

**T.C.
ISTANBUL GEDİK UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**



**KNOWLEDGE MANAGEMENT AND ITS REFLECTIONS ON THE
ORGANIZATIONS PERFORMANCE. A CASE STUDY OF ASIA CELL
TELECOMMUNICATIONS COMPANY IN IRAQ**

MASTER'S THESIS

Omer Hussain Ali ABDULLAH

Business Administration Department

Business Administration in English Program

NOVAMBER 2021

**T.C.
ISTANBUL GEDİK UNIVERSITY
INSTITUTE OF GRADUATE STUDIES**



**KNOWLEDGE MANAGEMENT AND ITS REFLECTIONS ON THE
ORGANIZATIONS PERFORMANCE. A CASE STUDY OF ASIA CELL
TELECOMMUNICATIONS COMPANY IN IRAQ**

MASTER'S THESIS

**Omer Hussain Ali ABDULLAH
181285015**

Business Administration Department

Business Administration in English Program

Thesis Advisor: Prof. Dr. Enver Alper GÜVEL

NOVAMBER 2021



T.C.
İSTANBUL GEDİK ÜNİVERSİTESİ
LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ MÜDÜRLÜĞÜ

Yüksek Lisans Tez Onay Belgesi

Enstitümüz, Business Management Department İngilizce Tezli Yüksek Lisans Programı (181285015) numaralı öğrencisi Omer Hussain Ali ABDULLAH'ın “Knowledge Management and Its Reflections on the Organizations Performance. A Case Study of Asia Cell Telecommunications Company In Iraq” adlı tez çalışması Enstitümüz Yönetim Kurulunun 25.11.2021 tarihinde oluşturduğu jüri tarafından *Oy Birliği* ile Yüksek Lisans tezi olarak *Kabul* edilmiştir.

Öğretim Üyesi Adı Soyadı

Tez Savunma Tarihi: 25/11/2021

1) Tez Danışmanı: Prof. Dr. Enver Alper GÜVEL

2) Jüri Üyesi: Dr. Öğr. Üyesi Ahmet ERKASAP

3) Jüri Üyesi: Dr. Öğr. Üyesi Ali ÖZCAN

DECLARATION

I am, Omer Hussain Ali ABDULLAH, as a result of this declare that this thesis titled “The Effect of Iso 9001 on the Performance of General Company for Ports of Iraq” is original work I accomplished for the honor of the graduate degree in the workforce of Business administration. I additionally announce that this proposal or any piece of it has not been submitted and introduced for some other degree or exploration paper in some other college or establishment. (25/11/2021)

Omer Hussain Ali ABDULLAH

DEDICATION

It is in my pleasure to dedicate my thesis work to my beloved parents (Father and Mother). They taught me many lessons that become the guide of my life. They still encourage me to work hard and achieve my goals. I also dedicate my thesis work to my dear and lovely wife and kids. They always stands for me and gives support. Finally, I dedicate my work to my amazing brothers and sisters. I feel so greatly privileged to have them in my life.

PREFACE

First of all, I thank my thesis advisor Dr. Enver Alper GÜVEL for his great contribution in finishing my research work. Thanks to my family and friends, especially my wife for their help. Thanks to my father, my mother, and my brother who stood by me during my study and always offered their love, care and support. Finally, I would like to thank all who give me any advice and support during the academic years and best wishes and regards to them.

November 2021

Omer Hussein Ali ABDULLAH

TABLE OF CONTENT

	<u>Page</u>
PREFACE	v
TABLE OF CONTENT	vi
ABBREVIATIONS	viii
LIST OF TABLES	ix
LIST OF FIGURES	x
ABSTRACT	xi
ÖZET	xii
1. INTRODUCTION	1
1.1 Background.....	1
1.2 The Problem of the Study.....	5
1.3 The Objectives of the Study	7
1.4 The Study Hypothesis	7
1.5 The Study Importance and Contributes	7
1.6 Definition of Terms	8
1.8 The Study Plan	11
2. LITERATURE REVIEW	12
2.1 Introduction.....	12
2.2 Theoretical Framework	12
2.2.1 The theory of social capital.....	12
2.2.2 Intellectual property theory	13
2.3. Review of Related Literature	15
2.3.1 The effect of knowledge acquisition on OP	15
2.3.2 Influence of knowledge creation on OP.....	18
2.3.3 Knowledge conversion and its influence on organizational performance	20
2.3.4 Influence of knowledge sharing on organizational performance	22
2.4 Chapter Summary.....	27
3. KNOWLEDGE MANAGEMENT AND ORGANIZATIONS PERFORMANCE IN IRAQ	28
3.1 Describing the Case Study.....	28
3.2 The Sample Size.....	29
3.3 The Conceptual Model	30
3.4 Collecting Data	30
3.4.1 The method of collecting data.....	30
3.4.2 Descriptive statistics of data	31
3.5 The Reliability and Normality of the Data	35
3.5.1 The reliability of the Data	35
3.5.2 The data normality check.....	36
3.6 Factor Analysis	39
3.6.1 Background	39
3.6.2 The correlation between scales items	40
3.6.3 Factor analysis.....	41

3.7 The Regression Analysis	44
3.8 The Results Discussion.....	46
4. CONCLUSION	48
5.1 The Study Suggestions	49
REFERENCES	50
APPENDICES.....	56
RESUME.....	61

ABBREVIATIONS

TC	: Telecommunication Companies
PSE	: Private Sector Enterprises
KM	: Knowledge Management
OP	: Organization's Performance
APP	: Appendix
LRM	: Linear Regression Model

LIST OF TABLES

	<u>Page</u>
Table 3.1: The study dimensions, and the number of items for each dimension.	31
Table 3.2: The demographic information.....	32
Table 3.3: The age, working experiences, and education levels	32
Table 3.4: An example of the frequency of each item related to KM scales.	33
Table 3.5: The frequency of organizations' performance scales	33
Table 3.6: The descriptive statistics of KM items.	34
Table 3.7: The descriptive statistics of OP items.....	34
Table 3.8: The Cronbach's Alpha coefficients for reliability test.	36
Table 3.9: The normality test for KM items.....	37
Table 3.10: The normality test for OP items.	38
Table 3.11: An example of Pearson Correlation matrix of KM scales.	40
Table 3.12: An example of Pearson Correlation matrix of OP scales.	40
Table 3.13: Total Variance Explained	41
Table 3.14: The rotated components matrix of KM dimension	43
Table 3.15: The KMO and Bartlett's tests	44
Table 3.16: The results of regression analysis.....	46
Table A.1: A copy of the study questionnaire.	56

LIST OF FIGURES

	<u>Page</u>
Figure 3.1: The conceptual model.	30
Figure 3.2: An example of the data distribution of the KM variables.	39
Figure 3.3: An example of the data distribution of the OP variables.	39
Figure 3.4: The scree plot of factor analysis.	42
Figure 3.5: The distribution of the dependent variable FOP.	44
Figure 3.6: The regression standardized residuals.	45
Figure 3.7: The scatterplot for outlier check.	46

KNOWLEDGE MANAGEMENT AND ITS REFLECTIONS ON THE ORGANIZATIONS PERFORMANCE. A CASE STUDY OF ASIA CELL TELECOMMUNICATIONS COMPANY IN IRAQ

ABSTRACT

The organizations around the world are increasingly facing dynamic and challenging work environments. That is because of the increased globalization of business environment, and the use of advanced technologies. Based on that, the organizations have to adjust and improve their operation systems to stay in the highly competition market. One of the crucial improvement is improving their knowledge management system. Recently, the Iraqi telecommunication companies are also facing same conditions. These companies have applied knowledge management systems to achieve their goals. However, some of them have failed to meet their goals. Information on how the knowledge management effect the performance of telecommunication companies in Iraq still limited. Therefore, the study aims to fill this gap. This study tests the effect of KM on the OP of telecommunication companies in Iraq. The hypothesis of this study is that KM can positively and significantly effect the performance of telecommunication companies in Iraq. This study was applied on Asiacell, which is one of the telecommunication companies in Mosul-Iraq. The study used the questionnaire method to collect data. A random sample of 275 employees who are working in Asiacell was the sample population. The respondent are the company's top managers and the KM related employees. This study used a sample size of 182. The SPSS software is used to do the statistical analysis. The results of the study showed that the perceptions about knowledge, knowledge sharing, and intrinsic motivation have positive relationships with the Asicell's performance. The results showed that the cooperation, leadership, and knowledge creation have negative relationships with Asiacell's performance. In short, the results do not support the hypothesis of this study. They show that knowledge management has no impact on Asiacell's performance in Iraq. The study suggests that Asiacell should adopt better knowledge management system or improve the existence one to enhance its performance.

Keywords: *Knowledge management, Organization performance, Iraq*

**BİLGİ YÖNETİMİ VE KURULUŞLARIN PERFORMANSINA
YANSIMALARI. ASYA'DA BİR VAKA ÇALIŞMASI IRAK'TA HÜCRE
TELEKOMÜNİKASYON ŞİRKETİ**

ÖZET

Dünyanın dört bir yanındaki kuruluşlar giderek daha dinamik ve zorlu çalışma ortamlarıyla karşı karşıya kalıyor. Bunun nedeni, iş ortamının artan küreselleşmesi ve ileri teknolojilerin kullanılmasıdır. Buna dayanarak, kuruluşlar, yüksek rekabet piyasasında kalabilmek için işletim sistemlerini ayarlamalı ve geliştirmelidir. Önemli gelişmelerden biri, bilgi yönetim sistemlerini geliştirmektir. Son zamanlarda Irak telekomünikasyon şirketleri de aynı koşullarla karşı karşıya. Bu şirketler, amaçlarına ulaşmak için bilgi yönetim sistemlerini uygulamışlardır. Ancak bazıları amaçlarına ulaşamadı. Bilgi yönetiminin Irak'taki telekomünikasyon şirketlerinin performansını nasıl etkilediğine dair bilgiler hala sınırlı. Bu nedenle, çalışma bu boşluğu doldurmayı amaçlamaktadır. Bu çalışma, KM'nin Irak'taki telekomünikasyon şirketlerinin OP üzerindeki etkisini test etmektedir. Bu çalışmanın hipotezi, KM'nin Irak'taki telekomünikasyon şirketlerinin performansını olumlu ve önemli ölçüde etkileyebileceğidir. Bu çalışma, Musul-Irak'taki telekomünikasyon şirketlerinden Asiacell üzerinde uygulanmıştır. Araştırmada veri toplamak için anket yöntemi kullanılmıştır. Asiacell'de çalışan 275 çalışandan oluşan rastgele bir örnek örneklem popülasyonuydu. Ankete katılanlar, şirketin üst düzey yöneticileri ve KM ile ilgili çalışanlarıdır. Bu çalışmada 182 örneklem büyüklüğü kullanılmıştır. İstatistiksel analiz yapmak için SPSS yazılımı kullanılmıştır. Çalışmanın sonuçları, bilgi, bilgi paylaşımı ve içsel motivasyon ile ilgili algıların Asiacell'in performansı ile olumlu ilişkilere sahip olduğunu göstermiştir. Sonuçlar, işbirliği, liderlik ve bilgi yaratmanın Asiacell'in performansı ile olumsuz ilişkileri olduğunu gösterdi. Kısacası, sonuçlar bu çalışmanın hipotezini desteklememektedir. Bilgi yönetiminin Asiacell'in Irak'taki performansı üzerinde hiçbir etkisi olmadığını gösteriyorlar. Çalışma, Asiacell'in performansını artırmak için daha iyi bir bilgi yönetim sistemi benimsemesi veya varlığını iyileştirmesi gerektiğini öne sürüyor.

Anahtar Kelimeler: *Bilgi yönetimi, Organizasyon performansı, Irak*

1. INTRODUCTION

1.1 Background

The increased globalization driven by the advent of technological advances has altered the economic definition of borders and distances (Audretsch 2007). In the present age commonly referred to as the knowledge age, organizations are increasingly facing dynamic work environments. These dynamic creates more challenges. Therefore, the organizations are making every effort to achieve economic supremacy. In addition, they do their best to remain competitive in the global market. For example, they increase their work efficiencies and production (Forghani & Tavasoli 2017).

The advent of technology has vailed unlimited sources of knowledge available to practitioners. Some specialists think the knowledge era will replace the industrial era. Intellectual and intangible assets regarded as knowledge are viewed as critical factors in organizational competitiveness. Hence, organizations that strive to be successful must acquire adequate knowledge. In addition, they must recognize such knowledge as a critical factor to their competitiveness (Majidi et al. 2016; Denning 2006).

The study by Serenko et al. (2015) argued that individuals, organizations and countries own intellectual capital that needs to achieve organizational objectives. However, there are differences in the ability to create and disseminate such knowledge. Creating and disseminating knowledge becomes crucial factor of organizations' success in today's world. The knowledge should be appeared in the products of organizations. In addition, in businesses' processes and in the minds and hearts of employees.

Recently, many organizations are facing difficulties and challenges due to the rapid change in knowledge and the ways of using it (Zwain et al. 2012).

The result of the organizations fails to keep up pace these rapid global changes will lead them to be left behind. A greater command on knowledge resource base therefore becomes imperative to address current unpredictable business challenges.

The knowledge management operations has been accepted by many organizations as a management method. They accept it to be in line with the expectations changing of the organizations (Zwain 2012). Organizations appreciate that the control of knowledge is the crux of tomorrow's worldwide. Therefore, they will strive to remain competitive and differentiate themselves from others. They do that based on what they know, and how they use what they know (Davenport & Prusak 1998).

The knowledge has special characteristics such as the uncertain, symmetric and subjective. These special characteristics makes the activities of knowledge management hard to mimic by competitors (Audretsch et al. 2006). However, Bhojaraju (2005) indicated that sharing the knowledge by the organizations could enhance their current business processes. It could also provide business methods, that work efficiently.

The study by Nonaka (1994) stressed that organizational competitiveness is directly impacted by its ability to create, identify, share and apply knowledge. This study is in line with the study by Alavi and Leidner (2001). That is because they suggested in their study that the knowledge is indispensable for firm's competitiveness.

