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THE MEDIATING EFFECT OF TOTAL QUALITY MANAGEMENT ON THE RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEMS AND ORGANIZATIONAL PERFORMANCE

REYATH THEA AZEEZ



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**THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY**

**FACULTY OF MANAGEMENT AND ECONOMICS
UNIVERSITI PENDIDIKAN SULTAN IDRIS
2020**



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ii. Supervisor's Declaration:

I'm Major Dr. Kamarul Bahari Yaakub hereby certifies that the work entitled (The mediating effect of total quality management on the relationship between management information systems and organizational performance) was prepared by the above named student, and was submitted to the Institute of Graduate Studies as a partial/full fulfillment for the conferment of the requirements for Doctor of Philosophy (By Research), and the aforementioned work, to the best of my knowledge, is the student's work.

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DEDICATION

Dedicated to my beloved family to the most precious persons in my life, my parents, my wife, my darling sons(Mohammed and Hasan), my sisters and my brother.



ACKNOWLEDGEMENTS

My praise is fully directed to Allah for enlightening me and giving me the knowledge and strength to complete this research.

I am very grateful to my supervisor Major Dr. Kamarul Bahari Yaakub for guiding me during my work on this research. I would like to express my sincere thanks and gratitude to him for his continuous guidance, support and patience.

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ABSTRACT

Management Information Systems (MIS) play a vital role in the success and performance of organizations. Information is essential for organizations to develop. Although extensive literature is available on the effectiveness of MIS to enhance organizational performance, it is unclear which MIS indicators can be linked with organizational performance. Thus, to fill this gap, this study investigated the effect of MIS indicators on organizational performance in Missan Oil Company in Iraq. In addition, the study identified the mediating role of Total Quality Management (TQM) between MIS indicators and organizational performance. A quantitative approach using Structural Equation Modeling (SEM) as a research design. A study sample of 250 managers (low, middle and high level) using simple random sampling was related. After screening the initial data, 201 questionnaires were utilized for the final data analysis. SEM was used to analyze the data. Findings revealed that MIS indicators, namely net benefits ($\beta = 0.20$, $p > 0.05$), information quality ($\beta = 0.13$, $p > 0.05$), and user satisfaction ($\beta = 0.13$, $p > 0.05$) had positive effects on organizational performance. Meanwhile, TQM fully mediated the relationship among system quality (p.bootstrap = 0.013), information quality (p.bootstrap = 0.001), use of system (p.bootstrap = 0.001), and organizational performance. Furthermore, TQM partially mediated the relationship among user satisfaction (p.bootstrap = 0.001), net benefits (p.bootstrap = 0.001), and organizational performance. In conclusion, MIS indicators play an important role in increasing organizational performance, and TQM serves as an influential mediator in the relationship between MIS indicators and organizational performance. Clearly, these findings have the potential to guide the Iraqi oil sector to focus on the appropriate MIS indicators that enhance its organizational performance.





KESAN MODERATOR PENGURUSAN KUALITI MENYELURUH TERHADAP HUBUNGAN ANTARA SISTEM PENGURUSAN MAKLUMAT DAN PRESTASI ORGANISASI

ABSTRAK

Sistem Pengurusan Maklumat (MIS) memainkan peranan penting kepada kejayaan dan prestasi organisasi. Maklumat menjadi elemen penting kepada pembangunan organisasi. Walaupun kajian literatur terhadap keberkesanan MIS bagi meningkatkan prestasi organisasi tersedia dengan banyaknya, tetapi masih tidak jelas indikator-indikator MIS yang dapat dikaitkan dengan prestasi organisasi. Oleh itu, bagi mengisi jurang itu, kajian ini mengkaji hubungan antara indikator Sistem MIS dan prestasi Syarikat Minyak Missan di Iraq. Di samping itu, kajian ini cuba untuk mengenal pasti peranan mediator Pengurusan Kualiti Menyeluruh (TQM) antara indikator MIS dan prestasi organisasi. Kajian ini menggunakan pendekatan kuantitatif Pemodelan Persamaan Struktur (SEM) sebagai reka bentuk penyelidikan. Sampel kajian 250 pengurus (peringkat bawahan, pertengahan, dan tinggi) yang dipilih melalui pensampelan rawak mudah. Selepas melalui proses penapisan, 201 soal selidik dipilih untuk analisis data. SEM digunakan untuk menganalisis data. Dapatan menunjukkan indikator MIS, iaitu manfaat bersih ($\beta = 0.20$, $p > 0.05$), kualiti maklumat ($\beta = 0.13$, $p > 0.05$), dan kepuasan pengguna ($\beta = 0.13$, $p > 0.05$) mempunyai kesan positif terhadap prestasi organisasi. Sementara itu, TQM mempunyai kesan mediasi sepenuhnya terhadap hubungan antara kualiti system ($p.\text{bootstrap} = 0.001$), kualiti maklumat ($p.\text{bootstrap} = 0.001$), kepuasan pengguna ($p.\text{bootstrap} = 0.001$), dan prestasi organisasi. Tambahan pula, TQM mempunyai kesan mediasi separa terhadap hubungan antara penggunaan sistem ($p.\text{bootstrap} = 0.001$), manfaat bersih ($p.\text{bootstrap} = 0.001$), dan prestasi organisasi. Sebagai rumusan, indikator MIS memainkan peranan penting dalam meningkatkan prestasi organisasi, dan TQM berfungsi sebagai mediator yang berpengaruh dalam hubungan antara indikator MIS dan prestasi organisasi. Jelas sekali, dapatan ini mempunyai potensi untuk membimbing sektor minyak Iraq untuk memberi tumpuan kepada indikator MIS yang sesuai yang meningkatkan prestasi organisasinya.



