



**THE IMPACT OF ELEMENTS OF
INTELLECTUAL CAPITAL ON
ORGANIZATIONAL PERFORMANCE: CASE
STUDY OF UNIVERSITY OF KIRKUK IN IRAQ**

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Mushtaq HUSSEIN IBRAHIM

**Thesis Advisor
Assist. Prof. Dr. Essia Ries Ahmed ABU RIES**

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Mushtaq HUSSEIN IBRAHIM

Thesis Advisor

Assist. Prof. Dr. Essia Ries Ahmed ABU RIES

T.C.

Karabuk University

Institute of Graduate Programs

Department of Business Administration

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THESIS APPROVAL PAGE

I certify that in my opinion the thesis submitted by Mushtaq Hussein IBRAHIM the “IMPACT OF ELEMENTS OF INTELLECTUAL CAPITAL ON ORGANIZATIONAL PERFORMANCE: CASE STUDY OF UNIVERSITY OF KIRKUK IN IRAQ” is fully adequate in scope and quality as a thesis for the degree of Master of Science.

Assist. Prof. Dr. Essia Ries Ahmed ABU RIES

Thesis Advisor, Department of Business Administration

This thesis is accepted by the examining committee with a unanimous vote in the Department of Business Administration as a Master of Science thesis. 19/05/2023

Examining Committee Members (Institutions)

Signature

Chairman : Assist. Prof. Dr. Essia Ries Ahmed ABU RIES (KBU)

Member : Assist. Prof. Dr. Akram ALHAMAD (KBU)

Member : Assist. Prof. Dr. Abdullah M. S. BAADHEM (MPU)

The degree of Master of Science by the thesis submitted is approved by the Administrative Board of the Institute of Graduate Programs, Karabuk University.

Prof. Dr. Müslüm KUZU

Director of the Institute of Graduate Programs

DECLARATION

“I declare that all the information within this thesis has been gathered and presented by academic regulations and ethical principles and I have according to the requirements of these regulations and principles cited all those which do not originate in this work as well.”

Name Surname: Mushtaq Hussein IBRAHIM

Signature:



FOREWORD

The first and foremost thing I am grateful for is God for blessing me with health and the ability to complete my education. I would like to express my sincere appreciation to my supervisor, Assist. Prof. Dr. Essia Ries Ahmed Abu RIES, for dedicating his greatest contribution to the completion of my dissertation. This search is the result of his courage and help in the form of important tips and recommendations. finally. I would like to express my gratitude to my supportive family, especially my grandmother, my brother who lives in Turkey, and my wife for always being there for me. Helping me in my most difficult moments and also helping me with my studies.

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ABSTRACT

The main aim of this research is to determine the effect of intellectual capital with its four elements (human capital, structural capital, customer capital, and innovation capital) on organizational performance at the University of Kirkuk in Iraq. This quantitative study adopted the method of distributing the questionnaire from previous studies to obtain the information. The research sample consists of the deans, assistant deans for administrative and scientific affairs, and the directors of divisions in the colleges. The study utilized the proper statistical techniques for the research, the number questionnaires distributed is 260 questionnaires. The study included (160) valid survey questions to have the validity of the information was confirmed for the necessary statistical analysis and the statistical analysis using structural equation modeling using (Smart- PLS). The research revealed more than one result, and the most of value of which are the three elements: (human capital, structural capital, and customer capital) which have a positive link with organizational performance, but are not supportive and not significant. As for the element of innovation capital, it has appositive and important link with organizational performance of the university. The research recommended that University of Kirkuk needs to focus and pay attention to whole components of intellectual capital as they are the most crucial elements in raising organizational performance in all colleges affiliated to University of Kirkuk in Iraq.

Keywords: Intellectual Capital, Organizational Performance, University of Kirkuk

ÖZ

Bu araştırmanın temel amacı, Irak'ta Kerkük Üniversitesi'nde dört unsuru olan (insan sermayesi, yapısal sermaye, müşteri sermayesi ve yenilikçilik sermayesi) entelektüel sermayenin örgütsel performans üzerindeki etkisini belirlemektir. Bu nicel çalışma, bilgi elde etmek için önceki çalışmalardan anket dağıtma yöntemini benimsemiştir. Araştırmanın örneklemini yükseköğretim dekanları, idari ve bilimsel işlerden sorumlu dekan yardımcısı ve bölüm müdürleri oluşturmaktadır. Çalışma, araştırmaya uygun istatistiksel teknikleri kullanmıştır, dağıtılan anket sayısı 260 ankettir. Çalışma (160) geçerli anket sorularını içermekte olup bilgilerin geçerliliği gerekli istatistiksel analizler için doğrulanmıştır ve yapısal eşitlik modellemesi (Smart-PLS) kullanılarak istatistiksel analizler yapılmıştır. Araştırma birden fazla sonuç ortaya koydu ve bunların çoğu, örgütsel performansla pozitif bir bağı olan ancak destekleyici ve anlamlı olmayan üç unsur (insan sermayesi, yapısal sermaye ve müşteri sermayesi) oldu. İnovasyon sermayesi unsuru ise üniversitenin örgütsel performansı ile olumlu ve önemli bir bağa sahiptir. Araştırma, Kerkük Üniversitesi'nin Irak'taki Kerkük Üniversitesi'ne bağlı tüm kolejlerde kurumsal performansı artırmada en önemli unsurlar olduğu için entelektüel sermayenin tüm bileşenlerine odaklanması ve dikkat etmesi gerektiğini önerdi.

Anahtar Kelimeler: Entelektüel Sermaye; Örgütsel Performans; Kerkük Üniversitesi

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ABBREVIATIONS

HC	: Human Capital
SC	: Structural Capital
CC	: Customer Capital
IC	: Innovation Capital
OP	: Organizational Performance
UOF	: University of Kirkuk
OECD	: The Organization for Economic Co-operation and Development
THE WUR	: The World University Rankings
QS WUR	: The QS World University Rankings

SUBJECT OF THE RESEARCH

The Impact of Elements of Intellectual Capital on Organizational Performance: Case Study of the University of Kirkuk in Iraq

PURPOSE AND IMPORTANCE OF THE RESEACH

The main aim of this research is to determine the effect of intellectual capital with its four elements (human capital, structural capital, customer capital, and innovation capital) on organizational performance at the Iraq University of Kirkuk. The importance of this research stems from the value of the topic it deals with, which goals to relationship the variables that have become of great importance in the sector of higher education institutions, specifically intellectual capital, and its function in achieving high-level organizational performance. It is thought to be among the most significant goals that educational institutions seek in order to obtain a competitive advantage between educational institutions at the local and international levels, and through superior element extraction and use in a way that advances the objectives these institutions pursue, it plays a significant part in adding value and luring customers.

METHOD OF THE RESERCH

This research used a cross-sectional quantitative style. There are various ways to gather data for surveys, but in this case, the deans, assistant deans for administrative and scientific affairs, and directors of the divisions received the questionnaire after it had been approved and distributed to the colleges affiliated with the University of Kirkuk in Iraq in order to collect the necessary data for statistical analysis. A program called Smart-PLS was used for analyzing the data collected.

HYPOTHESIS OF THE RESEARCH / RESEARCH PROBLEM

The main hypothesis in this research revealed a positive effect of intellectual capital on organizational performance and sub-hypotheses that include the effect of an element (human capital, structural capital, client capital, and innovation capital) on organizational performance in a positive way. . The reality of universities in general, as

indicated by the 2015 UNESCO report mechanism, is weak research production and the lack of a strong base in the field of science and technology, and the performance of their institutions remains weak. This is reflected in the reality of Iraqi universities that aspire to improve their performance in obtaining advanced ranks in the rankings universities at the local level first and at the international level second, and to rise to advanced ranks. It is necessary to focus on and notice the elements of intellectual capital in order to benefit from and invest in intellectual intangible assets and use its resources more efficiently.

POPULATION AND SAMPLE (IF AVAILABLE)

In this research, the deans, the assistant dean for administrative and scientific affairs, and the directors of divisions in the colleges were the sample for the study population, as the total number reached (260) directors. Since this study is applied at the University of Kirkuk, and its affiliated colleges were selected with a sample size of (160) respondents, it is perfectly suitable for this field.

SCOPE AND LIMITATIONS / DIFFICULTIES

The scope of the research was confined to the University of Kirkuk as it is one of the institutions of higher education and scientific in Iraq. This research targeted the deans, the assistant deans for administrative and scientific affairs, and the directors of divisions in the colleges as a sample in the colleges affiliated with the University of Kirkuk in Iraq. Intellectual capital is public idea right now and is over a large area discussed subject. Everyone agrees, according to Huang and Liu (2005), that intellectual capital is a key component of a nation's economic growth. This research is limited to the effect of intellectual capital elements as an independent variable (human capital, structural capital, customer capital, and innovation capital) on organizational performance as a dependent variable.

1. INTRODUCTION

1.1. Background of the Research

The higher education institution is one of the most significant state institutions. The dynamics of quick changes have been felt by higher education institutions all over the world. The higher education institutions' philosophy as legal organizations has taken on more significance (Oertel, 2018). The purpose of higher education institutions' is initially to raise the caliber of students by utilizing the resources that are available (Pucciarelli & Kaplan, 2016). The higher education institutions' is now a global institution that may conduct business and collaborate with a variety of parties. It is still a public organization with strong ties to the government and community (Moon et al., 2017; Tseng et al., 2018). The reputation of the organizations is crucial to the international partnerships that higher education institutions' can create, which also has an effect on the level of competition they experience (Musselin, 2018). The growth of higher education institutions' global rankings serves as a catalyst for competition (Bagley & Portnoi, 2014). The World University Rankings (THE WUR) and the QS World University Rankings (QS WUR) are currently already used to assess the caliber and standing of universities around the globe (Altbach & Salim, 2017). Each government has created its own ranking systems in addition to those created by the special sector for universities, and the performance of the higher education institutions' is primarily assessed based on education, researches, and community benefit or national growth (Bisogno et al., 2018). It pertains to the duties the higher education institution performs in its capacity as a community-serving public organization. Therefore, when evaluating the performance of higher education institutions, non-financial measures should be get hold of into account in addition to financial measures to carry out these duties. One of the most important modern ideas that emerged in the eighties and continued until the beginning of the nineties is the idea of intellectual capital (Mohtar, Abdul Rahman, & Abbas, 2015). This idea arose in industrial, commercial, and service institutions, including higher education institutions. It calls for the adoption of modern and advanced policies in an attempt to benefit from the tangible and intangible intellectual assets owned by these institutions. It is undeniable that tangible assets of an enterprise are very important; however, intangibles also have

an important part in the expansion and evolution of enterprises (Kristandl & Bontis, 2007). Achieving high levels of performance allows it to thrive in the face of intense competition and globalization. As a result, it is able to perform well, increase the level of competition, and establish itself among other institutions that provide profitable educational services in order to succeed and profit from a competitive status by employing a special blend of human, structural, and customer capital. These intangible resources are known as the intellectual money of the institution (Saeed, Sami, Lodi, & Iqbal, 2013). Thus, it is considered one of the key elements influencing the quality of the organization's performance, effectively and efficiently, it greatly affects the success of the organization. *"A large number of previous research demonstrates the importance of intellectual capital for both organizational competitive advantage and effective performance of organizations"* (Mention & Bontis, 2013).

Set the significance of intellectual capital as of the largest valuable assets of the century of (21) , it is one of the most important indicators of the evolution of contemporary management philosophy, thus reflecting the scientific forces that are capable of fundamentally changing corporate organizations (Abdul Hamid, 2014). These intangible property also known intellectual capital, are the knowledge based assets of an organization and source of feature (Kweh et al., 2019; Ahmed et al., 2019; Ferramosca & Ghio, 2018; Dzenopolijac et al., 2017). Intellectual capital, particularly at universities, has important effective the success of the education sector, according to study (Sharafi & Abbaspour, 2013), and academic institutions must effectively manage their intangible assets to be effective.

1.2. Problem Statement

Today, companies from all fields compete in a variety of ways, which attributed to the innovation imparted about by information technology. Organizations undoubtedly have to go above and beyond to thrive in such an environment. As a result, organizational performance must be constantly improved to reach a level that allows it to gain and maintain a competitive advantage. Although improving organizational performance is not new, opinions differ, in particular (Zwain, 2012). The optimal way to boost organizational performance in the contemporary knowledge-based economy is up for debate because the education sector, like other industries, is

also impacted by the business environment's quick changes (Amin, 2006). Intellectual Capital is not just a term of inputs, but also a consequence of the higher education institutions (Andreeva & Garanina, 2016). The higher education institutions assist the development of their students' intelligence by utilizing their lecturers, infrastructures, links, and systems (Sangiorgi & Siboni, 2017). High quality research and graduates will boost the higher education institutions' reputation and inspire trust. As a result, effectively managed intellectual capital can be produce a competitive advantage and ensure the sustainability of higher education institutions. Since that intellectual capital is the major factor in determining organizational productivity, undoubtedly, the low level of intellectual capital leads to the high rate failure of organizational performance and plan implementation failure (Bornemann & Weidenhofer, 2014). It is asserted that the emergence of a highly competitive institutional environment has led to major shifts in the ways of thinking of higher education institutions and universities. Given this reality, educational institutions' ability to manage changes and improvements will significantly affect their ability to stay competitive and in operation under these circumstances (Senge, 2017). As was previously indicated, there were a number of issues that Iraqi higher education institutions faced, notably those that had to do with under-performance. The final report of the international conference on higher education in Iraq, which was published in 2007, stated that higher education institutions are the most crucial components of any community. In this research, they called for enhancing the organizational performance of the University of Kirkuk (it is regarded as one of Iraq's institutions of higher learning) and standing in the face of challenges that impede the march of progress toward high and effective organizational performance that raises the reality of the university to the level of competition on both the internal and external levels. (36) Public universities were evaluated according to the institutional performance standards and the performance standards of scientific departments in the Iraqi classification of universities 2021 through the official website of the Iraqi Ministry of Higher Education, and this classification indicates the strength and weakness of university performance. The sequence of the University of Kirkuk was 21 in the ranking of the list. Through what has been mentioned, educational organizations and institutions, as the sea of development and the main determinant of productivity in all societies, seek to gain competitive advantages to achieve their goals by creating value for them by investing all available resources (Attia, & Thoughts of

Saeed Khamis Attia, 2018). The success, creativity, distinction, and failure of these educational institutions depend on intellectual capital and its components. Neglecting any of its elements is considered a loss and an obstacle to the march of progress, especially as it is one of the most important factors for encouraging sustainability in universities, and it is the intellectual capital of higher education institution (Silva, & Ferreira, 2019). The reality of Arab universities in general, as indicated by the mechanism of the UNESCO report for 2015, is the weak research production and the lack of a strong base in the scope of science and technology, and the performance of their institutions is still weak in generating knowledge. This is reflected in the reality of Iraqi universities, including the University of Kirkuk, which aspires to improve its performance to enter international rankings and rise to advanced ranks. It must pay close care to the elements of intellectual capital to make utilized and invest intangible intellectual assets, and make good use of their resources more efficiently. Efficiency, maintaining and improving the intellectual development of capital, attracting talent, and facing external and internal competition increases its performance and competitive advantage (Golshahi, et al., 2015).

