organizations is its positive impact on organizational performance. The research conducted in Croatia suggests that KM positively affects organizational outcomes of company innovation, product improvement and employee improvement.

According to (Fugate et al. 2009), results collected in a logistics operations context prove the existence of a strong positive relationship between a KM processes and operational and organizational performance. Also (Choi et al. 2008) show that combining the tacit-internal-oriented and explicit-external-oriented KM strategies indicates a complementary relationship, which implies synergistic effects of KM strategies on performance.

The results of the study conducted by (Zheng et al. 2009) suggest that KM fully mediates the impact of organizational culture on organizational effectiveness, and partially mediates the impact of organizational structure and strategy on organizational effectiveness.

Knowledge enablers are organizational mechanisms that facilitate both the random occurrence and the systematic development of knowledge within an organization. Five such knowledge enablers have been identified in the literature:

- Instilling a knowledge vision;
- Developing and managing an “organizational conversation”;
- Creating the right context by developing an organizational structure that facilitates knowledge creation;
- Managing caring relationships; and
- Disseminating local knowledge across several organizational levels.

Such enablers are especially significant in facilitating knowledge sharing and interaction among members of the organization, thereby transforming individual knowledge into organizational knowledge. In the view of knowledge creation requires an enabling context. Several authors have adopted such a knowledge-based view of total quality management (TQM) and its potential to facilitate knowledge creation and sharing. In this regard, it has been noted that the implementation of quality systems is inherently linked to organizational learning (Mele and Colurcio 2006).

Finally results of numerous researches show that KM effect organizational performance in a positive manner, but this relationship is very difficult to prove. The researchers

often imply this positive effect of knowledge management on organizational performance. However, the researches that empirically prove the existing link are very rare.

2- Literature review

2-1 Knowledge Management (KM)

Knowledge Management (KM) is widely regarded as the way an organization can leverage the tacit and explicit knowledge of its employees, trading partners, and outside experts for the benefit of the organization. KM is about the collection of knowledge and connection of people. KM is also about the process of creation, sharing and use of knowledge within the organization. The foundation of KM is based on these processes; knowledge acquisition, knowledge conversion and knowledge application. Varieties of KM frameworks have been proposed and all of these KM frameworks are based on these three components. The success of the KM initiatives is dependent on the presence and interaction of all three components:

- Knowledge acquisition: deals with the processes of creating, generating, developing, building and constructing knowledge internally. These terms refer to the process of deriving new and useful insights and ideas.
- Knowledge conversion: is the process that deals with organizing and applying knowledge that has been created or acquired in ways that make it formalized and accessible.
- Knowledge application: refers to the processes of sharing, transferring, disseminating and distributing knowledge once it has been organized and stored. Knowledge that is kept solely in an individual's domain is of little value to an organization. Applying and sharing knowledge means making it "more active and relevant for the organization in creating values".

An organization needs to generate new knowledge on a continuous basis, facilitate its sharing within the organization and apply knowledge to gain competitive advantage. Knowledge management processes assist an organization in acquiring, storing, and utilizing knowledge to support problem solving, dynamic learning, strategic planning, and decision-making. Academics and practitioners are recognizing that knowledge management processes are becoming prerequisites for success in organizations.

2-2 Knowledge Management Concepts and definitions

Knowledge management is the process of capturing a company's collective expertise wherever it resides, in databases, on paper, or in people's heads, and distributing it to wherever it can help produce the biggest payoff. Knowledge management is a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance.

Knowledge management is a complex process that must be supported by a strong foundation of enablers. The

enablers for KM are strategy and leadership, culture, measurement, and technology. Each of these must be designed and managed in alignment with the other and in support of the process. The process usually involves several of the following stages or sub processes in the use of knowledge: create, identify, collect, organize, share, adapt, and use.

Knowledge management represents adoption of collective knowledge in order to achieve Company's business goals. In brief, knowledge management is a systematic effort to enable Information and knowledge to grow, flow and create value (O'Dell & Hubert, 2011) and has a role to ensure that people have right knowledge at the right place at the right time.

The widest approach towards this concept is that the knowledge management is unity of three Components: people, processes and technology. Knowledge management (KM) also passes through the stages: knowledge creation, knowledge capture, and knowledge storing, sharing of Knowledge with the other people and knowledge application, and forming on that way its own life Cycle.

Knowledge management concept presents "the ability to acquire necessary information in short term, which will provide that everyone can bring the best decision about conditions on the market, product, service, planning activities of the competition or any other actions which are important for the company's success. In summary, knowledge management is process through which organization generates values of its intellectual assets based on knowledge (Santous et al, 2012).

Daud et al. define KM in the following way: KM addresses policies, strategies, and techniques aimed at supporting an organization's competitiveness by optimizing the conditions needed for efficiency improvement, innovation, and collaboration among employees."", he also states that „it is the organized and systematic process of generating and disseminating information, and selecting, distilling, and deploying explicit and tacit knowledge to create unique value that can be used to achieve a competitive advantage in the marketplace by an organization""(Daud et al., 2011).

Chan et al. says "it is a conscious strategy of getting the right knowledge to the right people at the right time by putting information into action that strives to improve performance" (Chan et al., 2007). In order to maintain the effectiveness of the knowledge management process (KMP), being just in time is a key and a very important element and consequently it was frequently referred and emphasized in KM studies within the framework of four aspects: (right) knowledge, (right) time, (right) place and (right) person (Afrazeh, 2010).

The concept of Knowledge Management (KM) has attracted the attention of researchers over the last decade since it is considered an important tool to achieve innovation and sustainable competitive advantages (Cooper, 2006).

Nonaka, Konno (1998) noted that in highly uncertain economies the only sure source of lasting competitive advantage is knowledge (Nonaka, Konno, 1998). Several

studies found that firms that adopt knowledge management practices perform better than competing firms that do not (Pathirage et al., 2007).

Knowledge management practices have been implemented in a wide range of industries including manufacturing, consulting, tourism, and call centers (Koh et al., 2005).

Knowledge management has become such a hot topic that it has been dubbed the business mantra of the 1990s (Halal, 1998). Knowledge management represents a logical progression beyond information management, information technologies, at long last, have demonstrated a notable impact on organizational performance. Many believe that the next generation of information technology/artificial intelligence (IT/AI) products will increasingly enable knowledge management, in contrast to information management, and, as such, will have a far bigger impact on organizational performance (Sveiby 1997).