The knowledge management operations' concept is considered as a new field in research. Davenport (1994) presented the knowledge management as the process of capturing and distributing knowledge. In addition, effectively consuming knowledge. Knowledge management includes the discipline that encourages the integrated approach. The main goal of this approach is to identify, capture, retrieving, and sharing information assets. These assets include databases and documents. It also includes policies, procedures, and workers experiences.

The study conducted by King (2009) defined knowledge management in more advanced way. Specifically, the study defined it as organizing, preparing, and controlling the systems effectively. It is also means organizing the employees in the organizations as knowledge assets to improve the organization's performance.

Arguably, the timing of appreciating knowledge management operations as a discipline was propitious.

As in the 1980s, the fervor for intellectual capital had recognized the knowledge as crucial assets for organizations. Increasingly knowledge is being viewed as the strategic imperative of organizations as technology evolves.

Letonja & Duh (2016) avers that the methods of networking, transferring, sharing and converting knowledge are important in any firm performance. That is due to their influence in innovations. Davenport & Prusak (1998) argue that an organization can only gain sustainable performance from the knowledge they have. In addition, from the methods of using the resource and the speed they acquire the new knowledge.

The World Bank (2001) asserts that industrial capital and land is no longer sufficient to create wealth in organizations. However, that knowledge management operation have become a fundamental source of wealth creation. The World Bank argues that countries are anxious to adapt systems and programs that promote knowledge sharing, but they lack the tools and the experience to do so.

In 1995, when James Wolfensohn became the President of the World Bank, he was focusing on the role of the World Bank in spreading knowledge that is related to development. In addition, he focused on encouraging the advancement of community using practices that brings together groups of individuals with common interest or knowledge.

The goal of that is to enhance the social nature of learning within organizations. In addition, to presents an alternative method to the outmoded vertical transmission of knowledge (Wenger et al. 1999).

Sher & Lee (2004) support the World Bank propositions. The study indicated that KM had become one of the most important factor affecting the production process through employees, and through affecting the capital.

Wiig (1993) cited knowledge management operations as the processes of generating, distributing, organizing, storing, and applying knowledge. Pearlson & Saunders (2004) presented knowledge management operations as four processes. The processes are the generation of knowledge, and the capture of knowledge. In addition, the codification and transfer of knowledge. The generation of knowledge has activities of discovering new types of knowledge.

The capture of knowledge process involves the process of scanning knowledge, and the knowledge packaging. The codification of knowledge means presenting knowledge in an easy way to use. Finally, transferring the knowledge means moving the knowledge between individuals or groups.

The organizational performance is enhanced when organizations leverage on its intellectual capital, and seeks opportunities to enhance decisions. In addition, the services and products that have intelligence can also enhance it. They can increase their values and provide flexibility (Stankosky 2008). The intellectual capital includes skills and expertise. These are usually found at few employees. Stewart (1997) and Klein (1998) defined intellectual capital as organized knowledge that can be used to produce wealth.

Others proposed that knowledge management operations could lead to enhance the organizational initiatives. These initiatives can be the organizational learning, the total quality management, and the process of re-engineering. In addition, they can be providing new and urgent focus to obtain sustainable competitive (Bhojaraju 2005).

Many past studies tested the relation between knowledge management and organizational performance. However, they did not use in their tests the state of knowledge management operations. In addition, they did not compare knowledge management with the indicators of financial performance.

Some studies focused only on specific elements of knowledge management. They did not take in account the whole structure of knowledge management. For example, the study conducted by Lee et al (2005) linked the organizations' performance with the knowledge that they have. The study by Harlow (2008) presented the level of tacit knowledge as a factor that effects the organizational performance.

The assumption that KM is needed for improving organizational performance arises. That is because researchers have different views about the effect of knowledge management on the organizations' performance (Vera & Crossan 2003). Therefore, the category of knowledge is expected to lead to increase in the organizations' performance (Barney 1995). Vera & Crossan (2003) suggested that the knowledge might have a positive impact on organizations' performance. This study underscores other researchers' contentment that knowledge is viewed as a critical resource.

These resources can lead the organizations to get sustainable competitive advantages, and to improve their performance.

Singh et al. (2006) indicated that some specialists do not agree with the link between knowledge management and organizations' performance. Their argument is that the organizations can obtain knowledge that may not lead to smart behavior. The study

showed that there is an emerging debate on the paradoxical characteristics of tacit knowledge. This type of knowledge is different from other valuable goods or assets.

Using knowledge has also some of the contradictory features. For example, using knowledge may not reduce it. In addition, sharing knowledge may not lead to losing it. Therefore, many organizations that use knowledge get out of the market every day (Kalling 2003). Many past studies that focused on the relation between knowledge management and organizations' performance often stop with the performance proxies. The use of various performance proxies such as productivity, turnover and effectiveness.

For example, the study by Choi & Lee (2003) showed that it depends on five factors. These factors are the market share, overall success, profitability, growth rate, and innovativeness. The study by Lin & Tseng (2005) showed that the performance has seven factors. These factors are competitiveness, productivity, sales growth, costs, profitability, market share, and innovativeness.

The performance has become very important for every organization. In other words, the organizations' performance has become one of the most important variables in the management analysis. Specifically, it has become the most important indicator of the organizational growth. Even the concept of organizational performance is common in literature, it has not been easy to define (Ismael et al. 2010). Ismael et al. (2010) presented that performance as a set of financial and non-financial indicators. These indicators can provide information on the organizational achievement level. Hervani et al. (2005) posits that various studies investigated the universal principle of performance measurement.

They found that measurement systems might have either tangible or intangible measures. These measures should be dynamic and universally understood by staff and available to all employees across the organizations.

1.2 The Problem of the Study

Performing organizations are the bedrock of a country's economic growth. The telecommunication companies (TC) in Iraq play critical roles in accelerating economic growth in Iraq. In addition, they play important roles in development, and indigenizing the economy. They have positive impact on building capability of the

state, and improving the public services provided. They also contribute in creation of employment opportunities and building of international partnerships (Jarad 2014).

Since their establishment, some of these TC have failed to meet their financial goals, and hence missed opportunities for development. Noteworthy is the fact that 34 percent of all TC in Iraq have been making losses. This represents nearly a quarter of the TC in Iraq. Additionally, the mismanagement and corruption have negatively influenced their performance. For instance, Asiacell, which is one of the telecommunication companies in Iraq, has continued to making losses over years.

This trend is worrying hence the need for urgent attention by the various stakeholders charged with the management of the TC in Mosul, Iraq. Failure to address the problem may lead to a halt in operations of these enterprises. In addition, it may lead to further loss of income of various stakeholders including employees and suppliers (Mbo & Adjasi 2013). Given this dismal performance of some of the TC in Iraq, the question that needs an answer is “what causes poor performance among the TC in Iraq?”

Some studies tried to answer this question. For example, Menozzi et al. (2010) found that political nexus negatively affected performance of the TC. Ndegwa (1971) found that laws and regulations, oversight, corporate of governance, and management performance influence performance the enterprises in Iraq.

More et al. (2009) showed that knowledge management had a significant role in improving the organizations’ performance. The role of knowledge management operations in improving the performance of a company cannot be overemphasized.

Kovacic et al. (2006) indicated that the knowledge management operations is a process of improving, acquisition, integrating and using knowledge. Tanriverdi & Venkatraman (2005) indicated that knowledge is crucial factor in economic growth. They indicated that knowledge might be the only factor of comparative advantages.

Even the interest in explaining the source and nature of knowledge go back to the times of Socrates, Plato, and Aristotle, knowledge management concept is very recent (Singh et al. 2006).

More importantly, despite available literature that shows knowledge management operations as of great interest, there is scarcity of literature on the adoption of knowledge management operations. In addition, there is scarcity of literature on how

such knowledge if available influences performance of organizations.

The extant literature on knowledge management operations practices are largely extended on the international organizations, and private commercial companies (Adan 2013; Chiganda 2004). However, the information on the relation between the knowledge management and the performance of TC in Iraq is limited.

This study aims to fill these gaps by investigating the relationship between knowledge management operations and organizational performance of TC in Iraq. It also attempts to provide a method that leads to a better understanding of this relation. That can help the organizations manage use knowledge in a more harmonized and structured manner to improve their performance.

The insufficient literature guiding management of knowledge leading to dependency on short term solutions in implementing knowledge management operations (Ruchi et al. 2016). Therefore, there is need to develop a theoretical and empirical framework in the Iraq context. This study will fill the gap by providing an analytical and statistical test to show the effect of KM on OP of TC in Iraq.

1.3 The Objectives of the Study

The study has some objectives, and the main one is to test the impact of knowledge management on organizations' performance of TC in Iraq. That is the study aims to analyze the influence of knowledge aspects such as knowledge acquisition, knowledge creation, and knowledge sharing on organizational performance of TC in Iraq. This study will also provide an analytical and statistical test about the effect of KM on OP of TC in Iraq.

1.4 The Study Hypothesis

The hypothesis of the study stated that the knowledge management can positively and significantly influences the organizations' performance of TC in Iraq.

1.5 The Study Importance and Contributes

The study could have a contribution to the theoretical analysis literature related to KM. It may also lead the policy makers of TC in Iraq to better management. The

next paragraphs discuss the study significance.

Anecdotal evidence suggests that there is no link between KM and OP in Iraq. Therefore, most organizations in Iraq work hard on getting KM as ways to compete and stay in the market. Based on this idea, this study can help these organization adopt g develop good policies and strategies by providing useful information. It can also help them effectively utilize the KM to improve their performance (Yusuf & Wanjau 2014).

Organizations implementing knowledge management operations practices benefit in various ways. They depend on the four balanced scorecard perspectives (Kaplan & Norton 1996). The empirical findings of this study enhances awareness of the stakeholders. It helped them understanding the state owned corporations on effective implementation of knowledge management operations practices. That can lead to positive effects on the employees, the customers, the business processes, and the financial results. The state corporations will be able to view knowledge management operations as a tool to boost innovation and performance.

The fact that KM is critical for organizations' success can be a challenge. This challenge had led organizations to review their capabilities and put strategies for competition. The study results helped policy makers recognizing the KM. In addition, the results shows that KM could play crucial role in improving the organizational performance. The study showed that these results could motivate organizations to use KM as a systematic approach. As a result, that could lead them to adopt new policies of KM. in addition, fully utilize the operation systems that are working based on knowledge management.

1.6 Definition of Terms

This section presents the concepts and terminologies that used in this study:

1. Knowledge

Knowledge is defined as the understanding that are obtained from many experiences or research. Knowledge is also defined as the obtained information that can help individuals perform different task (Awad & Ghaziri 2007). Knowledge can be defined as the main motivation that drives the organizations' ability to operate, (Nonaka & Takeuchi 1995). knowledge, general, is all what

employees have and is know of information related to their work.

2. Knowledge Management

The knowledge management practices are the processes that aim to distributed specific knowledge within the organization. Nonaka and Takeuchi (1995) showed that knowledge management operations has, in general, four processes. The first process is knowledge acquisition, and the second is knowledge conversion. The third and fourth processes are knowledge combination and knowledge incorporation.

Ansari and Tabrizi (2012), and Forghani and Tavasoli (2017) defined knowledge management as three processes including acquisition, application, and maintenance. These processes usually focus on practices that used to generate new values to increase organizational performance and efficiency.

3. Tacit Knowledge:

Tacit knowledge is defined as personal or interior knowledge that is rooted in individuals' experiences. In addition, it is wisdom, ideas, norms and values and emotions (Irick 2007). It resides in the minds of the knowers and difficult to replicate. Generally, tacit knowledge is poorly documented, idiosyncratic and is difficult to articulate through a formal documented and systematic solution (Nonaka and Takeuchi 1995; Polanyi 1966). It exists in the cognitive, mental and rooted in individual experiences.

4. Explicit Knowledge:

It is defined as the knowledge that can be found outside the minds of individuals. Tiwana (2008) define explicit knowledge as any information captured. It can be in the form of databases, records, and charts.

More specifically, it can be presented as words, symbols, and numbers. Explicit knowledge can readily be expressed, codified and accessed. That is because it comes in different forms such as documents, contracts, formulas, and diagrams. This can not be useful without taking in account the context provided by experiences (O'Dell & Hubert 2011).

5. Implicit Knowledge:

The implicit knowledge is defined as the knowledge that can be obtained, but it is

not pronounced yet. It is implied because it is obtained only from observable behavior and performance (Nickols 2000). Implicit knowledge can be termed as “put together” by either concept advancement or expressions. It lies between the explicit knowledge and tacit knowledge.

6. Knowledge Acquisition:

The knowledge acquisition is defined as the process that organizations use to develop the ability of creation, and develop skills and relationships (Pacharapha & Ractham, 2012).

7. Knowledge Creation:

The knowledge creation is the process that lead to introduce new ideas. It is the set of actions that are taken by organizations to generate new ideas and objects (Mitchell & Boyle 2010).

8. Knowledge Conversion:

Sanchez and Palacios (2008) posits knowledge conversion as a social system that help individuals getting different knowledge. It facilitates the creation of new knowledge. That can lead to increase the value of both explicit and tacit knowledge.

9. Knowledge Sharing:

Knowledge sharing is defined as the process that ensure distributing knowledge between employees within an organization (Ipe, 2003). Knowledge sharing means the organizational ability to transfer, share, interact and converse knowledge. (Letonja & Duh, 2016).

10. Organizational Performance:

Financial performance encompasses the results of organizations that measured in financial and non-financial indicators (Franken & Cook 2013).

It includes specific areas of measures such as profits, return on investment, sales, market share and customer satisfaction (Gaffor & Cloette 2010). Organizational performance is how organizations do specific activities to achieve the optimal use of resources. In addition, Knowledge sharing can be a way to achieve the organizations’ objectives effectively, (Allen et al. 2008).

1.8 The Study Plan

The previous sections of this chapter presented contextual background and defined the problem statement. In addition, it presented the study objectives and hypothesis. In addition, it presents the contribution of the study. Chapter II expounds on the literature review, theoretical and empirical literature related to the subject area. The development of the conceptual framework, the research methodology will be presented in chapter III.

2. LITERATURE REVIEW

2.1 Introduction

This chapter reviews the theories and the literature related to knowledge management operations and organizational performance. The conceptual framework represents the relationships between variables.