1.3. Research Questions

By reviewing the backdrop of the research in addition to the research problem that was raised in the above part, this research presents one main question and four sub-questions:

- What is the impact of the elements of intellectual capital on organizational performance at the University of Kirkuk?

1. Is there an impact of human capital on organizational performance at University of Kirkuk?

2. Is there an impact of the structural capital on organizational performance at the University of Kirkuk?

3. Is there an impact of the customer capital on organizational performance at the University of Kirkuk?

4. Is there an impact of the innovation capital on organizational performance at the University of Kirkuk?

1.4. Research Objectives

The current research aims to give solutions for the above questions by achieving the following research goals:

- To examine the impact of the elements of intellectual capital on organizational performance at the University of Kirkuk.

1. To investigate the impact of human capital on organization performance at the University of Kirkuk.

2. To examine the impact of structural capital on organizational performance at the University of Kirkuk.

3. To examine the impact of customer capital on organizational performance at the University of Kirkuk.

4. To investigate the impact of innovation capital on organizational performance at the University of Kirkuk.

1.5. Significance of the Research

This research could contribute effectively and tangibly to expanding the scientific and practical frontiers. The research shows the effect of intellectual capital (human capital, structural capital, customer capital, and innovation capital) on organizational performance at the University of Kirkuk, embracing the intellectual capital and organizational performance as a fulcrum for the institution's success in attaining its objectives and preserving its efficacy and continuity.

This research benefits the administrative leaders of educational institutions in taking the appropriate dimension of intellectual capital, which contributes to enhancing the organizational performance of workers in higher education institutions. Besides, the research highlights the value of preserving the components of intellectual capital, and methods to invest in improving organizational performance.

1.6. Scope of the Research

The field of research contains examining the effect of the elements of intellectual capital on the organizational performance within the University of Kirkuk through its affiliated colleges. It is one of the institutions of higher education in Iraq, which was opened in 2003. In this research, the quantitative approach was relied upon, and as a research tool, questionnaire was distributed to get the data. At the University of Kirkuk, the deans and assistant deans for administrative and scientific affairs and the directors of divisions in the colleges affiliated to the University of Kirkuk were used as a research sample. Many colleges were opened, which reached 18 colleges. The university is still in a state of continuous development, in addition to the fact that there are some issues and problems in performance that are reflected in the organizational performance of the university and it was necessary to focus on improving performance at the university level.

1.7. Definitions of Key Terms

Some of the keywords that were used in the context of this research are briefly explained in this section. The second chapter contains precise definitions of each of these words.

Intellectual Capital: Intellectual Capital is defined by the Organization for Economic Cooperation and Development (OECD) as the economic value of two categories of an organization's intangible ownership. Structured money, which consists of human capital, ownership intellectual and distribution networks, and organizational processes, procedures, and technology, refers to the company's employees' human resources, which also include their experiences, expertise, and innovations (Sánchez, et al., 2012).

Human Capital (HC): It is defined as the collection of information, skilled, and experienced that cannot be cut from their owner. Is key factor in organizational performance and the production of value for businesses (Quintero et al., 2021).

Structural Capital (SC): Refers to intangible assets and procedures, such as cultures, structures, processes, intellectual property, and data systems, allow

knowledge to be institutionalized and retained inside organizations (Jayabalan et al., 2021).

Customer Capital (CC): it is concerned with the knowledge and skills that come from other customer resources like customer loyalty, brand loyalty, and reputation in addition to the interactions between an organization's employees and its stakeholders (Agostini, Nosella, & Filippini, 2017).

Innovation Capital (IC): It is an introduction to a new structure of the basic production elements and elements related to the production system of organization, and can be expressed in word of patents, cheap production, the number of new innovative technologies, and sales of innovative new products relative to quantitative (Ben Hezia, Warda, & Qofy, 2017).

Organizational Performance (OP): Ngah and Ibrahim (2010), defined organizational performance as *"comparing the expected results with the actual ones, investigating deviations from plans, assessing individual performance and examining progress made towards meeting the targeted objective"*.

University of Kirkuk (UOK): It is an educational institution affiliated with the Ministry of Higher Education and Scientific Research, which contains faculties in various disciplines through which an undergraduate degree, a higher diploma, master's degree, and a doctorate are awarded.

1.8. Organization of the Research

In this research 5 chapters are presented. Chapter 1 talks about the research background and issues related to higher education institutions in Iraq, especially at the University of Kirkuk. Then, it clarifies the problem of research in the domain of intellectual capital and organizational performance. The question research, objectives research, significance research, scope, and limitations of the research are presented. Then, definitions of key terms are allowed at the end of this chapter.

Chapter 2 includes of an introduction in which it reviews the previous studies on organizational performance, the dimensions of organizational of performance and its related measures, an introduction to intellectual capital, the origin of the concept of intellectual capital and touching on definitions, characteristics, elements,

classifications, and theories in intellectual capital, as well as the theoretical framework, research hypotheses, and the gap in studies at the finish of the chapter, as well as the summary was reviewed.

Chapter 3 presents a comprehensive introduction to the research methodology. It begins with the research design, population, sample size, sampling elements, sampling technique, data collection methods, measuring tools, and introducing the Smart-PLS data analysis technique in the research, and then data analysis, and by the end of this chapter, the chapter is summarized.

Chapter 4 presents the finding obtained from the data analysis method used in the research. The sections of the chapter are as follows: introduction to this chapter, data collection process, response rate, demographic profiles, descriptive statistics, discriminant validity, r square, hypotheses testing, and a summary of the chapter.

Chapter 5 presents a discussion of the results. The results are compared with the finding of previous studies in this study. It presents potential administrative and theoretical contributions, the study's limitations are highlighted as well as future conclusions and recommendations are addressed.

2. LITERATURE REVIEW

2.1. Introduction

In this chapter, previous studies related to the subject of the study, such as human capital, structural capital, relational capital, and innovative capital, are reviewed as elements of intellectual capital. All of them are one section, which is the independent variable, while organizational performance represents the dependent variable in this study. This chapter reviews and focuses on organizational performance within the higher education sector at University of Kirkuk, as well as discussing the four elements of intellectual capital and their impact within the higher education sector at University of Kirkuk.

2.2. The State of Higher Educational Institute in Iraq

Iraq, also referred to as (Mesopotamia) is the region between the Tigris and Euphrates rivers is considered the cradle of all human civilization. When social, political and economic systems initially emerged, the Sumerian, Acadians, Assyrian, and Babylonian civilizations emerged and flourished. Iraq has played important part in the Arab-Islamic civilization in the region since the beginning of Islam. Baghdad, the capital of Iraq, has long been the center of culture, civilization, and creativity that has attracted scholars and writers from all over the world as well as seekers of knowledge (Issa & Jamil, 2010; UNESCO, 2000). Considering these details and Iraq's depth of vision,, which began in the nineteenth century and continued throughout the nineties, Iraqi higher education institutions were considered among the best ones (Cross, 2006; UNESCO, 2000).

2.2.1. University of Kirkuk

The University of Kirkuk is one of the Iraqi universities affiliated with the higher education institution. It was newly created and was established on the seventeenth day of January 2003. It includes four colleges, three of which were established, namely the college of education, the college of science, and the college of

nursing. The college of law was affiliated with the University of Mosul at that time. This university has witnessed great development since its establishment and so far this development has included most aspects, and the most important of these aspects is the development it has witnessed in the scientific aspect, which was represented by the high levels achieved by the university students in various disciplines as well as the research submitted by university professors and their participation in scientific conferences, held in universities in Iraq or in universities of other countries. This development also included the urbanization witnessed by the university and the creation of faculties and departments.

2.3. Organizational Performance

The research on organizational performance presents problems in the relationship between the theoretical approach and the concept's actual observation (de Brito & de Oliveira, 2016). Therefore, some of the concepts found in the previous studies on the concept of performance were addressed. The simplest definition for him is that organizational performance is an index that gauges how effectively a business reaches its goals. Since organizational aims and the idea of organizational performance are closely related, all organizations may try to achieve some predetermined goals with the help of available resources (Jenatabadi & Regulatory, 2013).

The concept of performance many financial, non-financial indicators make up provides data on the degree of goals, results, and that performance is dynamic and requires interpretation and judgment. It is possible to draw a model in which we show how the current procedures affect the future results and thus the understanding of performance differs from the person participating in the performance evaluation (Gavrea et al., 2011). As for the management of organizational performance, a distinction was found between management at the level of the institution and the individual. In this type of procedure, for the firm and its management system to develop, there must be procedures that are proportionate to how their environment is changing. It is seen through two aspects, the first is from the administrative aspect, where the performance management system consists of four activities (performance planning, performance monitoring measures, performance measurement and performance reward), and the second is from the performance measurement aspect,

want the measuring system to serve as a foundation for the organization to evaluate progress in results towards predetermined goals (Felizardo et al., 2017). Organizational performance can be understood as outputs of the organization as measured with the intended or desired outputs of the organization (Al-Matrooshi et al., 2016). Leadership competence is a crucial element in the performance's success of any organization, and efficiency is determined through the application of cognitive and social organizational performance. It is also contain the organization's actual production, which are measured concerning the same goal and includes the actual expected results (Mashal, 2014).

Through the foregoing, we conclude that organizational performance is a comprehensive activity in which the organization works to exploit its human and material resources efficiently and effectively, in such a way, thus making it is capable of its goals and maintaining its competitive advantage.

2.4. Introduction of Intellectual Capital

Further the growth of technology used in information and communication around the globe into a little community, and the decisive information revolution in the world that is now called the knowledge economy, organizations must be able to survive in the environment of business growth, which comes with intense competition, whereby the material deepens through intellectual capital. The importance of intellectual capital goes beyond the organization's assets, higher education institutions currently focus heavily on building intellectual capital, with knowledge serving as key inputs and outputs. Universities generate knowledge either through teaching or scientific and technological studies (survey results, publications, etc.). In addition, their most active resources include faculty, researchers, staff responsible for management and support functions, students and members of university committees, together with all of their organizational connections and daily activities (Alfarra, 2018). Therefore, in this part, touch on explore the origin and conception of intellectual capital, its definitions, importance, characteristics, elements, measurement, and principles.

2.4.1. Origin of the Concept of Intellectual Capital

Guthrie et al. (2012) and Al-Kardawi (2014) indicated that research on the study of (intellectual capital) has entered three stages of development, and characteristics of each stage can be determined. Based on the following:

The first, which started in the late 1980s and lasted until the end of the previous decade's 1990s, was concerned with creating a framework, conceptualization of intellectual capital, and determining its importance, as I focused on developing a set of standards and guidelines to make intellectual capital something tangible, measurable, and disclosed, and well-known theories were employed at this era to it is clear the ideas of intellectual capital, and define it is various principles.

The second, that extended since the decade of the 1990s in the previous century, until the beginning of the year (2004), aims to measuring the effect of Intellectual money on financial performance, generating significant values for businesses, as researchers at this stage stressed on the value of intellectual capital as a driver for the value that leads to increasing the profitability of enterprises, and maximizing their competitiveness.

The third, which started at the beginning of (2004), whereby earlier, the emphasis was on learning how to manage intellectual capital across all industries and various institutions. It should not only focus on achieving financial returns, but also should expand to include enriching the benefits and services provided to customers, as the proponents of this assert the stage as well on the need to rely on capital valuation methods Intellectual property as tools for creating value in the organization rather than as tools to measure intellectual capital. Consequently, it is clear that idea of intellectual capital is one of the newly emerging ideas, It first arose at the close of the previous century and the start of the current century, and this idea began in institutions (manufacturing and commercial), then progressively shifted to institutions of service, higher education institutions included as an effort to profit from intellectual property and other intangible assets that belong to these entities, thereby leading to maximizing its competitive ability, and consolidating its standing among organizations that offer comparable educational offerings. Researchers have dealt with several different terms for the idea of intellectual capital, such as intangible assets, and intellectual assets, intellectual property assets, knowledge based assets, and knowledge capital,

intellectual capital, and others, although all these terms express assets (knowledge, and intellectual) existing in the institution, which are represented in individuals' knowledge, ability and skills and their experience and it is one of the most important elements of competition between different educational institutions, which contributes to developing work inside and outside these institutions, while giving them a competitive advantage that is not available for other institutions.

2.4.2. Definition of Intellectual Capital

It should be mentioned that John K. Galbraith is credited with coining this phrase, which first appeared in 1969. Researchers frequently use the word "intellectual capital" to refer to intangible assets. A number of empirical researches define intellectual (intangible) capital as the knowledge that an organization holds (Stewart, 1998). Intellectual Capital is the collection of assets the intangible things present in the organization which includes the people's knowledge, talents and experience, their degree of education and their readiness to learn and advance. They are real wealth for the enterprise; therefore, it is essential to manage intellectual capital in require to create added values, competitive advantages for the enterprise (Matos et al., 2010).

It can be also defined as acquired knowledge, practical experiences, organizational techniques, professional skills, as well as customer relations, which make the company able to benefit from competitive advantages in the international market (Huang & Kung, 2011).