Knowledge management can also be seen as representing a culmination and integration of many earlier organization development ideas (e.g., total quality, reengineering, organizational learning, benchmarking, competitive intelligence, innovation, organizational agility, asset management, supply chain management, change management, etc.). It encapsulates these concepts into a larger, more holistic perspective that focuses on effectively creating and applying knowledge (Amidon 1998).

Finally Knowledge Management may be viewed in terms of:

- People - how do you increase the ability of an individual in the organization to influence others with their knowledge
- Processes - Its approach varies from organization to organization. There is no limit on the number of processes
- Technology - It needs to be chosen only after all the requirements of a knowledge management initiative have been established.
- Culture -The biggest enabler of successful knowledge-driven organizations is the establishment of a knowledge-focused culture
- Structure - the business processes and organizational structures that facilitate knowledge sharing
- Technology - a crucial enabler rather than the solution.

2-3 Dimensions of Knowledge Management

2-3-1 Top Management Commitment

The bottom line is that knowledge management is also a strategy, not just a tactic, and it is a set of business practices, not merely a technology. There is no question that strong, active support from upper management is crucial to the success of a knowledge management deployment, particularly in the beginning. More deployments fail due to the lack of management commitment than for any other cause.

Organizational and managerial issues in KM include devising managerial processes for capturing and distributing knowledge. In addition, these processes need to be improved continuously to become more effective and efficient. KM systems must be included in an organization's structure. However, such a structure (as in TQM) must be flexible and adaptive. "It is important that organizational structures are designed for flexibility (as opposed to rigidity) so that they encourage sharing and collaboration across boundaries within the organization and across the supply chain" (Gold, et al. 2001).

Management support and commitment for KMS use in an organization can be seen in the amount of funds that are allocated for the systems' resources, training, and infrastructure to support KM initiatives. Management's commitment to KMS use, on the other hand, can be demonstrated by having managers lead and support the system-use, and not just by promoting the system itself. The management support and commitment factor has been found to directly influence the extent of KMS use (Aurum et al., 2007; Butler et al., 2007).

In addition to contributing to the extent of KMS use in an organization, management's support and commitment is also recognized as an important factor in determining the successful promotion of a knowledge sharing culture within an organization. Exploratory study of the mechanisms for KMS effectiveness, describe how an employee's perception of management's commitment can influence the knowledge sharing culture.

Numerous KM practitioners have also attested to this argument by suggesting that management were the ones responsible for driving the required cultural and systems changes to increase KMS usage (Subramaniam et al., 2009). Further, management support and commitment was also reported as a factor influencing the level of knowledge content quality. It was indicated that the commitment exhibited by senior leadership affects the quality of shared knowledge, by way of spearheading the task of developing an organizational wide taxonomy of knowledge that can be fed into a KMS. In other words, management support and commitment determine the organizational strategies of defining and classifying knowledge.

2-3-2 Knowledge Culture

Cultural issues are quite significant in KM and they directly impact KM success or failure. In fact they are the first barrier to success. As in TQM, in KM initiatives people tend to avoid or fight change and they prefer "the old way of doing things" in the company. With KM, there will be a new way of decision making in the organization and people have to share knowledge and "Know-how". Knowledge being often associated with "power", promoting knowledge sharing is not an easy task particularly if employees don't see how they can directly benefit from it. Knowledge transfer can also take place among various organizations. Leadership then becomes critical and managing through a knowledge lens should become a priority.

The cultural factors such as collaboration and trust are basic operation for managing knowledge effectively in a firm. Shaping cultural factors is crucial for a firm's ability to manage its knowledge effectively. The basic assumption was that there was statistically significant difference in perception of KM for two groups of respondents for at least one KM process namely KM culture.

There are four dimensions of knowledge management culture including:

- Knowledge creating,
- Knowledge learning,
- Knowledge sharing, and
- Knowledge cooperating,

One of the most important factors for effective project organization is to provide a "knowledge-friendly" culture and is also the most difficult constraint to deal with. In order to successfully implement knowledge management (KM), the most important thing for companies is to nurture the culture associated with creating, sharing, and utilizing critical knowledge. Culture is perhaps the most difficult constraint that knowledge managers must deal with, and it has several relevant components (Arsenijevi et al., 2009).

- **First:** one is the positive attitude and orientation to knowledge, in these aspects employees are self-motivated, curious about getting intellect and explore knowledge creation activities. In continuation with this the executives encourage these actions and provide some incentives to them to carry on this approach.
- **Second:** is the knowledge restrain in the culture, people are not willing to share their jobs knowledge and also indignant towards the company. They do so because executives do not provide such knowledge culture and make them feel about the consequences that will cost them their jobs.
- **Third:** component in making a fit of the knowledge management type with the existing culture. So far theory in this study is concentrated on existing knowledge, its transfer and its management part.

Now theory step further into the creation of new knowledge. Knowledge creation is a process through which the organization amplifies the individual knowledge and crystallizes it to form new knowledge. There are four modes in which organizational knowledge is created through the interaction and conversation between explicit and tacit knowledge:

- **Socialization (Tacit-to-tacit):** means sharing experience creates implicit knowledge such as shared mental models and technical skills. Socialization works to indoctrinate everyone into the "way we do things around here".
- **Externalization (Tacit to explicit):** triggered by dialogue, implicit knowledge becomes explicit during a period of collective reflection through sharing of analogies, stories and models. These exchanges become carriers of knowledge, carriers that can transfer general principles.

- **Combination (Explicit to explicit):** is the process of combining or reconfiguring disparate bodies of explicit knowledge that leads to the generation of new explicit knowledge. This is a common type of knowledge transfer that typifies learning in schools and instructional programs. In organization, members combine their explicit knowledge by sharing reports, memos and other such documents. Businesses also use data warehousing and data-mining techniques to discover trends in the seemingly disparate data.
- **Internalization (Explicit to tacit):** is the process of actual learning by repetitively doing a task so that the explicit knowledge of applied principles and procedures becomes absorbed as implicit knowledge of the individual's style and habit.

2-3-3 Information Communication

Knowledge transfer refers to transmitting knowledge from the place where it is stored to the situation where it is used, and vice versa. The concept itself is quite simple; the practical application is harder to manage. There are three types of transferrable: between individuals; between individuals and storage media; and, between different knowledge storage medium. The second type refers to both cases when individuals acquire knowledge from a storage media, and when individual's stores knowledge in a storage media.