2.2 Theoretical Framework

2.2.1 The theory of social capital

The theory of social capital indicates that one source of capital is the community where businesses are working. Specifically, the social networks can lead to develop and accumulate of intellectual capital within the organizations. That can lead to develop and improve the creation value of knowledge (Kianto and Waajakoski 2010).

The obtained capital from social networks is very important since it comes in the financial form and human forms. It is also important since it can lead to sustainable value of firms including sustainable firm's innovation and performance (Yli et al. 2002; Tsai 2006).

Bourdieu (1986) and Putnam (1993) showed that the social capital could be the sum of actual resources, or potential resources. These social capital resources are connected to the network of businesses relationships. In general, the theory of social capital represents the relationships between individuals. In addition, it represents the relationships between social communities. This theory depends on long-term social relations between people, which can be profitable for firms. It is considered as one of the important sources of KM share. (White 2002).

There are different forms of social capital. These forms are the trust, the commitments within groups, and the intergenerational lockdown rules (Bourdieu 1984). In general, the forms of social capital are viewed based on five dimensions.

These dimensions are the social norms, the trust, and the expect reciprocity. In addition, the networks associations, and the personal and group events (Bullen & Onyx 2000; Bourdieu 1984; Coleman 1988; Paxton 2002). These dimensions can be in different forms such as individuals, businesses, and society.

Based on that, the trust can be defined as social technique that arranges the social relationships. The study by Granovetter (1985) showed that the social relationships could lead to the development in economic activities. The study indicated also that the social structure is very important for social capital. Specifically, it is important for the establishment and improvement of trust generation. The study also showed that the social capital could not be existed without social trust.

2.2.2 Intellectual property theory

The intellectual capital theory has emerged in the last decade in response to the growing realization of the importance of information and knowledge. Intellectual capital was first conceptualized during the same period as knowledge management and human capital ideas. It has become an important part of the organizational debate, and is necessary to clarify, define and differentiate the concept of intellectual capital.

The main factors that determine the intellectual capital is strongly associated with the account for knowledge, and the need for care. Based on the intellectual property theory, the intellectual capital includes legal and ethical issues. For example, it includes trade secrets, copyrights, and other rights (Slater 1998).

The monetary value to businesses knowledge can be calculated by specific methods, even with advanced technical knowledge (Bohn 1994). Some studies showed that there still concern about the weak knowledge management that may lead to some risks to businesses (Marshall et al. 1996). Therefore, it is important to account for the needs, and motivates. That can help businesses to measure effectiveness of their knowledge.

The intellectual capital is considered as an important source of the economic success and growth. That is because it added value to the businesses. Intellectual capital is one of the driver that help organizations that gain future benefits.

Recently, the competition between businesses is high, and more information become

available to buyers. In addition, the environment of modern business is dynamic. Thus, the organizations are facing many changes and challenges. The survival of these businesses depends on their willingness and ability to adapt to such changes (Chrisman et al. 2015). The firms, through intellectual capital, are able to adapt fast to the changes and stay in the markets.

Due to innovation, the intellectual capital has become a source of competitive advantages (Obeidat et al. 2017). Based on recent business environment, the intellectual capital is one of the most important factors of development and organizations competitive advantages. The intellectual capital tends to be challenged when comes to determining its value. The common ways of defining intellectual capital focus on the value creation, the competitive advantage enhancing, and the organizations' success (Obeidat et al. 2017).

The intellectual capital provides the ability to create wealth and help in the production of high valued assets. Intellectual capital includes introducing new ideas and the innovation that determine the future of the firm. Before intellectual capital, individuals believed that organizations' performance depend on financial items. However, this idea was disappear because researchers proved that the organizations' success is highly connected to the intellectual capital.

The study by Yang (2009) showed that intellectual capital has three main elements. These elements are the human capital, the relational capital, and the structural capital. The human capital is represented by skills and creativity of employees. It can be increased through the training programs. Human capital includes also the employees' expertise within an organization. For example, if the employees work efficiently, they are more likely to improve their organizations' performance.

The intellectual capital has also structural capital component. The non-human assets within the organizations represents the structural capital component (Daum 2003).

The non-human assets consists of the patents, the copyrights, and the procedures. In addition, it consists of the rules, policies, and decision-making.

The relational capital is defined as the relationship between the firms and their external stakeholders (Subramaniam 2005). The relational capital includes some items such as the trust, the experience, and the knowledge. The relational capital items build the relationship between the businesses and their customers. This

relational can prevent external stakeholders from leaving the commercial relationship (Daum 2003).

The concept of intellectual capital existed in the past few decades, and it is not new for the organizations. It focuses on developing the organizations' performance using the available resources. Some past studies support the concept of intellectual capital such as Engstrom et al. (2003); Kim et al. (2012) and Sharabati et al. (2013).

Previous studies including Bontis (1998), Bontis et al. (2000), Seleim et al. (2004), Wang & Chang (2005) Cabrita & Bontis (2008) Kamukama et al. (2010), and Sharabati et al. (2010) endorse that there is a significant positive relationship between the intellectual capital and organizational performance.

In the current study, the research gap will be bridged by using the three independent variables that are human, structure and relational capital. The previous studies focus upon two factors that are human and structure, while the third variable that is relational is not considered.

Currently, researchers are using these three variables in order to develop the different conclusion in different situation. The reason of that is to come up with the better solution to the society or the industrial sector regarding increasing the organizational performance by using intellectual capital.

2.3. Review of Related Literature

This section presents a review of related literature as part of the study objectives as discussed below:

2.3.1 The effect of knowledge acquisition on OP

The study by Pacharapha and Ractham (2012) showed that the knowledge acquisition is a way to develop skills and relationships.

The study showed that knowledge acquisition has many activities. For example, these activities include forming survey, and get a firm that is rich in knowledge. In addition, employees' participation in external training programs, getting data sets, and hiring new employees. Furthermore, getting knowledge by competitive intelligence, using advanced technologies.

Most businesses have adopted different strategies and used different tools and

methods to facilitate knowledge acquisition (Holsapple & Singh 2001).

Shu-Hsien et al. (2008) observed that an organization obtains the required knowledge through connections to networks either within or outside the organization. They consequently argued that communications, interactions and learning within or outside an organization are the components of knowledge acquisition process. In addition, the way knowledge is acquired. That explains why company's connections with external networks and knowledge structure of its employees. These are the determinant factors for its capacity to acquire knowledge.

Matin and Sabagh (2015) investigated the relations between KM operations capabilities and organizational performance of Iranian export companies. The study paid more attention to the indices of KM. It focused on knowledge acquisition, knowledge transfer, knowledge protection and knowledge application. In addition, it focused on knowledge infrastructure capabilities. Finally, it focused on organizational performance indices, which are organizational innovation, competitiveness and financial outcomes.

The study population was the managers of companies. The sample size of the study was 148. The results of factor analysis indicated that both models used were estimated significantly. In addition, the results of path analysis showed that the knowledge acquisition has direct and significant relationship with organizational culture and organizational structure. The results also showed that knowledge application and knowledge protection have significant relationship with organizational performance.

Ahmed, Fiaz and Shoaib (2015) tried to identify the impact of knowledge management operations practices on OP. The study used questionnaires to collect data. There were 256 respondents from the banking industry. The study used SPSS to do the statistical analyses.

The results showed that encouraging knowledge acquisition could improved the organizations performance. The results indicated that knowledge management operations could lead to improve the quality of services provided, increase customer satisfaction and the efficient use of resource.

Nnabuife et al. (2015) tested the effects of KM on organizational performance in a sample of commercial banks in Awka, Anambra State, Nigeria. The study tried to

identify if there a significant relation between KM and organizational performance. . The results showed that knowledge acquisition has positive relationship with organization's performance. The results indicated knowledge identification has positive relationship with organizational performance.

Zwain et al. (2012) conducted a study that focused on the impact of knowledge management and academic performance in Iraqi higher education institutions. The study utilized survey and cross-sectional designs. The results revealed a positive relationship between knowledge management operations processes and performance of higher education institutions.

The findings recommended that Iraqi higher education institutions could benefit from knowledge management operations processes. The study further suggested that decision makers should acquire an in-depth knowledge about the impact of knowledge management on higher education institutions. That could make informed decisions that enhances the performance of their organizations

Kombo et al. (2015) investigated the relationship between knowledge strategy and innovation in a sample of telecommunication firms. The study population was 655 firms in the telecommunication sector. The results showed that knowledge strategy had a positive and significant effect on innovation activities of the telecommunication firms. The study indicated that higher levels of knowledge strategy, specifically, exploration, acquisition and exploitation could result in higher organizational performance.

The study conducted by Martin (2012) tested the impact of knowledge acquisition strategies on company's performance. The study was applied on in the Young High Technology Company in Germany. The study used quantitative and qualitative data. The results of the study indicated four strategies of knowledge acquisition.

These strategies were mid-range strategy, low-key strategy, mid-range strategy, and focus and explorer strategy. The results showed that these four strategies have different relations with the company's performance.

The differences are due to the type of knowledge acquired. In addition, due to the configuration of knowledge acquisition activities. The study results also indicated that the knowledge acquisition significantly affected the company's performance. The study suggested that the company must adopt the type of knowledge acquired

that is useful to its needs. Another group of specialists believes that organizations engage in knowledge acquisition subconsciously. In addition, they could not realize that the talents and relationships are lost in the process (Tiwana 2008). However, most organizations continue losing the acquired knowledge when the knowledge retention strategies are absence.

The willingness and ability to acquire knowledge are very important factor of knowledge acquisition (Gupta & Govindarajan 2000). Furthermore, to stimulate employees to share ideas and expert knowledge, organizations must apply various methods of idea generation. For example, internal competitions with rewards for best ideas given and suggestion boxes. These strategies often lead to increased employee involvement in the organizational strategic direction (Fairbank & Williams 2001; Jensen et al. 2007).

2.3.2 Influence of knowledge creation on OP

The knowledge creation is defined as the set of actions that lead to generate new ideas and objects (Mitchell & Boyle 2010). It can also be defined as the ability of organization to create new ideas related to different activities within the organization.

For example, the processes of producing new technological innovations (Un & CuervoCazurra 2004; Nonaka 1994). The mechanisms for this phase include self-reporting, documentation, programming, instrumentation, network, knowledge engineering (Bergeron, 2003). Hence affecting the overall organizational performance through self-reporting.

Langeroodi (2014) studied the effect of the knowledge management operations and intellectual capital on organizational performance of state banks in Rasht Naragh, Iran.

The results from casual modeling indicated that factors such as efficiency, innovation and dynamic capabilities affect organizational performance directly. In addition, it has indirect effect on organizational performance through efficiency, innovation and dynamic capabilities.

It is also considered that the culture of learning and knowledge creation has a positive effect on intellectual capital and performance. The study by Forghani & Tavasoli (2017) tested the relationship between knowledge management and organizational performance. The study was applied on the lean telecommunication

companies in Iran. The study specifically tested the effect of knowledge functions, knowledge creation, knowledge acquisition, and knowledge sharing and on the performance of lean telecommunication companies.

Research samples were collected through simple random method of 194 staff of “Mes Sarcheshmeh Company” using a standard questionnaire. The data was analyzed using SPSS. The results of the study indicated that knowledge creation, acquisition, sharing have significant effect on the performance of lean telecommunication companies in Iran.

Bihanta et al. (2012) carried out a descriptive study of the impact of knowledge creation mechanism on organizational performance. It focused on Malaysian automotive industry. In this study, the profound roles of knowledge creation in terms of socialization, externalization, combination and internalization as a model on quality process were examined. The study found positive relationship between knowledge management operations and organizational performance.

The study concluded that the process of continuous improvement is one of the significant and predominant programs in most of the manufacturers all over the world.

Cheruiyot et al. (2012) investigated the institutionalization of knowledge management operations in selected telecommunication enterprises in Iraq. A sample of 60 senior managers in the three selected telecommunication enterprises was used. The study revealed that two critical factors influence institutionalization of knowledge management operations. These factors are organizational practices and technological infrastructure. The study concludes that the organizational practices that include knowledge creation, distribution have the highest influence in creating values. Therefore, when a comprehensive view is taken in instituting knowledge management operations practices, organizational practices must be considered first and technological infrastructure second.

Further studies conducted by Chweya et al. (2014) have targeted a sample of commercial banks. The findings of the study revealed that there is significant relationship between knowledge creation and organizational performance.

2.3.3 Knowledge conversion and its influence on organizational performance

Sanchez & Palacios (2008) viewed knowledge conversion as a process that is social in nature and an environmental when people generate new knowledge. That expands the value and quantity for both explicit and tacit knowledge.

Tseng (2010) opined that knowledge conversion is made possible through the processes and activities of synthesis, refinement, and integration of knowledge. In addition, through combination, coordination, distribution, and restructuring of knowledge. This process enables a firm to make individual knowledge useful by converting individual knowledge into firm knowledge.

Conversion oriented knowledge management operations processes are those focused towards making existing knowledge useful. Some of the processes that enable knowledge conversion are the firm's ability to organize, integrate, combine, structure, coordinate, or distribute knowledge.

Therefore, any organization must develop a framework for structuring its knowledge. Without common representation standards, no consistency of knowledge would exist. Knowledge management operations identified with conversion of knowledge are those that facilitate useful learning from existing knowledge. Procedures related to conversion of knowledge incorporate an organization's ability to solidify, assimilate, join structure, and coordinate (Zander & Kogut 1995).

The information that is obtained from different assets inside and outside the organization is. It is ineffective when it is not transformed to a practicable structure.

This means that the application of new and existing knowledge for decision-making, improves performance and achievement of organizational goals.

Ahmed et al. (2015) tested the effect of KM on organizational performance in the banking sector of Pakistan. The results of the study showed that dimensions of knowledge management operations have positive impact on banks performance.

The results of the study identify the knowledge management operations activities. For example, knowledge acquisition, conversion, application and protection could lead to high quality of services provided to customers. In addition, high customer satisfaction, high efficiency of resource use. Furthermore, they could lead to more profits, and more improvements in organizational performance.

Ruchi et al. (2016) examined the impact of knowledge management operations on the performance of Indian software companies. The findings revealed that there was a significant relationship between knowledge management operations and organizational performance. Furthermore, the results of the study showed that structure of systems, strategy, knowledge conversion and application positively affected the performance of organization.