The sum of intellectual assets based on knowledge, dates back for the benefit of the institution, and includes the technology used, administrative processes and consultancy, intellectual property rights, patents, and copyrights in the enterprise (Ray & Richard, 2000). Total intangible assets based on knowledge, mechanisms, relationships, and organizational structure, that are impossible are specifically disclosed in the organization's financial records, but reflect the real value (Yıldız et al., 2014 & Isaac et al., 2009). Knowledge is a resource that can be used to be turned into profits (Sullivan, 1999).

Intellectual capital focus on the knowledge assets that are present in an organization and that are divided into two kinds: explicit knowledge, which can be

easily acquired and shared with others in the form of documents, and tacit knowledge, which is based on the individual experiences of people but needs to be utilized (Daft, 2010). Ousama, Suleiman, & Souad, (2014)

Stewart (2010) described intellectual capital as the knowledge, information, intellectual assets, and ability to use expertise to create wealth. In this context, Ousama, Suleiman, and Souad, (2014) defined intellectual capital is knowledge, experience, management philosophies, intangible property, and human resources as examples of intangible sources. The value of a firm is created and increased through these sources, and organizations rely on intellectual capital to accomplish their objectives due to economic understanding. As for Corecoles, et al. (2011), they defines intellectual capital as a set of intangible property that allow the institution have the right to transform resources (physical, financial and human) into a system it has the capacity to add value. Al-Saeed (2008), in his definition of intellectual capital, as a set of unrelated values of tangible components which are included in the capital of the institution, and include components (Human, Structural, and Customer) that contribute to the generation of fresh, creative concepts that aid the organization's survival, marketing share growth, and competitive advantage. Intellectual Capital is not concentrated at a specific management level, but represents a set of distinct cognitive capabilities. It is symbolized of laborers who possess a set of cognitive abilities, organizational, these capabilities enable them to create new ideas or develop ideas thus enabling the business to increase its market share, maximize its strengths, and makes it able to seize appropriate opportunities (Al-Mafraji & Salih, 2007).

The researcher's opinion through the above concepts defines intellectual capital in institutions of higher learning as:

A bundle of intangible resources you own institutions of higher education and the duty to increase capacity, and enhance their competitive position, which includes the knowledge, experience, and the ability of its members, and represents the capital human). It also includes the nature of the job and structure of the institution, work contexts, and systems information, which represents (structural capital), as well as patents, and property rights Intellectual property, copyright, and authorship, which represents (innovation capital), as well as the institution's relations with its external clients, and the beneficiaries of its services, which represents (customer capital).

Through the analysis of previous technical of capital intellectual, it can deduce a set of important points:

1- There is no agreement over a particular definition of intellectual capital owing to the newness of the idea in one sense, and the variety of scholars' areas of interest and their areas of specialty. Some researchers, based on their definition of intellectual capital, focused on the human element, and what own it possesses aptitudes, competencies, information, a variety of experiences, and latent creativity (Hilali, 2011). Therefore, it is a synonym for the intellectual capital of the institution, and its necessary to have an interest in it, and its development, and then there are those who focused on his definition of intellectual capital on the significance of intangible property in enhancing the competitiveness of the work, and its growth, continuity, and increase in its returns. Further, there are some who concentrate on its definition of capital intellectual who focus on combining human resources and intangible property, and then intellectual capital is more integrated than human capital, which combines the human, structural capital of the organization.

2- Most prior definitions concur that the three main crucial elements of intellectual capital are: human capital as the institution's most valuable asset and the things it has of various (skill, capabilities, knowledge, attitudes, and experience) and latent creativity and others and structural capital and what it consists of, including methods, research and development systems, a technology employed, and institutional organizational processes access to databases, information, and rights to intellectual property, such as (patents, copyrights, and copyrights), and others. it is the foundation structure of human capital, relational capital, or clients' capital which refers to the institution's relationships: (formal, informal official) with its external clients and the beneficiaries of its services.

3- Every definition before this one connected the institution's availability of intellectual capital, and extended its market share and its capacity to manage and invest in it, and maximizing its points and its strength. In order to set it apart from other institutions and so grow capabilities, it must develop its performance, increase its efficiency and effectiveness, and achieve returns (financial and moral). It must also maximize its competitive position.

4- The idea of intellectual capital is not founded on the evident information that can only be found in institutions rather the author is more interested in tacit knowledge and looks for individuals with distinctive intellectual specialties and systematically strives to exploiting and benefiting from the expertise, skills, and abilities of these individuals, and from then setting precise standards for quantifying intellectual capital is challenging and then proceeding.

5- The institution's human capital is transformed into intellectual capital when it is used for individuals' knowledge, skills, abilities, and various experiences, and converts them into knowledge formed in the enterprise so that you can refer to it at any time and benefit from it including the development of the performance of the institution and increase its competitiveness.

6- The three elements of intellectual capital are intimately connected to each other as follows: (human capital creates structural capital) which in turn fosters customer capital for the business which results in increased competition with other institutions, thus increasing its position and optimizing its potential.

7- The previous definitions of intellectual capital, as well as how closely it is connected to education and knowledge are evident. Knowledge is the primary component of production and the determining factor. Education has a fundamental role in the formation of intellectual capital, its development and it is the key to the productivity of intellectual capital in diverse institutions which requires the need to pay attention to educational systems, and develop it to face the rapid changes in society. The current study considers that the significance of the four elements of intellectual capital may be evident through the following points:

- One of the arguments supporting the significance of intellectual capital is the turn that it plays and the influence that it has in accomplishing goals and results.

- Capacity and the many roles performed: The existence and durability of institutions in how they perform their operations and acts are directly influenced by the human element which is the primary part of intellectual capital.

2.4.3. Characteristics of Intellectual Capital

Below are the characteristics of intellectual capital, which range from organizational characteristics to professional behavioral and personal ones.

2.4.4. 1. Organizational Characteristics

The intellectual capital is distributed at all administrative levels. It is related to all strategic levels albeit in varying proportions. Intellectual capital tends to work within flexible structures. It is also low for formality Intellectual capital that moves away from the tendency towards administrative centralization to a large extent (Hilali, 2011).

2.4.5. 2. Occupational Characteristics

Intellectual Capital does not necessarily have an academic degree, but rather the necessity lies in continuing their education. The intellectual is characterized by high and diversified skills, where intellectual capital is characterized by advanced expertise (Hilali, 2011).

2.4.6. 3. Behavioral and Personal Characteristics

Intellectual Capital tends to bear the risk of starting a business to a large extent, whereby intellectual capital favors dealing with uncertain matters (Davis, 1995). Intellectual Capital is characterized by the initiative to make helpful suggestions and ideas. Intellectual Capital has the ability to make decisions to a large extent without hesitation. Intellectual Capital is characterized by an average level of intelligence and has the ability to benefit from the experiences of others as it is open to the experiences of others. It is also characterized by high perseverance in work (Hilali, 2011).

2.4.7. Elements of Intellectual Capital

"Understanding or demonstrating an organization's implicit ideals are just two examples of intellectual capital. Transposing the outcomes of an organization's

implicit values into new values is more important" (Ross, 1998). According to some experts, intellectual capital can be separated into three species: human, structural and technological capital (Edvinsson, 1997; Johnson, 1999; Smith & Parr, 2000). It has been claimed that a key performance measure for a corporation is its intellectual capital. It should be recognized and promoted for businesses to be competitive in the constantly changing universal environment. In their study, (Yang & Lin, 2009) discovered that based on different perspectives intellectual capital increases organizational performance. It aids businesses in raising profits, cutting costs, and enhancing productivity. Additionally, intellectual capital aids in the creation of marketing and administration strategies (Harrison & Sullivan, 2000). Besides, the development of organizational ideals and economic success depend greatly on intellectual capital (Petty & Guthrie, 2000). The following four aspects of intellectual capital and how they affect organizational performance will be the focus of this research.

2.4.7.1. Human Capital

The concept of physical capital which is represented by tools machinery and equipment used in production as well as human capital has undergone one of the greatest renaissances in the last thirty years in terms of the economics of education, whereby Schultz (1961) and Becker (1964) were the first to point out that it was brought about by changes in people's capacities and skills, which empower individuals to do new actions (Coleman, 1988).

Bontis (1998) claimed that human capital contributes to innovation and renewal in an organization by using brainstorming, daydreaming, re-engineering, and the collective intellect of the people of the organization. In their study, Florin and Schultze (August 2000) described human capital as abilities and skill of individual that serve as a significant source of competitiveness for people, groups, and communities. Economic capital is described as the resources that are withheld from consumption and invested in anticipation of future returns, whereas human capital is defined as well as the employees at all levels of the organization (Luthans et al., 2004). The following year, April and Izadi (2004) described human capital as the department's or employees' unique talents, expertise, knowledge, experiences, and capacity for problem-solving.

According to Wassim-ul-Rahman, Asghar, and Rahman (2013), a company's most valuable asset is its human capital, which It contains the knowledge, experiences, and abilities of its workforce. It relates to the human resources of the organization and contains the knowledge possessed by (faculty members, researchers, students, administrative staff) in institutions of higher education, their values, qualifications, skills, energies and experience (scientific and practical), competencies, abilities, level of productivity, attitudes towards their work, their creativity and their capacity to cooperate and find solutions and solve problems and confront the various variables in the work environment and the level of their participation in participation, decision, flexibility, initiative, level of commitment, job satisfaction, etc., and it consists of two parts an innate part, and the second is acquired, such as human capital, and its ability to develop through continuing education and training, as well as through attracting competencies. In addition, the significance of human capital does not lie in its inputs, rather it lies in its outputs that can be used to achieve competitive advantages for higher education institutions, and its importance does not lie in the quantitative number of workers in institutions of higher education, not in regard to years of expertise, and the qualifications they possess, but their importance lies in the quality of these elements (Al-Attayah, 2018).

2.4.7.2. Structure Capital (Organization Capital)

Infrastructure support is what allows companies to invest in their human resources, whereby Sullivan (1998), as well as Luthy (1998), defined human capital as anything within a company that assists employees in their work and which belongs to and is retained by even after employees have left the organization. Consequently, structural capital originates from human capital which is made up of knowledge and intangible assets produced by organizational activities together with components of effectiveness, innovative procedures, and information access for knowledge codification (Edvinsson & Malone, 2001). It is the link between the institution and its knowledge tools represented in the philosophy of management, operations, and culture to retain and transfer knowledge (Marti & Cabrita, 2012).

Structural capital is also represented in the organization's system, structure, and organizational capacity, which enable it to provide an appropriate business

environment that is capable of using human capital, and benefiting from its maximum potential (Falaq, Muhammad, Bojani & Jannat, 2011). It also includes plans, internal systems, databases, and files of the company, as well as any legal rights to the technology, procedures, franchises, and trademarks (Knight, 1999). As pointed out Corecoles et al. (2011), structural capital in higher education institutions includes explicit knowledge related to the internal processes of knowledge dissemination (scientific, technical), and its administration, and is divided into two types:

1. Organizational capital: It represents the resulting operational situation from the interaction between university administration, scientific studies, organizational procedures, culture, values, and internal procedures, as well as the fields and quality of data systems.

2. Technical capital: It includes the given technological resources in higher educational institutions, such as (documentary resources, bibliographies, archives, developments, technical, cheap, software, databases) and others.

2.4.7.3. Customer Capital

It is the external capital which reflects the strength of the relationship between higher education institutions their external Customer and the parties benefiting from their various services and their satisfaction with the quality of educational services they provide, as well as the institution's ability to retain its clients and attract new customers to it in addition the customer capital which clearly expresses the impact of all external relations on increasing the competitive value of the institution (Al-Attayah, 2018). Customer Capital is well-established, and interactions with investors can have an impact on business life (Viedamand & Cabrita, 2012). The whole of an organization's relationships with its customers, partners, suppliers, and the general public was described as customer capital (Ordoñez & Edvinsson 2015). Fazlagi, (2017) described knowledge as being embedded in the institution's interactions with Clients, suppliers, strategic alliance partners, and stakeholders, partially agreed with their concept.

2.4.7.4. Innovation Capital

It comprises of (intangible assets, institution-owned intellectual property rights, and patents), as well as inventions, discoveries, copyrights, suggestions for improvement), and other intangible assets owned by the organization, but not shown in its financial sheet (Roos et al., 2001). As indicated by (Al Rabaa'a, 2012), it is inferred from the innovation capital through several different indicators among the most important are the following:

1. The institution provides new services to its customers on a regular basis.
2. The institution's ability to diversify the services it provides to its clients.
3. The institution puts forward new ideas on how to perform its work.
4. The institution's interest in transferring new (information and ideas) into used programs.
5. The institution's handling of its problems in innovative ways.
6. The institution seeks to seize the opportunities available to it to achieve its goals.
7. A raise in the number of invention patents submitted by the corporation's employees and significant increase in the corporation's profits.
8. Supporting the institution with invention patents submitted by its employees, and seeking to apply them.
9. The institution's interest in purchasing copyrights from its employees as a source of support for its competitive position.

2.4.8. Classifications of the Elements of Intellectual Capital

Scholars and academics have categorized the elements of intellectual capital in a assortment of direction, which I shall discuss in this study. These classifications are as follows:-

1. Classification Edvinsson, 1997 is one of the attempts as indicated by several studies (Mckenzie & Winkelen, 2004; Mouristen et al., 2001; Bischof et al., 2013; Larsen et al., 1999; Chen et al., 2004) where Advinson is the first director of intellectual capital for Skandia, a Swedish warranty and financial services corporation,

which divided the intellectual capital as one of the elements of the market capital of the institution into two components:

a. Human Capital: It has to do with the workforce of the institution. It contains each of: (the competences, human resources, and mental abilities of employees).

b. Structural Capital: It is linked to the institution's support systems. It contains (structures, equipment), and the institution's intangible structure. It contains: (systems, initiatives, and policies), and is divided into the following:

- Capital Customer includes company relations with its external customer.

- Organizational Capitalist consists of two elements which are capital a process contains: (knowledge, a business directory, and good practices).

Innovation Capital contains: (intellectual property and intangible assets) of the corporation.