Communication refers to information sharing process between individual/employees of the organization. Managers and practitioners use effective communication to enlist the support of other employees towards achieving organization's objectives. Several studies noted that effective communication influence the organization to move systematically towards employees' involvement and customer satisfaction and improve organization performance (Ooi et al., 2007).

2-3-4 Education and Training

Knowledge management can be built and integrated into the structures and processes of Educational institutions to improve their performances. Knowledge management can benefit Educational institutions in at least five areas: research, curriculum development, student and Alumni services, administration, strategic planning, and traditional classroom enhancement.

Kidwell argued that knowledge Management has several application areas in the curriculum development process. They are Curriculum design and revision efforts, knowledge of teaching and learning (with technology), Pedagogy and assessment techniques, student evaluations, etc. (Kidwell et al., 2000). Some of the benefits identified are to enhance the quality of curriculum, improve responsiveness to student evaluations, Leverage the best practices, improve teaching and learning, and monitor outcomes.

Furthermore, Petrides and Nodine stated several implementation areas where knowledge management practices are useful in educational institutions. One of the

areas is enabling educators to create and represent quality knowledge for students to advance and improve their learning (Petrides and Nodine, 2003).

Training refers to the acquisition of specific skills or knowledge. Training programs attempt to teach employees how to perform particular activities or a specific job. Education, on the other hand, is much more general, and attempts to provide employees with general knowledge that can be applied in many different settings. The development of a sound education and training program requires systematically gathering data about the employees' or the firm's needs. A good assessment includes an analysis of: How well the firm is achieving its goals; the skills needed by the workforce to accomplish these goals; and the strengths and weaknesses of the current workforce. A careful analysis of these items provides valuable information to design effective training activities. Investment in education and training is vitally important for ensuring the success of education and training programs.

Training is the second most commonly used TQM implementation practice in the United States. Firms that implement TQM invest heavily in training for employees at different levels and the importance of properly training workers in performing their work. Otherwise, it is difficult to improve their work.

2-3-5 Data collection and analysis

There are many methods of data collection usually used in case research studies. Data from two or more sources will help to support the research answers, the ways to find sources of data that work suitably for case research.

- Documentation
- Archival records
- Interviews
- Direct observation
- Physical artifacts

The goal of data collection is to gain rich data that suit for the research. Collected specific data depends on the research questions and the part of analysis. Myers and Avison suggest that the researchers should plan what data they will collect. For Example, they should list resources to be gathered such as documentation or they plan for questions to interview. These plans will help researchers when they have to work with other researchers. The goals of this stage are to ensure that researchers can collect data that they want and spend time appropriately Myers and Avison (2003).

That the main parts of data analysis are important to the outcomes of case research. The richness of data of the research should be presented. The reasoning of researchers should be clearly stated and defended in establishing hypotheses. The research should begin from purposes and questions, to assumptions and design choices, then to specific data discovered, and to results and conclusions. These stages make readers can follow easily.

2-3-6 Competitive Benchmarking

Benchmarking include measurement, comparison, and identification of best practices, implementation and improvement. One of the most commonly definitions is "Benchmarking is the search for the best industry practices which will lead to exceptional performance through the implementation of these best practices".

There are plenty of definitions available in the literature which were proposed to express various stages in the evolution of benchmarking and based on these definitions they have concluded that benchmarking passed four important stages of evolution. During the evolution of benchmarking, some of noted definitions were given by International Benchmarking Clearing House Design Committee, American Productivity and Quality Centre, to name a few.

A latest definition of benchmarking states that "It is the process of identifying, understanding, and adapting outstanding practices from organizations anywhere in the world to help an organization improve its performance. It is an activity that looks outward to find best practice and high performance and then measures actual business operations against those goals (Kumar, et al., 2006).

2-4 Relation between KM and Organizational Performance

The accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. In a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract.

Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). Or can be defined as results of activities of an organization or investment over a given period of time.

According to Richard et al organizational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.) (Richard et al. 2009). Also, Organizational Performance has been defined as the ability of an organization to fulfill its mission through sound management, strong governance and a persistent rededication to achieving results. Effective nonprofits are mission-driven, adaptable, customer-focused, entrepreneurial, outcomes oriented and sustainable.

When assessing the relationship between knowledge management and organizational performance, it is important to know that the results depend on the used research methodology. Organizational performance alone could be gauged in many different ways, with financial or non-financial indicators. There are several approaches to organizational performance measurement which include different stakeholders' perspectives.

The Balanced Scorecard (BSC) is a performance management tool for measuring whether small-scale

operational activities of a company are aligned with its large-scale objectives in terms of vision and strategy and includes four perspectives: financial, customer, internal process and innovation and learning perspective. The financial perspective examines if company's implementation and execution of its strategy contributes to bottom-line improvement. Some of the commonly used financial measures are economic value added, revenue growth, costs, profit margins, cash flow, net operating income etc. The customer perspective defines the value proposition that an organization will apply to satisfy customers and generate more sales to the most desired customer groups.

The measures should cover both the value that is delivered to the customer which may involve time, quality, performance and service, and the outcomes that arise as a result of this value proposition, such as customer satisfaction and market share. The internal process perspective focuses on all the activities and key processes required in order for the company to excel at providing the value expected by the customers. The clusters for the internal process perspective are operations management (by improving asset utilization, supply chain management), customer management (by expanding and deepening relations), innovation (by new products and services) and regulatory & social (by establishing good relations with external stakeholders). The innovation and learning perspective focuses on the intangible assets of an organization, mainly on the internal skills and capabilities that are required to support the value-creating internal processes.

2-4-1 Knowledge Management and Employees Satisfaction

It is more likely that employees who learn new knowledge and skills will become more adaptable and responsive to changes in the business environment. Therefore, the stress that is caused by internal or external changes of business conditions which require new skills and knowledge become less likely to occur. Thus, employees will do their job more competently and completely as they successfully transition from their previous rigid skill and mindset to the new model that emphasizes continuous adaptability.