The authors proposed that the findings and implications of the study could be beneficial to managers in the knowledge management of their organizations.

Kinyua et al. (2015) investigated the effect of knowledge conversion and knowledge application on performance of commercial banks in Iraq. The study adopted explanatory and cross-sectional survey design, targeting all the 43 commercial banks in Iraq. Four approaches of knowledge conversion process were used. Specifically, the socialization, externalization, combination and internalization were utilized in this study.

Knowledge application was measured using indicators comprising of problem solving, elaboration, efficient processes, information technology support and infusion. In addition, performance was measured using non-financial indicators. These indicators were new products, speed of response to market crises, product improvement, customer retention and new processes.

The findings of the study established that knowledge conversion and knowledge application positively influence the performance commercial banks in Iraq.

The findings further recommended that the management of commercial banks should encourage interaction between employees and customers.

In addition, banks' processes should be used to enhance understanding and translation of knowledge (explicit) into application (tacit knowledge). The study was undertaken in Iraq, with a focus on local banks with a mix of local and foreign ownership. It differs from the current study, which focuses on telecommunication companies in Iraq within the public-sector context.

Adan (2013) examined the effects of knowledge management operations enablers on organizational performance within the Iraq Revenue Authority (IRA). Findings of the study indicated that significant enablers of knowledge management operations were organizational culture and structural issues.

The study therefore concluded that knowledge management operations enablers affect the performance of Iraq Revenue Authority. Adan (2013) investigation was a case study focused only on one organization. Hence, the significant difference to current study in terms of industry and variables of knowledge management.

Kimaiyo et al. (2015) examined the effect of knowledge management operations on firm performance in commercial banks in Nakuru, Eldoret and Kisumu. The study revealed that knowledge processes had a positive and significant effect on performance of the firm.

2.3.4 Influence of knowledge sharing on organizational performance

One of the core parts of knowledge management operations is the knowledge sharing. That reason for that is knowledge sharing can be part of controlling, storing, and increasing the assets of knowledge in organizations (Yang & Wu 2008).

Knowledge sharing concept has presented differently by researchers. For example, the study by Garvin (1993) showed that the knowledge sharing is a process of transition knowledge.

The study showed that knowledge sharing process transfers knowledge between individuals or groups. The study also showed that knowledge sharing is the process of developing knowledge. Knowledge sharing involves transferring key facts, thoughts and theories gained by learning. In addition, by transferring experiences from sources to receivers (Sandhu, et al. 2011).

Knowledge sharing is the practice of swapping knowledge (tacit or explicit) amongst individuals and producing a new knowledge (Hooff et al. 2003). Knowledge sharing includes two parts: knowledge donation and knowledge collection. Knowledge donation is communicating the personally learned capital to others.

Whereas, knowledge collection is asking and encouraging contemporaries to share their erudite assets (Hooff & Ridder 2004). Knowledge sharing is the agreement of organizations' members to contribute in sharing anything they have learnt or have produced (Gibbert 2002). Knowledge sharing occurs once knowledge know-how, skill of one department of an organization affects further divisions (Matzler et al. 2008).

Bock & Kim (2002) showed that knowledge sharing is the most important part of knowledge management. As reported by many authors, knowledge sharing improves organizational performances (Lesser & Storck, 2001). In addition, knowledge sharing improves the process of learning and promote competitive advantages for organizations, (Powell et al. 1996).

The technology is considered as the essential factor of knowledge sharing. However, the social network can be also an important factor of knowledge sharing. That is because it encourages individuals to work less formally, and depend more on cooperation. knowledge sharing is notably a people thing, not a technology thing (Laycock 2005). However, Davenport & Prusak (1998) argued that with globalization, convergence of knowledge products and technology becomes crucial to organization's competitive advantage.

Armacost (2011) showed that knowledge sharing between employees could help achieving efficient service delivery, which provides additional value to customers. It also establishes good relationships with customers, which increases the organizations' profitability.

Furthermore, Armacost (2011) asserts that such knowledge sharing must be underpinned by strong collaborations. In addition, by prevalent culture of sharing between employees within the organization. Because if knowledge management operations runs in the organization as a practice and embedded as an organizational culture, it facilitates effective application of intangible capital. That can be utilized for the success and competitiveness of the organization (Duică et al. 2010).

Knowledge hoarding however is viewed by Robinson (2011) as a "killer" to knowledge sharing amongst employees. The author challenges employees not to view expert knowledge as power but power being equal to knowledge sharing. A review of extant literature reveals that it is not easy to share knowledge.

That is because it is equated to power, and individuals would be reluctant to share their knowledge, especially the tacit knowledge (Kinsey 2007). They do not share when they perceive that there are few rewards or when sharing is not recognized by the organization (Wah et al. 2005).

Organizations should therefore provide a conducive environment to encourage knowledge sharing. That is because knowledge sharing represents a key enabler of

improved business performance. For this reason, it is necessary to develop dedicated strategies to encourage such spontaneous knowledge exchanges. In addition, a special emphasis should be given to informal relations.

Tubigi & Alshawi (2015) assessed the impact of knowledge management operations processes on organizational performance in the airline industry in Germany. The research employed an inductive and deductive method with qualitative approach to guide the study. Primary data collection was done using interviews while content analysis was applied to extract and analyze the information.

The study showed that there are eight processes of knowledge management. These processes were knowledge modification, knowledge archiving, and knowledge creation. In addition, there are knowledge usage, knowledge transfer, and knowledge translation. Furthermore, knowledge disposal, and the knowledge of user access. These processes representing different aspects of knowledge within the organizations.

However, the findings showed that knowledge transfer was most common in knowledge management operations process, but did not influence performance.

The knowledge usage influenced organization's performance the most.

The study by Choi et al. (2010) tested whether IT can support the Knowledge management within organizations. Specifically, it tested the effect of sharing, storing, encoding, and application of knowledge on organization's performance. The study was applied on two firms in South Korea. It involved 139 teams that had 743 individuals.

The results of the study showed that the IT support has positive effect on the knowledge management operations. The results showed that storing and application of knowledge could influence the organizational performance. However, knowledge sharing had a positive impact on knowledge application.

It did not show a direct impact on team performance. Therefore, knowledge sharing on its own is not enough. Organizations must ensure such knowledge is applied to improve team performance. In addition, they must ensure that such knowledge is anchored by information technology systems.

The study by Chigada & Ngulube (2015) tested the effect of knowledge management on organizational performance. The study was applied on a sample of banks in South Africa. The study main objective is to test whether the use of knowledge management can lead the banks to improving their service quality.

In addition, the study also tried to investigate how knowledge could improve the banks' performance. The results of the study showed that knowledge management were not understood at these banks. Specifically, it did not affect the bank's performance. The results also showed that that cooperation between the communities and banks was important in creating knowledge environment. The study showed that even these banks did not depend on knowledge management, they were responsive to knowledge management practices.

Ongusinji & Akambi (2013) investigated the strategic influence of knowledge management operations and organizational learning. The study was applied on the perceived performance of sampled banks in Oyo State in Nigeria. The study sought to establish the main and interactive effect of knowledge management on organizational performance.

The knowledge management included acquisition, distribution, interpretation, organizational memory, system orientation strategy and human orientation strategy. The findings showed that the independent variables knowledge management items were predictors of organizational performance.

The study also established a significant positive relationship between knowledge management operations variables and organizational performance.

Based on the findings, the scholars recommended that there is a need for banks to manage knowledge efficiently. In addition, they should embrace individual and group learning efforts. Doing that can lead to gain competitive advantage and improve the organizational performance.

Katsuro et al. (2013) studied the impact of knowledge management operations on organizational performance in the "Grain Marketing Board" in Zimbabwe. An analysis of the data collected revealed that knowledge management operations had positive impact on the performance of the organization. The effect was through improvements in design time, cost reduction, employee flexibility and reduced employee frustration and confusion.

The study also revealed that properly designed knowledge management systems contributed to employees' flexibility at work place, reduced design time and overall organizational costs. However, the research also found that knowledge management operations could negatively affect a culture that embraces learning and sharing of knowledge in the organization.

Nguthari & Kwasira (2015) explored the influence of knowledge management operations practices on firms' performance. The authors assert that knowledge management operations in law firms involve several ways. These ways facilitate the effectiveness of knowledge sharing and using in various areas. These areas can be law, when providing legal services, and costumers and their businesses. In addition, the referral sources, experts or lateral hires, and other parties.

The study was applied on 162 law firms. The study used both qualitative and quantitative approaches. The study hypothesis is that that all four practices effect of the legal firms' performance.

The results of the study showed that the knowledge sharing had the most effect on firm' performance. The knowledge implementation had the least impact on firms' performance. The results of the study showed that the knowledge sharing and knowledge implementation had positive and significant impact on firms' performance.

The study recommended that law firms should improve their strategies of knowledge management, which may enhance their performance.

Yusuf & Wanjau (2014) investigated causes affecting the implementation of knowledge management operations practices in the state corporations of Iraq. The study used descriptive analysis and self- administered questionnaire census survey on 60 managers. The findings revealed that sharing was hindered and inadequate skills in information technology.

In addition, lack of clearly defined roles for knowledge management operations initiatives further complicated the support needed to manage knowledge in state corporations in Iraq. Their recommendations included nurturing strong organizational structures to support knowledge distribution. In addition, stimulating an open culture that can cultivate trust among employees to share their knowledge.

Zahari et al. (2014) tested the impact of knowledge sharing on firms' performance. The study was applied on a sample of insurance companies in Malaysia. The study main objective was to show the role knowledge sharing in businesses' success. The study used a sample of 180 managers from all companies.

The results of the study indicated that knowledge sharing had positive and significant effect on the companies' performance. The study suggested that the insurance companies should focus on knowledge management between their employees. The study however focused on insurance companies in Malaysia, which is different from the current study in terms of location and industry.

2.4 Chapter Summary

This chapter presented key theories and empirical work on knowledge management operations and companies' performance contexts. In addition, this chapter also reviewed literature in connection to the research objectives of the study as presented in chapter one.

The areas covered in this chapter include the theoretical and the empirical review focusing on the study variables. In addition, the conceptual framework and empirical review of literature related to the topic of the study.

3. KNOWLEDGE MANAGEMENT AND ORGANIZATIONS PERFORMANCE IN IRAQ

This chapter analyzes and discusses the impact of knowledge management (KM) on the organizations' performance (OP) in Iraq. More specifically, this study tests the impact of KM on OP of Asia Cell Telecommunication Company in Mosul-Iraq.

The study methodology has several steps, which will be discussed one by one. These steps are:

1. Describing the case study
2. Determining the sample size.
3. Identifying the conceptual model of the study.
4. Collecting the study data.
5. Checking the data reliability and normality.
4. Reducing dimensions using Factor analysis.
5. Using regression analysis to test the study hypotheses.
6. Discussing the results.

3.1 Describing the Case Study

This study was applied on Asia Cell Telecommunication Company (Asiacell), in Mosul-Iraq. Asiacell is one of the main providers of mobile telecommunications services in Iraq with nearly 12 million subscribers. It has 2700 employees as of 2021. Asiacell is considered the first network in Iraq, as it is the first provider of mobile telecommunications services in Iraq. It has achieved coverage of all its parts, as the company provided its services in all eighteen Iraqi governorates (Doski 2014).

Asiacell's network covers 99.09% of the Iraqi population, making its coverage the widest among the mobile telecommunication operators in Iraq. Asiacell was founded in 1999 by Iraqi investor (Farouk Mustafa Rasoul).

It was the first mobile telecommunications company in Iraq. In 2012, the French marketing research company (Altai) announced that Asiacell was the number one brand in Iraq. It is number one in all sectors, but not only in the field of mobile communications. That reflects the strong presence of the Asiacell brand.

Asiacell offers prepaid mobile telecommunications services, which constituted 99% of its total subscriber base as of November 14, 2014. The prepaid line offers include a number of packages customized to suit different market segments. These segments include youth, women, and an innovative service targeting the millions of visitors who visit Iraq annually. Asiacell also provides postpaid line services to businesses and individuals.

In 2013, Asiacell won an award granted by the Global Mobile Telecommunications Union for the category of best telecommunication services directed to women in emerging markets. That was in recognition of its active role and efforts to advance the telecommunications industry in Iraq.

In November 2013, Asiacell won first place in the “Corporate Finance” category for its record-breaking offering on the Iraq Stock Exchange at the 2013 ACT Awards. In April 2013, Asiacell won the award for the biggest deal in the stock market during the 2013 conference of (TMT Finance) for the Middle East and North Africa.

In 2011, the Iraqi Ministry of Communications declared Asiacell as the best GSM operator in Iraq. At the beginning of 2015, Asiacell obtained a license to operate 3G services within its network in Iraq. The reason of that was to provide high quality voice and video communication and high quality data speed.

Based on all the above information, Asiacell is a good case study in terms of its size, number of employees, its provided services, and its importance in Iraq. In addition, it is good case study since it has advanced technologies, and knowledge systems.

3.2 The Sample Size

The Slovin’s formula is used to calculate the sample size (Isip 2015). A random sample of 275 employees who are working in Asiacell was the sample population. The respondent are the company’s top managers and the KM related employees. The sample size is calculated as following:

$$n = N / (1 + Ne^2)$$

Where,

n: the sample size

N: the sample population = 275

e: the confident level which is 95% (the error is 5%)

$$n = 275 / (1 + (275 * 0.0025))$$

$$n = 275 / 1.68 = 164$$

3.3 The Conceptual Model

The goal of this study is to test the impact of KM on the OP of Asiaccell in Iraqi. Therefore, the study conceptual model is as shown in figure (3.1). Figure (3.1) shows that applying KM system affects the OP.