2. Meritum (2002), Sánchez et al. (2006), Marr (2008), Sharabati et al. (2010), Ramirez (2013) and Stewart (2001) agreed to divide the intellectual capital in the institution into three elements as follows:

a. Human Capital contains knowing individual foundation employees, skills, capabilities, and experiences, whether it is knowledge in general, or unique like creativity, innovation (as it also contains flexibility, emotional intelligence, teamwork, training, education, giving, and loyalty).

b. Structural Capital contains Procedures daily routine, systems, the culture of the institution, and the databases. It also contains knowledge of organizational flexibility and publishing operations interior, information technology, communications, and knowledge management science and technology in the institution, the philosophy of the institution, and administrative work in addition to intellectual property rights, patents, rights, publishing and authorship.

c. Customer Capital or Relationship Capital contains all resources related to relationships of the foundation (official, informal external customers, the parties that benefit from the services they provide, and the related knowledge as well as partnerships, alliances, agreements and social communication, and joint projects (as well as customer confidence and their loyalty to the institution).

3- (Classify Channvel & Despres (2000). Classifying Intellectual Capital as indicated by Diez (2010) into four elements as follows:

a. Human Capital: It refers to resources humankind, and from what it possesses of knowledge represented in (systems, rules, and organizational procedures) that the institution uses and can benefit from them, and convert them into value-added.

b. Structural Capital: It refers to the facilities' enterprise infrastructure.

c. Practical Assets (Business Assets): They refer to capital organizational structure, which is used to create value through its different operations.

d. Intellectual Asset: It refers to assets of the intellectual property of the enterprise which need legal protection.

4. Classification of Brooking (1997) which suggested the division of capital Intellectual property in the enterprise is divided into four components as follows:

A. Market Assets: These contain all aspects other than tangible in the enterprise, related to customers and the external market.

B. Human Assets: These contain the experiences of individuals accumulated and their ability to (innovation and renewal) as well as their ability to perform in certain situations such as working under pressure, work teams, and their ability in solving problems.

C. Intellectual property Assets: contain (relationships, patents, design rights, education rights, and knowledge.

D. Infrastructure Assets: they contain the elements that determine the way the organization operates such as organizational culture, methods and methods of managing work, customer databases, and communication systems, and financing structures).

5. Classification of Sveiby (1998) divided the intellectual capital as indicated (Guthrie, 2001; Al-Hilali, 2011; Qarni, & Al-Atiqi, 2012) according to the elements (internal and external) institutions as follows:

a. Internal Capital: It contains all resources related to relationships of the foundation (official and informal external customers. All of them benefit from the services they provide and the related knowledge such as partnerships, alliances,

agreements, and social communication, and joint projects (as well as customer confidence and their loyalty to the institution) (regulations, patents, publishing, trademarks, management philosophy, enterprise culture, management operations, and financial relationships) as well as from the knowledge that is achieved by the company's competitive advantage.

b. External Capital: It contains all resources related to relationships with the foundation (official, informal its external customers, all of them the parties that benefit from the services they provide, and the related knowledge, such as partnerships, alliances, agreements, and social communication, and joint projects (as well as customer confidence and their loyalty to the institution).

c. Human Capital: Contains all resources related to relationships of the foundation (official, informal external customers, and all of them benefit from the services they provide, and the related knowledge, such as partnerships, alliances, agreements and social communication, and joint projects (as well as customer confidence and their loyalty to the institution). (The skill, knowledge, and ability of individuals, their values, education level, qualifications, and ability problem solving, as well as an entrepreneurial spirit, innovation, and ability to face ups and downs, training programs, ownership issues, and cultural activities as well as experiences (individual and group).

2.4.9. Intellectual Capital Theory

John Kenneth Galbraith coined the phrase "*intellectual capital*" in 1969 (Khalique et al., 2011; Chang & Hsieh, 2010). There are numerous definitions of intellectual capital they are connected tightly, and there is no widely accepted standard definition for distinguishing its constituent parts. Stewart (1997) offers the shortest definition of intellectual capital as bunch useful knowledge. According to Stewart's theories as well as those of Edvinsson and Malone, intellectual capital is gradually emerging as a practical alternative to creating competitive leverage in the current market (Donlon & Haapaneimi, 1997; Allee, 1997) because it includes the fundamental elements required to conduct business. This theory's core tenet is that in order to build the best possible intellectual capital organization, the three theories must be consistently balanced according to Edvinsson and Malone's hypothesis. A

company's value only results from the interaction of all three of its intellectual capital aspects rather than any one of them alone. Regardless of how well-rounded a company is in one or two of these areas, if the third area is lacking or poorly focused, it will not be able to convert its intellectual capital into corporate value. A corporation must therefore capitalize on these unique qualities in order to create an asset with a higher value. The human capital theory served as the foundation for the idea of intellectual capital, which directly links knowledge to capital (Stewart, 1997). Human Capital, customer capital, and structural capital are the three elements that create up intellectual capital (Edvinsson, 1997; Kujansivu, 2009; Brooking, 1996; Roos et al., 1997; Bontis, 1998; 2000; Sveiby, 1997). However, they said that intellectual capital was built on a number of intangible assets, including an organization's structure, brand name, and its customers' relationships as well as its employees' competence, knowledge, education, and skill. The foundation of the intellectual capital theory is mostly based on (resource-based theory) and (knowledge-based theory), as demonstrated by Vargas-Hernandez and Noruzi (2010). In this regard, Ramezan (2011) provided evidence that intellectual capital is built on knowledge. In this regard, the fundamental tenet of the intellectual capital idea, firms can employ intangible assets the most effectively to gain a competitive edge in the knowledge-based economy (Sveiby, 1997; Stewart, 1997, 2002). The goal of the intellectual capital theory was to show how to get the most out of organizational resources (Edvinsson & Malone, 1997). This theory responds to an organization's brand, reputation, employee knowledge, employee loyalty, customer happiness, and employment connection. The idea that the intellectual capital is the center of the knowledge-based economy is also reinforced by Edvinsson (2002). It is based essentially on the idea of intangible value and value creation, which is nurtured by use the intangible resources of organizations. According to Viedma (2002), Cabrita and Vaz (2006), intellectual capital is the most important resource for generating and enhancing organizational value and performance worldwide.

2.5. Hypotheses of the Research

2.5.1. Intellectual Capital and Organizational Performance

Bontis et al., (2000) investigation on how intellectual capital impact the works performance in Malaysian companies demonstrated a positive influence links between

intellectual capital and company performance. Intellectual capital has a considerable influence on the efficiency of the organization, productivity, and innovative culture, according to Hitt, Bierman, Shimizu, and Kochhar, (2001). The attachment between intellectual capital and organizational success has been sure, although Pena (2002) reached a conclusion that intellectual capital is crucial in increase of entrepreneurs. The effect of intellectual capital on organizational performance was also evaluated by Berman (2012). Output, organizational performance, and stability were utilized in the research to standard firm performance. The study found out that all three organizational performance metrics are positively impacted by intellectual capital. In a study by Musteen, Ahsan, and Park (2017), intellectual capital is a strategic purse for improving the work performance and gaining a competitive feature in addition to being a means of generating income for corporate enterprises. In another study on Brazilian businesses, Camfield et al. (2018) established that intellectual capital is crucial to developing an organization's competitive edge. So, it follows from the reasoning above that greater intellectual capital development leads to enhanced organizational performance. According to Xu et al. (2019), there a positive links between intellectual capital and financial performance of high-tech and non-high-tech SMEs. Particularly, the earnings, profitability, and operational effectiveness of businesses are all positively correlated with intellectual capital. According to Quintero et al. (2021), As evidenced by the scientific publications from the last 6 years, according to the number of institutions and authors, were associated, intellectual capital seems to have been substantial and important. Additionally, Yudianto et al. (2021), According to the research findings, both excellent university governance and intellectual capital have a favorable and important effect on both the performance of public and private universities in Indonesia. Also, the research of Zhang and Phromphitakkul (2021), that intellectual capital has an importance positive effect on trust within the organization and the job performance of university teachers. Consequently, the following hypothesis was put forth:

The Main Hypothesis: There is a positive impact of intellectual capital on organizational performance.

2.5.2. Human Capital and Organizational Performance

According to a study done in the Batticaloa special banking industry, both (human resource management and human capital improvements) in growth have a positive impact on organizational performance (Bontis, 1999). Organizations have greatly increased their investments in growth of human capital in the current period (Guthrie, 2001). A business must ensure that its employees have access to an atmosphere where they can develop fresh and original ideas (Chua, 2002; Seleim, Ashour, & Bontis, 2007). Some of the hypotheses are related to human capital on organizational performance by applying them to software companies in Egypt, and it was discovered that human capital has a favorable influence on organizational performance. The majority of experts think that financial organizations that make human capital investments would have a competitive advantage over rivals (Saifuddin et al, 2014; Beh, 2010). Human Capital is the primary source to the organization intangible assets according to Kalkan et al. (2014). A study by Samagaio and Rodrigues (2016) concluded that human capital impact the business winning of small audit firms, and that audit firms that are described by high levels of human capital are the most competitive and perform business. According to researchers, both service delivery and human capital are crucial aids in improving organizational performance (Neubert et al., 2017; Ferreira & Franco, 2017). Additionally Ozkan et al. (2017) and Singh et al. (2016), assert that capital utilization activity and human capital efficiency have a positive effect on bank performance. By Poh et al. (2018), the link between capital used activity and return on assets is also confirmed. According to, Yao et al. (2019), human capital activity the most impact on firm performance. Additionally, Buallay et al. (2020) use the correlation between human capital activity and capital-employed activity to demonstrate the beneficial impact of intellectual capital on bank performance in Gulf Cooperation Council nation's states. The following hypothesis was put up in light of the discussion above:

H1. There is a positive impact of human capital on organizational performance.

2.5.3. Structural Capital and Organizational Performance

Organizations that care and use the performance of structural capital will surpass that of their rivals (Stewart & Ruckdeschel, 1998). Management theorists invest substantial resources in creating inside resources containing human capital and structural capital according to Chu and Choi's (2000) analysis of the business performance of a number of Hong Kong-based organizations (Leana & Pil, 2006). According to previous studies, financial organizations frequently spend a lot of money on three different kinds of intellectual capital: customer capital, structural capital and human capital (Leana & Pil, 2006). The issues facing information in the age of global innovation are reportedly tied to technology advancements, swift social change, consumer requirements, and short product life cycles (Hsu & Fang, 2009). And with the result, companies must invest in structural capital to improve their performance in terms of innovation (Sarabati et al., 2010). Structural capital is defined as non-human capital that supports human capital (Kalkan, Bozkurt, & Arman, 2014). Structural capital can be defined as capital that offers infrastructure aid to raise workers performance. The following hypothesis was put up in light of the discussion above:

H2. There is a positive impact of structural capital on organizational performance.

2.5.4. Customer Capital and Organization Performance

Customer Capital is a crucial subcategory of intellectual capital. The future value in the present and current customer cash inflows is referred to as customer capital. Thus, effective marketing and communication channels are crucial for maintaining consumer capital (Bontis, Keow, & Richardson, 2000). One component of intellectual capital is employed capital. It is also called utilized capital or relational capital (Nuryaman, 2015). Customers, consumers, the government, employees, and creditors are just a few examples of the external and internal stakeholders that capital utilized enables businesses to maintain positive relationships. Customer Capital serves as a link between organizational success and intellectual capital (Edvinsson, 1997). Customer Capital is another term for relational capital (Edvinsson, 1997). Furthermore, researches have demonstrated that businesses with a substantial customer

capital would be lower price sensitivity (Benavides-Velasco et al., 2005; Chen et al., 2004). As a result, both tangible and intangible assets make up customer capital. According to earlier studies, networking with customers and suppliers as well as trading and strategic alliances are crucial components of customer capital. In actuality, businesses cannot survive without customer capital. As a result, structural capital and human capital are crucial for customer capital (Garcia-Muina et al., 2008). Customer Capital describes to a lengthy relationship between a business and all of its stakeholders, including its clients, suppliers of raw materials, and other Contributors in the value chain (Serenko & Bontis, 2013). It has been suggested that customer capital supports the development of intellectual capital strategies that promote organizational performance (Andreeva & Garanina, 2016). Without customer capital, organizations are unable to achieve market value and profitable operations. According to Khalique et al. (2019)'s is found structural capital has a significant positive affect on organizational performance, according to research on the relationship between these two factors. This is due to the possibility of providing staff with arrival to crucial data as well as opportunities to further their education or skills in request to support corporate innovation and procedures. In the study of Xu et al. (2019), structural capital activity was found to be the most impact for the performance of two kinds of small and medium -sized businesses. According to Tjahjadi et al. (2019), the presence of a positive and supportive link by the elements of intellectual capital (human, structural, relational) capital which must be performed correctly so that they can improve institutional performance in the institutions of higher education key business fields of teaching, studies, and community service. According to the study of Boglal Abdul Karim (2019), a significant effect of structural capital was found to improve employee performance. In addition to a study Ahmed et al. (2020), It has been determined structural capital has a positive and profound impact on performance. The following hypothesis was put up in light of the discussion above:

H3. There is a positive impact of customer capital on organizational performance.

2.5.5. Innovation Capital and Organizational Performance

Damanpour (1991, 1996) claimed that the performance measurement and organizational qualities of a certain organization affect the link between innovation and organization performance. Numerous, research have discovered a connection between innovation and organizational performance (Kohli & Jaworski, 1993; Hurley & Hult, 2004; Keskin, 2006; Damanpour; 1991, 1996; Atuahene-Gima, 2001). Deshpande et al. (1993) discovered that innovation is significant factor in determining how well an organization performs even after culture has been managed. The results of earlier study on the link between innovation and organizations were inconsistent, with some studies finding a positive relationship, whereas others found none at all (Caputo, Cucchiella, Fratocchi, Pelagagge & Scacchia 2002; Atuahene-Gima, 2001). The type of innovation, particularly incremental innovation has importance effect on business performance (Oke et al., 2004). Innovation has been shown to have a significant impact on how well SMEs perform (Wolff & Pett, 2006; Montequin, 2006). Additionally, various forms or mixtures of innovation may have different effects on organizational performance (Lee & Chen, 2007). According to this research, internal and external research combined is a powerful tool for the expansion of innovation. Enterprises are encouraged to innovate which leads to improved company performance (Löfsten, 2014). In their study, Ali, Kan, and Sarstedt (2016) discovered that innovation in products, processes, and administration; together with absorption capacity, helped organizations enhance their organizational performance. They conducted their research on (large, medium and small-sized) businesses in South Korea. Özlem et al. (2019), it found customer capital which is another element of intellectual capital has advantageous implications on the performance of internal processes, organizational capability, and customer stakeholders. The study presented by Ben Shaari et al. (2018), the result indicates that customer capital has a positive effect on the performance of medium and small companies specialized in communications technology. According to Khalique et al. (2020), specifically, customer capital has appeared as one of the most significant elements of intellectual capital in model. The following hypothesis was put up in light of the discussion above:

H4. There is a positive impact of innovation capital on organizational Performance.