However, Kameda and Nakanishi challenge the wisdom that states "social/cultural learning increase human adaptability through uncertainty reduction". By using various simulation steps, their results indicate that at some point the agent has to switch between costly individual learning by trial and error and free riding or copying other individual behavior (Kameda and Nakanishi, 2003). We argue that employees' confidence and self-efficacy are more likely to be enhanced and increased by increasing knowledge and skills acquisition. Thus, their market value will also be increased within this environment as compared to those organizations with non-knowledge sharing. In this case, employees who are willing to learn or acquire new knowledge have gained the ability to solve semi-structured and unstructured business problems. In

turn, employees stay up to date with the latest knowledge and skills that enable them to deal with the continual environmental changes.

Prior research has indicated that when employees are highly satisfied with their job, they are more creative, innovative, and willing to do their job effectively. Whereas, when employees are unsatisfied with their job, their moral and willingness to implement required tasks is very low. Although the current research benefits from prior studies in all its stages, these studies do not make a clear link between knowledge sharing practices and its implications, such as employees' adaptability, employees' learning commitments, and employees' job satisfaction. In addition, the current literature ignores the importance of knowledge sharing in enhancing an employee's continuance learning and adaptability but rather focuses on contextual factors that impact knowledge sharing or facilitating individual knowledge sharing.

Therefore, it is logical to deduce that if a continuous learning process has been established, employee adaptability would be guaranteed, and improved employee job satisfaction would be also ensured. From the above discussions, it seems that understanding the relationships between organizational knowledge sharing practices, employees' adaptability, employees' learning behaviors, and employees' job satisfaction is still in its infancy.

Therefore, more theoretical and empirical explanations are needed. In fact, it is plausible to assume that organizational knowledge sharing to be considered as a catalyst of a dynamic employees' adaptability, and employees' learning commitments which in turns, increase over all employees' job satisfaction especially under accelerated technological developments and environmental changes, but this logic obviously lack of empirical root. This research tries to fill this void in the literature and make significant contributions to the prior theories of knowledge sharing.

2-4-2 Knowledge Management and Product Quality

The successful implementation of a KM system initially requires a knowledge audit to understand and map out individual staff competencies, process flow, information technology and explicit knowledge content within the organization (Levy et al., 2010).

Several authors have adopted such a knowledge-based view of total quality management (TQM) and its potential to facilitate knowledge creation and sharing. In this regard, it has been noted that the implementation of quality systems is inherently linked to organizational learning.

The adoption of quality principles and methodologies throughout an organization is recognized as a necessary pre-condition for the development of a modern and successful enterprise; similarly, it is acknowledged that a primary source of competitive advantage is constituted by a continuous process of knowledge creation.

TQM would thus seem to have the potential to satisfy some fundamental organizational needs by facilitating the attainment of advanced levels of knowledge

that exceed actual operational needs and that can be translated into continuous improvement processes and innovative solutions.

Despite the apparent affinity that exists between TQM and enhanced organizational knowledge, empirical studies of the link between quality systems and knowledge creation are scanty.

2-4-3 Knowledge Management and Customer Satisfaction

According to the definition of CRM presented in the introduction, obtaining customer related knowledge is specified as the means to attain CRM objectives. Knowledge has been recognized as one of the main assets of organizations. KM, in particular, has been defined as the process of capturing the collective expertise and intelligence in an organization and using them to foster innovation through continued organizational learning.

Since a major part of that expertise and intelligence refers to customers, it is concluded that CRM is strongly related to KM and especially to customer KM. According to Romano and Fjermestad companies should explore and refine CRM knowledge management methods in order to get value-added knowledge for themselves and their customers and understanding not only customer purchasing patterns and trends but attitudes and preferences as well. Customer related knowledge and level of customer service (Romano and Fjermestad, 2000).

Customer satisfaction is an important topic for both researchers and managers, because a high level of customer satisfaction leads to an increase in repeat patronage among current customers and aids customer recruitment by enhancing an organizations market reputation. Being able to successfully judge customers' satisfaction levels and to apply that knowledge are critical starting points to establishing and maintaining long term customer retention and long term competitiveness.

Customer satisfaction brings many benefits. Satisfaction increases customer retention and customer retention is dependent on the substance of the relationship between parties which is also affected by the service delivered. Satisfaction is an "overall customer attitude towards a service provider", or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some need, goal or desire.

For most products or services, aspects of performance can be objectively assessed. Although these attributes can be objectively measured, customers' assessments may not objectively reflect measured performance. Some clients may be taken to several homes that "fit" their criteria but are unsuitable to the clients' personal taste which leads to the client's assessment of the service as being unpleasant because they did not see listings that they liked.

Developed a model to categorize the attributes of a product or service based on how well they are able to satisfy customer needs. Considering Kano's model, one sees how it may not be enough to merely satisfy customers by meeting only their basic and performance needs. In a highly

competitive marketplace, organizations need to adopt strategies and to create product attributes targeted specifically at exciting customers and over-satisfying those. In real estate to excite or over satisfy customers, an agent would need to have a thorough and vast knowledge of all listings in the local area. In essence, it is the experience and attitudes of the individuals in closest contact with customers that are most likely to affect whether or not customers are satisfied and willing to return to the company.

It is also the people in direct contact with customers who determine who the retained and satisfied customers are and their experience determines how they treat the customers (Hansemark and Albinsson, 2004) thus impacting on the service quality delivered.

2-4-4 Knowledge Management and Strategic Business Performance

McAdem emphasize innovation and competitive advantage as important factor. It is well recognized that effective knowledge management leads to improvements in business performance. Knowledge management has therefore assumed a great sense of importance and urgency as firms come to recognize the potential for competitive advantage that the firms' knowledge assets possess. Despite the value that knowledge management projects are expected to accrue to businesses, as many as 84% of knowledge management projects do not have a significant effect on the organizations that invest in these initiatives. Even if the projects are well-resourced and appear to have the support of top management, the researchers suggest that many are still predisposed to failure (McAdem, 2004).

Notwithstanding these negative prospects, executives still believe that knowledge management systems are a key source of competitive advantage and business success. The researchers also argue that additional improvements in firm performance can be attained by linking knowledge management initiatives to the firm's business strategy. Indeed, argues that knowledge programs are unlikely to succeed unless they are closely linked to the business strategy. Thus, it can be argued that business strategy is not only a key factor impacting firm performance; it is also indispensable when it comes to maximizing the return on technology investments.

Although researchers have discussed the importance of linking business strategy to knowledge management (Clarke, 2001), there has been little research examining the link between business strategy and knowledge management. For example, while many studies have shown that knowledge management capabilities significantly impact firm performance the role of business strategy vis-à-vis a firm's knowledge management capabilities has not been evaluated.