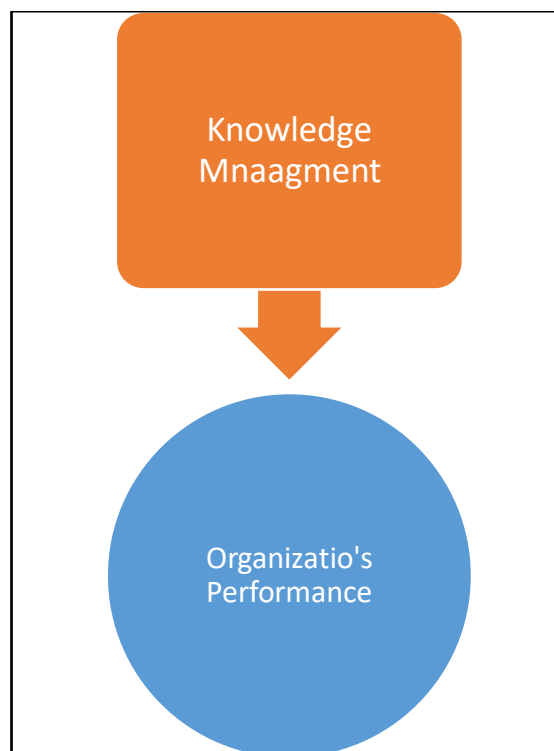


Figure 3.1: The conceptual model.

3.4 Collecting Data

3.4.1 The method of collecting data

The study used the questionnaire method to collect data. The questionnaire was used because it can provide cheap, quick and efficient large amounts of information. In

addition, it also allows getting large sample. The questionnaire was formed based on the studies conducted by Karamitri et al (2020) for KM scales, and Sadikoglu and Olcay (2014) for OP scales.

The questionnaire was used to get information about both KM and OP. In addition, to get demographic information about the respondents. The items in the questionnaire were designed to have five Likert. Specifically, each item has five options to answer. These options are weighted as (1. strongly disagree, 2. disagree, 3. Normal, 4. Agree, 5. Strongly agree).

The items were coded in the data as KM_i for knowledge management and OP_i for organization' performance. A sample of the questionnaire is shown in appendix A.

Table (3.1) shows the study dimensions that included in the questionnaire, and the number of items for each dimension.

The table shows that the study has two dimensions, which are KM and OP. The table shows that each dimension has 27 item (variable).

Table 3.1: The study dimensions, and the number of items for each dimension.

Dimensions	Number of items	The sources
Knowledge Managment	24	(Karamitri et al. 2020)
Organization's Performance	27	(Sadikoglu & Olcay 2014)

The questionnaire sheets were sent to all 275 employees in the sample. There were only 193 sheet were returned. Based on the sample size calculation, the minimum sample size that should be used is 164. The uncompleted sheets were 11, and they are neglected. Therefore, 182 sample sizes is used.

3.4.2 Descriptive statistics of data

The cleaning and organizing the data from the questionnaire were done using SPSS 17.0 software, and the descriptive statistics were calculated. The next few tables show the descriptive statistics of the data.

Table (3.2) shows the demographic information about the respondents in the sample. Specifically it shows the working positions and sex of respondents. The table shows that the number of managers in the sample is 77, while the number of employees is 105. The table shows that the number of males in the sample is 96, while the number of females is 86.

Table 3.2: The demographic information.

Item	Statistics
Managers	77
Employees	105
Male	96
Female	86

Table (3.3) shows the other demographic information about the respondents in the sample. Specifically it shows the age, working experiences, and education levels of respondents. The table shows that the education levels are good since there is only 7 high school holders. The working experiences are also good since there is 115 respondents with experiences more than 7 years.

Table 3.3: The age, working experiences, and education levels

Age (year)	21-30	31-40	41-50	More than 50	Total	
Statistics	42	43	51	46	182	
Working Experiences (year)	1-3	4-6	7-9	10-12	13-15	
Statistics	34	33	33	43	39	182
Education Levels	High school	Diploma	BA	Master Degree		
Statistics	7	90	82	3	182	

Table (3.4) shows an example of the frequency of the answers for each item in the questionnaire that are related to KM scales. For example, the answer (Strongly agree) appeared 85 times in item 1 (KM1) of KM scales. In other words, 85 respondents are strongly agree about the idea that each organization should implement KM policies.

Another example is that 5 respondents are normal about item 4 (KM4) of KM scales. That is, they are normal about the idea that knowledge recording helps employees adapt when they are transferred to different departments of the organization.

Table 3.4: An example of the frequency of each item related to KM scales.

Item	Strongly Disagree	Disagree	Normal	Agree	Strongly Agree	Total
KM1	0	0	7	90	85	182
KM2	0	0	0	72	110	182
KM3	0	0	0	75	107	182
KM4	0	0	5	80	97	182

Table (3.5) shows the frequency of the answers for each item in the questionnaire that are related to organizations' performance scales. For example, the answer (Disagree) appeared 88 times in item 12 (OP12) of organizations' performance scale. In other words, 88 respondents are disagree about the use of latest technological innovations in their new product. Another example is that 100 respondents are normal about item 27 (OP27) of organizations' performance scale. That is, they are normal about their firm's sales being grown.

Table 3.5: The frequency of organizations' performance scales

Item	Strongly Disagree	Disagree	Normal	Agree	Strongly Agree	Total
OP8	0	0	59	62	61	182
OP12	94	88	0	0	0	182
OP21	0	0	70	52	60	182
OP27	0	8	100	74	0	182

Table (3.6) shows the descriptive statistics of data related to KM scales. The table shows the mean and the standard deviation, and Skewness with its stander error. The table shows that the minimum mean value is 1.15 at item KM24, and the maximum value is 4.60 at KM5. The table shows that the minimum standard deviation value is 0.92 at item KM2, and the maximum value is 0.84 at KM6.

Table (3.7) shows the descriptive statistics of data related to OP scales. The table shows the mean and the standard deviation, and Skewness with its stander error.

The table shows that the minimum mean value is 1.84 at item OP12, and the maximum value is 4.57 at OP2. The table shows that the minimum standard deviation value is 0.49 at item OP19, and the maximum value is 0.85 at OP21.

Table 3.6: The descriptive statistics of KM items.

Item	No. Statistic	Mean	Std. Deviation	Skewness	Std. Error
KM1	182	4.45	0.571	-0.413	0.180
KM2	182	4.60	0.490	-0.431	0.180
KM3	182	4.59	0.494	-0.360	0.180
KM4	182	4.51	0.554	-0.515	0.180
KM5	182	4.60	0.491	-0.407	0.180
KM6	182	3.02	0.841	-0.042	0.180
KM7	182	3.07	0.805	-0.120	0.180
KM8	182	3.07	0.805	-0.120	0.180
KM9	182	3.09	0.839	-0.178	0.180
KM10	182	4.52	0.501	-0.067	0.180
KM11	182	4.45	0.499	0.200	0.180
KM12	182	4.58	0.495	-0.314	0.180
KM13	182	2.02	0.834	-0.041	0.180
KM14	182	1.92	0.754	0.128	0.180
KM15	182	1.84	0.774	0.284	0.180
KM16	182	1.95	0.763	0.093	0.180
KM17	182	1.92	0.786	0.147	0.180
KM18	182	4.47	0.501	0.111	0.180
KM19	182	4.52	0.501	-0.067	0.180
KM20	182	4.53	0.500	-0.133	0.180
KM21	182	4.52	0.501	-0.067	0.180
KM22	182	1.53	0.501	-0.111	0.180
KM23	182	1.52	0.501	-0.089	0.180
KM24	182	1.51	0.501	-0.022	0.180

Table 3.7: The descriptive statistics of OP items.

Item	No. Statistic	Mean	Std. Deviation	Skewness	Std. Error
OP1	182	4.48	0.501	0.067	0.180
OP2	182	4.57	0.496	-0.291	0.180
OP3	182	4.54	0.499	-0.178	0.180
OP4	182	3.50	0.501	0.000	0.180
OP5	182	3.53	0.501	-0.111	0.180
OP6	182	4.06	0.822	-0.113	0.180

Table 3.7: (Cont) The descriptive statistics of OP items.

Item	No. Statistic	Mean	Std. Deviation	Skewness	Std. Error
OP7	182	4.01	0.814	-0.020	0.180
OP8	182	4.21	0.803	-0.408	0.180
OP9	182	4.10	0.808	-0.183	0.180
OP10	182	4.11	0.807	-0.203	0.180
OP11	182	1.51	0.501	-0.022	0.180
OP12	182	1.48	0.501	0.067	0.180
OP13	182	1.57	0.496	-0.291	0.180
OP14	182	1.49	0.501	0.022	0.180
OP15	182	1.57	0.497	-0.268	0.180
OP16	182	1.51	0.501	-0.022	0.180
OP17	182	1.54	0.499	-0.178	0.180
OP18	182	1.56	0.498	-0.246	0.180
OP19	182	1.58	0.495	-0.337	0.180
OP20	182	1.58	0.495	-0.337	0.180
OP21	182	3.95	0.846	0.105	0.180
OP22	182	4.08	0.831	-0.145	0.180
OP23	182	3.96	0.803	0.070	0.180
OP24	182	3.49	0.501	0.022	0.180
OP25	182	3.47	0.501	0.111	0.180
OP26	182	3.46	0.500	0.156	0.180
OP27	182	3.34	0.561	-0.105	0.180

3.5 The Reliability and Normality of the Data

3.5.1 The reliability of the Data

The reliability check is based on Cronbach's Alpha, which measures the internal consistency between items in a scale. The internal consistency means that respondents respond to the questionnaire items of specific scale in consistence way. For example, it is not acceptable that a respondent responds "strongly agree" and "strongly disagree" in one scale because that is not consistence (Pallant 2013).

If the alpha coefficient is close to (1), the reliability is at a high level. More specifically, when the alpha coefficient is between (0.50-0.80), the data is reliable. If

alpha coefficients was between (0.81-1.00), it means that the data is highly reliable (Pallant 2013).

The data reliability results are shown in table (3.8). The table indicates that the coefficient alpha is greater than 0.5 for almost all scales of KM and OP. These results indicate that that the scales are reliable.

Table 3.8: The Cronbach’s Alpha coefficients for reliability test.

Knowledge Management Dimension	
Scale	Cronbach’s Alpha
A. Perceptions about Knowledge	0.554
B. Intrinsic Motivation	0.529
C. Knowledge Creation	0.484
D. Knowledge Sharing	0.516
E. Cooperation	0.651
F. Leadership	0.591
Organization’s Performance Dimension	
A. Operational Performance	0.505
B. Inventory Management Performance	0.496
C. Employee Performance	0.605
D. Innovation Performance	0.651
E. Social Responsibility	0.703
F. Customer Results	0.545
G. Market and Financial Performance	0.638

3.5.2 The data normality check

This section tests whether the normality of the data, specifically, it tests whether the data is normally distributed or not. The normality check is done using SPSS software. It is based on Kolmogorov-Smirnova and Shapiro-Wilk tests. If these two tests were statistically significant, the hypothesis of normal distribution is rejected. That means, the data is not normally distributed (Pallant 2013).

Table (3.9) and table (3.10) show the results of Kolmogorov-Smirnova and Shapiro-Wilk tests for KM and OP data.

The results indicate that all items of KM and OP are not normally distributed. That is because all the results of both tests are statistically significant at 1% confident level.

Table 3.9: The normality test for KM items

Item	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
KM1	0.318	182	0.000	0.718	182	0.000
KM2	0.395	182	0.000	0.620	182	0.000
KM3	0.386	182	0.000	0.625	182	0.000
KM4	0.347	182	0.000	0.697	182	0.000
KM5	0.392	182	0.000	0.622	182	0.000
KM6	0.240	182	0.000	0.783	182	0.000
KM7	0.234	182	0.000	0.796	182	0.000
KM8	0.234	182	0.000	0.796	182	0.000
KM9	0.261	182	0.000	0.778	182	0.000
KM10	0.349	182	0.000	0.636	182	0.000
KM11	0.366	182	0.000	0.633	182	0.000
KM12	0.380	182	0.000	0.628	182	0.000
KM13	0.237	182	0.000	0.786	182	0.000
KM14	0.216	182	0.000	0.806	182	0.000
KM15	0.251	182	0.000	0.794	182	0.000
KM16	0.211	182	0.000	0.807	182	0.000
KM17	0.230	182	0.000	0.800	182	0.000
KM18	0.355	182	0.000	0.635	182	0.000
KM19	0.349	182	0.000	0.636	182	0.000
KM20	0.358	182	0.000	0.635	182	0.000
KM21	0.349	182	0.000	0.636	182	0.000
KM22	0.355	182	0.000	0.635	182	0.000
KM23	0.352	182	0.000	0.636	182	0.000
KM24	0.344	182	0.000	0.636	182	0.000

Table 3.10: The normality test for OP items.

Item	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
OP1	0.349	182	0.000	0.636	182	0.000
OP2	0.378	182	0.000	0.629	182	0.000
OP3	0.363	182	0.000	0.634	182	0.000
OP4	0.341	182	0.000	0.636	182	0.000
OP5	0.355	182	0.000	0.635	182	0.000
OP6	0.242	182	0.000	0.789	182	0.000
OP7	0.223	182	0.000	0.795	182	0.000
OP8	0.287	182	0.000	0.773	182	0.000
OP9	0.247	182	0.000	0.792	182	0.000
OP10	0.250	182	0.000	0.791	182	0.000
OP11	0.344	182	0.000	0.636	182	0.000
OP12	0.349	182	0.000	0.636	182	0.000
OP13	0.378	182	0.000	0.629	182	0.000
OP14	0.344	182	0.000	0.636	182	0.000
OP15	0.375	182	0.000	0.630	182	0.000
OP16	0.344	182	0.000	0.636	182	0.000
OP17	0.363	182	0.000	0.634	182	0.000
OP18	0.372	182	0.000	0.631	182	0.000
OP19	0.383	182	0.000	0.626	182	0.000
OP20	0.383	182	0.000	0.626	182	0.000
OP21	0.253	182	0.000	0.778	182	0.000
OP22	0.251	182	0.000	0.784	182	0.000
OP23	0.225	182	0.000	0.798	182	0.000
OP24	0.344	182	0.000	0.636	182	0.000
OP25	0.355	182	0.000	0.635	182	0.000
OP26	0.361	182	0.000	0.634	182	0.000
OP27	0.344	182	0.000	0.722	182	0.000

Figure (3.2) show an example of the data distribution related to KM variables. Figure (3.3) shows a data distribution example of the OP variables.