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LIST OF ABBREVIATIONS

BSC	Balanced Scorecard
CFA	Confirmatory Factor Analysis
DOI	Diffusion of Innovation Theory
DSS	Decision-Support Systems
GDP	Gross Domestic Product
ISO	International Organization for Standardization
IT	Information Technology
MIS	Management Information Systems
RBV	Resource-Based View
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investments
SEM	Structural Equation Modeling
TAM	Technology Acceptance Model
TQM	Total Quality Management
UPSI	Universiti Pendidikan Sultan Idris

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A Cover Letter for Survey Questionnaire

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CHAPTER 1

INTRODUCTION



Modern time management relies heavily on information to thrive. Nothing changes without information. In general, it is believed that information is powerful and that its owner has power (Gonfa, 2013). Ironically, many organizations currently suffer from an excess of information. They need to manage such large amounts of information they to confront the information overload the digital era has heralded with its rapid technological advances and widespread knowledge dissemination (Dias, 2001). In this context, the need for information systems arises (Franco & Garcia, 2017). Organizations are investing heavily in information systems because they seek to remain competitive in the market (Thomas, 2008).





Apart from the accelerated pace of technological developments in the field of production, there has also been an evolution in the means of communication and the transmission of information. The growing number of competitive organizations is forcing companies to take quick and effective decisions, which is both a requirement and product of effective organizational performance (Belkur, Mehta, Shafter, & Amar, 2017). Therefore, organizations require tools to aid them to make quick and effective decisions and find ways to reduce uncertainty. Only an effective Management Information System (MIS) can mitigate these challenges (Obara, 2013).

A review of the literature related to MIS and Total Quality Management (TQM) and organizational performance highlights how, a company's prosperity depends on its capability to improve decisions by enhancing the quality of information processing in MIS by adopting TQM and improving organizational performance. To support this hypothesis, this study aims to clarify the effect of the TQM meditation on the relationship between MIS and organizational performance at the Missan Oil Company in Iraq.

1.2 Background of The Study

Contemporary life is characterized by accelerated levels of technological invention and innovation in all fields of life. Such developments include significant advancement in Information Technology (IT). This has resulted in the need for business administrators and organizations manage the rapid technological advancement to ensure that they are operating at the highest level of productivity.





This is vital to ensure competitive advantage in highly competitive markets. One such modern management tool in global organizations is TQM. TQM first appeared in Japan and has been enabled companies to penetrate Western markets through excellence and superiority in performance, reliability and efficiency, and competitive pricing (Almashaqba, 2013).

The IT revolution has dramatically changed the nature of a business and created competitive advantages for those who appreciate its impacts (Ismail, Abdullah, & Tayib, 2003). Although the key function of information is to avoid uncertainty, uncertain circumstances tend to create a solid basis for qualitative decision-making in leadership and administration (Shaqiri, 2014). MIS is a computer-based information systems designed to meet the overall information needs of administrators across the breadth of its operations (Asemi, Asefeh, & Ali Safari, 2011). MIS manages, organizes and retrieves information that assists the company to provide faster services, and market products with more accuracy and ease, thereby improving the performance level (AL-Gharaibeh & Malkawi, 2013).

MIS is a systematic, automated, and varied information system that collects, stores, processes, and distributes data associated with various parts of an enterprise. This data is processed in different forms, such as graphs, diagrams, charts, and reports to create accurate, pertinent and valuable information for the administration. This information is shared with different units to be utilised for decision-making and effective management (Ranisavljević, Spasić, & Mladenović-Ranisavljević, 2012).