2.6. Theoretical Framework

Through the theoretical foundations that have been studied in previous studies, a model has been formulated to study the direct link between the research variables; Intellectual capital with its four elements (human, structural, customer, and innovative capital) and organizational performance at the University of Kirkuk in Iraq. Figure 1 shows the proposed model for these relationships.

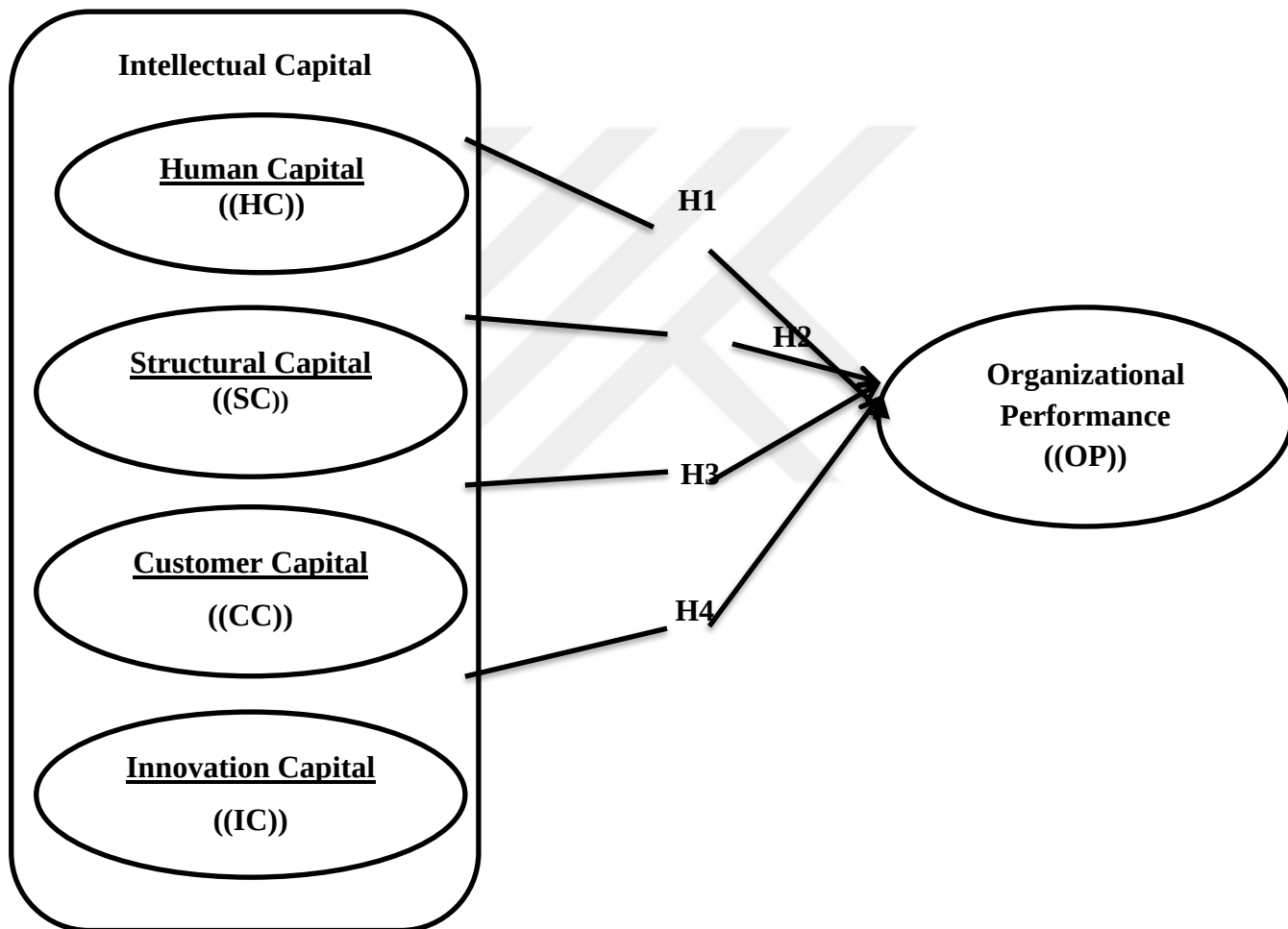


Figure 1. Conceptual Framework

2.7. Gap in the Literature

The main strategy for enhancing person's character and fostering their entire growth is education. The three main objectives of higher education are the advancement of science, technology, and culture as well as the promotion of socialist

modernization. There is a focus on applying intellectual capital in the management of higher education institutions (Secundo, Perez, Martinaitis, & Leitner, 2017). Because the inputs, procedures, and outputs of higher education institutions' intellectual capital are knowledge-related intangible property, this intellectual capital is crucial. Additionally, higher education institutions have a duty to invest intellectual capital in the advancement and application of technological knowledge in society (Limonas-Mer, Amador, & Reaiche, 2021). To study the significance of intellectual capital, it is defined mainly from three points of view: 1) Intellectual Capital is an intangible asset (Khalique, Bontis, Abdul Nassir bin Shaari, & Hassan Isa, 2015). 2) Intellectual Capital is the sum of knowledge, experiences, and skill (Liu, Ding, Wu, Wang, & Fang, 2018). 3) Intellectual Capital creates higher value through competition and innovation (Ji, 2019). The evaluation and administration of these intangible assets have an effect on the performance of higher education institutions, customers, employees, and the entire community (Machorro, Mercado, Cernas, & Romero, 2016). Consequently, it is advised to evaluate each institutions of higher education strategy plan before doing the intellectual capital evaluation in a university (Secundo, Perez, Martinaitis, & Leitner, 2017).

Higher Education Institutions operate today in a setting that is extremely competitive and marked by changing expectations and aspirations from a variety of stakeholders, such as the optimal use of resources, the formulation of a distinctive researches production model that emphasizes the diversity of disciplines and the work with knowledge, and the condensation on links between industry and the educational community (Veltri, Mastroleo, & Schaffhauser-Linzatti, 2014). It is a non-profit social partnership that governs how universities and the outside world interact, which clearly distinguishes the connotation of university intellectual capital from that of companies. The university covers a broad range of topics, such as intellectual property rights, scientific research accomplishments, and new information created through the ongoing synthesis of knowledge produced by disciplinary intersections (Wu & Li, 2007). Therefore, it can be told that the management of intellectual capital in higher education institutions depends on the truth that the generation and spreading information boosts their efficiency and competitiveness (Galleguillos-Cortés, Silva-Muna, Becerra-Muñoz, 2018), which generates competitive advantages at the higher level. Thus it becomes important to determine which resources are necessary for a

higher education institutions in order to increase performance and competitiveness (Anggraini, Abdul-Hamid, & Azlina, 2018), also, combining abilities, assets, and resources into groups that enable it to speedily respond to demand possibilities and market (Mahdi, Nassar, & Almsafir, 2019), this procedure turns become a crucial component for developing competitive advantages at higher education institutions. Hence, this research holds that the university intellectual capital is a priceless intangible resource that universities own that contains educational resources, cultural notions and important study accomplishments. In this study a careful examination of the literature largely adopts among the fundamental concepts of intellectual capital the three elements are widely recognized and used by scholars who consist of human capital, structural capital, and customer capital (Quan, 2018). In this study, the element of innovative capital was added to the three elements, which have always been less mentioned in previous literature. Therefore, this research chose to study the link between the elements of intellectual capital with its four elements on the organizational performance under the institution of university education, considering that human capital is the basic element of the organizational performance of universities and the essence of value creation (Xu, Chai, & Zhou, 2010). The stand basis for achieving university performance is structural capital, which includes management techniques, system culture, facility development, and discipline building. It also creates the framework for human capital to function (Quan, 2018). Customer Capital it is includes (academic reputation, social popularity, and stakeholder relationships), is the essential for institutions to achieve social value (Wang, 2006). Innovation Capital it is includes (intangible property, institutional patents, and intellectual property rights) as well as invention, discoveries, copyrights, and suggestions for improvement. The renovation of the educational process, international research collaboration, the development of the infrastructure, and the organization of recreational spaces for international students high-level organizational performance must be achieved and competitive power in the global education market (Kholiavko, Zhavoronok, Marych, , Viknianska, Kozlovskiy, & Herasymiuk, 2020). The above items are intangible property of intellectual capital. It is vital to define the link between intellectual capital and its contribution to achieving the organizational performance of the university.

2.8. Chapter Summary

Using the thorough literature study provided in this chapter as a foundation, intellectual capital is viewed as a crucial source and a critical factor in organizational performance. In summary, this study offers more complete knowledge of intellectual capital and its four elements (human, structural, customer and innovation capital)through an empirical investigation of a variety of viewpoints. The chapter also emphasized the significance of the organizational performance (dependent variable), as well as its dimensions and methods of measurement. With the aforementioned justification, this chapter has thoroughly analyzed earlier research from previous studies that is pertinent to the research subject. This literature review started an extensive understanding of the research structures and its variables before narrowing in on a schematic representation of the problems. The last part of the chapter offers an explanation of the link between all the research structures highlighting the classifications on which the study is based.

3. METHODOLOGY

3.1. Introduction

This research presents a report on study of a case conducted at the University of Kirkuk as one of the institutions of higher education and scientific research in Iraq, considering that study of a case is an appropriate style when analyzing a contemporary phenomenon in the context of its real daily life (yin, 2009). Accordingly, it can be said that the university is the appropriate place to research the effect of intellectual capital and its elements on organizational performance, since it uses knowledge to produce and transfer knowledge internally and externally. Here, the researcher discussed the methods used in the study, in addition to completing an extensive case study to achieve the goals of the research in this chapter. Next, it discusses the research sample and population, as well as the construction of the research tool and its methodology. In order to reach conclusions that accurately reflect the nature of the problem under research, it is significant to evaluate the study tool (including its validity and reliability), as well as the statistical methods and techniques for data analysis and hypothesis testing.

3.2. Research Design

A broad strategy that details the technique's and steps for collecting and interpreting the necessary information is the term research design (Zikmund et al., 2010). However, a number of logical decision-making activities are a part of the research design, such as making decisions about the research objectives. (These activities include the type of researcher involvement, the study's environment, its duration, and the unit of analysis (e.g., exploratory, descriptive, hypothesis-testing, or case study) (Sekaran & Bougie, 2016). Research methods are usually categorized as quantitative and qualitative (Newman, 2005). In this study, a quantitative approach as an experimental scientific approach was utilized.

3.3. Population and Sample Size

In this important part, the estimated population size of the research is addressed focusing on the sample frame so that a clear and accurate detailed explanation can be provided to reach a deep understanding of the research topic.

3.3.1. Population Size

The field of the research was confined to the Kirkuk of University as it is one of Iraq's universities and centers for scientific research. The university was chosen because it is the most important pillar for the use and transfer of knowledge, so that the focus was on the colleges affiliated with the university as the stations that produce and support knowledge. The deans and assistant deans of all the colleges affiliated to the University of Kirkuk were targeted, including the directors of departments in the colleges, as the total number reached (260) directors based on the data structure published on the official website of the University of Kirkuk. The subsequent table displays the colleges and their number of directors as the research population.

Table 1. Number of Directors (Colleges)

No	Kirkuk University College	No of Directors	No	Kirkuk University College	No of Directors
1	College of medicine	14	10	College of Basic Education	14
2	College of Science	13	11	College of Sport Sciences and Physical Education	17
3	College of Administration and Economics	14	12	College of Human Education	14
4	College of Literature	17	13	College of Engineering	14
5	College of Law and Political Science	13	14	College of Veterinary Medicine	17
6	College of Agriculture	13	15	College of Dentistry	15
7	College of Education for Pure Sciences	13	16	College of Computer and Information Technology	17
8	College of Nursing	13	17	College of Education Girls	14
9	College of Agriculture/Al Hawija	13	18	College of Pharmacy	15
	Total				260

3.3.2. Sample Size

The sample size is very significant because it can impact the degree of variance in covariance matrices, as pointed out by Loehlin (2012). In this regard, obtaining a sufficiently large sample and conducting collection data best quality efforts would yield more accurate, valid, and generalize able finding (Bartlett& Kotrlik, 2001). Since this research is applied at the University of Kirkuk, and its affiliated colleges were selected with a sample size of (160) respondents, it is perfectly suitable for this field. The subsequent table displays the colleges and their number of directors as the research population size and sample size of the research.

Table 2. Sample Size of the Research

No	Name of College	No of Directors (Population)	Sample Size	No	Name College	of	No Directors (Population)	of	Sample Size
1	College of medicine	14	9	10	College Basic Education	of	14		9
2	College of Science	13	8	11	College Sport Sciences and Physical Education	of	17		10
3	College Administration and Economics	of 14	9	12	College Human Education	of	14		9
4	College Literature	of 17	10	13	College Engineering	of	14		9
5	College of Law and political science	13	8	14	College Veterinary Medicine	of	17		10
6	College Agriculture	of 13	8	15	College Dentistry	of	15		9
7	College Education for Pure Sciences	of 13	8	16	College Computer and Information Technology	of	17		10
8	College of Nursing	13	8	17	College Education Girls	of	14		9
9	College Agriculture/Al Hawija	of 13	8	18	College Pharmacy	of	15		9
Total							260		160

3.4. Sampling Elements

The sampling elements in this study are the deans, assistant deans for administrative and scientific affairs, and directors of the divisions in the colleges affiliated with the University of Kirkuk, reaching 260. They were chosen because they have a broad awareness of the degree to which the idea of intellectual capital is more actively adopted in the daily practices in the colleges. Hence, their opinions about the organizational performance of the college offered to them are necessary to determine the extent of their commitment to the university.