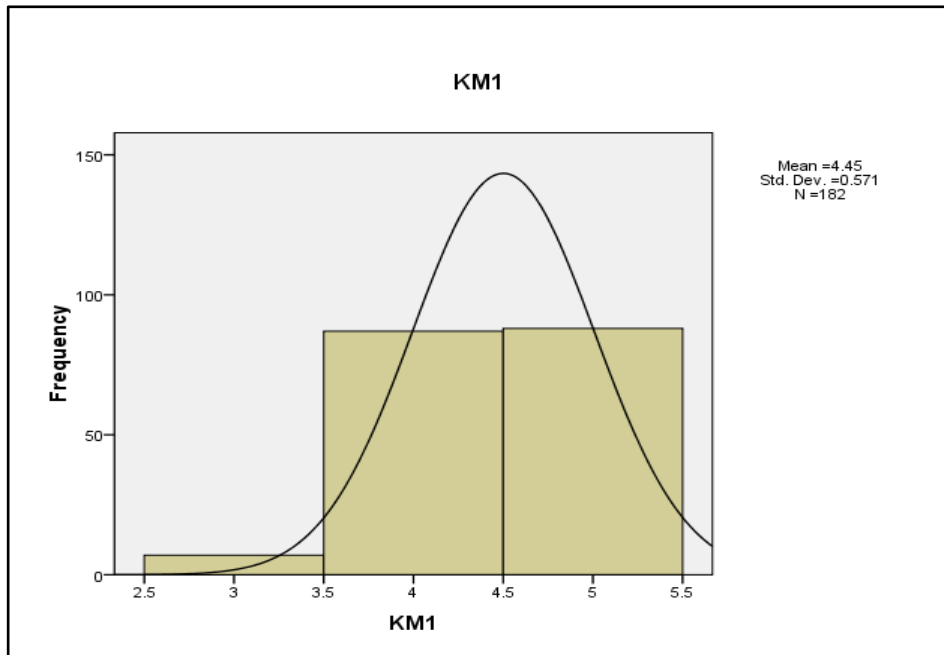


Figure 3.2: An example of the data distribution of the KM variables.

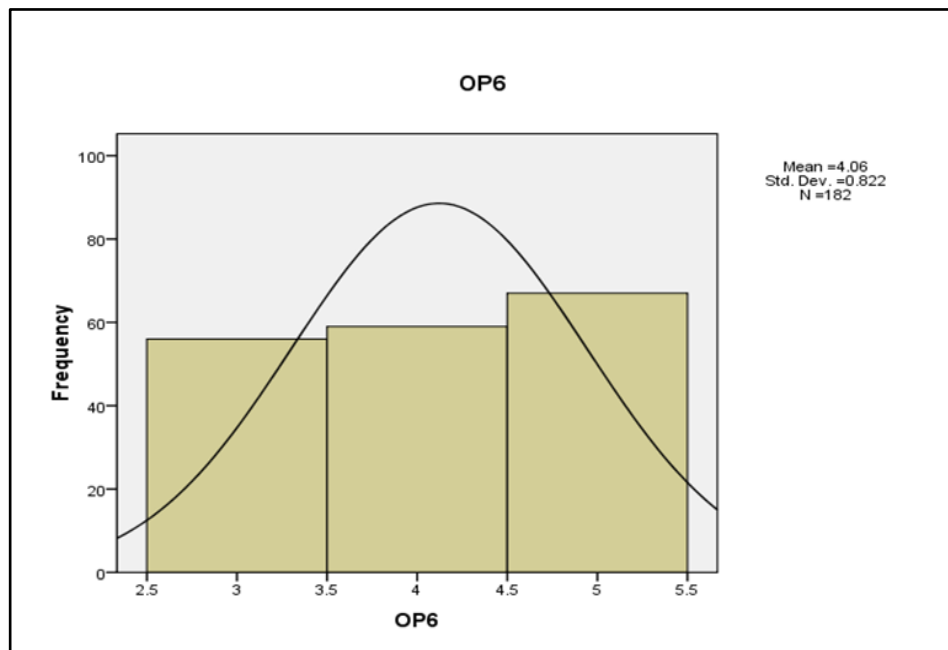


Figure 3.3: An example of the data distribution of the OP variables.

3.6 Factor Analysis

3.6.1 Background

A factor analysis is performed based on principal components analysis using SPSS. The principal components analysis is a statistical technique that used to reduce the dimension of a set of variables. For example, if there are ten variables of a scale, they can be reduced to one or more components or factors (Pallant 2013).

This extracted components or factors explain the relationship among the variables of that scale. Therefore, it is important to analyze the correlation matrix of the ten variables in our example. The diagonal values of the correlation matrix are usually ones. These values are ones because they represent the correlation between the variable and itself. The off-diagonal values represent the correlations of the variables with each other.

The importance of testing the correlation between variables is that factor analysis requires that variables to be correlated with each other. In addition, the correlation between the variables should be at the minimum value and significant. In other words, the factor analysis shows the relationships between variables and determines the minimum number of factors that can explain these correlations.

3.6.2 The correlation between scales items

The correlation between the variables of KM and OP scales are performed using SPSS. The results indicate that all items of each scale are correlated. Therefore, this specific condition for running factor analysis is met. Table (3.11) and table (3.12) show examples of inter-item correlation matrices of the variables of both KM and OP scales.

Table 3.11: An example of Pearson Correlation matrix of KM scales.

Item	KM1	KM2	KM3	KM4	KM5
KM1	1	0.238**	0.184*	0.351**	0.226**
KM2		1	-0.015	0.191**	0.209**
KM3			1	0.120	0.135
KM4				1	0.303**
KM5					1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 3.12: An example of Pearson Correlation matrix of OP scales.

Item	OP6	OP7	OP8	OP9	OP10
OP6	1	0.222**	0.282**	0.249**	0.132
OP7		1	0.098	0.292**	0.309**
OP8			1	0.137	0.271**
OP9				1	0.356**
OP10					1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

3.6.3 Factor analysis

A factor analysis is run based on principal components analysis using SPSS and 1.6 minimum Eigenvalue (Swaminathan & Jawahar 2013). The result of factor analysis of KM variables are shown in table (3.13).

Table 3.13: Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.521	10.503	10.503	2.122	8.842	8.842
2	2.110	8.791	19.294	1.967	8.197	17.039
3	1.786	7.441	26.735	1.807	7.531	24.570
4	1.593	6.639	33.374	1.783	7.428	31.998
5	1.527	6.362	39.736	1.738	7.241	39.239
6	1.502	6.258	45.994	1.621	6.754	45.994
7	1.138	4.743	50.736			
8	1.102	4.591	55.327			
9	0.958	3.994	59.321			
10	0.928	3.869	63.189			
11	0.874	3.641	66.831			
12	0.852	3.552	70.383			
13	0.839	3.494	73.877			
14	0.766	3.190	77.067			
15	0.722	3.008	80.075			
16	0.678	2.823	82.898			
17	0.635	2.645	85.543			
18	0.591	2.463	88.006			
19	0.557	2.322	90.328			
20	0.546	2.274	92.602			
21	0.486	2.025	94.627			
22	0.478	1.993	96.620			
23	0.439	1.830	98.450			
24	0.372	1.550	100.000			

Table (3.13) shows that there are 6 component extracted from the factor analysis. These components can be used instead of using 24 variables of KM. The results indicated that these components explain about 46% of the total variance of KM dimension. Figure (3.4) shows the scree plot of factor analysis, and it indicates same results.

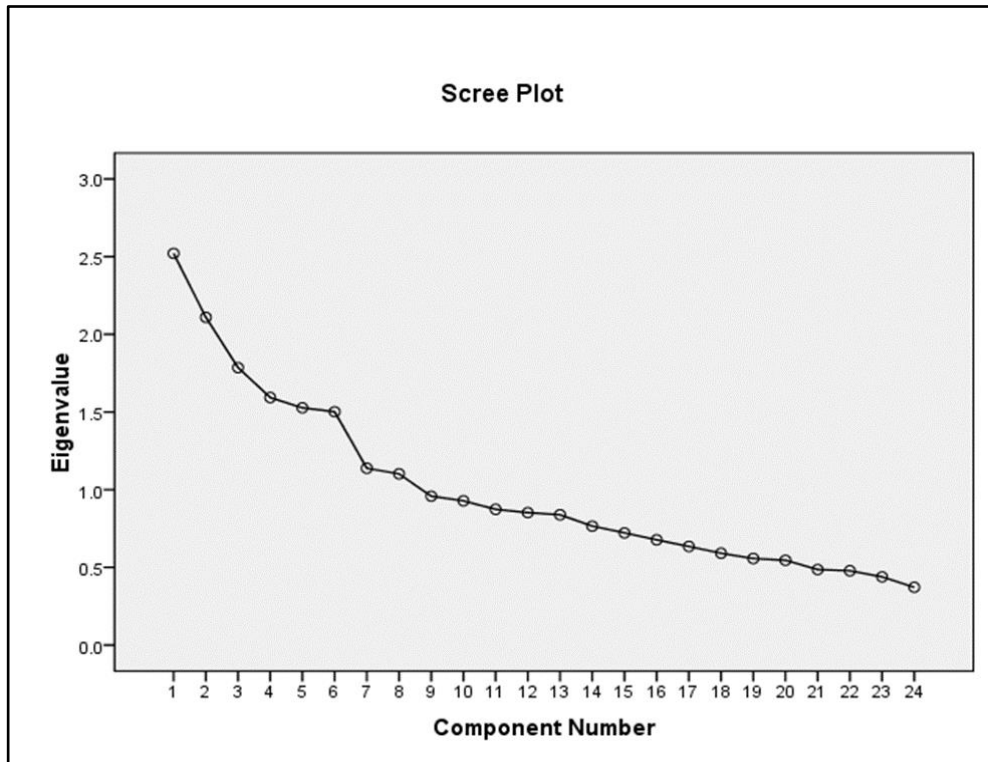


Figure 3.4: The scree plot of factor analysis.

Table (3.14) shows the factor loading for each item of KM. The table shows that the first component is related to the items KM18 to KM21, which are the items of cooperation. The second component is related to the items KM1 to KM5, which are the items of perceptions about knowledge.

The third component is related to the items KM22 to Km24, which are the items of leadership. The fourth component is related to the items KM14 to KM17, which are the items of knowledge sharing. The fifth component is related to the items KM6 to Km9, which are the items of intrinsic motivation. The final component is related to the items KM10 to KM12, which are the items of knowledge creation.

Therefore, the extracted factors that represent cooperation, perceptions about knowledge, and leadership will be the independent variables. In addition, the

extracted factors that represent knowledge sharing, intrinsic motivation and knowledge creation will be also independent variables.

Table 3.14: The rotated components matrix of KM dimension

Items	Components					
	1	2	3	4	5	6
KM18	0.751					
KM20	0.697					
KM19	0.674					
KM21	0.498					
KM1		0.697				
KM4		0.650				
KM5		0.600				
KM2		0.560				
KM24			0.776			
KM23			0.672			
KM22			0.652			
KM3	0.319		0.342			
KM14				0.602		
KM13				0.578		
KM16				0.563		
KM15				0.556		
KM17	-0.307	0.311		0.525		
KM6					0.685	
KM7					0.665	
KM9					0.592	
KM8					0.552	
KM11						0.715
KM12						0.670
KM10						0.572

It is also important to test the overall measurement quality of KM factor analysis. Table (3.15) shows the KMO and Bartlett's Tests. Since Kaiser-Meyer-Olkin measure of sampling adequacy is more than 60%, and Bartlett's test of Sphericity is significant at 1% level of confidence, the measurement quality is good.

A factor analysis is run based on principal components analysis using SPSS for the 27 variables of OP. The analysis was enforced to extract only one factor. Therefore, only one factor will be used as OP, which will be the dependent variable.

Table 3.15: The KMO and Bartlett's tests

Test Name		Test Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.602
Bartlett's Test of Sphericity	Approx. Chi-Square	557.339
	df	276
	Sig.	0.000

3.7 The Regression Analysis

The regression analysis is used as a statistical method to test the impact of knowledge management on the organization performance. The regression method has some assumption that need to be checked. More specifically, running the regression analysis required the following assumptions (Pallant 2013):

1. The dependent variable must be normally distributed

The dependent variable is the extracted factor from factor analysis of OP variables. It is represents the organization's performance, and it is coded as (FOP). Kolmogorov-Smirnova and Shapiro-Wilk tests are used to check for the dependent variable normality. The tests' results were statistically insignificant, which indicate the dependent variable is normally distributed. In addition, figure (3.5) sews the normal distribution of that variable.

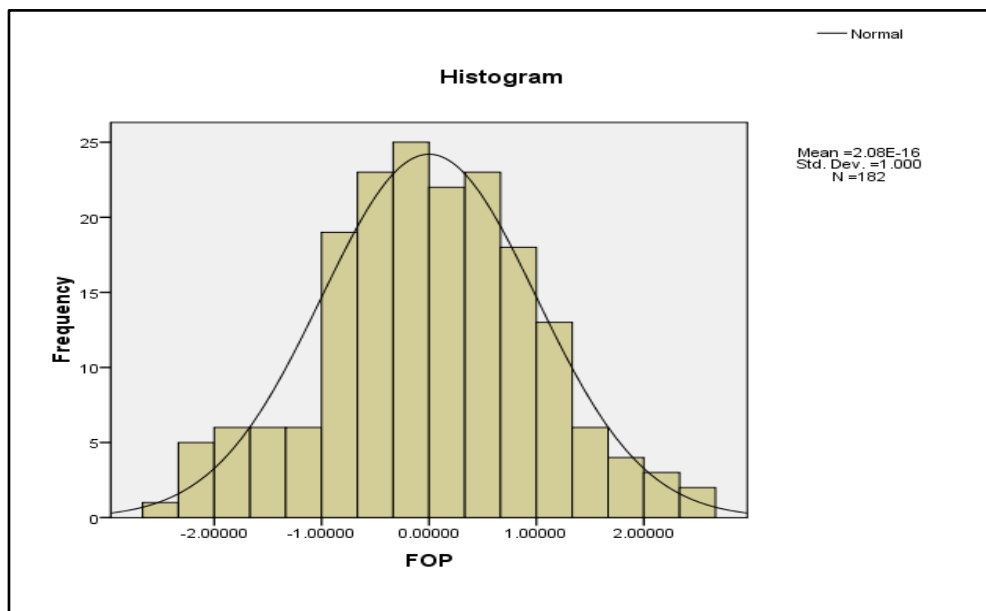


Figure 3.5: The distribution of the dependent variable FOP.

