NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF INNOVATION AND KNOWLEDGE MANAGEMENT

INTELLECTUAL CAPITAL AND ORGANIZATIONAL INNOVATION: EXAMINING THE MEDIATION ROLE OF KNOWLEDGE SHARING ON THE PALESTINIAN UNIVERSITIES DURING THE COVID-19 PANDEMIC

PhD THESIS

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Nicosia

May, 2023

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APPROVAL

We certify that we have read the thesis submitted by Amani Alnatsheh titled **Intellectual Capital and Organizational Innovation: Examining the Mediation Role of Knowledge Sharing on the Palestinian Universities during the COVID-19 Pandemic"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of PhD of Innovation and Knowledge Management.

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DECLARATION

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

Amani Alnatsheh
03/07/2023

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fate willed that she left me in the middle of the road, for my absent mother, in body and not in spirit. To my beloved mother, may God have mercy on her soul.

Amani Alnatsheh

ABSTRACT

Intellectual Capital and Organizational Innovation: Examining the Mediation Role of Knowledge Sharing on the Palestinian Universities during the COVID-19 Pandemic

Alnatsheh Amani
PhD, Department Of Innovation And Knowledge Management
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According to earlier studies, organisational innovation (OI) levels are greatly raised in conventional business environments by investing in intellectual capital (IC) & knowledge sharing (KSh). With the spread of the coronavirus pandemic, the environment changed, which created a number of challenges that needed creative ideas and innovative solutions. The educational systems were the ones most affected. So, the researcher questioned whether this relationship would have the same effect if it occurred in the university sector and if COVID-19 would have an effect on it. Therefore, this research's purpose is to undertake an empirical research study To answer these questions. To acquire data, the study used a method of quantitative analysis based on an electronic questionnaire. Furthermore, a procedure of purposive random sampling was used to include 407 academics working in HEIs in Palestine in the area known as the West Bank. The SPSS v25 software was used for data analysis, while the Process Macro v3.5 programme was used for mediation analysis. According to the findings of the study, IC strongly affects and contributes to fostering KSh and increasing OI levels, while KSh positively affects OI. Whereas KSh was discovered to have a strong indirect partial mediation effect on the interaction of

IC with OI. In spite of a few limitations, the research's results have significant implications for educators, scientists, and educational policymakers.

Keywords: intellectual capital, organizational innovation, knowledge sharing, Palestinian universities, COVID-19 pandemic.

ÖZET

Entelektüel Sermaye ve Örgütsel Yenilik: COVID-19 Pandemisi Sırasında Filistin Üniversitelerinde Bilgi Paylaşımının Aracılık Rolünün İncelenmesi

Alnatsheh Amani
Doktora, İnovasyon ve Bilgi Yönetimi Bölümü
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Daha önceki çalışmalara göre, örgütsel yenilik seviyeleri geleneksel iş ortamlarında büyük ölçüde entelektüel sermayeye ve bilgi paylaşımına yatırım yaparak gelişmiştir. Koronavirüs pandemisinin yayılması bahsedilen ortamı değiştirmekle birlikte, yaratıcı fikirler ve yenilikçi çözümler gerektiren pek çok zorluk ortaya koymuştur. Mevcut durumdan en çok etkilenenler ise eğitim sistemleri olmuştur. Bu araştırmada COVID-19'un üniversite sektöründe aynı etkiyi yaratıp yaratmadığı sorgulamıştır. Bu amaçla araştırılan sorulara cevap aramak amacıyla ampirik bir çalışma yürütülmüştür. Araştırmada veri toplamak için nicel analiz yöntemi seçilmiş ve elektronik anket uygulanmıştır. Rastgele örneklem tekniği kullanılarak Filistin'de West Bank olarak bilinen bölgede çalışan 407 akademisyene anket uygulanmıştır. Veri analizi için SPSS 25 yazılımı kullanılmış, Süreç analizi için Macro v3.5 programı kullanılmıştır. Araştırma bulgularına göre entelektüel sermaye büyük ölçüde örgütsel yenilik seviyeleri ve bilgi paylaşımına etki etmektedir. Ayrıca Bilgi Paylaşımının Örgütsel yenilik ve Entellektüel Sermaye etkileşimi üzerinde güçlü bir dolaylı etkiye sahip olduğu bulunmuştur. Bununla birlikte birkaç sınırlamaya

rağmen,araştırma sonuçlarının eğitimciler, bilim adamları ve kural koyucular için önemli çıkarımları bulunmaktadır.

Anahtar Kelimeler: entelektüel sermaye, örgütsel yenilik, bilgi paylaşımı, Filistin üniversiteleri, COVID-19 salgını.

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LIST OF ABBREVIATIONS

IC:	Intellectual Capital
OI:	Organizational Innovation
KSh:	Knowledge Sharing
HC:	Human Capital
SC:	Social Capital
StC:	Structural Capital
KM:	Knowledge Management
SMEs:	Small and Medium-sized Enterprises
SPSS:	Statistical Package for Social Science
NEU:	Near East University
CA	Competitive Advantage
MOHE	Ministry of Higher Education

CHAPTER I
Introduction

This chapter begins by providing the reader with a brief introduction to the topic as well as background information on this thesis. It continues with an in-depth overview of the problem as well as an overall aim. For this thesis, a collection of specific research questions is presented, followed by a conceptual framework, and hypotheses are posed. The researcher will next discuss why this study is essential, how it will contribute to the field, and any limitations linked to the procedures or conclusions of the study. Finally, a thesis outline is provided and presented visually.

Background of the Study

In the knowledge economy's current era, organizations' attention has switched from traditional production components (such as machinery and labor) to intangible assets or intellectual capital (IC) owned by organizations. Obeidat et al. (2017) supports this, asserting that in the knowledge economy, intellectual capital _rather than physical capital_ is the most important asset for businesses. Therefore, IC is critical to organizations' success, as well as universities. Chatterji and Kiran (2017) have stated the IC approach is crucial for raising university performance.

HEIs (higher education institutions) are knowledge intensive organisations. But knowledge must be shared in order to be effective (Mazorodze & Mkhize, 2022). Knowledge sharing (KSh) is the practice of exchanging knowledge—either explicitly or tacitly—within a corporation (Abdullah & Alqarni, 2022). KSh allows academic institutions to exploit their knowledge-based assets (Mazorodze & Mkhize, 2022). Universities, through their academic programs and research, also play a crucial part in the production and transfer of knowledge (Koca & Sağsan, 2020). Furthermore, KSh, particularly in higher education, can improve and accelerate curriculum

development and research (Fullwood & Rowley, 2017; Koca & Sağsan, 2020; Rowley, 2000; Tan, 2016).

A highly infectious virus called COVID-19 that originated in Wuhan, China, and spread throughout the global due to severe acute respiratory syndrome (Remuzzi & Remuzzi, 2020) has caused both traditional learning and e-learning to become "emergency e-learning" (Farahian et al., 2022). Emergency e-learning, according to Hodges et al. (2020), is "temporary transformation of educational techniques and procedures to an alternative educational path as a result of the crisis' circumstances" (p. 6). Additionally, COVID-19 virus created challenges and unanticipated problems for individuals, businesses, and states alike. Universities must therefore rethink how they operate and concentrate on enhancing the intellectual and cognitive abilities of their students and faculty in order for them to produce fresh concepts and innovative solutions that will improve the standard of scientific and educational systems in order to combat this disease. According to Ebersberger and Kuckertz (2021) the coronavirus has evolved new requirements and behaviors that call for inventive solutions.

Multiple research studies have demonstrated that IC is one of the most important variables in achieving organisational innovation (OI) across a wide range of industries, including in construction corporations (Li et al., 2019), petroleum organizations (Almutirat, 2020), and the tourism sector (Gomezelj Omerzel & Smolčić Jurdana, 2016). The literature review reveals that there is a dearth of research on these connections in academic settings, particularly in HEIs in Palestine, where this study is thought to be the first of its sort in Palestine. Additionally, in light of COVID-19, the contribution was not assessed as an experimental contribution. Universities must therefore reevaluate the extent of the effects of investing in IC as well as the methods and strategies they will employ to promote and implement OI in order to combat this epidemic. In this sense, the H1 was created.

H1. *"The presence of IC positively influences the OI of HEIs during COVID-19."*

Additionally, it is widely agreed (Li et al., 2019; Obeidat et al., 2017) that there is a positive and obvious link among on IC and KSh. However, because of the epidemic, KSh at higher education institutions now faces new constraints and challenges. The efficiency of the courses depends on the ability of the instructors and students to acquire, gather, and share knowledge; Therefore, the study of KSh during the pandemic appears to be essential (Farahian et al., 2022). In order to facilitate the use of KSh, the rector or university manager should focus more on the IC's "HC, SC, and StC" components. In this sense, H2 was developed.

H2. *"The presence of IC positively influences the KSh of HEIs during COVID-19."*

Furthermore, several authors stated that KSh can boost an organization's potential for innovation and help it reach its organizational goals (Obeidat et al., 2017). However, in universities, somehow the academics, who are the sources of knowledge, should be encouraged to share their experiences (Mazorodze & Mkhize, 2022). Thus, what approaches could Institutions of Higher Education (IHE) use to encourage KSh in order to enhance OI, particularly in light of the COVID-19 pandemic's emergence? H3 was born as a result.