The large number of MIS utilised in contemporary business can implement various functions that can perform all business operations simultaneously. In decision-making, the ability to perform multiple tasks ensures that decisions are made quickly when compared to those systems that cannot handle more than one task at a time (Balan & Dhanapandian, 2012).

MIS is distinct from other information systems in that are used to analyse and facilitate strategic and operational activities. Academically, the term is commonly used to refer to the study of how individuals, groups, and organizations evaluate, design, implement, manage, and utilize systems to generate information to improve efficiency and effectiveness of decision-making, including systems termed decision support systems, expert systems, and executive information systems (Deoda, 2015).

In order to ensure its viability and growth, an organization seeks to exploit MIS as it aims to produce information that guides management to meet these challenges. The most important of these challenges is the need for organizations to implement the TQM system with all its requirements and stages. This system has the advantage of ensuring the survival of organizations in a highly competitive business world (Zbar, 2009).

In addition, TQM is an administrative approach that supports organizations to increase their performance and effectiveness as a whole, making it easier for TQM organizations to compete globally (Boon, 2013). In the present competitive environment, TQM has become vastly known as a vital engine for both industrial and service organizations to survive and succeed (Claver-Cortés, Pereira-Moliner, Tarí, &



Molina-Azorín, 2008). Empirical studies have shown that when TQM is performed in an enterprise effectively, it will improve the performance of the organization (Anderson & Sohal, 1999). The above view also underlines the principles of TQM as a means to improve an organization's performance in order to achieve benefits like enhancing customer satisfaction, improving the quality of goods and services, productivity and profits, waste minimisation and cost among other advantages (Ciptono, 2011).

Realistically, TQM and information systems (including MIS) have common goals. Some of the main goals of TQM are to develop product and process quality to meet the needs of the organization's members and consumers and to increase competitiveness and effectiveness. Whereas the objectives of information systems are to increase production, improve quality, improve services, lower costs, increase the competitiveness of companies (Khalil, 1994). On this basis, the researcher believes that TQM assists in increasing the ability and skill to use MIS which supports improved performance in an organization.

MIS, TQM, and organisational performance are the variables addressed in the current study. However, the researcher found that limited literature is available for studying these variables in the context of the Iraqi oil industry. Moreover, the researcher believes that dealing with these variables will be important for the Iraqi oil sector, given the significant risks associated with the processes of the Iraqi oil industry. Manager's monitor and evaluate the trends in their business environment through available internal and external channels of information which are made accessible to them using modern IT (Gonfa, 2013). Also, macroeconomic problems





such as the cost of the war on terror, inflation rates, exchange rates, unemployment rates, debt, debt service rates, export and import growth rates, political instability, lack of reliance on MIS in decision making, and poor TQM implementation adversely affect the performance of the companies operating in Iraq's oil industry (Saddam, 2017).

Depending on the above, the current study discusses the impact of MIS on organizational performance in the context of TQM within the organization. The impact of MIS on organizational performance in the context of TQM was assessed by collecting data using a questionnaire distributed to managers of the Missan Oil Company in Iraq.



1.3 Problem Statement

One of the most important roles of managers is to make decisions to solve current problems and achieve progress across the entirety of the firm (Mirahmadi, Rashidi, Kianian, & PoorAlian, 2014). In modern organizations, administrative decision-making has become extremely complicated. Therefore, administrators require accurate and timely information to make effective decisions (Nedelko, 2009). Baum and Wally (2003) and Goll and Rasheed (1997) stated that organizational leaders are expected to make strategic decisions that have an important effect on their companies. The pattern and speed of decision-making are strongly linked to organizational performance. Therefore, information has become an essential resource for managing modern organizations. This is so because today's business environment is volatile,





dynamic, turbulent and necessitates the burgeoning demand for accurate, relevant, complete, timely and economical information needed to drive the decision-making process in order to accentuate organizational abilities to manage opportunities and mitigate threats (Şükrü, 2015).

In management literature, there is an increasing awareness of the importance of information as a cornerstone of the strategic planning process that provides the basis for effective decision-making (Yap, Platonova, & Musa, 2006). Accordingly, information systems play a main function in the decision-making process (Siejka, 2017).