2. The linearity assumption

The linearity assumption means that all independent variable have linear correlation with the dependent variable. Figure (3.6) shows that all independent variables have liner correlation with the dependent variable. Therefore, this condition is met.

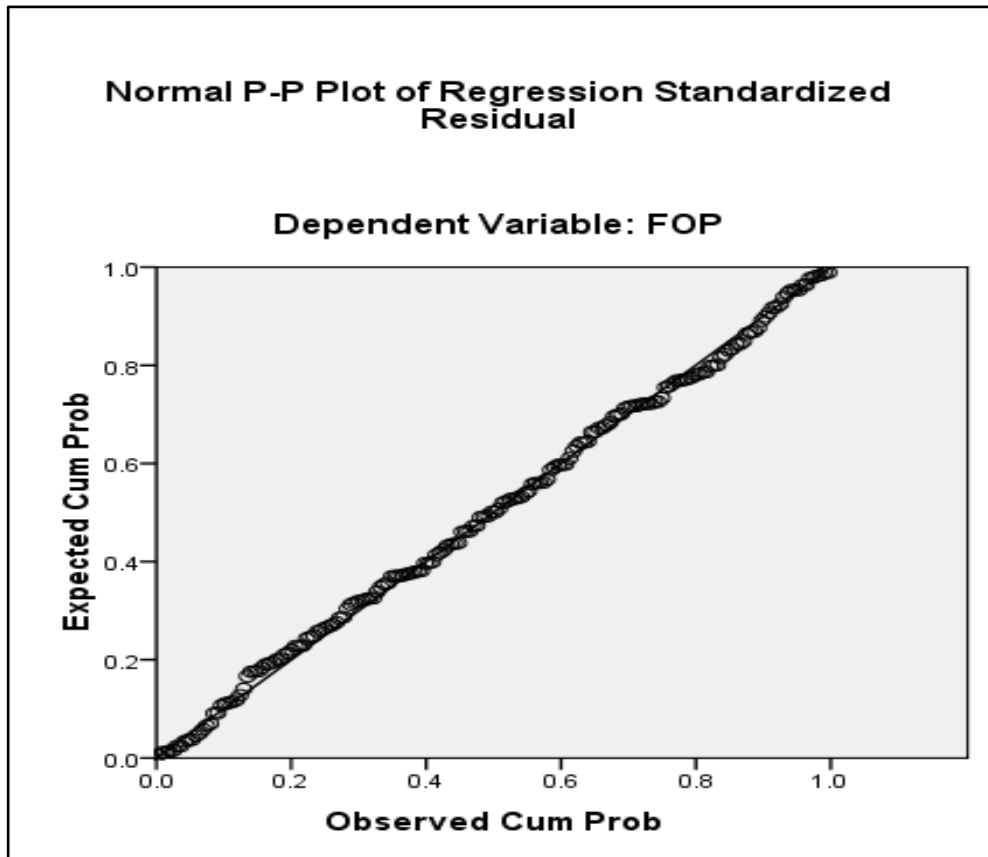


Figure 3.6: The regression standardized residuals.

3. The stander residual and Cook's Distance should be within the required rages

The required for the stander residual is between ± 3 , and Cook's Distance is less than one. The results indicate that the minimum value of stander residual is - 2.513, and the maximum value is 2.292. The results indicate that the minimum value of Cook's Distance is 0.001, and the maximum value is 0.046. Therefore, the required conditions are met.

4. No outlier is the dependent variable

Figure (3.7) shows the scatterplot for all residuals, which are in the range (± 3). Therefore, there is no outliers in the dependent variable.

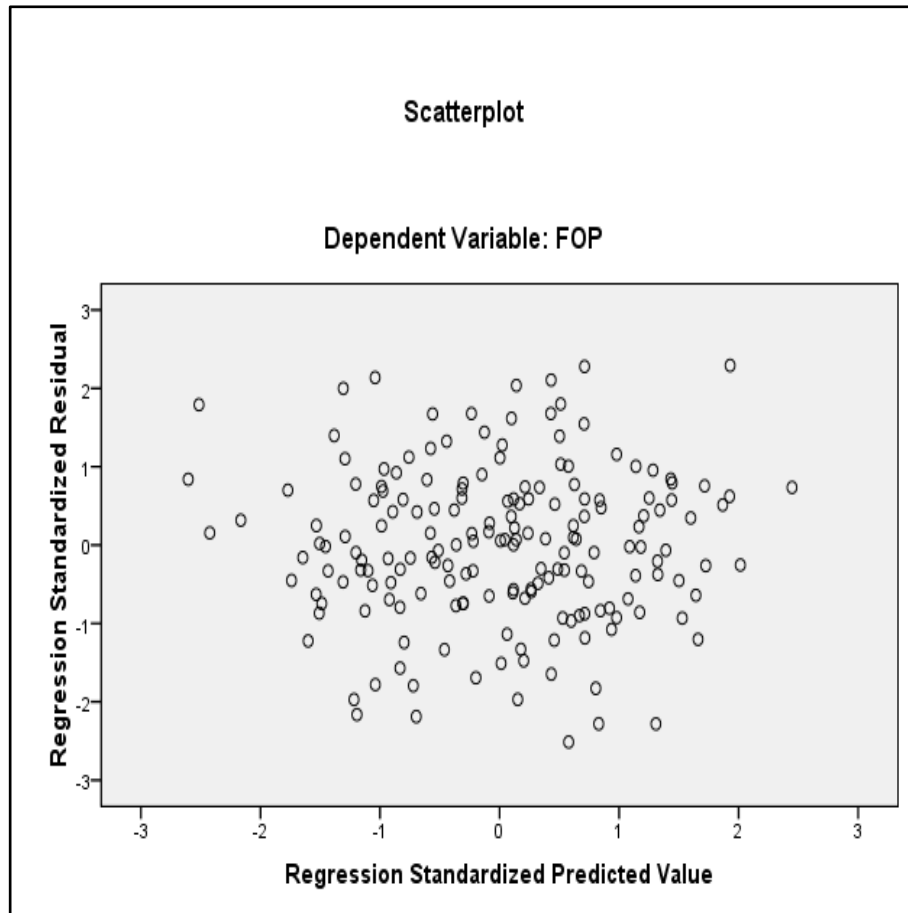


Figure 3.7: The scatterplot for outlier check.

Based on these results, all the required condition for regression analysis are met. The results of regression analysis are shown in table (3.16).

Table 3.16: The results of regression analysis.

Variable	Coefficient	Significance
Cooperation in KM	-0.008	0.910
Perceptions about knowledge	0.001	0.995
Leadership in KM	-0.054	0.473
knowledge sharing	0.016	0.872
Intrinsic motivation	0.052	0.489
Knowledge creation	-0.091	0.228

3.8 The Results Discussion

The results in table (3.16) showed that the perceptions about knowledge, knowledge sharing, and intrinsic motivation have positive relationships with the Asicell's

performance. That means, improving these aspects can enhance the performance of Asiaccell.

For example, increasing the knowledge sharing by one unit can increase the Aciaccell performance by 0.016. However, the results show that the impact of all three variable are not significant. Specifically, they do not affect the Asiaccell's performance.

The results in table (3.16) showed that the cooperation, leadership, and knowledge creation have negative relationships with Asiaccell's performance. That means, these aspects of KM are not good. In other words, they negatively affect the Asiaccell's performance. However, their effects are not significant.

In short, the results of this study do not support the study hypothesis. They show that KM has no impact on Asiaccell's performance in Iraq.

4. CONCLUSION

The increased in globalization of business environment and the use of advanced technologies advances has affected the organizations traditional performance. In the present age, commonly referred to as the knowledge age, organizations are increasingly facing dynamic and challenging work environments. Therefore, the organizations have to adjust and improve their operation systems to stay in the highly competition market. One of the crucial improvement is the knowledge management system. Many studies showed that adopting good knowledge management system could enhance the organizations' performance.

Recently, the Iraq's telecommunication companies (TC) play critical roles in accelerating economic growth in Iraq. However, some of these TC have failed to meet their goals, and hence missed opportunities for development. There are limited information on the effect of knowledge management operations on performance of TC in Iraq. Therefore, it hard to identify the reasons that led to the fail of these companies.

This study tries to fill this gap by investigating the relationship between knowledge management operations and organizational performance of TC in Iraq. It also attempts to provide a statistical analysis that leads to a better understanding of this relation. That can help the organizations' managers use knowledge in a more structured manner to improve their organizations performance.

The general objective of this study is to test the effect of knowledge management operations on the performance of TC in Iraq. The hypothesis of this study is that knowledge management has positive and significant impact on the performance of TC in Iraq. The study contributes to both theoretical and empirical knowledge as well as the policy makers and management of TC in Iraq. It helps the TC in Iraq on how to utilize knowledge management operations interventions to enhance their performance.

This study was applied on Asia Cell Telecommunication Company (Asiacell), in Mosul-Iraq. Asiacell is one of the main providers of mobile telecommunications services in Iraq.

It has nearly 12 million subscribers, and has 2700 employees as of 2021. The study used the questionnaire method to collect data. A random sample of 275 employees who are working in Asiacell was the sample population. The respondent are the company's top managers and the KM related employees. The sample size used in this study is 182.

The study used SPSS to do the statistical analysis including Factor Analysis and Regression Analysis. The results of the study showed that the perceptions about knowledge, knowledge sharing, and intrinsic motivation have positive relationships with the Asicell's performance. The results showed that the cooperation, leadership, and knowledge creation have negative relationships with Asiacell's performance. In short, the results of this study do not support the study hypothesis. They show that KM has no impact on Asiacell's performance in Iraq.

5.1 The Study Suggestions

1. The study suggests that Asiacell should keep or improve perceptions about knowledge, knowledge sharing, and intrinsic motivation since they have positive relationships with its performance.
2. The study suggests that Asiacell must work hard on changing cooperation, leadership, and knowledge creation of its KM system since they have negative relationships with its performance.

REFERENCES

- Adan, A., N., 2013.** Effects of Knowledge management operations Enablers on Organisational Performance: A Case Study of Iraq Revenue Authority. Nairobi: University of Nairobi.
- Ahmed, S., Fiaz, M., & Shoaib, M., 2015.** Impact of Knowledge management operations Practices on Organisation Performance: An Empirical Study of Banking Sector in Pakistan. *Journal of Social Sciences*, 9(2), 147-167.
- Ajzen, & Fishbein, M., 1975.** Beliefs, attitude, intention and behaviour: An introduction to Theory and research. Boston: Addison-Wesley Publishing Company Reading.
- Ajzen, I., 1991.** The Theory of Planned Behaviour. *Organisational Behaviour and Human Decision Processes*, 50, 319-349.
- Alavi, M. & Leidner D., 2001.** Knowledge management operations and Knowledge management operations Systems: conceptual foundations and research issues; *MIS Quarterly* Vol. 25 No.
- Allen, R., S., Dawson, G., Wheatley, K. and White, C., S., 2008.** Perceived diversity and Organizational Performance. *Employee Relations*, Vol. 30, No. 1, P. 20.
- Armacost, B., 2011.** Knowledge at telecommunication companies. Retrieved November 13, 2017, from <http://www.irmac.ca/1112/KM%20overview%20IRMC%20v1>.
- Barney, J., 2001.** Resource-based theories of competitive advantage: A ten-year Retrospective on the resource-based view. *Journal of Management*, 27,643-650.
- Bhatt, G., D., 2001.** Knowledge management operations in organizations: examining the interaction between technologies, techniques and people. *Journal of Knowledge Management*, 5(1): 68-75
- Bihamta, H., Nowzari, D. E., Subramaniam, S. I., Salimi, M., & Salehi, M., 2012.** Descriptive Study on the Impact of Knowledge creation mechanism on organizational performance: A case study in Malaysian automotive industry.
- Blacker, F., 2002.** Knowledge, knowledge work, and organizations: An overview and Interpretation. In Choo and Bontis (Eds.). *The Strategic Management of Intellectual Capital and Organizational Knowledge*. New York: Oxford University Press.
- Cheruiyot, C., K., Jagongo, A., & Owino, K., 2012.** Institutionalization of Knowledge Management in Telecommunication Enterprises in Iraq : A Case of Selected Enterprises *International Journal of Business and Social Science*.

- Chiganda, J. 2004.** The role of knowledge management operations in enhancing organizational Performance in selected banks in South Africa. Pretoria: University of South Africa.
- Chweya, L., Ochieng, I., Ojiera, P., & Riwo-Abudho, M., 2014.** Knowledge Management Practices and its Effect on Firm Performance: A Case of Commercial Banks' Performance in Kisumu City, Iraq . International Knowledge Sharing Platform, Vol 6, No.8.
- Dess, G., Gupta, A., Hennart, J., & Hill, C., 1995.** Conducting and integrating strategy research at the international, Corporate, and Business Levels. *Journal of Management*, 21 (3), 357-393
- Doski, D., 2014.** The effect of initial public offering on company performance: A case study on Asia cell in Kurdistan Region. *Research Journal of Finance and Accounting*, 5(18).
- Eustace, C., 2000.** The intangible economy, impact and policy issues. Report of the European High-Level Expert Group on the Intangible Economy, European Commission. Luxembourg: Eur-Op.
- Forghani, M., A., & Tavasoli, A., 2017.** Investigating the Relationship between Knowledge Management Dimensions and Organizational Performance in Lean Telecommunication *International Journal of Management, Accounting and Economics*, 4(3), 218-225.
- Gholami, M., H., Asli, M., N., Shirkouhi, S., N., & Noruzy, A., 2012.** Investigating the influence of knowledge management operations practices on organizational performance: An empirical study. *Acta Polytechnica Hungarica*, 10, 205-216.
- Hair Jr, J., F., Babin, B., Money, A., H., & Samouel, P., 2003.** *Essentials of Business Research Methods: Johns Wiley & Sons. Inc., United States of America.*
- Harlow, H., 2008.** The effect of tacit knowledge on firm performance, *Journal of Knowledge Management*, 12(1): 148-163.
- Huang, C., 2014.** The influence of knowledge management operations implementation on organizational performance at Taiwan-listed integrated circuit companies: Using intellectual capital as the mediator. Kao Yuan University Press, Taiwan.
- Hayek, F., 1945.** The use of knowledge in society. *The American Economic Review* 35: 519- 530.
- Ipe, M., 2003.** Knowledge sharing on organizations: A conceptual framework. *Human Resource Development Review*. 2 (4), 337-358.
- Isip, F.B.T., 2015.** Encouraging the use of Slovin's Formula in computing sample sizes in DMS survey related projects.
- Jarad, G., 2014.** The potential of developing Iraq smartphone market as an emerging and lucrative market. *British Journal of Marketing Studies*, 2(2), pp.37-42.
- Jensen, M., B., Johnson, B., Lorenz, E., & Lundvall, B. A., 2007.** Forms of knowledge and modes of innovation. *Research Policy*, 36(5): 680-693.