H3*. "The presence of KSh positively influences the OI of HEIs during COVID-19."*

Moreover, research into the construction industry by Li et al. (2019)’s and other studies demonstrates that the presence of KSh enhances and makes the effect of IC on OI more obvious. But would these three factors have the same effect if the study were conducted in an academic setting, and would the coronavirus outbreak have any effect? For this reason, Hypothesis 4 was created.

H4. *"The presence of KSh as a positive mediator in the IC-OI relationship of HEIs."*

In light of the previously mentioned, the researcher felt compelled to fill a hole according to the research demonstrating a dearth of studies addressing the

impact of KSh on the relationship of IC on OI in the higher education sector by conducting empirical research that combines the three variables by taking the COVID-19 pandemic into account, as no empirical investigations of this relationship are being conducted during this pandemic. As result, the following objectives are sought by this study- in light of the coronavirus and at Palestinian universities in the West Bank area:

- Verify whether an IC with its three components has an effect on the OI.
- Determine whether the relationships between IC, KSh, and OI are direct or indirect.
- Ascertain how much the median (KSh) affects how IC and OI relate

This investigation will contribute to raising consciousness among university CEOs and top managers about the need to strengthen more prominent dimensions of IC that can stimulate OI. It will also contribute to encouraging a culture of knowledge-sharing among academic staff at the university by promoting incentive programmes. Thus, using these strategies will help the organisation grow and improve the standard of its research and teaching systems.

Statement of the Problem

As a result of the "Coronavirus" crisis, which caused schools, universities, and institutions to close during that time, traditional instruction has been replaced by online learning (Mishra et al., 2020). Additionally, numerous unanticipated obstacles and problems have appeared, resulting in the emergence of new needs that call for innovative ways of solving them (Ebersberger & Kuckertz, 2021). Thus, we require innovative solutions to get out of this crisis. So, this is the time to restructure and update our educational system. This research can contribute an informed perspective on how the

innovation landscape has changed during the COVID-19 epidemic, thanks to the research and analysis the researcher has done. Moreover, according to empirical reviews by Droege et al. (2009) & Perks et al. (2012), the majority of innovation research has concentrated more on the industrial sector than the service sector, despite the fact that innovations are important to the service and manufacturing sectors. Since there was a void in the literature, the researcher believed it was necessary to fill it by focusing on HEIs. Also, the literature review highlights that no studies investigating these connections have been done at Palestinian universities. Furthermore, the authors investigated the impact of IC on OI in several fields, including a case study of the Kuwait Petroleum Company (Almutirat, 2020). In the construction industry as well (Li et al., 2019). There were also studies on tourism companies (Gomezelj Omerzel & Smolčić Jurdana, 2016). It did, however, mention that there aren't enough university-level studies on these correlations. In light of this, the important aspect of the current study comes from reevaluating the linkage among IC and OI at "Palestinian universities" during COVID 19.

Considering these scenarios, there is currently a significant study gap, which presents exciting possibilities for investigation and novel insights. As a result, in order for universities to effectively address the issues raised by COVID-19, the researcher seeks to provide greater knowledge of the significance of IC in achieving OI, highlighting the role of KSh as a mediator in the link between them. The most essential of them is also evident through its application to "Palestinian universities" in order to look at how much IC is used there and how it affects OI.

Purpose of the Study

This study's major objective is to conduct an empirical search into how IC in the three key dimensions that make up it (HC, StC, and SC) affects OI in HEIs, either independently or through their interrelationships, in the aftermath of COVID-19. The KSh mediator's involvement will reinforce this impact. This will

be based on real data acquired from a survey of academic staff at HEIs in Palestine in the West Bank area.

Primary goal of the research was subdivided into specific objectives, which were implemented at universities during COVID-19:

1) To study the link between IC and OI.

2) To explore linkage among IC and KSh.

3) To ascertain the connection between KSh and OI.

4) To investigate KSh's role as a mediator in the interaction that exists between IC and OI in academic settings and see if the relationship is either direct or indirect.

5) To increase awareness among university directors and policymakers about the significance of IC in enhancing and supporting OI, particularly during COVID-19, as well as the need to create a KSh culture among academic staff through the implementation of incentive systems.

Research Questions

The study will try to provide answers to the main research question and the ensuing supporting questions in order to fulfill these goals:

During COVID-19, did the presence of IC have a statistically significant favorable impact on achieving OI in Palestinian universities in the West Bank region? And what role does KSh play as a mediator in their relationship?

To clarify this question, the researcher asks the following sub-questions: During COVID-19:

- In the HEIs in Palestine, did the presence of IC, which is composed of three components: _HC, SC, and StC_, have an overall positive or negative influence on OI?

- Is there a relationship in universities between the three variables IC, KSh, and OI, and if so, is it direct or indirect?

- Did the presence of KSh as a mediator when analysing the relationship of IC with OI have a positive and stronger effect?

Conceptual Framework

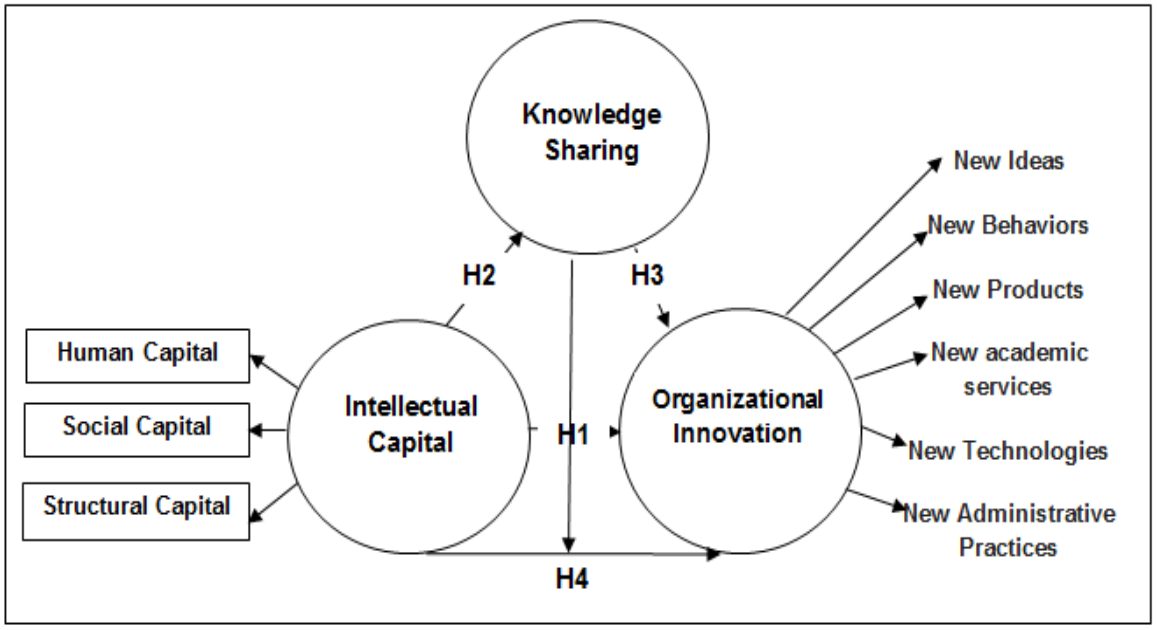
The researcher has determined the variables that it will test based on the previous review of the theoretical and empirical literature. The conceptual model was then created by the researcher to demonstrate the linkage that exists among the independent, dependent, and mediator variables.

In the current research, it was hypothesised that IC, with its dimensions of "HC, SC, and StC," has a positive impact on OI, with its various measures of "new ideas, new products, new behaviours, new technology, new academic services, and new administrative practises," in Palestinian universities and during COVID-19.

In addition, KSh has also been hypothesized as a mediator in the IC-OI connection. As shown in Research Model Figure 1,

Figure 1.

Conceptual Framework



Research Hypotheses

The following hypotheses are proposed through the suggested research design above, which explains how the independent variable IC affects the dependent variable OI and how KSh serves as a mediator in their relationship:

H1. "The presence of IC positively influences the OI of HEIs during COVID-19."

H2. "The presence of IC positively influences the KSh of HEIs during COVID-19."

H3. "The presence of KSh positively influences the OI of HEIs during COVID-19."

H4. "The presence of KSh as a positive mediator in the IC-OI relationship of HEIs."

Significance of the Research

This thesis's significance is caused by:

- This project will make universities aware of the importance of both non-tangible assets (IC, knowledge) and financial (tangible) resources for business success.

- Enriching and filling the gaps in the literature, this study is unique in that it gives an empirical study of the impact of how the three variables, IC, OI, and KSh, relate to one another in a new sector, place, and circumstance as they are applied in "Palestinian universities" during COVID-19. We can categorically state that this research is unique and has never been done at the PhD level in Palestine.

- Raise awareness and provide recommendations to university department heads about the significance of investing in IC to achieve OI to face COVID-19, thus raising the performance of Palestinian universities.

- Lastly, future scholars or graduates who are thinking about conducting more research in this field may use the study's findings.

Delimitations & Limitations

Scope of the Study

Scientific research methodology necessitates the establishment of subject-matter boundaries, which are as follows:

Human Limits. The target respondents are the 4,567 academic staff members of the closed-system HEIs of Palestine's West Bank. They were purposefully chosen since they will be the ones to use/apply that innovation. Furthermore, because they were working at the institution during COVID-19, these respondents' viewpoints and opinions are critical for this research.