3.5. Sampling Technique

In this research, the random sampling technique was used, which is one of the simple random sampling, probability sampling methods, according to Hair et al. (2017), then choose each item in the sample frame at random. Zickmond et al. (2013) expand on this notion by describing a simple sampling as a technique in which a beginning point is chosen, and the population (N) items per unit are randomly choose. Bias is reduced by random sampling. The accuracy of the results is very easy to measure since the variance in individual outcomes within a sample is a reliable predictor of variance in the entire population. The goal of using a simple randomized sampling method is to have the characteristics of the sample more accurately reflect those of the population as a whole (Sekaran & Bougies, 2016). In this regard, a straightforward random sample is beneficial because it is speedy and easy to use and apply, which reduces the possibility of human mistakes and prejudice in choosing cases for the sample. They made sure a representative sample of the population was taken, allowing statistical analyses to be done inside the sample.

3.6. Data Collection Method

The final questionnaire was distributed to faculty members at the University of Kirkuk in 2023, and the deans and associate deans for administrative and scientific affairs and department directors were the primary respondents. Respondents' assessments of organizational performance indicators based on their education and experience were considered when selecting respondents. In addition, the survey

questions required detailed information regarding how highly universities value intellectual capital, which cannot be inferred from responses from other respondents. Given its efficiency and importance, the researcher decided to collect data via manually distributed questionnaires (Hancock et al., 2021). The questionnaire is composed of two parts; the first is demographic questions and the second is research questions, which were prepared in an integrated manner and distributed to the colleges affiliated to the University of Kirkuk. After taking the original approval by the university presidency, this facilitated the task of distributing the questionnaire. Also, it included a request for the responders to work closely with one another to participate in the survey. It was indicated that the data provided by the respondents remain completely confidential and ensure that all data provided and reports related to the research are kept confidential. Only the researcher and the research supervisor will have access to the research. The respondents were urged to complete the questionnaire and return it within a certain amount of time.

3.7. Measurement of Instruments

Generally speaking, research is a routine process of gathering data with the ultimate goal of addressing specific issues. In an empirical study, hypothesis testing is done by running the study variables and measuring them it (Cooper & Schindler, 2003). The research variables for this research are intellectual capital including four dimensions: (human capital, structural capital, customer capital, and innovation capital) and organizational performance. Intellectual capital items were evaluated as independent variables. The dependent variable was organizational performance. This study used a clear and reliable measure collected from previous studies in the body of available literature to generate measure items. Also, all variables were tested using a five- point Likert scale; measures of search variables are covered in more detail in the next part.

Table 3. (Likert Scale) Five -Point

	Point
Strongly Agree	1
Agree	2
Neutral	3
Disagree Agree	4
Strongly Disagree	5

Nicholls, (2010). Likert Scales.

3.7.1. Human Capital

According to Florin and Schultze (2000), human capital refers to the abilities and skills of persons who serve as a significant source of competition for individuals, companies, and communities. Besides, Economic capital is defined as resources that have been withheld from consumption and invested in anticipation of future expected returns, whereas human capital refers to the people employed by all levels of the institution (Luthans et al., 2004). Human capital was described later on that year by April and Izadi (2004) as the unique Capacity, knowing, skills, and experience, and found a solution to the problem skills that are present in the individuals that make up a department or division. According to the above, on a Likert scale, the respondents were invited to provide their perspectives on seven different items. Details for human capital are provided in appendix A.

3.7.2. Structural Capital

Choo and Bontis (2002) defined Structural capital as a key component that facilitates the growth and assessment of intellectual capital at the organizational level. According to Stewart (2007, 2010), Fazlagic and Erkol (2017), Huysman and Wit (2002), systems and job processes that entail the caliber and system scope for information technology, corporate identities, databases, software, hardware organizational structures, patents, documents, trademarks, and other codified knowledge were included in the definition of structural capital. Structural capital is derived from human capital as a combination of knowledge and intangible assets arising from institutional processes. It also includes contents of effectiveness, procedural innovation, and access to data for knowledge rationing (Edvinsson, 2001). Seven of the items were also identified and the respondents asked to answer them

using a Likert scale. Details of items related to structural capital are presented in appendix A.

3.7.3. Customer Capital

Customer capital, also known as Customer or Social capital, refers to sets and flows of information that come from connections both inside and outside of an organization. Relationships, conventions, expectations, and obligations are societal features that enable members to collaborate successfully in the pursuit of objectives. It has to do with the institutions, connections, and standards that determine the type and volume of social interactions in a given community (Antosova, & Csikosova, 2011). Back to Bueno et al.(2011)], Customer capital is the body of information that is ingrained in the company and the individuals that comprise it as a result of the benefits gained from the quantity and caliber of relationships that are consistently upheld with many market brokers and with the larger society."*(All the relationships the business has developed with its stakeholder groups, including customers, suppliers, the community, and the government, are referred to as customer capital or relational capital)*"Bontis, 1998). According to Ordoez and Edvinsson (2015), customer capital is the total of institutions relationships with its partners, consumers, resource, and the general public. The knowledge that is ingrained in the connections with any investor and has an impact on the institution's life is known as customer capital according to Viedamand and Cabrita (2012). Respondents were asked to answer 5 items related to customer capital. This variable was also measured using a Likert scale. Details of items related to customer capital are presented in appendix A.

3.7.4. Innovation Capital

It is commonly acknowledged that innovation is the primary engine for long-term business expansion (Buisson & Silberzahn, 2010). According to Kim and Mauborgne (1997, Jan-Feb), when comparing some high-growth firms with their low-growth companies, they found that low-growth firms use strategy in the same way as most companies do to gain competitive advantages. On the other hand, high-growth companies have adopted a strategic logic known as value innovation, which has

allowed them to dismiss achievement as irrelevant. Besides, Kim and Mouborgne (2000, September-October) reported in their research market formation innovations win by creating new consumer groups, not by increasing the share of the existing consumer group. Also, according to the information about innovation capital in appendix A. Participants were asked to give their opinions about four topics on a Likert scale.

3.7.5. Organizational Performance

Productivity, efficiency, effectiveness, and competitiveness are all terms used to describe organizational performance (Cooke, 2001). The definition of organizational performance has changed over time from many angles. It is important to consider what performance (organizational performance) is before defining it. Performance, according to Harbour (2009), refers to initiating and carrying out a series of acts. These deeds stand in for genuine results, outputs, or accomplishments. Numerous definitions of organizational performance have been provided based on this description, but the researcher is willing to support Kirby's (2005) argument that fixed idea of organizational performance is necessary to eliminate all ambiguity and to have a precise operational definition of the concept that is free from any wrong idea. It is defined as the difference between the company's actual performance and that which was projected in accordance with the desired aimed of the organization (Singh et al., 2016). Organizational Performance is the capacity to produce results using accepted processes and how organizational success is then expressed. In order to survive and advance, organizations also try to address their own demands as well as those of their stakeholders (Maqableh, 2017). Seven of the items were also identified for organizational performance and a Likert scale was used to ask respondents to rate each question. Details of items related to organizational performance are presented in appendix A.

3.8. Techniques of Data Analysis

The unit of analysis for this research is the deans, assistant deans and directors of departments in the faculties of Kirkuk University. A questionnaire was used in 2023

to examine the impact of intellectual capital elements as an independent variable on organizational performance as a dependent variable.

3.9. Summary

In this chapter, the population size and sampling method are explained and detailed. In this chapter, all case study participants were asked to complete a survey. All calculations were made using raw data that was gathered from the study subjects themselves. The conclusions of the research were drawn through Smart-PLS analysis after the data collection process. The data obtained are then examined in the next chapter and presented to aid in understanding and analysis, such as graphs, tables, and charts.

4. RESULTS AND FINDING

4.1. Introduction

Using the analysis techniques specified in the previous chapter, this chapter discusses the demographic profile of the respondents, analyses the data and survey results collected in the previous research stages, and discusses the results of the research hypotheses.

4.2. Response Rate

The time period that took data collection was about a month, starting from the distribution process and the process of obtaining results by the respondents in January, when all 260 questionnaires were distributed as presented in Table 4, and this study obtained 160 correct answers in only one stage. Seven of the questionnaires had incomplete answers; therefore, they were excluded.

Table 4. Questionnaires Distributed

Description	Number	Percentage (%)
Targeted sample	260	(100)
Questionnaires distributed in June 2023	260	(100)
Questionnaires received by June 2023	160	(61.5)
Unusable	100	(38.46)
Usable responses	160	(61.5)
Total	160	(61.5)

4.3. Demographic Profile

According to the table (5) below, (61.5%) of the respondents were males and (68.75%) were females. Furthermore, (31.25%) have a Ph.D., (28.125%) have a Master's degree (12.5%) and (8.3%) have a Bachelor's degree, and (56.875%) have a diploma. The results of the data analysis as indicated in Table (5) show that (2.5%) of the respondents' ages ranged between 20-29 years, whereas (1.25%) ranged between 30-39 years, (21.875%) ranged between 40-49, (53.125%) finally, and (23.75%) of 50

and over of the respondents. According to the Table (5) Years of service from 5 to 10 years, (9.375%) and (28.125%) had Years of service from 11 to 20 years, and (43.75%) of 21-30 and (18.75%) of 30 and over. The positions are (5.625%) Deans, Assistant Dean for Administrative Affairs are (11.25%), Assistant Deans for Scientific Affairs are (11.25%) and, (71.875%) are Division Director.

Table 5. Demographic Profiles

Profiles Demographics	Frequency	Percent %
Gender		
Male	110	68.75
Female	50	31.25
Total	160	100
Age		
From 20-29 years old	2	1.25
From 30-39 years old	35	21.875
From 40-49 years old	85	53.125
From 50 or more	38	23.75
Total	160	100
Academic achievement		
Diploma	4	2.5
Bachelor's degree	91	56.875
Master's degree	20	12.5
Doctoral degree	45	28.125
Total	160	100
Years of service		
From 5-10 years	15	9.375
From 11-20 years old	45	28.125
From 21-30 years old	70	43.75
From 30 or more	30	18.75
Total	160	100
job position		
Dean	9	5.625
Assistant Dean of Administration	18	11.25
Associate Scientific Dean	18	11.25
Division manager	115	71.875
Total	160	100

4.4. Descriptive Statistics

Table (6) below displays the descriptive statistics of the study variables and obtaining the respondents' perceptions of the variables under study to ensure the credibility and accuracy of their sincerity. Descriptive analyses were conducted on the data after detailed measurements of human capital; structural capital, customer capital,

and innovation capital were completed. The human capital consists of seven items and the smallest value of (HC) is (1) and the biggest value is (5). As for the independent variable (human capital), the result display that the biggest value of the mean is (2.600) and the smallest value of the mean is (2.113). The biggest value for the standard deviation (SD) is (1.130) and the smallest value for the standard deviation is (0.758). The results show that the smallest value for kurtosis is (0.148) and the biggest value for kurtosis is (2.840). The structural capital consists of seven items and the smallest value of (SC) is (1) and the biggest value is (5). The result display that the biggest value of the mean is (2.094) and the smallest value of the mean is (1.874). The biggest value for the standard deviation (SD) is (0.833) and the smallest value for the standard deviation is (0.728). The results show that the smallest value for kurtosis is (1.265) and the biggest value for kurtosis is (3.638). The customer capital consists of five items and the smallest value of (CC) is (1) and the biggest value is (5). The result display that the biggest value of the mean is (2.500) and the smallest value of the mean is (1.819). The biggest value for the standard deviation (SD) is (1.752) and the smallest value for the standard deviation is (0.726). The results show that the smallest value for kurtosis is (0.277) and the biggest value for kurtosis is (1.621). Likewise, the innovation capital consists of four items and the smallest value of (IC) is (1) and the biggest value is (5). The result display that the biggest value of the mean is (2.314) and the smallest value of the mean is (2.100). The biggest value for the standard deviation (SD) is (1.782) and the smallest value for the standard deviation is (0.831). The results show that the smallest value for kurtosis is (1.933) and the biggest value for kurtosis is (4.056). The organizational performance (OP) consists of seven items, so the smallest value is (1) and the biggest value is (5). Based on findings of the descriptive statistics, the dependent variable, which is organizational performance, the biggest value standard deviation was (1.854). The smallest value standard deviation is (0.738). Moreover, the smallest value for the mean of the variable (OP) is (2.113) and the biggest value for the mean of OP is (2.644). The results also show that the biggest value for kurtosis is (3.246) and the smallest value for kurtosis is (0.578).

Table 6. Descriptive Statistics of Variables

	(Mean)	(Observed) Min	(Observed) Max	(Standard Deviation)	(Excess Kurtosis)	(Skewness)
HC-1	2.188	1.000	5.000	1.130	0.347	0.988
HC-2	2.113	1.000	5.000	0.758	1.872	0.850
HC-3	2.201	1.000	5.000	0.857	1.297	0.979
HC-4	2.600	1.000	5.000	1.001	0.148	0.721
HC-5	2.263	1.000	5.000	0.884	2.804	1.542
HC-6	2.225	1.000	5.000	0.821	2.840	1.405
HC-7	2.531	1.000	5.000	0.981	0.390	0.855
SC-1	1.874	1.000	5.000	0.796	2.264	1.132
SC-2	2.000	1.000	5.000	0.814	3.438	1.404
SC-3	2.019	1.000	5.000	0.833	2.032	1.079
SC-4	2.094	1.000	5.000	0.781	1.265	0.866
SC-5	2.106	1.000	5.000	0.738	2.764	1.145
SC-6	2.088	1.000	5.000	0.728	3.638	1.434
SC-7	2.131	1.000	5.000	0.784	2.615	1.180
CC-1	1.819	1.000	5.000	0.813	0.277	0.839
CC-2	2.019	1.000	5.000	1.752	1.621	0.381
CC-3	1.931	1.000	5.000	0.726	0.493	0.602
CC-4	2.500	1.000	5.000	0.814	0.572	0.667
CC-5	2.447	1.000	5.000	0.796	1.379	0.966
IC-1	2.113	1.000	5.000	0.894	2.012	1.205
IC-2	2.314	1.000	5.000	1.782	3.173	1.582
IC-3	2.300	1.000	5.000	0.843	1.933	1.154
IC-4	2.100	1.000	5.000	0.831	4.056	1.659
OP-1	2.113	1.000	5.000	0.922	0.832	0.933
OP-2	2.488	1.000	5.000	0.814	0.599	0.427
OP-3	2.475	1.000	5.000	1.854	2.059	1.628
OP-4	2.644	1.000	5.000	0.854	0.578	0.698
OP-5	2.363	1.000	5.000	0.810	0.791	0.881
OP-6	2.175	1.000	5.000	0.738	2.468	1.122
OP-7	2.150	1.000	5.000	0.760	3.246	1.378

4.5. Reliability Analysis

Table 7 below shows the reliability analysis report, whereby Sekaran (2010) claims that Cronbach's alpha, which gauges a variable's consistency and stability, is the most important instrument for reliability testing. The rise of the Cronbach's alpha implies the high trustworthiness of the data. In this regard, below 0.70 denote subpar reliability, whereas those above 0.80 denote outstanding reliability (Sekaran, 2010). In Table 7, the reliability analysis of variables from the data of colleges affiliated with a university is presented. In the Table can read the result of the alpha-Cronbach coefficient obtained for organizational performance (dependent variable) is 0.859.