Drawing on prior research that suggests knowledge management should be linked to business strategy (Clarke, 2001) and that knowledge infrastructure capability and knowledge process capability are additive and collectively determine the knowledge management construct, this study examines the role of business strategy as this relates

to knowledge management and organizational effectiveness.

More specifically, this study addresses a gap in the literature by investigating a modified version of the Gold model of knowledge management capabilities, that incorporates business strategy as an antecedent of knowledge management capabilities and organizational effectiveness

2-5 Relation between KM's Dimensions and Organizational Performance Indicators

2-5-1 Top Management and Employee Satisfaction

Effective leadership and employee job satisfaction are two factors that have been regarded as fundamental for organizational success. A capable leader provides direction for the organization and lead followers towards achieving desired goals. In similar vein, employees with high job satisfaction are likely to exert more effort in their assigned tasks and pursue organizational interests.

An organization that fosters high employee job satisfaction is also more capable of retaining and attracting employees with the skills that it needs. Several studies have also examined the relationship between the two factors and concurred that leadership has significant impacts on job satisfaction and organizational commitment. High job satisfaction enhances employees' psychological and physical well-being and positively affects employee performance. According to Mosadegh Rad and Yarmohammadian, employee job satisfaction refers to the attitude of employees towards their jobs and the organization which employs them.

The researchers pointed out that job satisfaction is influenced by many organizational contextual factors, ranging from salaries, job autonomy, job security, workplace flexibility, to leadership. In particular, leaders within organizations can adopt appropriate leadership styles to affect employee job satisfaction, commitment and productivity.

Previous studies have examined the relationship between employee job satisfaction and leadership behavior in various settings such as healthcare, military, education and business organizations. These studies generally indicate that employee job satisfaction in the public sector is just as important as it is in the private sector (Mosadegh and Yarmohammadian, 2006).

2-5-2 Top Management and Strategic Business Performance

Strategic management is a disciplined approach utilizing the principles and process of management to identify the corporate objective or mission of any business. It determines an appropriate target to satisfy the objective, recognize existing opportunities and constraints in the environment, and device a rational practical way by which objective can be achieved.

Strategic management is both the process and philosophy for determining and controlling the organizational relationship in its dynamic environment. As

a process, it attempts to define approaches and techniques to assist management adapt to the dynamic of today, through the use of objectives and strategies.

Strategic management endeavors to achieve effective and efficient programs to accomplish the organization's mission. As a philosophy, it changes how manager looks at competitors, customers, markets and even the organization itself. Its objective is to stimulate management's awareness of the strategic implication of environmental events and internal decision.

Lawrence and William defined strategic management as a stream of decisions and actions, which leads to the development of an effective strategy or strategies to help achieve corporate objectives. The strategic management process is the way in which strategists determine objectives and make strategic decisions. Strategic management's main focus is the achievement of organizational goals taking into consideration the internal and external environmental factors (Lawrence and William 1988).

Porter argues that the essence of formulating comprehensive strategy is relating a company to its environment. Strategic management permits the systematic management of change. It enables organization to purposefully mobilize resources towards a desired future (Porter, 1985).

2-5-3 Training and Employee Satisfaction

Organizations are maintaining their business in a severe competitive environment. In today's business the internal and external environment is continuously changing due to so many factors. Therefore, every organization has to change its internal environment according to external environmental changes. To perform well in such a turbulent environment competitively, they need resources such as capital, methodology, material, machines, men and management information systems. These resources should be used in a very effective way to achieve strategic objectives.

Among these factors, human resource is the most vital factor behind an organization's development. Even though there are many resources in an organization, the human resource is the most important resource any organization cannot survive without human resource. In every organization, human resources are concerned as the most innovative, creative, significant resources. According to Ricky point of view, he mentioned, "Without people any organization cannot function in this competitive environment". Therefore the most crucial and valuable asset of an organization is the human resource. Today every organization's top priority is to manage the human resources.

The level of the productivity and the efficiency of employees should be increased to take maximum output. Many strategies have been implementing to develop productivity of employees, such as job and organization design, job responsibility, public relation, staffing, motivation, reward, training and development. Among these factors, training and development is the most

significant factor to obtain maximum output of human resources.

The training and development can be used to improve or develop the job related performances such as knowledge, skills and attitudes of the employees. As far as today is concerned, we are living in a knowledge era. Learning is most intrinsic desire of an individual. Therefore everyone needs to develop or update his knowledge, skills, and attitudes to develop his carrier path. In an organization, people work together to achieve their vision, mission and objectives, therefore the most significant factor of organization development is the development of human resources. As we know learning is the most intrinsic desire of people (Ricky, 2007).

2-5-4 Knowledge Culture and Employee Satisfaction

There is a direct link between the organizational culture, employee satisfaction and between customer satisfaction and improved financial performance. Organization culture represents the internal work environment created for operating an organization. It represents how employees are treated by their bosses, how peers treat one another (expected treatment), with which vision and motivation an organization is working internally.

Organization can have democratic culture, bureaucratic culture, esthetical (holistic) culture, learning culture (learning organizations). A learning organization always encourages new approaches in operating organization (with creative/new ideas). Such organization may call employs' inspired participation in using new ideas provided by employs as well as management.

Organizational culture is a significant driver of employee engagement and includes management designing jobs well, providing support and setting goals for employees. Employee satisfaction is a key attribute of the engaged employee who embodies a high degree of motivation and sense of inspiration, personal involvement and supportiveness.

Organizations bring people together. In order to work at their best, people need to be satisfied. The engaged employee is oriented to providing good service and answering customer questions, which gives the customer a voice inside the company. And a customer whose voice is heard inside the company drives profit by being a repeat customer and bringing in new customers by word of mouth, which has a high degree of credibility. The given in all this is that a company must start with a solid product.

Organizations use incentives to attract and maintain employees. According to Rogers one of the most crucial factors in organization design is the type of incentives offered to induce contributions. It is imperative that an organization has the ability to inspire individuals to make significant contributions of time, effort and resources. In addition, the organization must inspire an individual's loyalty to the organization rather in order not to lose the employee in the favor of a competitor (Rogers, 1995).