Spatial Limits. Include HEIs active in The Palestinian territory's West Bank region.

Temporal Limits. Include the time frame, which is the academic years 2021–2022, and 2022–2023, during which the study will be carried out.

Scientific Limits. The study's variables included IC with its three dimensions (HC, SC, and StC) and OI with a range of measurements: "new ideas, behaviours, products, academic services, technologies, and new administrative practises." KSh was included in the model's further conceptualization as a mediating variable.

Limitations

The following are some of the challenges and obstacles mentioned that the researcher faced:

- This research's primary area of focus is on the Palestinian territories, whose conditions are unstable due to Israeli occupation, As a result of that, doing personalised surveys is difficult or impossible, and we are not permitted to enter all regions. As a result, the researcher developed electronic questionnaires.

- Due to the unstable conditions caused by Israeli occupation barriers and recurring wars, the research was only applied at universities in the West Bank region, excluding the Gaza Strip. As a result, the conclusions of this research cannot be generalised to HEIs in the vicinity of the Gaza Strip.

- Due to the sensitivity and confidentiality of university information, the researcher was given a formal letter from NEU to give to the targeted

universities in order to strengthen reliability and avoid problems with survey distribution.

- In Palestine, Arabic is the native speech. In a survey, the researcher included an Arabic translation in addition to the English version since researcher anticipated that some academics might struggle with the English language.

Definition of Terms

Intellectual Capital

It defines it as a non-tangible asset made up of know-how and experience, specialist knowledge and talent, strong relationships, and technological skills that, when utilised, provide enterprises with a competitive advantage (Obeidat et al., 2017).

Dimensions of IC

Human Capital. Can be defined as employees' diverse set of skills, talents, expertise, and other characteristics (Ahmad et al., 2022)**.**

Structural Capital. It is referred to as the codified organizational knowledge and experience that is present in and used in database systems, structures, inventions, articles, and processes (Subramaniam & Youndt, 2005).

Social Capital. is the useable embedded knowledge that is available through interactions between individuals and their networks of connections (Gomezelj Omerzel & Smolčić Jurdana, 2016).

Organizational Innovation

It defines as A fresh idea or pattern of behavior that is created or adopted by the organization (Ahmad et al., 2022).

Dimensions of OI

Idea. is a fundamental mental component that might be visual, tangible, or abstract.

New Idea. Is a creative way of generating, growing, and conveying new ideas (Jonson, 2005).

New Behaviour. Is the organisation's ongoing behavioural transition in the direction of innovation (Avlonitis et al., 1994).

New Good or Service. Is one that is offered on the market and is either new or improved) Damanpour & Gopalakrishnan, 2001).

New Technologies. Indicate the development or use of novel technologies that directly affect processes for manufacturing (Odumeru, 2013).

New Administrative Practises. Comprise making changes to current organisational structures and activities (Al-Hakim & Hassan, 2016), in addition, implementing new procedures, regulations, and forms of organisation (Saki et al., 2013).

Knowledge

It is described as existing knowledge in a person's beliefs, competencies, and skill set (Nonaka & Takeuchi, 1995).

Knowledge Management

It is possible to define as the systematic management of both tacit and explicit knowledge (Alnatsheh et al., 2020).

Knowledge Sharing

It is known as the act of imparting knowledge—whether explicit or implicit—to others (Abdullah & Alqarni, 2022).

COVID-19

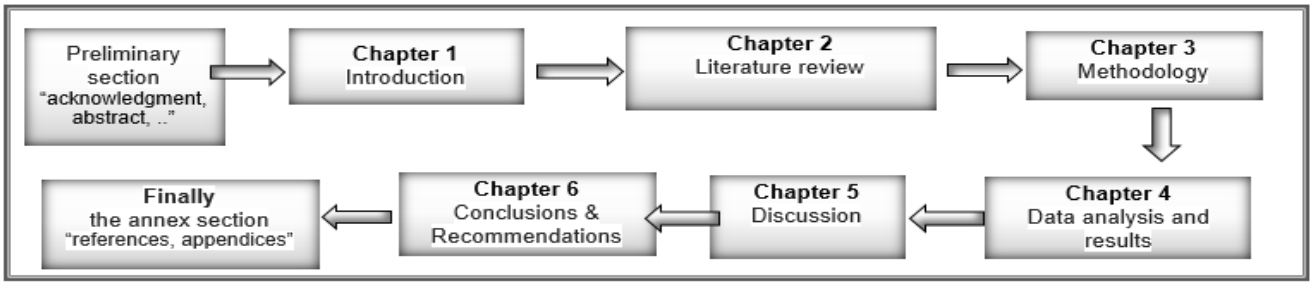
It is a sickness brought on through the SARS-CoV-2 virus that is connected with a condition known as acute respiratory syndrome. It quickly spread worldwide, and millions of people died. China's Wuhan is where it initially appeared (Mishra et al., 2020; Remuzzi & Remuzzi, 2020).

Thesis Outline

Figure 2 shows how this thesis is organized.

Figure 2.

Outline for a Thesis



CHAPTER II
Literature Review

The goal of this chapter's literature review, which is divided into two sections, was to increase the researcher's understanding of relevant sources: The **first section** provides a road map about the fundamental theoretical concepts upon which this research stands, as well as the historical background for these concepts, different definitions, measures, and theories & findings in the literature that led to developing hypotheses.

While the **second section** reviews the most important literature in previous studies about the current study.

Theoretical Framework

Intellectual Capital

Intellectual capital (IC) as a concept has undergone considerable development throughout time. In the early 1980s, IC was first introduced at the business level to understand the gap between the balance sheet of a business's value and its stock market price (Secundo et al., 2015). While formal conceptions of IC began to emerge in the 1990s (Almutirat, 2020). IC has come to be seen as essential to economic progress, and its aspects contribute significantly to achieving sustainable development (Zahedi & Naghdi Khanachah, 2020). Li et al. (2019) indicated that the development of the concept of IC may be broken down into four separate stages. Firstly, (the beginning of the 1980s until the middle of the 1990s) demonstrated the need to increase understanding of the value of IC for competitive advantage. Secondly (from the end of the 1990s to the start of the 2000s), it mainly focuses on researching the influence of IC on the creation of wealth and performance in finance, in addition to methodologies for measuring, and managing IC. Thirdly (from the mid-2000s to the start of 2010), we focused on methods by which executives can employ IC to manage and develop their businesses. The final stage (from about 2010 to

now) builds on the prior step via emphasising the creation of strong social, economic, and cultural systems in which organisations can survive and thrive. Along with the previously mentioned stages, the development of the knowledge economy spurred interest in IC. According to some authors, an organization's management emphasis on intangible knowledge assets, particularly IC, intensified following the emergence of the "knowledge economy," also referred to as the "new economy." (Gan & Saleh, 2008; Obeidat et al., 2017).

In the literature, IC is defined in a variety of ways. It was first described by Stewart as anything "intellectual material" utilized to add value (Yüksel et al., 2021). Following then, it was referred to as "IC" by Galbraith (Bontis, 1998). However, there is currently a broad agreement regarding the utility of IC in generating wealth and establishing a competitive edge (Ahmad et al., 2022; Rossi & Magni, 2017). For example, IC is defined by Chahal and Bakshi (2015) and Edvinsson (1997) as a collection of non-tangible assets, such as knowledge, skills,..that an organization possesses to generate worth and improve perform. IC is sometimes referred to as the most valuable intangible resource, and the results of it manifest as material and economic values that give a competitive advantage (Almutirat, 2020; Carmeli & Tishler, 2004). Consequently, this asset should be carefully managed in order to yield the most successful results. It is also characterized as a set of intensive knowledge-based interactions with the potential to generate value and growth (Almutirat, 2020; Edvinsson, 1997). IC, according to the authors of these studies, is the sum of an organization's knowledge resources that it utilised to acquire a competitive edge (Li et al., 2019; Youndt et al., 2004). Nevertheless, Sullivan (1999), who was a significant contributor to the concept, still characterized IC as a combination of relationships and competencies. He defined IC is a resource that is intangible made up of people's capacities, know-how, expertise, qualification, and client relationships that offer a company a competitive edge. On the other hand, the definition by (Obeidat et al., 2017) (p. 4) should be the most comprehensive definition, as he describes it as "the presence of knowledge and competence,

expertise and talent, strong relationships, and technology skills, which, when utilised, will provide organisations a competitive advantage." By definition, intellectual capital is the combination of these various elements that allows organizations to use their resources more effectively and make strategic decisions.

In conclusion, "intellectual capital" refers to knowledge that a company may utilise to its benefit to add value, establish a competitive edge, and demonstrate its results as economic and material values. These skills develop over time and reside in an organisation's personnel, databases, procedures, and networks of beneficial connections.