As lack of information had resulted in the management system lacking an accurate and complete picture of operations, and being unable to recognise the complete strengths and weaknesses of the past and present. As a result, it is not able to properly target and design suitable activities for a management system. This will result in the inefficient use of resources (Faraji & Najafzadeh, 2016). Prior to the development of modern information systems, traditional decision-making processes had been undertaken in the form of accidental management technique. Such an approach to decision-making was randomly and failed to identify the organization's problems accurately. This trial and error approach often resulted in poor performance and bankruptcy (Gonfa, 2013).

MIS represents a subset of total planning and control activities that cover human implementation, techniques and company procedures. Information systems are a mechanism to guarantee that information is available to the administrators in the



desired form and time (Satyanarayana, Srinivasu, Rikkula, & Rao, 2009). Therefore, MIS supports effective decision-making and supports other management processes such as plan development, policy-making, supervision, and performance appraisal, to name a few. The use of such information in performance assessment is more effective when the performance is seen as an administrative process. For example, sensitive subjects need to be considered when planning the development of any organization. Subsequently, managers at all levels of the organization's hierarchy need appropriate data and information to make decisions that enhance organizational performance (Asemi et al., 2011).

Firms are advised to ensure that they recruit the correct person to oversee the control systems because MIS is a very complicated and precise operation requiring careful attention. For this reason, the more careful and professional the assigned person, the more positive the person will be in MIS concerning decision-making and other relevant areas of work (Deoda, 2015). Also, information systems relate to the critical functioning of modern enterprises, institutes and companies. Enterprises use information system technology to gain a competitive advantage over their competitors. Many basic business processes are undertaken to raise production and productivity through the utilisation of information systems (Shaqiri, 2014).

Organizations in developed and developing economies need to transform their traditional bureaucratic management style into a highly value-effective, proactive and proactive approach. For this transformation, the adoption of effective quality strategies and practices is one of the key factors of success (Ahmad & Elhuni, 2014). Performance improvement requires improved quality, hence the need to implement



TQM. Where, TQM is often considered a vital precedent of an organization's performance (Mahmood, Qadeer, & Ahmad, 2015). TQM is an ideology described in management as the philosophy of general administration to assist the company in expecting high-quality in all its operations and processes (Ehigie & McAndrew, 2005). Ciptono (2011) proved that TQM has a positive effect on improving oil companies' performance. As well as the effect of the implementation of TQM on organizational performance, TQM plays a positive mediation role in improving its performance (Demirbag, Koh, Tatoglu, & Zaim, 2006). The adoption of TQM by organizations has contributed to the formulation of organization culture to achieve long and short-term goals. Achieving the desired objectives of organizations requires the establishment, development and strengthening of organizational culture and ensuring the participation of all its members (Al-Dhaafri, Al-Swidi, & Yusoff, 2016).



1.3.1 Identification of The Study Problem

According to Sekaran (2003), the research problem is any situation where a gap exists between the actual and desired state. Figure 1.1 shows how the study problem was defined.