2-5-5 Corporate Benchmarking and Product Quality

The benchmarking define by Brah as the continuous, systematic process for evaluating the products, service and work processes with those recognized as representing the best practices, for the purpose of organizational improvement. It involves systematic effort to learn and incorporate product and process innovations that have proven successful (Brah, 2000).

Also a Goncharuk clarify the Benchmarking as the best tools that allow defining the opportunities of improvement, key success factors and ways of increase of efficiency of the company (Goncharuk, 2009).

Meybodi stated that in a global market, knowing how the best organizations conduct their business is a critical element of successful competition. Benchmarking is a valuable tool that provides an opportunity to learn from other organizations. It is an effective means for learning and change because it exposes employees to new approaches, systems, and procedures.

However, it has become essential that the organizations and companies are seeking any opportunities to improve the efficiency and effectiveness of their business performance and to improve their quality, reliability, benchmarking and overall performance (Meybodi, 2009).

Brah and Chong examine the relationship between total productive maintenance and performance. He is conclude a positive correlation between TPM and business performance shown by all the six general constructs of corporate planning, top management leadership, human resource focus, process focus, total quality management focus and information system focus (Brah and Chong, 2004).

2-5-6 Information Communication and Product Quality

Service/product organizations have recognized this important component of customer relationships and have installed processes (knowledge management processes) to manage the interaction.

Mylonakis notes the importance of an information and communication technology system that is well integrated with KM and relationship management principles to maximize the benefits of a CRM process which will lead to a positive impact on product quality (Mylonakis, 2009).

2-5-7 Information Gathering & Analysis & Customer Satisfaction

Data gathered from customer satisfaction studies can provide valuable and accurate information that can assist in evaluation of service components and delivery. Products/services can be altered to become more effective, and business practices can be altered to meet the standards of excellence within a certain business.

In essence this is the comparison of a particular item against a standard predetermined by the customer. Those scores above the standard are positive, while those below are in need of improvement. This enables more thoughtful and considered prioritization of any possible plans of action. The message is clear: customer satisfaction is

essential for the success – and continued success of any business. Not only does positive customer satisfaction help business, but also a lack of satisfaction takes an even bigger toll on the bottom line.

For an organization to remain solvent, information regarding customer satisfaction must be adequately collected and analyzed.

2-6 Relations between Organizational Performance Indicators

2-6-1 Relation between Employee Satisfaction and Product Quality

Research has been conducted on the relationships among employee satisfaction, product quality, customer satisfaction, and strategic business performance (annual sales, sales growth, profits, market share, and exports). (Saha, 1989) argued that Japanese employees possess superior motivation compared to their counterparts elsewhere in the industrialized world, with greater dedication and commitment to their work.

These characteristics will absolutely contribute to product quality. It is more likely that satisfied employees will have higher dedication and commitment. It has been stated that, for the quality of any firm's products to improve, it must require, motivate, and reward change on the part of all parties concerned (Juran and Gryna, 1993). (Anderson et al., 1995) suggested that employee satisfaction has a significant effect on customer satisfaction; it is the foundation for a firm in pursuing customer satisfaction. (Feigenbaum, 1991) suggested that employee motivation affects product quality. Further, it is needed to support customer satisfaction (Dean and Bowen, 1994).

According to (George, 1992), understanding what is important to your customers is only one aspect of your relationship with them. A survey reported that 68% of customers switched because of the indifference of one of the supplier's employees. Total customer service contributes to total customer satisfaction. (Tornow and Wiley, 1991) found that employees' perceptions and attitudes are positively related to customer satisfaction.

The research conducted by (Anderson et al., 1995) suggested that satisfied employees have positive effects on customer satisfaction. In fact, within a firm, employees are the ones who can produce high quality products and deliver satisfaction to customers. It is obvious that satisfied employees will contribute to improving product quality and customer satisfaction through their commitment. Satisfied employees will also make the extra effort and contribute their best performance to ensure the success of their firms through improving product quality and customer satisfaction.

2-6-2 Relation between Employee Satisfaction and Customer Satisfaction

Numerous empirical studies show a strong positive relationship between employee satisfaction and customer satisfaction. Some investigations have provided explicit measures of this relationship. For example, a study at Sears Roebuck & Co. showed that a five-point improvement in employee attitudes led to a 1.3 rise in customer satisfaction which, in turn, generated a 0.5 increase in revenues.

(Brooks, 2000) reviewed the relationship between financial success and customer and employee variables (e.g., customer satisfaction, employee satisfaction, etc.) and found that, depending on market segment and industry, between 40 and 80 percent of customer satisfaction and customer loyalty was accounted for by the relationship between employee attitudes and customer-related variables.

Similarly, found perceived employee satisfaction, perceived employee loyalty, and perceived employee commitment had a sizable impact on perceived product quality and on perceived service quality. The relationship between employee satisfaction and customer satisfaction has received further empirical confirmation from two methodologically strong studies. Specifically, a recent Meta analytic investigation (Harter, et al. 2002).

Based on 7,939 business units in 36 companies, found generalizable relationships, large enough to have substantial practical value, between unit-level employee satisfaction, engagement and business-unit outcomes such as customer satisfaction, productivity, profit, employee turnover, and accidents.

Finally, Bernhardt, et al. measured the relationship between employee satisfaction, customer satisfaction, and profit longitudinally showing that, although the effects of employee satisfaction and customer satisfaction on business profit at a given point in time might not be detectable, they become visible and prominent over time. Specifically, these researchers found a positive relationship between change in customer satisfaction and change in profit/sales, a positive relationship between change in employee satisfaction and change in business profit, and a strong relationship between employee satisfactions and customer satisfaction at any point in time (Bernhardt, et al. 2000).

2-6-3 Relation between Product Quality and Customer Satisfaction

During the past few decades, customer satisfaction and product quality have become a major area of attention to practitioners and academic researchers. Both concepts have strong impact on business performance and customer behavior. Product quality leads to higher profitability and customer satisfaction. Furthermore, a number of empirical studies indicate a positive relationship between customer satisfaction and customer loyalty, as well as between customer satisfaction and positive word of mouth. Therefore, one of the key strategies for customer focused firms is to measure and monitor product quality and customer satisfaction.

Customer satisfaction has been a subject of great interest to organizations and researchers alike. The principal objective of organizations is to maximize profits and to minimize cost. Profit maximization can be achieved through increase in sales with lesser costs.