As for the elements of intellectual capital (independent variables), the obtained Cronbach's alpha coefficients are as follows; 0.890 for human capital, 0.876 for structural capital, 0.664 for customer capital, 0.804 for innovative capital. All measures had high Cronbach reliability, which ranged between (0.664 - 0.890) in the case of the University of Kirkuk in Iraq, except for the customer capital component, which showed reliability below the level of 0.70 recommended by previous studies (Wells & Wollack, 2003). From the results shown above, all items were preserved, especially since the organizational performance values were 0.859 at the University of Kirkuk in Iraq.

Table 7. Reliability Analysis

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
HC	0.890	0.900	0.914	0.604
SC	0.876	0.882	0.904	0.573
CC	0.664	0.708	0.785	0.432
IC	0.804	0.854	0.874	0.642
OP	0.859	0.883	0.894	0.553

4.6. Discriminant Validity

This study attempted to explore the effect between elements Intellectual capital and organizational performance in the context of the education sector at University of Kirkuk in Iraq. Four hypotheses were developed to be tested. The results of this study indicate that the elements of intellectual capital are positively related to Organizational performance. It was found that the relationships between the variables were proportional. Table 8 depicts that human capital is correlated with structural capital positively ($r = 0.800$, $p < .01$), it is correlated with customer capital positively ($r = 0.819$, $p < .01$), it is correlated with innovation capital positively ($r = 0.717$, $p < .01$) it is correlated with OP positively ($r = 0.597$, $p < .01$). Structural capital is correlated with customer capital positively ($r = 0.834$, $p < .01$), it is correlated with innovation capital positively ($r = 0.743$, $p < .01$) it is correlated with OP positively ($r = 0.637$, $p < .01$). Customer capital is correlated with innovation capital positively ($r = 0.849$, $p < .01$) it is correlated with OP positively ($r = 0.709$, $p < .01$). Innovation capital is correlated with OP positively ($r = 0.867$, $p < .01$).

Table 8. Discriminant Validity

	HC	SC	CC	IC	OP
HC	1.000				
SC	0.800	1.000			
CC	0.819	0.834	1.000		
IC	0.717	0.743	0.849	1.000	
OP	0.597	0.637	0.709	0.867	1.000

4.7. R Square

Table (9) below shows the measurement of the evaluation coefficient (R^2). The valuation coefficient (R^2) was measured. During this study, the dependent variable shows an R^2 value of 0.579. organizational performance indicates that (%57) of the difference in organizational performance efficiency was explained by the predictors (Human Capital(HC), Structural Capital(SC), Customer Capital(CC), Innovation Capital(IC)). Accordingly, the independent variables explained %57 of the dependent variable . However, there are other variables that have not been explained %43. In order to achieve the best level of organizational performance must be concentrate on that variable.

Table 9. Variance Explanation

	R-square	R-square adjusted
OP	0.579	0.568

Table 10. Hypotheses Testing

	Original sample (O)	Sample men (M)	Standard deviation (S.D)	T statistics (O/STDEV)	P values	Results
HC -> OP	0.025	0.046	0.102	0.242	0.809	Not Support
SC -> OP	0.129	0.130	0.093	1.376	0.169	Not Support
CC -> OP	0.065	0.072	0.068	0.956	0.339	Not Support
IC -> OP	0.608	0.589	0.109	5.567	*0.000	Support

*** $P < 0.001$ ** $p < 0.01$, * $p < 0.05$

Figure 2 illustrates the findings, which indicate that human capital (HC), structural capital (SC), customer capital (CC), and innovation capital (IC) account for 57% of organizational performance (OP)

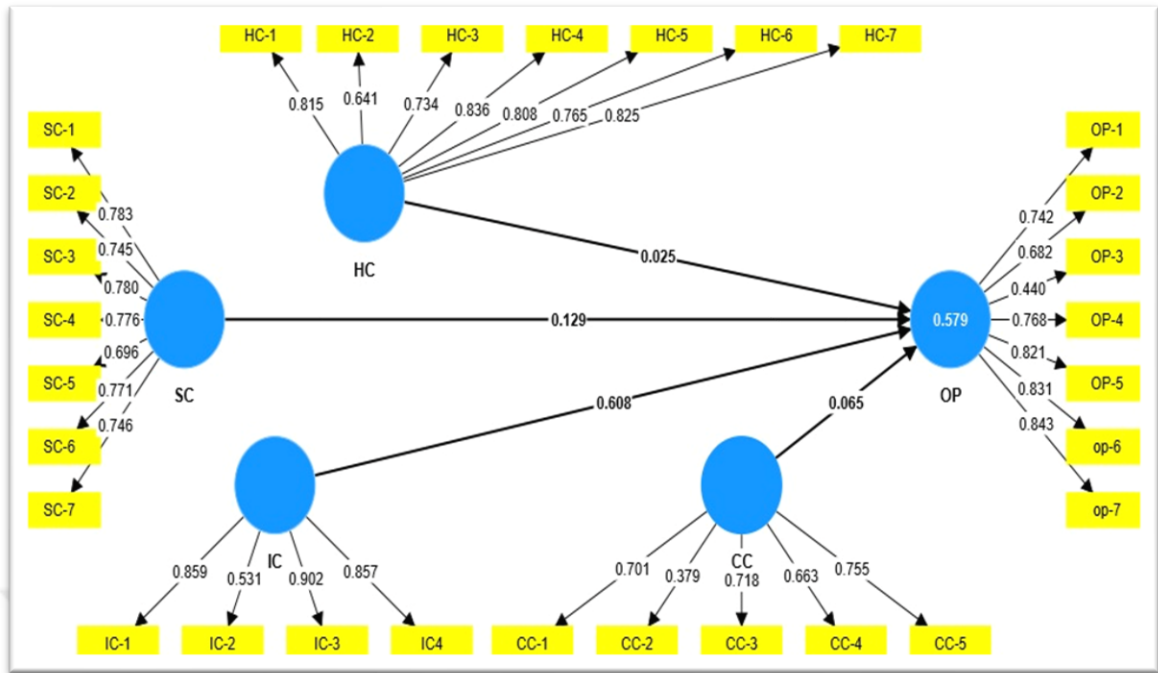


Figure 2. Measurement Models of Variables

4.8. Chapter Summary

The study's hypotheses are investigated in this chapter. Smart-PLS was used to conduct analyses including frequency tables, descriptive analyses, reliability and validity tests, and more. This chapter displays the proposed method for analyzing the performance of relevant indicators and the effect of human capital, structural capital, customer capital, and innovation capital organizational performance. One of the hypotheses (H4) was validated, and the finding confirmed the existence of a positive impact between the elements of intellectual capital and organizational performance, as the three elements (human capital, structural capital, and customer capital) were not supported, whereas one supportive element emerged; it was innovative capital.

DISCUSSION AND CONCLUSIONS

Introduction

To achieve the research goals, the obtained data are discussed in this chapter in light of the study questions that were posed in the first chapter. On the basis of the research results and discoveries given in the literature, the findings are discussed in relation to the theories that explain them. The chapter also lists restrictions and ideas for additional study.

Recapitulation of the Research

The primary aim of this research is to determine the influence of intellectual capital elements on organizational performance at Kirkuk University through the classification of the four sub-goals, which are first the influence of human capital on organizational performance, second, the influence structural capital on organizational performance, third, the influence of customer capital organizational performance, and fourth, the influence of innovation capital organizational performance. In addition, the study model and the study hypotheses in the second chapter were introduced, which included the theoretical framework of the research, as the researcher divided it into an independent variable and a dependent variable. The independent variable was divided into dimensions; contain human capital, structural capital, customer capital, and innovation capital. In the third chapter, the research methodology was mentioned, where the researcher presented the definition of the research population, the research sample, the study tool, and how to develop the study tool. The fourth chapter also focused on testing the hypotheses of the study and arriving at the results after analyzing and commenting on them. Finally, the fifth chapter focused on discussing the research hypotheses, conclusions, and recommendations.

Discussion

Learning institutions need to have excellent intellectual capital to support future generations as leaders (Walid et al., 2013). This study display that intellectual capital

have contributed positively and by (57%) to raising the level of organizational performance of the University of Kirkuk in Iraq. The finding of this research agrees with a study prepared by Yudianto et al., (2021) in Indonesia. Every of the aforementioned findings will be discussed separately in the following subsections in accordance with the study's goals.

Impact of Human Capital on Organizational Performance

The results indicate that human capital has a positive impact with organizational performance but not supportive and according to a P value < 0.809 , which is significant in the T statistic ($|O/STDEV|$) = 0.242. The result of the study indicated that (H1) is accepted. This finding agrees with the results of previous studies (Ousama et al., 2020) and similarly, this study agrees with Edvinsson and Malone (1997) and Bontis (2004) that key factor in helping firms become wealthy is human capital. A large number of earlier, influential studies view human capital as the key component of intellectual capital. Employees and faculty at the university are part of the organization's valuable human capital, making them significant assets. If they are correctly managed, they can undoubtedly guide the company to success. Human capital therefore has a more favorable effect on the success of universities. Otherwise, in the absence of management that gives importance and focus on human resources properly, the result will be unsupportive.

Impact of Structural Capital on Organizational Performance

The findings indicate that structural capital has a positive impact with organizational performance but not supportive and according to a P values < 0.169 , and it is significant at T statistics ($|O/STDEV|$) = 1.376. Therefore, H2 was accepted. The finding of (Khalique et al. 2019) who found little correlation between structural capital and the financial performance of banks in Sialkot, Pakistan, are somewhat in accordance with this study. Likewise, this study agrees with the result presented (bin Shaari et al., 2018) whose results indicate that structural capital is insignificant. Likewise, this study agree with the finding of the study presented by Gogan, et al., (2016) whose results indicate that structural capital significantly affects organizational

performance that is significant. It also has a favorable impact on how well the institution performs because it contains all of the institution's policies, procedures, systems, and programs. It is apparent that an institution's performance is positively impacted by having appropriate norms and regulations and thorough research development plans. Therefore, the university must focus on the global principles and regulations in place in order to reach the best level of organizational performance.

Impact of Customer Capital on Organizational Performance

The findings found that the customer capital has appositive impact with organizational performance but not supportive and according to a P values < 0.339 , and it is significant at T statistics ($|O/STDEV|$) = 0.956. Therefore, H3 was accepted, and such a finding was in line with previous studies (Rahman et al., 2022). Likewise, this study agrees with the results of the research presented by bin Shaari et al. (2018), whose results indicate that customer capital greatly affects organizational performance. The university's lack of openness to the rest of the educational institutions as (external customers) for the exchange of information and experiences has a negative effect on its performance.

Impact of Innovation Capital organizational performance

The finding indicate innovation capital has a positive and importance impact with organizational performance according to a P values < 0.000 , and it is significant at T statistics ($|O/STDEV|$) = 5.567. Therefore, H4 was accepted and based on the results; the university's culture continues to fully support and encourage innovation in the university's joints. Through important and emerging technologies, it helps them identify improving the level of organizational performance and the quality of producing new goods and services. This research agrees with the findings of another research (Nghah et al., 2012) that was conducted in Malaysian, in which he indicated the effect of innovation on organizational performance. This finding is also coordinated with the results presented by other studies (Wolff & Pett, 2006; Montequin, 2006).

Implications of the Research

Following the primary goal of the investigation, this study has a number of significant implications derived from the findings. The ramifications of the current research are specifically presented in the next two subsections, either from a theoretical or practical standpoint. The discussion specifics are listed below.

Theoretical Contribution

The phrase intellectual capital is used to refer to all knowledge-related resources that are viewed as the foundation of corporate success and competitive advantage. Despite the growing recognition of the significant of intellectual capital, firms still have challenges in identifying, managing, and collecting this value, mostly due to the tacit nature of intellectual capital (Berry, 2004; Brooking, 1997). There isn't general agreement among academic fields about the elements that make up intellectual capital overall. In order to deal with these issues, this study provides a theoretical framework and conducts empirical research on a wide range of intellectual capital - related elements, focusing on its four key elements: (human capital, structural capital, customers capital, and innovation capital) (Marr, 2012). Depending on the paradigm, the majority of previous studies seem to have basically emphasized a few specific dimensions of intellectual capital, such as (structural capital, human capital, social capital), and some of which have been overlooked in the literature. In response to this issue, this study introduces a novel innovation capital element of empirical proof to shed light on the role of intellectual capital in rising desired organizational performance by combining various elements of intellectual capital into a single research paradigm.

From the perspective of the researcher, this research is an addition to literature review, as it expanded the research of the effect of the elements of intellectual capital in the educational sector at the University of Kirkuk Iraq in terms of including a new element, which is innovative capital. This had a positive, supportive, and important impact to organizational performance at the university.

Practical Implications

The treatment of the four main variables of the University of Kirkuk, namely the elements of intellectual capital, which are (human capital, structural capital, customer capital, and innovation capital) in one study model, contributes to the practice from different aspects.

Firstly, the focus is on elements of intellectual capital by the deans, their assistants, and divisional managers in the faculties to discover, capture and evaluate the different types of knowledge sources which should be taken into account one by one to maximize organizational performance. However, there is still an insufficient understanding by them.