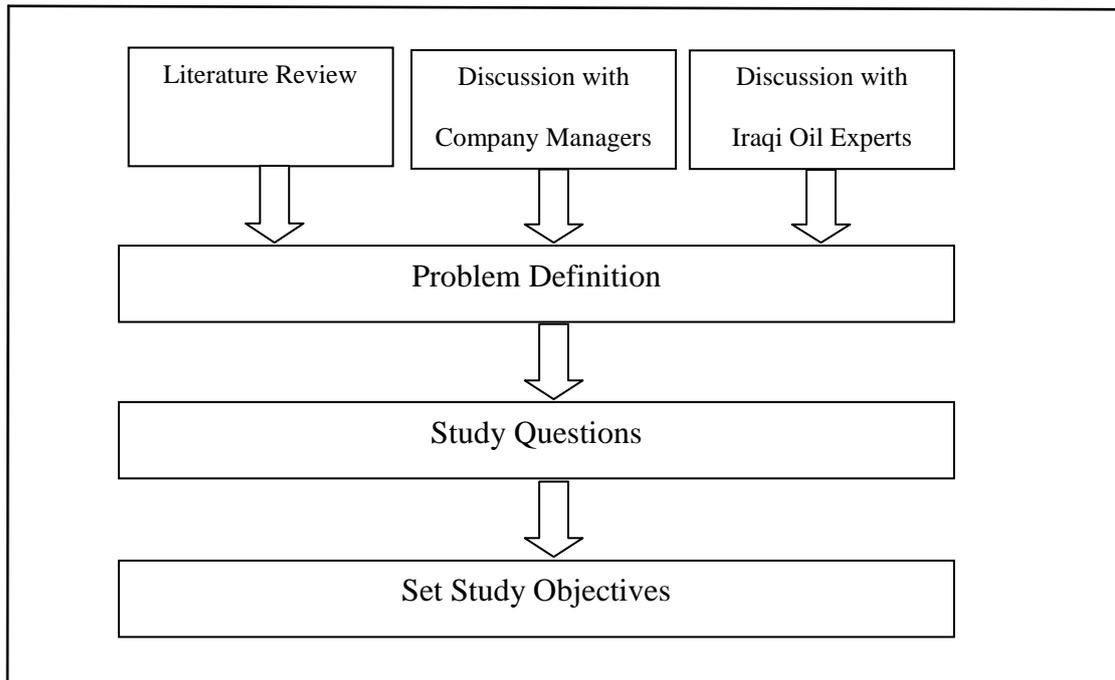


Figure 1.1. Definition of The Study Problem.



Notably, the Iraqi oil sector is the most significant contributor to Iraq's gross domestic product (GDP). It contributed 99% of total exports, over 90% of government revenues and 60% of GDP (Oil and Gas Factsheet, 2011). Also, Iraq has an enormous wealth of crude oil and natural gas as it has now the fifth-largest oil reserves internationally. Iraq has an estimated potential of 500 billion barrels (Moussa, 2010). In addition, Iraq is managing the oil revenue through a central budget, which is designed to grow and redistribute oil profits to the people. Temporarily, the exports and the production of oil suffer from numerous disruptions (Saddam, 2017). Medium to long-term export profits from oil can increase dramatically only if the production of oil recovers strongly. The economic performance of its oil exports is lower than in other countries in the region. This is frequently elucidated through the impact of wealth of oil over authority and via the risky real effects of exchange rate resting on the non-oil sectors (Mahdi, 2013).



Surprisingly, the impact the oil sector in the Iraqi economy has yet to be studied in detail. Research and exploration are modest, and the levels of production are well-below the country's export potential (Dawood, 2016). Advancing economic efficiency could provide a high-level of luxury, but the wealth has not been exploited according to this standard. Since the discovery and extraction of oil at the beginning of the last century, foreign oil companies took advantage of that wealth until the 1970s, after which it was controlled by the state which drained this wealth on spending on war since the early eighties (Moussa, 2010).

According to Ramlakhan and Chawathe (1993), advanced technology supports the profitability of oil companies. Therefore, Ramlakhan and Chawathe (1993),





suggested that the TQM approach is a means to achieve this advantage and improve the organization's performance through more effective management of technology.

The researcher believes that the Iraqi national oil companies face numerous challenges since the signing of oil licensing with foreign companies since mid-2009 (Dawood, 2016). The main problem is that the Iraqi national oil companies because of the multiple wars and the long years of economic sanctions have no qualifications or human capabilities to keep pace with the global companies that came to work in Iraq, which requires Iraqi companies to improve their performance. Therefore, the researcher believes that in order for the Missan Oil Company to operate on par with international companies, it needs to adopt the philosophy of TQM and MIS, thereby improving the decision-making process and, in turn, improving organizational performance.



According to Zbar (2009), the challenges faced by modern management is the rise of competition which necessitates the use of TQM systems to obtain the certificate of standards set by international organizations, the most important of which is the International Organization for Standardization (ISO).

Hence, according to Zbar (2009), Iraqi organisations are challenged by:

1. The need for quality information produced according to relatively high-quality standards to contribute to the planning and implementation of TQM programmes. This is provided by the MIS, which must conform to the standards of ISO.





2. The problem of not implementing TQM in the organization leads to the failure of MIS to benefit from high-quality information standards.
3. Each system (kernel) is in isolation from each other which leads to the weak performance of the organization.

Based on the above, the researcher believes that, despite the interest of Iraqi oil companies needing MIS, there is a lack of clarity in the interest in these companies to recognise the importance of relying extensively on those systems in rationalising the decision-making process to improve organizational performance. Also, bad management decisions by managers in the company business and entrepreneurial skills can be due to untimeliness and the importance of appropriateness, accuracy and reliable information. Overall, failure to achieve visualizes logical and reasonable prospects for the future is one of the major causes for inefficiency and failure of the management system in the oil industries in Iraq, especially at the Missan Oil Company.

1.3.2 Research Gaps

In view of the importance of MIS, there are many studies on TQM relating to the performance of organizations. Also, many studies addressed the relationship between MIS and the performance of organizations (Al-Mamary, Shamsuddin, & Aziati, 2014a). In addition, numerous studies combined MIS and TQM (Almashaqba, 2013) with other studies that dealt with the relationship between TQM and organizational performance (Ajay & Dhall, 2016).