Aspects of Intellectual Capital: Conceptualization and Definitions

In literature, numerous frameworks and methodologies for measuring IC and making it more operational at the corporate level have been suggested. According to Kang et al. (2012) and Patky and Pandey (2020), the main elements of IC were denoted as "generalist HC, internal SC, and mechanistic organizational capital." Additionally, it is believed that IC is composed of the following 4 elements: "process, human, innovation, and client." (Edvinsson & Malone, 1997; Obeidat et al., 2017). In contrast, individual skills and both internal and external structure are said to be three basic categories into which IC is classified (Obeidat et al., 2017; Sveiby, 2000; Sveiby, 1998). Furthermore, IC is a two-component concept that includes both (HC and StC) and subcategories of StC include “organizational capital and consumer capital” (Gomezelj Omerzel & Smolčić Jurdana, 2016). Moreover, Subramaniam and Youndt (2005) stated that customer capital symbolizes SC. Academics have argued for the importance of two IC components, namely HC and StC. Other researchers have suggested, one more type that of relational or customer capital (Edvinsson & Malone, 1997; Patky & Pandey, 2020). Whereas others concentrated on four key elements of IC (HC, SC, StC, and relational capital) (Ali et al., 2021; Cabrilo et al., 2018). Despite differences among researchers, most studies suggest that

the three prominent dimensions of IC are "HC, StC, and relational capital (also known as SC)," (Ali et al., 2022; Bontis, 2000; Chahal & Bakshi, 2015; Johnson, 1999; Li et al., 2019; Obeidat et al., 2017; Sharabati et al., 2010; Subramaniam & Youndt, 2005; Zahedi & Naghdi Khanachah, 2020). And each element contributes to the deployment of organizational knowledge, either individually or jointly (Subramaniam & Youndt, 2005). Meanwhile, combining these different aspects can greatly enhance an Institutional knowledge and capabilities. Obeidat et al. (2017) indicated that these three dimensions of IC are interconnected and are most effective when supporting each other, resulting in a significant effect on the overall performance of an organization. Personal knowledge (HC) is one such example, which is typically formalized and codified (StC), and it is distributed and utilized through collaborative connections (SC) (Subramaniam & Youndt, 2005). In addition to the three widely acknowledged dimensions, other aspects of IC, such as "innovation, organizational, process, social, and customer capital," are also highlighted by authors like (Chahal & Bakshi, 2015; Chen, 2007). As previously stated, an IC contains various components, however, this research concentrates on the IC's dimensions as determined by Subramaniam and Youndt (2005), which are "HC, SC, and StC."

Human Capital. (HC) is one of the most essential resources of companys, which they must cultivate in order to remain competitive and innovative. Kianto et al. (2017) & Li et al. (2019) affirmed that HC is the most crucial component of IC since HC relies mainly on humans and a company cannot accomplish anything (even innovate) without HC. HC is also seen as valuable since it influences how well firms perform (Obeidat et al., 2017). HC may be summed up as "the total of an employee's ability, talent, expertise, inventiveness, knowledge, attitude, skills, and wisdom." (Wang et al., 2014)(p. 234). While Bontis's definition of HC highlights the importance of skills and knowledge beyond simply academic qualifications, Nick Bontis defines HC as the totality of an employee's competencies, experience, talents, academic qualifications, and tacit knowledge (Bontis, 1998; Koca & Sağsan, 2020). HC

revolves around the ability, skills, qualifications, and knowledge of individuals. This concept is important to note, as it means that an individual's true worth and value depends not only on academic courses of study and degrees but also generated through expertise and practical education, which are mostly earned on the job (Gomezelj Omerzel & Smolčić Jurdana, 2016). Organization must convert tacit knowledge into explicit knowledge to avoid losing valuable knowledge due to retirement, employee turnover, or any other reason. Due to the fact that HC is not tangible, it cannot be controlled by the company or owned by it because it leaves with the employee every day or when he changes employment (Kianto et al., 2017). Also, the research on HC has indicated that HC can promote the development of human intellect and the accomplishment of OI (Patky & Pandey, 2020). The researcher concluded that talents and capacities embedded in an employee cause them to act in innovative ways. As a result, it was suggested by Yi-Ching Chen et al. (2012) & Obeidat et al. (2017) that businesses should continually invest in their HC to raise their CA.

Structural Capital. (StC) is an essential institutional asset for firms, as it provides a system to track, codify and store knowledge that can be beneficial to future processes, that is, generally becoming explicit knowledge. Obeidat et al. (2017) indicated that StC is a vital organisational resource for building a successful organisation since it addresses the procedures and structures of the organisation, which in turn affect OI. Also, considering Nonaka and Takeuchi (1995) by Gomezelj Omerzel and Smolčić Jurdana (2016) in the description of the knowledge creation cycle, StC is the outcome of a continuous process that transforms tacit knowledge into explicit, which can then be expanded upon and applied once more to produce new knowledge. StC can be defined as "The codified expertise and organisational knowledge that is incorporated into and employed in computerised databases, structures, talents, research, and strategies." (Subramaniam & Youndt, 2005) (p. 451). StC contains all resources owned by the company, and employees are not allowed to take them when they leave the organization, Thus, StC does not depend on individuals; it is about the

firm itself. In other words, StC embodies physical infrastructure such as buildings, IT systems, and other equipment, it also consists of non-tangible assets such as processes, procedures, skills, databases, and brand that help employees work more efficiently (Bontis, 2001; Edvinsson & Malone, 1997; Koca & Sağsan, 2020). Organisations hold onto knowledge that may alter depending on employee recruiting, mobility, and turnover. StC assists organizations to retain their HC by providing a supportive infrastructure and environment that encourages employees to contribute their HC and knowledge to the organization. (Obeidat et al., 2017).

Social Capital. (SC) is known as the network of personal and professional relationships that an individual or group has. It can also be seen as an advantage that comes from having strong social connections and the ability to leverage them for personal or collective gain. In 1916, Lyda Judson Hanifan gave the first formal definition of SC. According to Hanifan, SC refers to friendship, mutual affection, cooperation, networking, and the exchange of resources among people who share common interests and goals (Koca & Sağsan, 2020). This concept has gained momentum in recent years as a critical component of social relationships and community building. In some studies, SC is assumed to be social networks, interpersonal ties, and the reciprocity and reliability rules they give rise to (Roberts, 2013). Moreover, SC is described as a connection built on mutual respect, dedication, and trust between all parties involved, like consumers, producers, governments, or other key partners (Li et al., 2019). Another research emphasized the value of social relations in knowledge flow. They defined social capital as the accessible embedded knowledge that may be used via interactions between people and their interconnected networks (Gomezelj Omerzel & Smolčić Jurdana, 2016; Nahapiet & Ghoshal, 1998; Subramaniam & Youndt, 2005). So it can be argued that SC constitutes flexible channels for transferring and sharing knowledge, and thus, enhances the utility another two aspects of IC (HC and StC) (Subramaniam & Youndt, 2005). SC is typically preserved inside businesses

since it relates to standards of cooperation, engagement, and idea exchange. Trust is the foundation of successful knowledge sharing, so the strength of the relationship affects the transfer of knowledge, particularly tacit ones. This is what Gomezelj Omerzel and Smolčić Jurdana (2016) refers to as building strong relationships between team members based on trust, which is an essential tool in the knowledge exchange process, especially when it comes to tacit knowledge.

To sum up, the researcher draws the following conclusion: knowledge-based values may be derived from people, organizational structures, processes, and systems, as well as through relationships and networks. This emphasises how crucial it is for departments and people to work together and communicate in order to effectively share knowledge. Additionally, it emphasizes the value of investing in systems and structures to facilitate the collection and organization of IC. These days, although the concept of IC has evolved, there is still a significant demand for research in this area because IC is a subject that is still developing and requires further investigation and analysis. Having a better understanding of how to manage and use their intellectual resources will enable organisations to remain competitive in the modern knowledge-based economy.

Measuring Intellectual Capital

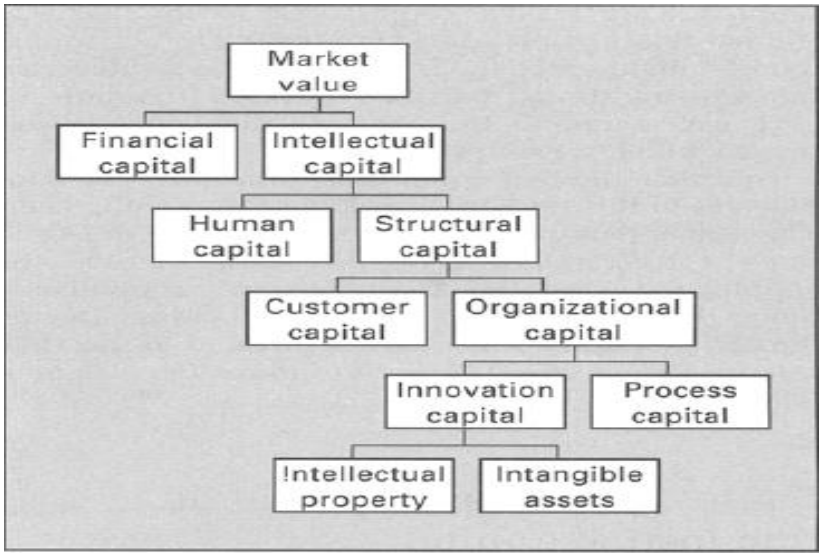
Forward-thinking firms recognize the importance of measuring knowledge contribution. Existing financial and other performance measurements do not assist the company in understanding or controlling its knowledge contribution. A number of new measurement techniques have emerged that are explicitly focused on assessing knowledge and IC. Theories regarding measuring IC will be addressed in this section of the research. Organisations often evaluate their IC by identifying and gathering information on its indicators. Many approaches for measuring IC inside an organization have been identified in the literature. To name a few, the "Skandia Intellectual Capital Measure," "Balanced Scorecard" (which includes non-financial indicators in addition to financial measurements),

"Intangible Asset Monitor,", "Intellectual Capital Navigator,", & "IC Index," in addition to the measurements mentioned by Sullivan (Almutirat, 2020).