One of the factors that can help to increase sales is customer satisfaction, because satisfaction leads to customer loyalty recommendation and repeat purchase. Customers became very vital in business during the marketing era of the 1950s when companies could produce what they can sell and not just selling what they can produce as it was during the production era.

Since the beginning of the consumption era in marketing, (business.business-key.com) the focus on customers/consumers has increased more as the consumption era also shifts to post-consumption; where organizations are obliged to render more services in addition to what they provide as offers to their customers. What are the qualities of these products provided to customers? Are the customers satisfied with these products? Thus, this research originated from the fact that customer/consumer is the key to business.

In fact, their satisfaction is the most important tool that helps to increase sales and generate profits in the business environment. Moreover, the importance of customer satisfaction and product quality has been proven relevant to help improve the overall performance of organizations.

Akbar and Prevaez investigated the effects of product quality on customer satisfaction and on customer loyalty. They found a significant positive relationship between them. Their findings also supported the path arguments that customer satisfaction mediates perceived product quality.

2-6-4 Relation between Product Quality and Strategic Performance

Much research has confirmed the strategic benefits of product quality. It has been shown to contribute to greater market shares and return on investments (Cole, 1992; US General Accounting Office, 1991), as well as lower manufacturing costs in the long run and improved productivity (Garvin, 1983).

The manufacturing of top quality products is recognized as one of the most important strategic objectives of modern manufacturing firms. It is related to profits, market share, and economic survival in the international world of competition (Wacker and Sheu, 1994).

The Boston Consulting Group and Harvard Business School faculty have developed the widely quoted Profit Impact of Marketing Strategy database. It has been cited as one source supporting market share as positively and strongly related to perceived quality of a firm's products (Buzzell and Wiersema, 1981; Craig and Douglas, 1982; Garvin, 1984; Phillips et al., 1983).

(Longenecker and Scazzero, 1993) conducted a case

study in a manufacturing firm that lost a number of key customers due to its product quality problems. (Primrose and Leonard, 1988) suggested that product quality has a direct effect on sales, and consequently profits, and (Anderson et al., 1994) suggested that product quality has a positive impact on customer satisfaction, providing high quality products and high customer satisfaction is rewarded by economic returns.

(Deming, 1986) stated that improving product quality can reduce costs because of less rework, fewer mistakes, and better use of machine-time and materials. Thus, firms can capture the market with better product quality. Finally, firms will stay in business.

Low product quality creates dissatisfied customers who will not only be more open to considering competitors' offerings but will also be likely to discuss their dissatisfaction with other potential customers. In short, improving product quality can improve firms' profits (Reed et al., 1996). (Reeves and Bednar, 1994) reported that customers are satisfied only when the firm provides superior product quality at reasonable prices; that is, when the value offered by products is superior to that of the competing products. Therefore, high quality products at reasonable prices will attract customers, thus improving the firm's strategic business performance.

(DuBrin, 1995) stated that product quality can contribute to sales growth and market share. (Juran and Gryna, 1993) considered that the evidence of the importance of quality to retaining present customers is dramatic. (Hackman and Wageman, 1995), based on Deming's writing, stated that producing quality products is not merely less costly but, in fact, is absolutely essential to long-term organizational survival.

According to (Juran and Gryna, 1993), the longer a firm keeps a customer, the larger the profit will be. The extensive literature review by (Anderson et al., 1994a) suggested that a good way to satisfy customers is by delivering and improving product quality. Quality has a positive impact on customer satisfaction, profitability, and market share. Finally, the firm's competitive advantages in the market place will be enhanced.

3- Research Model and Hypotheses

Based on the above literature review, a conceptual framework is developed and a research model has been proposed. The proposed research framework is depicted in Figure 1.

There are two research questions of this study that can be articulated as follows:

- 1- What are the components of knowledge Management System?**
- 2. Is there a relationship between the identified KMS components and a selection of four performance indicators?**

Thus, through a comprehensive review of literature. The researcher formulates eight main hypotheses emanating from them (30) sub- Hypotheses and which defined as follows:

A) First Main Hypothesis: Employee's Perception for Knowledge Management exceeds their Expectations

Also six sub-hypotheses emanating from the first main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** Employee's Perception for dimension Top Management Commitment exceeds their Expectations
- **Second Sub Hypothesis:** Employee's Perception for dimension Employee Training and Education exceeds their Expectations
- **Third Sub Hypothesis:** Employee's Perception for dimension Knowledge Culture exceeds their Expectations
- **Fourth Sub Hypothesis:** Employee's Perception for dimension Competitive Benchmarking exceeds their Expectations
- **Fifth Sub Hypothesis:** Employee's Perception for dimension Information Communication exceeds their Expectations.
- **Sixth Sub Hypothesis:** Employee's Perception for dimension Information gathering and analysis exceeds their Expectations

B) Second Main Hypothesis: "There is no significant difference between Employee's perceptions for Knowledge Management according to demographic characteristics"

Also four sub-hypotheses emanating from the second main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Knowledge Management according to Gender"
- **Second Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Knowledge Management according to Age"
- **Third Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Knowledge Management according to Experience"
- **Fourth Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Knowledge Management according to Qualification".

C) Third Main Hypothesis: "Employee's Perception for Organization's Performance exceeds their Expectations"

Also four sub-hypotheses emanating from the third main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** Employee's Perception for dimension Employee Satisfaction of Organization's Performance exceeds their Expectations
- **Second Sub Hypothesis:** Employee's Perception for dimension Product Quality of Organization's Performance exceeds their Expectations
- **Third Sub Hypothesis:** Employee's Perception for dimension Customers Satisfaction of Organization's Performance exceeds their Expectations
- **Fourth Sub Hypothesis:** Employee's Perception for dimension Strategic Business Performance of Organization's Performance exceeds their Expectations

D) Fourth Main Hypothesis: "There is no significant difference between Employee's perceptions for Organization's Performance according to demographic characteristics"

Also four sub-hypotheses emanating from the fourth main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Organization's Performance according to Gender".
- **Second Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Organization's Performance according to Age"
- **Third Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Organization's Performance according to Experience"
- **Fourth Sub Hypothesis:** "There is no significant difference between Employee's perceptions for Organization's Performance according to Qualification"

E) Fifth Main Hypothesis: "Knowledge Management has a positive impact on the Performance of small and medium Organizations"

Also eight sub-hypotheses emanating from the fifth main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** "Top Management Commitment has a positive impact on Employee Satisfaction".
- **Second Sub Hypothesis:** "Top Management Commitment has a positive impact on Strategic Business Performance".
- **Third Sub Hypothesis:** "Employee Training and Education has a positive impact on Employee Satisfaction".
- **Fourth Sub Hypothesis:** "Knowledge Culture has a positive impact on Employee Satisfaction".