Limited studies have addressed one or two of these variables in Iraq in general and Missan governorate in particular (Ibrahim, 2008). Furthermore, no study that has combined MIS, TQM and organizational performance together (within the limits of the researcher's knowledge). On the other hand, there are few studies that have been applied to the oil sector in general and in the Iraqi oil sector in particular (Saddam, 2017). Based on Iraqi academic scientific journals (the database of the Ministry of Higher Education & Scientific Research of Iraq), only six studies were carried out by Iraqi oil companies. Three of these studies were on performance and three others were about information systems and IT (Iraqi academic scientific journals, 2017). These three aspects represent a knowledge gap which this study attempts to fill.

On that basis, the present study is an extension of previous studies (Agu, Ugwu, & Igwegbe, 2017; Mehralian et al., 2017; Shafiq, Lasrado, & Hafeez, 2017; Khresat, 2015; Siam, Alkhateeb, & Al-Waqqad, 2012; Dewhurst et al., 2003) which adopted an informational framework in its theoretical approach and methodology. It also constitutes a new addition which deals with the effect of MIS on organizational performance in the context of TQM in the Iraqi oil environment.

This study aims to serve the Iraqi oil industry address the gap in the literature and selecting Missan Oil Company as the sample of the study. Studying this company is significant given that it is the second-largest oil company in Iraq (Official website of the Iraqi Ministry of Oil, 2018).

In addition, the Missan Oil Company is specialised in oil exploration and production. According to Cevenini (1993), the exploration and production of oil is the





basis of any oil corporation. The study clarifies the impact on the use of MIS on the organizational performance in the context of TQM within the company is using Structural Equation Modeling (SEM), a multivariate statistical technique, as a statistical tool to examine the relationship between variables.

1.4 Objectives of The Study

This study investigates the relationship of MIS and organizational performance along with the mediating role of TQM between MIS and organizational performance. The study seeks to achieve the following objectives:

1. To examine the effect of MIS indicators on organizational performance and identify the most effective MIS indicators in organizational performance at the Missan Oil Company.
2. To examine the effect of MIS indicators on TQM at the Missan Oil Company.
3. To examine the effect of TQM on organizational performance at the Missan Oil Company.
4. To examine the mediating role of TQM in the relationship between MIS indicators and organizational performance at the Missan Oil Company.

1.5 Research Questions

The following research questions have been formulated to guide the study to its logical conclusion:



1. Do MIS indicators affect organizational performance and which of the MIS indicators dominantly affect organizational performance at the Missan Oil Company?
2. Is there any effect of MIS indicators on TQM at the Missan Oil Company?
3. Is there any effect of TQM on organizational performance at the Missan Oil Company?
4. Does TQM mediate the relationship between the MIS indicators and organizational performance at the Missan Oil Company?

1.6 The Framework of The Study

The systematic treatment of the study problem in light of the theoretical framework and its practical implications require the design of a default scheme represented by Figure 1.2. This refers to the logical relationship between the variables of the study. In preparing the plan, the study focused on the following points:

1. The possibility of measuring each variable of the study.
2. Inclusiveness of the plan and the possibility of testing.
3. The consistency of variables with the Iraqi environment, particularly in regards to the Missan Oil Company.

In this present construct, the MIS indicators were adopted in the current study as an independent variable that plays a major role in the mediating variable TQM which affects the organizational performance as a dependent variable. The outline of the study is illustrated in Figure 1.2.