Skandia's Approach. The IC is described by SKANDIA (a Swedish insurance firm) as “the combination of institutional technological skills, practical experience, relationships with clients, knowledge, and good abilities that provide Skandia with CA in the market,” (Edvinsson, 1997)(p. 366). In 1991, Skandia was the first to create the concept of IC. As neither HC nor StC are included in standard accounting procedures, Skandia created its own approach utilising both approaches: the "Skandia value scheme & the Skandia Navigator." According to Edvinsson (1997), who was working as the director of IC in Skandia at the time, the "Skandia Value Scheme" revealed that market value had two dimensions: financial capital and IC. Skandia classified IC into two parts: HC and StC. StC, in turn, is divided into “organizational capital & customer capital. Organizational capital has two subdimensions: innovation & process capital. Look at Figure 3.

Figure 3.

Skandia Value Scheme



Source:Edvinsson (1997).

Skandia Navigator. It is a collection of vital metrics that together offer a comprehensive picture of performance and goal accomplishment (Edvinsson, 1997). The entire operational picture provided by Navigator is more balanced, balancing the past "financial focus," the current "customer focus, process focus," and the future "renewal and development focus,". Figure 4 illustrates how Edvinsson uses the metaphor of the house to represent how a company's IC and financial systems are organized. Each component contains various indicators representing its characteristics. The "Skandia Navigator" promotes a comprehensive understanding of the organisation and its value generation across five key areas:

Financial Focus. The roof incorporates standard financial indicators such as "sales, expenditures, and profits that show in the conventional balance sheet."

Human Focus. The Human Focus is intentionally positioned in the centre to highlight its importance and connection to all other activities. The following are examples of indicators: " No. of employees, percent of HEIs, training expenses per employee,..."

Customer Focus. The first of the two side walls, and it includes metrics that indicate the customer base and customer interactions, including "client No., new clients, the share of the market, satisfaction survey findings, etc."

Process Focus. It is second wall includes indications that show how efficient work procedures are. e.g., the cost to manufacture products and the time required to manufacture products.

Renewal and Development Focus. Indicators can be things like a company's R&D spending or the quantity of new goods it produces. Figure 4 shows these focus points.

Figure 4.

Skandia Navigator

Source: Adapted from Leif Edvinsson[11] and Skandia annual reports 1996, 1997.

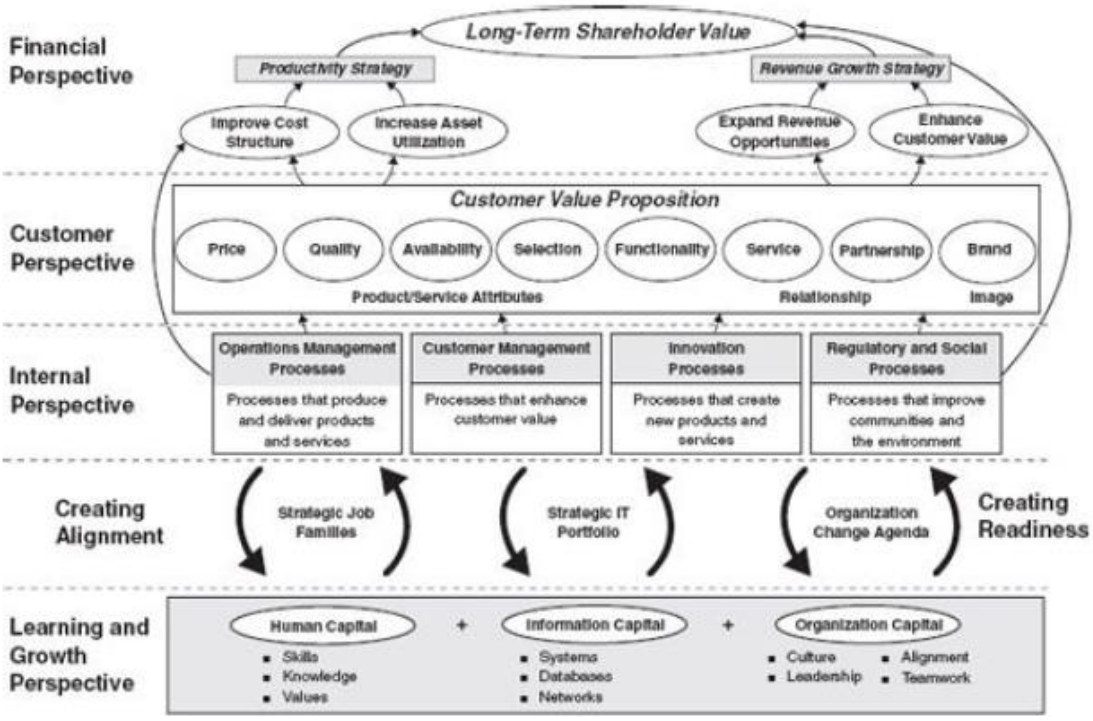
To conclude, the Skandia Value Scheme measures IC through financial and non-financial indicators, while the Skandia Navigator provides a framework for managing IC. Through these models, Skandia was able to quantify and manage its intangible assets, gaining a competitive advantage in the market.

Balanced Scorecard (BSC). Kaplan and Norton (2004) created it. The balanced scorecard helps organizations make educated decisions based on multiple factors rather than just financial data. BSC is a strategic management instrument that assists companies align their goals and measures with their vision and strategy, and it emphasizes the importance of balancing financial and non-financial indicators to achieve long-term success (North & Kumta, 2018). In addition, the main aspects of intangible assets (IC) are recognized, and

scorecards are created with indications; the methodical way in which this information is presented helps direct the business in the appropriate direction; it categorizes indicators into four perspectives: "financial, customer, internal business processes, learning and growth." (Kaplan & Norton, 2004). See Figure 5.

Figure 5.

Balanced Scorecard



Source: Kaplan and Norton (2004)

Inductive Analytical Approaches. In their book, North and Kumta (2018) noted that there are two types of methods for evaluating IC:

-Deductive summarizing methods for evaluating the variance between an “organization's book value & market value,”. Tobin's q, calculated intangible value, and market-to-book value ratios are a few examples of indicators. The intangible assets are valued using these derived indicators, yet the discrepancy

among “book value & market value,” is either not explained at all or is only partially explained. As a result, they are not suitable from a knowledge viewpoint as the only factors for the tactical and strategic management of an organisation.

-Inductive analytical methods such as "intangible asset monitor," "IC navigator," and "IC index" are used to characterize and assess various organizational knowledge bases and other intangible asset components.

Intangible Assets Monitor. North and Kumta (2018) indicated in their book that, according to Sveiby (1997), a company's market value is composed of both tangible equity and intangible assets. Moreover, it is illustrated as follows: non-tangible assets consist of both "internal & external structure, as well as staff member capability,". Where the “internal structure” includes technology and processes, it is simply whatever is left over after a worker departs a company. While the “external structure” comprises customer and supplier ties. Individual competency includes education and experience. The organizational knowledge base's components are assessed by the intangible asset monitor from the perspectives of growth/renewal, efficiency, and stability in relation to employees, internal & external structure. Figure 6 illustrates this. Clients are broken down into three groups: image-enhancing clients who make it easier to bring in new clients and cut marketing expenses; organization-enhancers who seek "state-of-the-art" solutions; and competence-enhancers who push their staff to learn more and collaborate more. By understanding the different categories of customers, Businesses can tailor their goods and services to each group's unique needs and expectations. This approach can lead to increased customer satisfaction, loyalty, and ultimately, business success.

Figure 6.

Intangible Assets Monitor

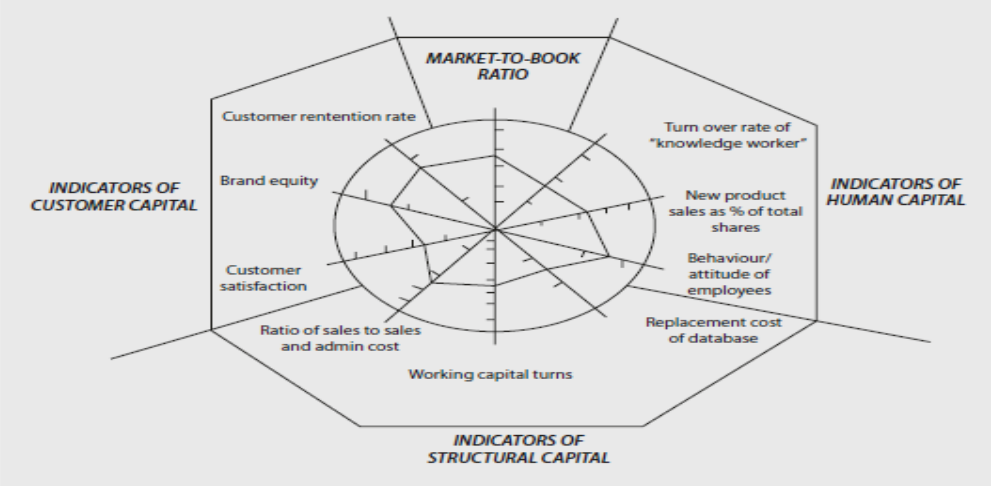
	External structures	Internal structures	Employee competence
Growth/ renewal			
Efficiency			
Stability			

Indicators of “intangible assets monitor” (Source: Sveiby (1997), P.165)

IC Navigator. Stewart (1997) recommended using “market-to-book value,”, as well as indicators for HC, StC, and customer capital to assess businesses using similar standards as Sveiby. For each category, three key numbers were proposed. Stewart implicitly focuses on "growth & renewal" indicators but does not differentiate between "growth/renewal, efficiency, and stability," and the findings are presented as illustrated in Figure 7_in a target-performance comparison (North & Kumta, 2018).