- Kalling, T., 2003.** Knowledge management operations and the occasional links with performance. *Journal of knowledge Management*, 7(3), 67-81.
- Karamitri, I., Kitsios, F. and Talias, M.A., 2020.** Development and Validation of a Knowledge Management Questionnaire for Hospitals and Other Healthcare Organizations. *Sustainability*, 12(7), p.2730.
- Kim, H., Y., 2014.** Analysis of variance (ANOVA) comparing means of more than two groups. *Restorative dentistry & endodontics*, 39(1), 74-77.
- Kimaiyo, I., K., Kapkiyai, C. & Sang, J.C., 2015.** Effect of knowledge management operations on firm performance in commercial banks in Nakuru, Eldoret and Kisumu. *European Journal of Business and Management* www.iiste.org.
- Kinyua, G., M., Muathe, M.A. & Kilika, J., M., 2015.** Effect of Knowledge Conversion and Knowledge Application on Performance of Commercial Banks in Iraq . *International Journal of Education and Research*. Vol. 3 No. 10 October 2015. Pp431 – 447.
- Letonja, M. & Duh, M., 2016.** Knowledge transfer in family businesses and its effects on the Innovativeness of the next family generation; *Knowledge management operations & Research Practice* 14: 213-224. doi:10.1057/kmrp.2015.25
- Lin, C. & Tseng, S., M., 2005.** “Bridging the implementation gaps in the knowledge management operations system for enhancing corporate performance”, *Expert Systems with Applications*, 29 (1): 163-173. 33.
- Majidi K., S., Radfar, R., & Toluoei, A., 2016.** The effect of organizational trust on knowledge management operations system achievement. *Journal of management development*, 27:7-15
- Matin, E., K., & Sabagh, P., 2015.** Effects of knowledge management operations capabilities on Organizational performance in Iranian export companies. *Mediterranean Journal of Social Sciences*. Vol 6 No 2. , ISSN 2039-2117.
- Mills, A., M., & Smith, T., A., 2011.** Knowledge management operations and organizational performance: A decomposed view. *Journal of knowledge Management*, 15(1), 156- 171.
- Miringu, A., N., & Muoria, E., T., 2011.** An Analysis of the Effect of Corporate Governance on the Performance of State Corporations in Iraq . *International Journal of Business and Public Management* Vol. 1.
- Nonaka, I. & Takeuchi, H., 1995.** *The knowledge creating company: how Japanese companies create the dynamics of innovation*, New York: Oxford University Press.
- Nzioki, S., C., Nyambegera, S., M., & Wawire, N., H., 2015.** Effects of cross cultural factors on Knowledge management operations of Iraq Homegrown Multinationals Operating in East Africa. Nairobi: Iraq tta University
- O' Brien, M., Burdsal, C., & Molgaard, C., 2004.** Further development of an Australia based Measure of social capital in a US sample. *Social Science and Medicine*, 59, 1207– 1017.

- O' Dell, C., & Hubert, C., 2011.** The new edge in knowledge: How knowledge management operations is Changing the way, we do businesses. New Jersey: John Wiley & Sons.
- Onyx, J., & Bullen, P., 2000.** Measuring social capital in five communities. *Journal of Applied Behavioural Science*, 36(1), 23–42
- Pallant, J., 2013.** SPSS survival manual. McGraw-hill education (UK).
- Paulin, D., & Suneson, K., 2012.** Knowledge Transfer, Knowledge sharing and KnowledgeBarriers-Three Blurry Terms in KM. *Journal of Knowledge Management*,
- Pearson, J., A. & Robinson, R., B., 2013.** Strategic Management; Planning for Global and Domestic and Global Competition (13thed.). New York: McGraw-Hill/Irwin.
- Powell, W., W., Koput, K., W., & Smith, D., L., 1996.** Inter-organizational collaboration and the locus of innovation: networks of learning in biotechnology. *Administrative Science Quarterly*, 41, 116-145.
- Prahalad, C., & Hamel, G., 1990.** The core competence of the corporation. *Harvard Business Review*, 79-91.
- Raddon, A., 2010.** Early stage research training: Epistemology & ontology in social science Research. *Generic Skills Training for Research Students*
- Roxas, B., G., 2008.** Entrepreneurial knowledge and its effects on entrepreneurial intentions; development of a conceptual framework, *Asia Pacific Social Science Review*, Vol 8, No 2, pp. 61-77
- Ruchi, P., Salma, A., & Roma, M., 2016.** Knowledge management operations and Organizational Performance; A case Study in the Context of Indian Software Companies.
- Sadikoglu, E. and Olcay, H., 2014.** The effects of total quality management practices on performance and the reasons of and the barriers to TQM practices in Turkey. *Advances in Decision Sciences*.
- Sandhu, M., S., Jain, K., K., & Ir Umi Kalthom, B., A., 2011.** Knowledge sharing among public sector employees: Evidence from Malaysia. *International Journal of Public Sector Management*, 24(3), 206-226.
- Saunders, M., Lewis, P., & Thornhill, A., 2014.** Research methods for business students, 6th edition. Harlow, GB: Prentice Hall Financial Times.
- Schein, E., 1985.** *Organizational Culture and Leadership*. San-Francisco: Jossey Bass.
- Sekaran, U., 2003.** *Research Methods for Business: A skill Building Approach*. 4th edition.
- smael, Y., Yusuf, A. & Davoud, M., 2010.** A Review paper on Organizational Culture and Performance. Available at [www.ijbssnet. Com/Journals/vol.-1-no.3](http://www.ijbssnet.Com/Journals/vol.-1-no.3)
- Stevens, J.P., 2012.** *Applied multivariate statistics for the social sciences*. Routledge.

- Swaminathan, S. and Jawahar, P.D., 2013.** Job satisfaction as a predictor of organizational citizenship behavior: An empirical study. *Global journal of business research*, 7(1), pp.71-80
- Szulanski, G. (2003).** Sticky knowledge. Barriers to knowing in the firm. London: Sage.
- Takeuchi, H., & Nonaka, I., 2004.** Hitotsubashi on Knowledge Management. Singapore: John Wiley & Sons.
- Tanriverdi, H., & Venkatraman, V., 2005.** Knowledge relatedness and the performance of multi-business firms. *Strategic Management Journal*, 26, 97-119.
- Taylor, S., & Todd, P. A., 1995.** Understanding information technology usage: a test of competing models. *Information Systems Research*, 6: 144-176
- Tubigi, M., & Alshawi, S., N., 2015.** The impact of knowledge management operations processes on organizational performance. The case of the airline Industry. *Journal of Enterprise Information Mngement*, Vol.
- Un, C., A., & Cuervo-Cazurra, A., 2004.** 'Strategies for knowledge creation in firms'. London, Britain.
- Upagade, V., & Shende, A., 2012.** Research methodology. New Delhi, India.: S. Chand & Company Ltd.
- Venugopal, P., & Priya, A., 2015.** The Impact of Customer Service on Customer Relationship Management: *Global Management Review*, Vol. 10, No. 1, 139.152.
- Vera, D., & Crossan, M., 2003.** Organizational learning and knowledge management: towards an integrative framework. Oxford, Uk: Blackwell Publishing.
- Wiig, K., M., 2004.** People-focused knowledge management. New York: Betterworth- Heinemann
- Wiklund, J., & Shepherd, D., 2003.** Knowledge-Based Resources, Entrepreneurial Orientation, and the Performance of Small and Medium-sized Businesses.
- Winter, S., & Szulanski, G., 2002.** Replication of Organizational Routines: Conceptualizing
- Winter, S., 1987.** Knowledge and competence as strategic assets. In D. Teece (Ed.) *The Competitive Challenge. Strategies of Industrial Innovation and Renewal*, 159-187.
- Yang, H., L., & Wu, T., C., 2008.** Knowledge sharing in an organization. *Technological Forecasting and Social Change*, 75, 1128-1156.
- Yang, J., 2010.** The knowledge management operations strategy and its effect on firm performance: A contingent analysis. *International Journal of Production Economic*
- Yueh, C., L., Lee, Y., & Barnes, F., B., 2010.** The effects of leadership styles on knowledge based customer relationship management. *International Journal of Management and marketing research*, 3, 1-19

- Yusof, M., N., & Abu Bakar, A., 2012.** Knowledge management operations and growth performance in construction companies: A framework. *Procedia, Social and Behavioural Sciences*
- Zahari, A., S., Rahman, B., A., Othman, A., K., & Baniamin, R., M., 2014.** The Influence of Knowledge Sharing on Organizational Performance among Insurance Companies in Malaysia.
- Zaied, H., A., Hussein, S., G., & Hassan, M., M., 2012.** The Role of Knowledge management operations in enhancing Organizational Performance: *International Engineering and Electronic Business, Vol 4, Issue 5, 27.*
- Zaim, H., Tatoglu, E., & Zaim, S., 2007.** Performance of knowledge management operations practices: a causal analysis. *Journal of Knowledge Management, 11(6), 54-67.*

APPENDICES

Appendix A: Questionnaire form

Table A.1: A copy of the study questionnaire.

PART 1: Background Information	
Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/>
Age	<input type="checkbox"/> 21 - 30 <input type="checkbox"/> 31 – 40 <input type="checkbox"/> 41 – 50 <input type="checkbox"/> More than 51
Highest academic level	<input type="checkbox"/> High school <input type="checkbox"/> Diploma <input type="checkbox"/> BA (4 years collage) <input type="checkbox"/> Master Degree <input type="checkbox"/> PhD Degree
Designation in the organization	<input type="checkbox"/> Manager <input type="checkbox"/> Employee <input type="checkbox"/>
Working Experience with this organization	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1-3 year <input type="checkbox"/> 4-6 year <input type="checkbox"/> 7-9 year <input type="checkbox"/> 10-12 year <input type="checkbox"/> 13-15 year <input type="checkbox"/> More than 15 year

PART 2: Knowledge Management (KM) Scales

In this part, you have five options that represent the degree of your answer. Please select only one option for each question about knowledge management in your organization.

A. Perceptions about Knowledge

Question	Strongly disagree	Disagree	Normal	Agree	Strongly agree
1. Each organization should implement KM policies					
2. KM is essential for the performance of the organization.					
3. KM helps decrease errors.					
4. Knowledge acquisition helps the individual's autonomy.					
5. Knowledge recording helps employees adapt when they are transferred to different departments of the organization.					

B. Intrinsic Motivation

6. I feel content when I share my knowledge with others.					
7. When I know something is useful for my colleagues, I inform them. It is a matter of principle.					
8. I could participate in a seminar because I like knowledge even if I would not receive credit or a certificate of participation					
9. Knowledge acquisition gives me power.					

C. Knowledge Creation

10. I create knowledge through observation of the working environment					
11. Knowledge is created during group meetings					
12. Knowledge is created during group seminars					

D. Knowledge Sharing

13. Knowledge is shared during group meetings.					
14. Knowledge is shared using electronic means (websites, wikis, forums).					
15. I share knowledge with colleagues who are my friends					
16. I share knowledge with colleagues from my department.					

17. I share knowledge with colleagues of other professional groups at the organization.					
E. Cooperation					
18. I often cooperate with my colleagues to face a new situation.					
19. When I come across difficulties, I ask my colleagues.					
20. When I know the work of the others, it improves my performance.					
21. Cooperation when creating new knowledge reduces the anxiety of responsibility in case of an error.					
F. Leadership					
Question	Strongly disagree	Disagree	Normal	Agree	Strongly agree
22. My supervisor provides the required knowledge to solve problems.					
23. My supervisor rewards people who share their knowledge.					
24. Leadership creates channels of communication that help knowledge transfer.					

PART 3: Firm's Performance scales

In this part, you have seven options that represent the degree of your answer, Please consider the performance of your business **in the last 5 years** and mark only one option for its expression.

A. Operational Performance

Question	Strongly disagree	Disagree	Normal	Agree	Strongly agree
1. Quality of our products/services is high					
2. Reliability of our products/services is high					
3. We deliver our products/services on time to customers					

B. Inventory Management Performance

4. Purchase material turnover is high in our firm					
5. Total inventory turnover is high in our firm					

C. Employee Performance

6. Our employees' organizational commitment is high					
7. Our employees' job performance is high					
8. Our employees' absenteeism is low					
9. Our employees' morale is high					
10. Our employees' turnover rate is low					

D. Innovation Performance

11. The number of successful new product/service introductions of our firm is high					
12. The use of latest technological innovations in our new product is high					
13. The technological competitiveness of our firm is high					
14. The speed of new product development of our firm is high					
15. The number of our new products that are first-to-market is high					

E. Social Responsibility

16. Protection of environment in our firm has developed					
17. Noise levels caused by our firm have decreased					
18. Pollution levels caused by our firm have decreased					

19. Our firm has a positive impact on society					
20. Our firm is actively involved in the community					
F. Customer Results					
21. Customer satisfaction has improved					
22. Customer retention has improved					
23. Customer complaints have decreased					
G. Market and Financial Performance					
24. Return on assets of our firm has increased					
25. Market share of our firm has improved					
26. Profits of our firm have grown					
27. Sales of our firm have grown					

RESUME

EDUCATION:

- BA in Economics from Mosul University, 2016-2017

WORK EXPERIENCE:

- Retail Store Manager.

PUBLICATIONS/PRESENTATIONS ON THE THESIS: Not Available

LIST OF PUBLICATIONS AND PATENTS: Not Available