Secondly, the degree of importance of intellectual capital elements that can be deduced from the study paves the path to the management approach and points in the right direction for efficient and reasonable resource distribution due to the limited current resources of the faculties, the deans, their assistants, and department directors in the faculties to discover the choice to invest in a particular aspect of the intellectual capital. In order to get the best performance, they take great care to choose and invest in the best possible intellectual capital element.

Thirdly, the study measures the effect of between intellectual capital and organizational performance in the colleges affiliated to the University of Kirkuk, which represents one of Iraq's institutions of higher learning. The results prove that the four elements of intellectual capital (human capital (HC), structural capital (SC), customer capital (CC), and innovative capital (IC)) have a positive impact on organizational performance.

It was found that the three elements (human capital (HC), structural capital (SC), and customer capital (CC)) have a positive impact on organizational performance which is not supportive and has no significance. As for the element of innovation capital (IC), they had a positive impact on organizational performance and were supportive and significant.

Limitations and Recommendation for future Research

The following are the research limitations:

Limits of Objectivity: This research deals with the effect of intellectual capital elements (human capital, structural capital, customer capital, and innovation capital) on organizational performance as a dependent variable. Methodological limitation: This research is limited utilization of the quantitative approach via the use of a questionnaire to collect primary information from the research sample. This study's exploration and provision of a thorough perspective on the presence and assessment of the components of intellectual capital at the University of Kirkuk was one of its main objectives. Spatial identification: This research is limited to the colleges affiliated to the University of Kirkuk in Iraq. Limited time: This research is expected to be achieved during the year 2023. Besides, this study is limited to the deans, assistant deans, and directors of divisions in the colleges affiliated to the University of Kirkuk in Iraq.

Based on the results achieved by the study, the following recommendations were formulated: (1) Expanding the study sample to include the directors of the departments of the presidency of the Kirkuk of University. (2) Deans, assistant deans, and division directors in colleges are advised to focus attention on the three elements of intellectual capital (human capital, structural capital, and relational capital). (3) This study relied on the quantitative method only, and it is recommended to adopt the qualitative approach in future research by studying all the elements of intellectual capital and investigating its impact on organizational performance. (4) It is advised to include and study other elements of intellectual capital in future studies that have not been studied and included in this study, that is, to include other intangible resources that may have a major and essential role in raising the level of organizational performance at the Kirkuk of University.

Conclusions

Organizations' competitive advantage and firm-level strategy are increasingly dependent on their intellectual capital and knowledge assets. Such priceless assets are frequently contained within human capital (such as knowing), structural capital (such

as patents), customer capital (link with consumers, suppliers, and other third parties), and innovation capital. The findings of this research could contribute to understanding the link between intellectual capital and organizational performance in the higher education field at Kirkuk University in Iraq. In particular, intellectual capital (human capital, structural capital, customer capital, and innovation capital) has been considered a crucial component in the development and application of knowledge management. In this research, it was found that the three elements (human capital, structural capital and customer capital) have positive impact with the organizational performance, but it is not significant, and found that the innovative capital that had a positive impact with the organizational performance. Further, this study indicates that a high degree of innovative satisfies laborers; therefore, they put in a lot of effort and strive to be creative and innovative, which boosts organizational performance and intellectual capital. Moreover, this research is a valuable addition to the existing previous studies on intellectual capital and organizational performance. Further, this research presented the newest information and approach through which scientists and researchers can pay the focus to the elements of intellectual capital and research related to organizational performance in the higher education field in developing countries. This study research also provides an insight into the intellectual capital and organizational performance in the educational field in Iraq.

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APPENDIX A

MEASUREMENT OF VARIABLES

1. Measurement Human of capital

Independent Variables	Measurement items
Human of Capital (HC)	1. The university sets a clear policy to attract outstanding personnel. 2. The university is keen to maintain an teachers with diverse knowledge. 3. The staff at the university are characterized by possessing high levels of knowledge. 4. The university puts the right person in the right place according. 5. The university offers training programs and development of human cadres which reflects on their performance. 6. The university rewards the creators of academic and administrative work according to the specific and clear program. 7. The university offers various attractive incentives to attract expertise competencies from outside and inside the country.

2. Measurement of Structural Capital

Independent Variables	Measurement Items
Structural Capital (SC)	1. The administrative structure of the university contributes to ease the communication between all administrative levels of the university. 2. The university's structure helps employees provide outstanding services to students and the local community. 3. The university has a well-publicized administrative structure that helps to deliver its services distinctly from others. 4. The university considers that the administrative structure it possesses is one of the most important pillars of competition and excellence achieved by its competitors from universities. 5. The university provides all the means that allow employees to access the university's regulations and information and services that she presents. 6. The university documents its programs and experiences for subsequent use. 7. The university discovers and strengthens the flow of knowledge and organizational capabilities.

3. Measurement of Customer Capital

Independent Variables	Measurement Items
Customer capital (CC)	1. The university has a clear policy to develop its relationship and reputation with clients who deal with the university. 2. The university has extensive scientific and research relations with research and consulting centers, which enhance the university's reputation and its ability to innovate. 3. The university is interested in developing relations with universities and other scientific bodies. 4. The university cares about the opinions of its customers and takes their observations seriously. 5. The university has support and assistance programs for its students to help them continue their studies and serve the community.

4. Measurement of Innovation Capital

Independent Variables	Measurement Items
Innovation capital (IC)	1. The university encourages its teachers to take the initiatives to improve educational services in a way that distinguish them from other universities. 2. The university is characterized by the rapid response to adopting modern technology in its educational and administrative processes. 3. The university is achieving a competitive advantage through the innovative use of modern method in the implementation of training programs, such as the brainstorming method. 4. The university innovative is concerned with expanding the horizons of development and innovation to achieve competitive advantage.

5. Measurement of Organizational Performance

Dependent Variables	Measurement Items
Organizational Performance (OP)	1. Due to organizational performance, the level of customer loyalty is increasing. 2. Our customers believe that our organization provides them with products and services with high added value. 3. Our market share is constantly increasing. 4. Our organization has a high success rate in new products/services launched. 5. Our organization is highly responsive to the needs the domestic and international market. 6. Our organization is always able to achieve and maintain superior performance. 7. Our organization has a good performance and overall success.

APPENDIX B

QUESTIONNAIRE

A questionnaire to determine the impact of Elements of Intellectual Capital on Organizational Performance: case study at the University of Kirkuk in Iraq.

General information:

This study is a master's research to determine the impact of the elements of intellectual capital on the organizational performance at the University of Kirkuk in Iraq , and therefore I hope that you will answer the questions in the form, indicating that your contribution to answering them will help the researcher to reach the desired scientific results, drawing your attention to the information that you provide It will be used for scientific research purposes only, and therefore I hope that you will answer with all professionalism and high accuracy.

Instructions:

Please put a tick (✓) in the box that represents your answer

- College Name -----

1- The Demographic axis

Gender	☐ Male	☐ Female		
Age	☐ From 20-29 years old	☐ From 30-39 years old	☐ From 40-49 years old	☐ From 50 or more
Academic achievement	☐ Diploma	☐ Bachelor's degree	☐ Master	☐ PH.D
Years of service	☐ From 5-10 years	☐ From 11-20 years old	☐ From 21-30 years old	☐ From 30 or more
job position	☐ Dean	☐ Assistant Dean of Administration	☐ Associate Dean of Scientific	☐ Division manager

2. The Focus of the study (Research Elements)

Research elements	NO	The Question	I strongly agree 1	I agree 2	Neutral 3	do not agree 4	Strongly disagree 5
Human capital	1	The university sets a clear policy to attract outstanding personnel.	☐	☐	☐	☐	☒
	2	The university is keen to maintain teachers with diverse knowledge.	☐	☐	☐	☐	☒
	3	The staff at the university characterized by possessing high levels of knowledge.	☐	☐	☐	☐	☒
	4	The university puts the right person in the right place according.	☐	☐	☐	☐	☐
	5	The university offers training programs and development of human cadres which reflects on their performance.	☐	☐	☐	☐	☐
	6	The university rewards the creators of academic and administrative work according to the specific and clear program.	☐	☐	☐	☐	☐
	7	The university offers various attractive incentives to attract the expertise and competencies from outside and inside the country.	☐	☐	☐	☐	☐
			1	4	3	4	5
structural capital	1	The administrative structure of the university contributes to ease of communication between all administrative levels of the university.	☐	☐	☐	☐	☐
	2	The university's structure helps employees provide outstanding services to students and the local community.	☐	☐	☐	☐	☐

	3	The university has a well-publicized administrative structure that helps to deliver its services distinctly from others.	☐	☐	☐	☐	☐
	4	The university considers that the administrative structure it possesses is one of the most important pillars of competition and excellence achieved by its competitors from universities.	☒	☐	☐	☐	☐
	5	The university provides all the means that allow employees to access the university's regulations and information and services that she presents.	☐	☐	☐	☐	☐
	6	The university documents its programs and experiences for subsequent use.	☐	☐	☐	☐	☐
	7	The university discovers and strengthens the flow of knowledge and organizational capabilities.	☐	☐	☐	☐	☐
			1	2	3	4	5
customer capital	1	The university has a clear policy to develop its relationship and reputation with clients who deal with the university.	☐	☐	☐	☐	☐
	2	The university has extensive scientific and research relations with research and consulting centers, which enhance the university's reputation and its ability to innovate.	☐	☐	☐	☐	☐
	3	The university is interested in developing relations with universities and other scientific bodies.	☐	☐	☐	☐	☐
	4	The university cares about the opinions of its customers and takes their observations seriously.	☐	☐	☐	☐	☐
	5	The university has support and assistance programs for its students to help them continue their studies and serve the community.	☐	☐	☐	☐	☐
			1	2	3	4	5
Innovation capital	1	The university encourages its teachers to take initiatives to improve educational services in a way that distinguishes them from other universities.	☐	☐	☐	☐	☐
	2	The university is characterized by the rapid response in adopting modern technology in its educational and administrative processes.	☐	☐	☐	☐	☐
	3	The university is achieving a competitive advantage through the innovative use of modern methods in the implementation of training programs, such as brainstorming method.	☐	☐	☐	☐	☐
	4	The university's creativity is concerned with expanding the horizons of development and innovation to achieve competitive advantage.	☐	☐	☐	☐	☐
			1	2	3	4	5
Organizational Performance	1	Due to organizational performance, the level of customer loyalty is increasing.	☐	☐	☐	☐	☐
	2	Our customers believe that our organization provides them with products and services with high added value.	☐	☐	☐	☐	☐

3	Our market share is constantly increasing.	☐	☐	☐	☐	☒
4	Our organization has a high success rate in new products/services launched.	☐	☐	☐	☐	☐
5	Our organization is highly responsive to the needs of the domestic and international market.	☐	☐	☐	☐	☒
6	Our organization is always able to achieve and maintain superior performance.	☐	☐	☐	☐	☐
7	Our organization has a good performance and overall success.	☐	☐	☐	☐	☐



APPENDIX C

PLS OUTPUT

Descriptive Statistics of Variables

	Mean	Observed Min	Observed max	Standard deviation	Excess kurtosis	Skewness
HC-1	2.188	1.000	5.000	1.130	0.347	0.988
HC-2	2.113	1.000	5.000	0.758	1.872	0.850
HC-3	2.201	1.000	5.000	0.857	1.297	0.979
HC-4	2.600	1.000	5.000	1.001	0.148	0.721
HC-5	2.263	1.000	5.000	0.884	2.804	1.542
HC-6	2.225	1.000	5.000	0.821	2.840	1.405
HC-7	2.531	1.000	5.000	0.981	0.390	0.855
SC-1	1.874	1.000	5.000	0.796	2.264	1.132
SC-2	2.000	1.000	5.000	0.814	3.438	1.404
SC-3	2.019	1.000	5.000	0.833	2.032	1.079
SC-4	2.094	1.000	5.000	0.781	1.265	0.866
SC-5	2.106	1.000	5.000	0.738	2.764	1.145
SC-6	2.088	1.000	5.000	0.728	3.638	1.434
SC-7	2.131	1.000	5.000	0.784	2.615	1.180
CC-1	1.819	1.000	5.000	0.813	0.277	0.839
CC-2	2.019	1.000	5.000	1.752	1.621	0.381
CC-3	1.931	1.000	5.000	0.726	0.493	0.602
CC-4	2.500	1.000	5.000	0.814	0.572	0.667
CC-5	2.447	1.000	5.000	0.796	1.379	0.966
IC-1	2.113	1.000	5.000	0.894	2.012	1.205
IC-2	2.314	1.000	5.000	1.782	3.173	1.582
IC-3	2.300	1.000	5.000	0.843	1.933	1.154
IC4	2.100	1.000	5.000	0.831	4.056	1.659
OP-1	2.113	1.000	5.000	0.922	0.832	0.933
OP-2	2.488	1.000	5.000	0.814	0.599	0.427
OP-3	2.475	1.000	5.000	1.854	2.059	1.628
OP-4	2.644	1.000	5.000	0.854	0.578	0.698
OP-5	2.363	1.000	5.000	0.810	0.791	0.881
OP-6	2.175	1.000	5.000	0.738	2.468	1.122
OP-7	2.150	1.000	5.000	0.760	3.246	1.378

Reliability Analysis

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CC	0.664	0.708	0.785	0.432
HC	0.890	0.900	0.914	0.604
IC	0.804	0.854	0.874	0.642
OP	0.859	0.883	0.894	0.553

SC	0.876	0.882	0.904	0.573
Discriminant Validity				

	CC	HC	IC	OP
CC				
HC	0.819			
IC	0.849	0.717		
OP	0.709	0.597	0.867	
SC	0.834	0.800	0.743	0.637

Variance Explanation

	R-square	R-square adjusted
OP	0.579	0.568

Hypotheses Testing

	Original sample (O)	Sample mean (M)	Standard deviation (S.D)	T statistics (O/STDEV)	P values	Results
HC -> OP	0.025	0.046	0.102	0.242	0.809	Not Support
SC -> OP	0.129	0.130	0.093	1.376	0.169	Not Support
CC -> OP	0.065	0.072	0.068	0.956	0.339	Not Support
IC -> OP	0.608	0.589	0.109	5.567	*0.000	Support

CURRICULUM VITAE

Graduated From the Department of Business Administration, AL TURATH UNIVERSITY COLLEGE 2001 and work in the University of Kirkuk and is currently a master's student at Karabuk University.