Figure 7.

Intellectual Capital Navigator

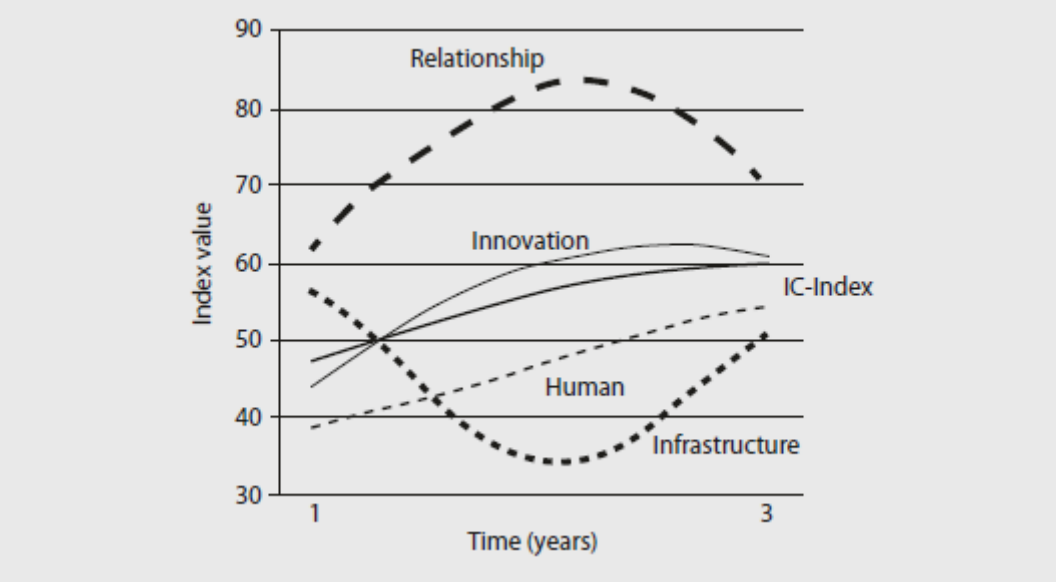


The “intellectual capital navigator” (Source: Stewart (1997), p.245)

IC Index. Roos et al. (1998) developed it. They indicated that categories of IC are "relational, innovation, human, & infrastructural capital," as seen in figure 8. And for each of these capitals, indicators have been constructed. These are weighted and integrated into an "IC index", similar to "costutility analysis", & offered over a period of time (North & Kumta, 2018).

Figure 8.

IC Index



The “intellectual capital index” (Source: Roos et al. (1998), p.89)

Sullivan Intellectual Capital Measure. Almutirat (2020) indicated that Sullivan argued IC may be calculated via a variety of factors, including:

- Intellectual property is estimated by the "No. of patents, intellectual property rights, brand, trade secrets, copyrights, licenses, and organizational material,”.

- Organizational operations are measured by "the efficiency, effectiveness, and productivity index."

- Organisational culture is assessed by examining the basic attitudes, values, and beliefs of the individuals and groups inside the company.

- Research and development efforts are measured in terms of "long-term R&D operations, future policies, programmes, operational plans, and future outlook activities."

- Creativity and innovation are measured by the No. of modifications made to new or current goods or services.

- Technology is measured by “comparing machinery, information technology systems, and modern technologies.”

- The quality of management practices is determined by the number and quality of licenses and certificates issued, such as ISO & international quality certificates.

- Financial relationships are measured by "rates of return on investment, rates of liquidity, financial efficiency, and the extent of financial facilities."

- Networks are measured by their effectiveness.

In this search, the IC scale developed by Subramaniam & Youndt (2005) was used, which has three dimensions: HC, StC, and SC that have been mentioned before. It was assessed using 14 items and a scale based on seven points.

Organizational Innovation

The Latin term "innovare," which meaning to create something new or to improve an already existing good or service, served as the inspiration for the

English word "innovation" (Chahal & Bakshi, 2015). Innovation is now a hot topic for many scientists and academics from different fields, and it is crucial to the survival of contemporary and diverse businesses in a competitive environment. Schumpeter was the first to propose OI in 1934, which he described as a method for generating new business brands, goods, and services (Saki et al., 2013). Later, he expanded on this definition to include generating new products, new markets, and new manufacturing technologies, as well as discovering new raw material sources, and developing pre-existing products by giving them new characteristics (Koca & Sağsan, 2020). OI is additionally described as the development or adoption of a brand-new idea or behaviour that is novel to the institution (Ahmad et al., 2022). The OI has been characterised by some scholars, such as Demircioglu (2016), as the addition of anything new to the organisation (fresh idea, technological advances, goods, procedures, services, or business strategy). Furthermore, other scientists have proposed various explanations for this concept. In the innovation process, knowledge plays a key role. Where Koca and Sağsan (2020) indicated that converting ideas and knowledge into economic advantages is an innovation. The term "innovation" has also been expanded by Chahal and Bakshi (2015) to encompass the application of creative ideas and discoveries to produce new goods, services, systems, or procedures. Innovation, on the other hand, is defined by De Sousa et al. (2012) as the application of successful creative ideas within a business. The OI was further described as stakeholder efforts to use/implement “new ideas, technologies, behaviours, goods, services, and administrative practices,” (Sutanto, 2017). In fact, it might be argued that innovation is considered a key element in businesses' attempts to deliver value and long-lasting CA in today's complicated and unsteady environment. Businesses that make innovation a priority are more likely to succeed (Saki et al., 2013). According to (Almutirat, 2020) by Stewart, the following elements enhance OI.

These factors indicated that effective leadership can create an innovative environment that fosters imaginative thinking and taking chances while providing the right tools and technology to enable innovative ideas:

- First: giving the institution's employees greater authority will enhance a cooperative culture inside the company.

- Second: the interest of managers in the ideas and suggestions of employees has positive effects and motivates them to assume responsibility.

- Third: management should focus on innovation of all types as a fundamental tool for the company since it offers new goods, creates new procedures and enhances current ones to make them more adaptable to change.

- Fourth: Educating management and staff on the innovation-competitive advantage relationship.

- Fifth: sharing experiences in knowledge creation and sharing by seeking out the most recent advances as well as implementations and knowing how to use them to accomplish the advancements that are needed.

- Sixth: handle consumer complaints by gathering, examining, and providing appropriate solutions.

There are also obstacles and limitations on the OI application, which in turn limit the institution's and HC's capacity to invest in their abilities and growth. As a result, the organization will suffer from a lack of creativity and innovation within the organization as well as a demotivated workforce. Some of these limits, according to (Almutirat, 2020), are as follows:

- ❖ Workers' resistance and fear to change and renewal, as well as their preference for the status quo.

- ❖ Strict adherence to laws, emphasis on routine procedures, managers' rejection of noval ideas, and considering them a time waster.

- ❖ Workers are not given adequate authority, i.e., centralization of management.

- ❖ Difficulty communicating between employees and senior management, and thus not communicating workers' ideas and suggestions.

Measuring Organizational Innovation

The different definitions of OI that were described before led to the emergence of several OI dimensions. Table 1 illustrates this:

Table 1.

Summary of the literature review for organisational innovation dimensions

Author	OI Dimensions
Schumpeter (1934) & Schumpeter (2017)	"Developing new products or services, developing new methods of production, identifying new markets, discovering new sources of supply, and developing new organisational forms."
Daft (1978)	"Technical innovation, administrative innovations."
Damanpour and Evan (1984)	"Administrative and technical innovations."
Ettlie et al. (1984)	"Radical versus incremental innovation."
Dewar and Dutton (1986)	'Incremental innovation and radical innovation."
Orlikowski (1991)	"Incremental innovation and radical innovation."
Capon et al. (1992)	"Market innovativeness, strategic tendency to pioneer, and technological sophistication."
Utterback (1994)	"Radical, gradual, product, process, administration, and technologic innovation."
Cooper (1998)	"Radical innovation vs. gradual innovation, technologic innovation vs.

	administration innovation, and product innovation vs. process innovation."
Damanpour and Gopalakrishnan (2001)	"Product innovation, process innovation."
Wang and Ahmed (2004)	"Product-service innovation, process innovation, market innovation, behavioral innovation and strategic innovation."
Jansen et al. (2005)	"Exploratory innovation and exploitative innovation."
Subramaniam and Youndt (2005)	"Incremental innovative capability and radical innovative capability."
Seng et al. (2011)	"Process innovation, product innovation, incremental innovation, radical innovation, administrative innovation, technology innovation, market innovation and value innovation."
Saki et al. (2013)	"Product innovation, process innovation, and administration innovations."
Al-Hakim and Hassan (2016)	"Radical innovation, incremental innovation, technological innovation, and administrative innovation."
Sutanto (2017)	"Utilize/execute new ideas, utilize/ execute new behaviors, utilize/execute new products, utilize/ execute new academic services, utilize/execute new technology, and utilize/execute new administrative practices."
Limaj and Bernroider (2019)	"Exploratory innovation and exploitative innovation."
Ngoc-Tan (2020)	"Administrative innovation and technical innovation."
Hilmiyanti (2021)	"Utilize/execute new ideas, utilize/ execute new behaviors, utilize/execute new products, utilize/ execute new academic services, utilize/execute new technology, and utilize/execute new administrative practices."