- **Fifth Sub Hypothesis:** "Competitive Benchmarking has a positive impact on Product Quality".
 - **Sixth Sub Hypothesis:** "Information Communication has a positive impact on Product Quality".
 - **Seventh Sub Hypothesis:** "Information gathering and analysis has a positive impact on Product Quality".
 - **Eighth Sub Hypothesis:** "Information gathering and analysis has a positive impact on Customers' Satisfaction".
- F) **Sixth Main Hypothesis:** "Employee Satisfaction has a positive impact on the Performance of small and medium Organization"

Also two sub-hypotheses emanating from the sixth main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** "Employee Satisfaction has a positive impact on Product Quality of small and medium Organization"
- **Second Sub Hypothesis:** "Employee Satisfaction has a positive impact on Customers' Satisfaction of small and medium Organization"

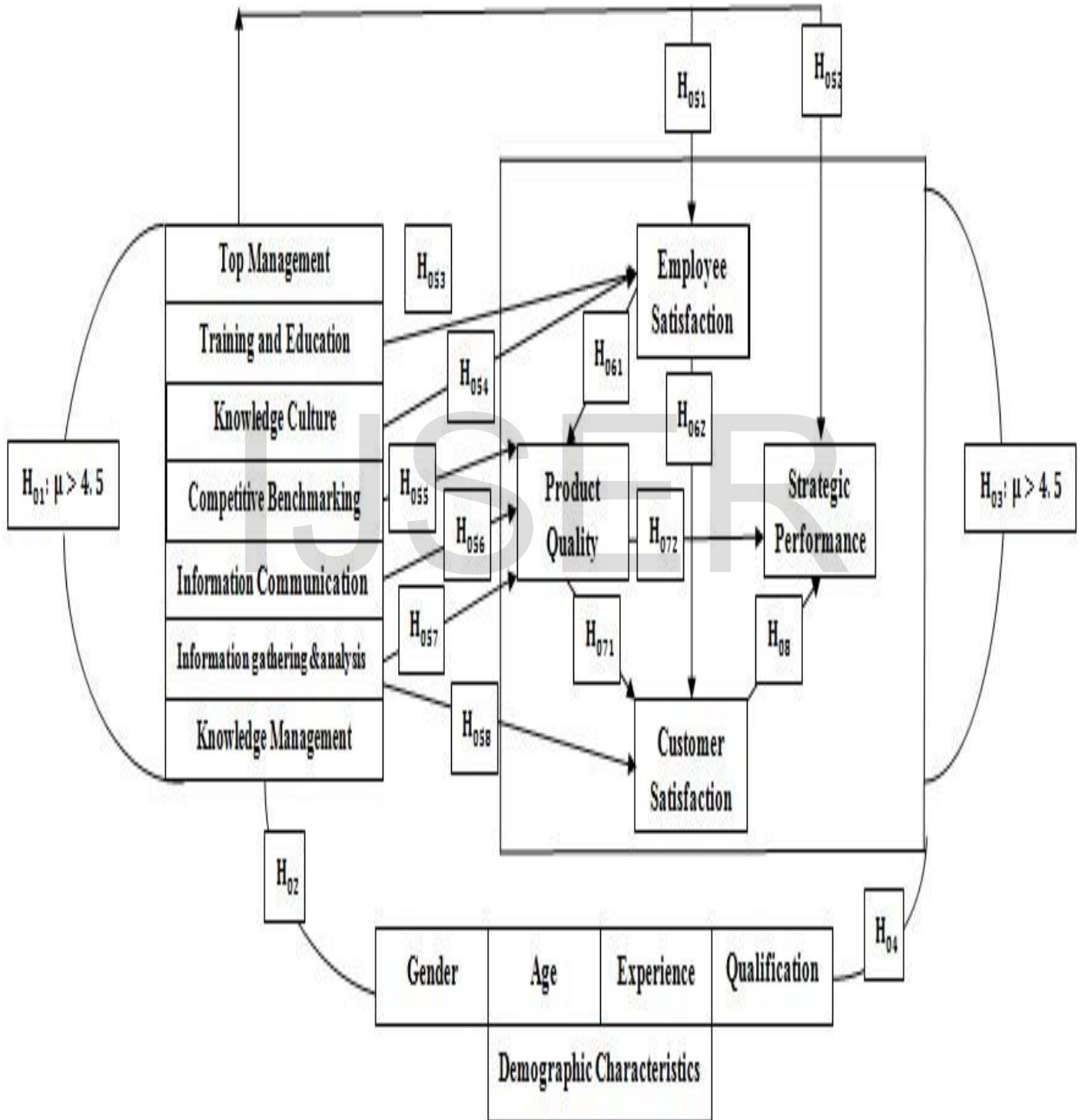
- G) **Seventh Main Hypothesis:** "Product Quality has a positive impact on the Performance of small and medium Organization".

Also two sub-hypotheses emanating from the seventh main hypothesis were proposed and defined as follows:

- **First Sub Hypothesis:** "Product Quality has a positive impact on Customer Satisfaction of small and medium Organization"
- **Second Sub Hypothesis:** "Product Quality has a positive impact on

Strategic Business Performance of small and medium Organization"

- H) **Eighth Main Hypothesis:** "Customer Satisfaction has a positive impact on Strategic Business Performance of small and medium Organization"



4-Future Work:

Future research involves data collection and empirical analysis where the hypotheses about relationships will be tested in the Saudi small and medium manufacturing enterprises. At the end, it would be interesting to test and validate the proposed theoretical model using different approaches, one of them is the (SPSS) approach which has the capability of testing and validating such a theoretical model. Statistical software like MiniTap14 can be used in future to build correlation matrix, confirmatory factor analysis (CFA), and diagramming to validate the relationships. Further, this study is limited to Saudi (SMME) sector but in future it can be extended to other Middle East countries as well as an exhaustive research in various aspects of TQM such as sustainability, organization strategy, TQM role stressors, and many more can be undertaken to incorporate the flexibility in TQM.

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