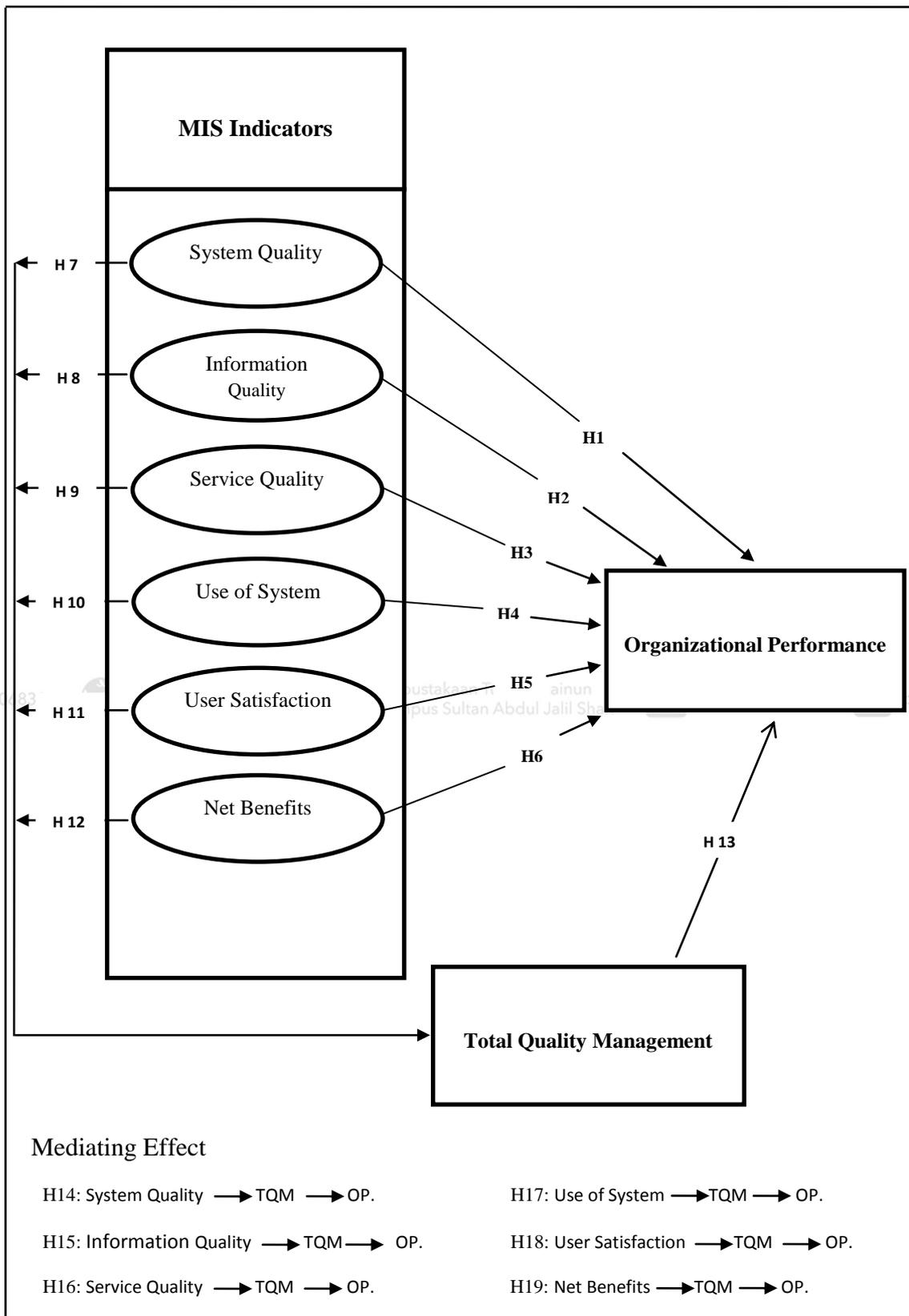


Figure 1.2. Framework of The Study.



1.7 Research Hypotheses

The following hypotheses emerge from the study plan:

H1.System quality is positively related to organizational performance at the Missan Oil Company.

H2.Information quality is positively related to organizational performance at the Missan Oil Company.

H3.Service quality is positively related to organizational performance at the Missan Oil Company.

H4.Use of MIS is positively related to organizational performance at the Missan Oil Company.

H5.User satisfaction is positively related to organizational performance at the Missan Oil Company.

H6.Net benefits are positively related to organizational performance at the Missan Oil Company.

H7.System quality is positively related to TQM at the Missan Oil Company.

H8.Information quality is positively related to TQM at the Missan Oil Company.

H9.Service quality is positively related to TQM at the Missan Oil Company.

H10.Use of MIS is positively related to TQM at the Missan Oil Company.

H11.User satisfaction is positively related to TQM at the Missan Oil Company.

H12.Net benefits are positively related to TQM at the Missan Oil Company.

H13.TQM is positively related to organizational performance at the Missan Oil Company.

H14.TQM mediates the relationship between system quality and organizational performance at the Missan Oil Company.



H15.TQM mediates the relationship between information quality and organizational performance at the Missan Oil Company.

H16.TQM mediates the relationship between service quality and organizational performance at the Missan Oil Company.

H17.TQM mediates the relationship between use the system MIS and organizational performance at the Missan Oil Company.

H18.TQM mediates the relationship between user satisfaction and organizational performance at the Missan Oil Company.

H19.TQM mediates the relationship between net benefits and organizational performance at the Missan Oil Company.

For many years, the influence of MIS on TQM and organizational performance has been studied in various sectors, including the oil sector. MIS has an extensive and considerable impact on the performance and outcomes of an organization (Oil and Gas Factsheet, 2011) .