Source: Author 2023

After studying innovation models, particularly at the university level, the following elements were selected as research factors in this study to evaluate OI based on an article by (Hilmiyanti, 2021; Sutanto, 2017), it is briefly summarised in Table 2.

Table 2.

Dimensions of OI

OI Dimensions	Definition	Example of OI in HEIs
New ideas	An idea is a basic mental construct that might be visual, tangible, or abstract, while A new idea is a creative process of coming up with, developing, and communicating a new thought (Jonson, 2005).	Using technology in education like "the use of flipped classrooms and e-learning trends, virtual reality, artificial intelligence, cloud computing, 3D printing, social media, and so on." In addition to developing educational resources and methodologies and new courses for faculty members are held.
New behaviors	“Behavioral innovation,” also known as "behavioral commitment," is the organization's continued behavioral transformation toward innovations (Avlonitis et al., 1994). It may also be described as individual, team, and management behavioral innovativeness that permits the establishment of a culture of invention and a broad inner acceptance of novel thoughts and creative thinking (Ellonen et al., 2008; Wang & Ahmed, 2004). Individual innovativeness is defined as a person's readiness to change. Simultaneously, team innovativeness refers to the team's capacity to adapt to change (Wang & Ahmed, 2004).	
New products And New services	“Product innovation,” is defined as the timely introduction of enhanced or new goods or services to the market (Damanpour & Gopalakrishnan, 2001; Ellonen et al., 2008; Odumeru, 2013; Saki et al., 2013; Wang & Ahmed, 2004).	
New technologies	refers to the creation or implementation of creative ideas or technologies that have a direct impact on the fundamental production processes (Cooper, 1998; Odumeru, 2013; Seng et al., 2011).	
New administrative practices	includes the implementation of methods, policies, and fresh organizational forms (Jiménez-Jiménez & Sanz-Valle, 2011; Ngoc-Tan, 2020; Saki et al., 2013), as well as making adjustments to current organizational structures and operations (e.g., a delegation of authority, personnel recruitment, task structuring, resource allocation, and rewards) (Al-Hakim & Hassan, 2016; Cooper, 1998; Daft, 1978; Damanpour & Evan, 1984).	

Source: Author 2023

Knowledge Sharing

Today, organizations work in an uncertain and changing environment, which poses a number of obstacles and challenges. As a result, to continue and compete, organisations must focus on knowledge in order to rapidly and easily adapt to these changes (Obeidat et al., 2017). Starting off, there is a lot of misunderstanding between the phrases "knowledge, data, and information." North and Kumta (2018) indicated in their book that data is facts and figures that are unorganized and that the information is organized data that adds meaning to a message. As for knowledge, Nonaka and Takeuchi (1995) define it as the knowledge that an individual possesses that is relevant to his or her expertise, beliefs, and level of competence. As well, knowledge, according to Sağsan et al. (2016), is a firm asset that completes the strategy, procedure, and structure as a whole. Nonaka and Takeuchi (1995) suggested dividing human knowledge into There are two main categories of knowledge: tacit knowledge, which is deeply ingrained in an individual's beliefs, skills, and experience and is difficult to express, codify, or transmit to another person but is obtained by direct experience and observation. While explicit knowledge, which can be easily articulated and officially codified using a symbol system or made visible as a physical object, is, therefore, easier to document and share (Alnatsheh et al., 2020; Zack, 2002). Knowledge management, according to Davenport and Prusak (1998), is a process of managing the company's tacit and explicit knowledge via a systematic process for capturing, structuring, storing, sharing, using, and renewal of staff knowledge to raise corporate efficiency and generate worth. KM's main goal is to create value from an organization's intellectual assets by capturing, sharing, and utilizing knowledge effectively. It involves various procedures, including the generation of knowledge, acquisition, storage, dissemination, and usage. Thus, when formulating the KM theory, it is important to consider how KM process within organizations. Sağsan stated that the KM process will be examined using a new framework called the "life cycle of KM, which includes "creating, structuring, sharing, using, & auditing knowledge," (Alnatsheh et al., 2020)(p.726). In accordance with the previous definition, KSh

is one of the components of KM. KSh is a procedure that occurs inside a particular place and involves the transmission of knowledge, experience, capabilities, or skills between people, colleagues, or society. The KSh concept is described by Jasser and Ghoneim as "activities leading to the transmission of knowledge that is either explicit or tacit across people, teams, or institutions by interactions." (Abdullah & Alqarni, 2022). KSh is a procedure that permits the transfer of both individual and group knowledge to the institutional level, where it may be used for the creation of new goods, services, and procedures (Ngoc-Tan, 2020). KSh is also the voluntary behavior of people sharing their knowledge and expertise with others (Obeidat et al., 2017). Additionally, van den Hooff and de Leeuw van Weenen (2004) distinguished between both knowledge source & knowledge receiver as two different forms of KSh, suggesting that knowledge will be shared between two people, one of whom already has the knowledge and the other of whom is acquiring it, implying that knowledge exchange "is made up of giving (donating) knowledge and receiving (collecting) knowledge," (Obeidat et al., 2017)(p.7). This distinction is significant because it emphasizes the significance of both parties in the KSh process and underlines that KSh is a two-way street in which both parties benefit. During the era of the knowledge economy, industries shifted from being labor-intensive to becoming knowledge-intensive (Li et al., 2019). The knowledge-based economy has quickly taken hold, making KSh more and more crucial for enterprises. Meanwhile, organizations embrace KSh for a number of causes, the development of knowledge and value is the most important among them, as well as how it fosters innovation and provides a competitive advantage to a company. Obeidat et al. (2017) indicated that KSh may enhance an organization's capabilities to innovate, which in turn enhances the capacity to meet the organizational objectives. Moreover, Zhang et al. confirmed that KSh is critical for knowledge generation and add value (Li et al., 2019). Furthermore, it was argued by Obeidat et al. (2017) that KSh might provide firms with a competitive advantage since it opens up the possibility of meeting organizational demands and inspires efficiency and innovation. KSh is a critical step in

transforming individual knowledge into corporate competencies, particularly staff creativity (Ngoc-Tan, 2020). This procedure entails the exchange of knowledge about an organisation as well as ideas, proposals, and personal experiences (Tohidinia & Mosakhani, 2010). KSh, on the other hand, requires desire, cooperation, and the willingness to share knowledge with others, making it a more difficult process (Obeidat et al., 2017). Additionally, Mazorodze and Mkhize (2022) demonstrate in their research that employees' willingness to share their expertise and knowledge with one another is a voluntary effort that goes beyond the bounds of their employment agreements and is based on their attitudes and desires rather than any legal or contractual requirements. Ipe conducted a study on the subject of KSh behavior among company employees and discovered four key factors that affect it: sort of knowledge, want to share, the chance to share, and finally, culture and working setting (Abdullah & Alqarni, 2022). While Tohidinia and Mosakhani (2010) mentioned the business climate, amount of use of information and communication technologies, interactions between parties, and self-efficacy as viewed.

To conclude, the research tries to determine the impact of KSh as a mediator on the link between OI and IC in universities. Results of this research can assist institutions improve their IC and encourage OI by implementing effective knowledge-sharing practices.