However, the literature relating to MIS, especially in the context of developing countries, did not include the oil sector. Also, there is a paucity in studies on MIS, TQM, and organizational performance in the oil sector in Iraq. Therefore, this study explores the relationship between MIS, TQM, and organizational performance at the Missan Oil Company that operates in the south of Iraq. Furthermore, to view the concerned MIS and organizational performance, TQM is regarded as a mediating



variable. The oil industry is selected given that it has not been sufficiently explored by research, especially in relation to MIS-performance nexus. Secondly, in Iraq, the oil sector contributes more than 90% to the national exchequer (Oil and Gas Factsheet, 2011).

1.9 Importance of The Research

This study is significant from both theoretical and practical perspectives. The present study would be beneficial for academics as it develops a framework that incorporates MIS indicators, TQM practices, and organizational performance. This would provide an avenue for further researchers. Practitioners involved in MIS for oil companies, as well as the management of the oil companies in Iraq, would benefit from this study as it would provide them with empirical evidence regarding the role MIS plays in organizational performance, making it more of a strategic tool rather than technical function. In addition, the importance of this study stems from its objectives and expected results. It is set to enhance the company's performance by implementing TQM to improve MIS at the Missan Oil Company.

Practically, this study is significant for practitioners, company managers, and government policy makers. The results could guide policy-makers to formulate standardized policies related to application and adoption of MIS by oil companies in Iraq which could help them grow and become more effective. Another contribution of the study is to investigate the mediating role of TQM between the relationship of MIS





and organizational performance. The findings of this study will help decision-makers understand the role of TQM in enhancing organizational performance.

1.10 Conceptual and Operational Definitions

This section explains the key concepts that are frequently used in this study for answering the study questions. A complete explanation is presented in the next chapter.

Management Information System

Conceptual Definition: MIS is a set of interrelated components which collects, retrieves, processes, stores and distributes information to support decision making of managers in an organization (Gupta, 2011).

Operational Definitions: In this study, MIS is the system that combines technology and management and consists of six main indicators, namely system quality, information quality, service quality, use the system, user satisfaction, and net benefits, in order to process data and transform it into meaningful information to help improve the decision-making process then improve the organizational performance.

Total Quality Management

Conceptual Definition: TQM is a holistic management philosophy which aims for continuous improvement in all functions of an organization to produce and deliver commodities or services in line with customers' needs or requirements by





offering better, cheaper, faster, safer, easier processing services under the leadership of top management (Demirbag, Tatoglu, Tekinkus, & Zaim, 2006).

Operational Definitions: In this study, TQM is a managerial philosophy based on the participation of all employees in the organization to improve the quality that includes six dimensions, namely leadership, strategic planning, customer focus, information & analysis, human resource and process management.

Organizational Performance

Conceptual Definition: Organizational performance refers to the phenomena of how well enterprises obtain their desired goals (Khalil, Khalil, & Khan, 2019).



Operational Definitions: In this study, organizational performance can be



defined as the effort of the organization to achieve its objectives. This includes four major perspectives, namely financial, customer, internal process, and learning & growth.

1.11 Organization of The Thesis

This thesis was organized into five chapters. Chapter One presents the background of the study, statement of the problem, study questions, objectives of the study, significance of the study, the study scope, conceptual and operational definitions, and the summary. Chapter Two was devoted to the literature review. The aim of this chapter is to acquaint the reader with existing studies relative to the issues covered in





the study. Thus, it provides the theoretical inference for the study and partly establishes the need and relevance for it. This includes pioneering writings on concepts, and the types, practice, areas and applications of MIS, TQM, and organizational performance. Chapter Three examines the research method used in undertaking the studies. Chapter Four dealt with a detailed analysis of the findings, presentation, and interpretation of data. Chapter Five incorporates the summary of major findings, conclusions, and recommendations.

1.12 Summary

The first chapter provided an overview of the research beginning with the concept and the background of the study. The study background identified the challenges and risks faced by Iraqi oil companies and their need to adopt MIS in order to improve their organizational performance. The Iraqi Ministry of Oil should develop a unified policy for IT and orientation towards the knowledge economy by expanding the reliance before the development of modern information systems.

Based on the above, the researcher believes that MIS contributes to organizational performance at the Missan Oil Company. Thus, the researcher listed MIS and TQM as predictors that lead to organizational performance. Furthermore, the first chapter presented the statement of the problem, objectives of the study, significance of the study, scope and limitation of the study and definition of terms that consist of conceptual and operational definitions. Chapter Two reviews the relevant literature on the variables used in the current study.