COVID-19 Pandemic

The COVID 19 disease, which is brought on by the SARS-CoV-2 virus, first surfaced in Wuhan, China, then spread rapidly over the world, infecting and killing more than a million people (Mishra et al., 2020; Remuzzi & Remuzzi, 2020). The World Health Organisation classified Coronavirus as a pandemic at the beginning of 2020 as a result of its quick global spread by March 2020 (WHO, 2020b). COVID-19 is described to as a pandemic because of its intensity and ferocity, as well as the worst global health disaster in human history (Mishra et al., 2020). WHO (2020a) states that COVID-19 symptoms, which include a

high temperature, coughing, and breathing difficulties, can be mild to severe. When an infected individual speaks, coughs, sneezes, or breathes, the disease is mostly spread through respiratory droplets. At the time, Khachfe et al. noted that obtaining control of the COVID-19 pandemic is more possible if people take strict preventive measures such as keeping social distance, commitment to quarantine, and cleanliness (Mishra et al., 2020). In order to inhibit the virus's spread, countries imposed harsh measures such as lockdowns and travel restrictions in response to the epidemic. The pandemic had a huge influence on the worldwide economy as well, leading to job losses and economic downturns. The COVID-19 epidemic was a frightening fact; its emergence destroyed everything from global economics to societal customs (Schulten, 2020). In addition, as the COVID-19 pandemic spreads, what was once thought of as "normal" has been placed on hold, and the education sector has suffered like many others. Lives, health, and careers are all at risk. Globally, the United Nations (2020) declared that the pandemic had the most impact on education in history, affecting more than 1.58 billion pupils worldwide of all educational levels and types, accounting for 94% of students. While some nations have raised alert levels and kept educational institutions open while adhering to rigorous health rules, others have created systems to cope with anticipated scenarios and incidents. Some countries have eliminated all extracurricular activities and social interaction to prevent direct physical contact, while others have implemented complete closure and shifted to online education (Iter et al., 2023; Qazehaq & Shamis, 2020). Regular lessons are becoming nearly difficult to attend since social distance is increasingly used to ensure safety and stop the spread of disease (Mishra et al., 2020). The disease's impacts have changed how classes are taught in learning institutions. Conventional learning as well as e-learning has transformed into "emergency e-learning." (Farahian et al., 2022). Emergency e-learning, in the words of Hodges et al. (2020) is “the abrupt movement from one method of learning delivery to another that is caused by emergency conditions.” (p. 6). As a result, universities and other educational institutions sought to switch from face-to-face to virtual classes, launching virtual

education platforms (Farahian et al., 2022). These platforms offer a safe and effective way for students to learn from home while still receiving the necessary instruction and support. Similar to other nations, Palestine's higher education system unexpectedly found itself in in the COVID-19 epidemic. As a result, the Palestinian National Authority declared a national emergency in March 2020, ordered the educational institutions to go on lockdown, and switched from on-campus instruction to online instruction and virtual classrooms to continue providing education to students. Hence, all universities adopted the new teaching strategy about two weeks later (Iter et al., 2023). The COVID-19 virus presented challenges and unexpected behaviors for people, businesses, and states alike. This emphasizes the necessity for universities to put a priority on research and development, reevaluate their infrastructure, and focus on improving the faculty's cognitive and intellectual skills so they may generate novel ideas and ground-breaking solutions that will raise the bar for scientific and educational institutions in order to solve the issues brought on by the epidemic. Additionally, the application of these creative ideas may be facilitated through cooperation between universities and other stakeholders, including governments and industry. This is what Ebersberger and Kuckertz (2021) stressed when they pointed out that COVID-19 created new needs and behaviors that necessitated creative solutions. According to UNESCO (2020), due to the Covid-19 epidemic, remote learning has imposed itself in the Arab World, necessitating the preparation and enhancement of educational standards and quality in order to accomplish learning objectives. In other words, educational institutions require innovative techniques to combat this sickness. This is reinforced by Gates (2020), who stated that innovation should be viewed as a solution to the health issue. According to the foregoing, the importance of IC and OI for Palestinian universities in the setting of COVID-19 will be investigated.

History of Universities in Palestine

Universities are cognitive-intensity organizations based on knowledge, knowledge creation, documentation, and dissemination. Education, in general, is regarded as a critical instrument for any nation seeking both sustainable growth and economic advancement (Koca & Sağsan, 2020). Hence, improving higher education institutions is a source of power for any country. The university system is also acknowledged as a platform for people's personal growth, as well as a tool for productivity and economic progress, which adds to the financial well-being of both individuals and the community (Saeedinejad et al., 2018). Universities are starting to realize how crucial it is to create and disseminate academic knowledge. It has been observed that educational institutions, which are knowledge-based institutions, play a part in producing and spreading knowledge through their research and publication in the scientific literature (Koca & Sağsan, 2020). Universities may create an environment that promotes collaboration and knowledge sharing among researchers, faculty members, and students by focusing on databases, support tools, and communication networks within universities (Chatterji & Kiran, 2017).

Palestinian universities. have a different situation from the rest of the universities in the world because they are under Israeli occupation. The West Bank and Gaza Strip are parts of Palestine, both of which Israel seized in 1967 and annexed to East Jerusalem after occupying other areas of Palestine in 1948 (Alnatsheh et al., 2020; Analoui & Samour, 2012). The creation of Palestinian universities dates only to the 1970s, these organizations were established during the Israeli occupation as part of the Palestinian's shared striving to maintain their culture and identity (Jayousi & Zatari, 2012). Due to Israeli occupation, the Palestinian educational system was subject to several limitations and obstacles. It detained a large number of academics, scientists, and pupils. Closing educational institutions on a military order for protracted stretches of time was the cruelest action done against the university community.

However, higher education institutions (HEIs) have only evolved since the Oslo Accords of 1993, when Israel turned over responsibility for education to the Palestinian National Authority (PNA) and, in August 1994, the Palestinian Ministries of Education and Higher Education were established (Shraim, 2018). But the Palestinian areas (West Bank & Gaza Strip) have seen ongoing political and economic instability since the start of the "Al-Aqsa Intifada," in September 2000.

Despite that, according to Jayousi and Zatari (2012):

> “Higher Education Law No. 11 of 1998 contains the following two approaches, the first approach is central national planning and supervision by the Ministry of Education and Higher Education and the Council for Higher Education, and the second is self-management, self-monitoring, and self-control at the institutional level." (p.4).

That means that HEIs are autonomous and self-managed, which enables them to rapidly adapt to shifting educational demands and societal requirements, ensuring that their programs stay relevant and effective. After 1995, scientific research activities began to be conducted in Palestinian universities. Since then, in addition to the dual programmes created to promote Palestinian competence, researchers from Palestine have had the opportunity to participate in a number of joint cooperation programmes in the fields of technology and development (Jayousi & Zatari, 2012).

The Law on Higher Education No. 11 of 1998 recognizes three distinct kinds of HEIs, as shown in Table 3. (Jayousi & Zatari, 2012) list these as follows:

- Governmental: supervised via the Palestinian Ministry of Education & Higher Education; As well as administered & financed through the Palestinian National Authority.

- Private: A variety of foundations, charitable organizations, religious organizations, individuals, and corporations manage and finance these organizations.
- Public: Most HEIs are public, not-for-profit, owned by local charities and NGOs, funded in part by the government, and rely on donations.

Table 3.

Summary of Palestinian Higher Education Statistics

No.	Traditional Universities in West Bank	No. of staff	InstitutionType	Year Founded
1.	"Hebron University"	479	Public	1971
2.	"Palestine Polytechnic University"	159	Public	1999
3.	"Bethlehem University"	197	Public	1973
4.	"Al-Quds University"	659	Public	1981
5.	"Birzeit University"	631	Public	1972
6.	"An-Najah National University"	1366	Public	1977
7.	"The Arab American University"	545	Private	2000
8.	"Palestine Ahliya University"	119	Private	2007
9.	"Palestainian Acadmic Security College (Al-Istiqlal University)"	105	Governmental	2011
10.	"Palestine Technical University- Kadoori"	307	Governmental	2007
	(1,219 Female and 3,348 male)……Total	**4,567**		
	Traditional Universities in Gaza Strip			
11.	"Al-Azhar University – Gaza"	217	Public	1992
12.	"Islamic University – Gaza"	410	Public	1978
13.	"Al Aqsa University – Gaza"	427	Governmental	2000
14.	"Gaza University"	28	Private	2007
15.	"Israa University"	97	Public	2014
16.	"University of Palestine"	113	Private	2005
	Total	**1,292**		
	Open University in Palestine			
17.	"A-Quds Open University"	461	Public	1991
18.	"The Arab Open University"	7	Private	2001

Source: Author 2023

University administrators, who hold positions of responsibility in the institutions, are drawn to new ideas and their implementation and play a vital role in the success of academic programmes. Therefore, university management must value "leadership excellence, service excellence, and knowledge excellence," which are components of institutional excellence in HEIs. (AbuNaser & AlShobaki, 2017). However, with the coronavirus outbreak, which has had the biggest effect on learning systems across history (United Nations, 2020), teaching has transformed from the traditional method to the virtual classroom. As a consequence, educational institutions must create virtual learning tools and other innovative technologies. In other words, HEIs must develop fresh and efficient processes, models, and practises to meet the significant environmental changes and demands they are currently facing (Sutanto, 2017). Additionally, COVID-19 presented Palestinian HEIs with a number of difficulties, just like it did for all other institutions worldwide. According to Iter et al. (2023)`s research, Palestinian universities were not adequately equipped for e-learning due to a lack of defined, well-coordinated plans and policies.

As a result, the research aims to offer insights into how IC can be leveraged and KSh to promote OI to combat this illness, utilizing a case study of Palestinian universities in the West Bank region.

Intellectual Capital in University

In the 1990s, academics at public organizations like universities and research institutes began to embrace the concept of intangible assets and IC on a large scale (Almutirat, 2020; Li et al., 2019). When pointing to HEIs, The term "IC" is utilised to indicate all of their non-tangible resources, such as their procedures, innovation abilities, patents, skills, abilities, and members' tacit knowledge, as well as their communication network and relationships with others (Pedro et al., 2019). Kamath identified IC as one of the most crucial

resources for knowledge organizations, pointing to universities as an example since most of its inputs and results are non-tangible and tied to knowledge (Pedro et al., 2019), as well as because they are platforms for knowledge creation and rely largely on intellectual capacity (Ali et al., 2022). Additionally, the literature has noted that HEIs are knowledge-intensive institutions, and measuring and assessing IC is becoming more crucial for these organizations' success and for improving their performance (Chatterji & Kiran, 2017). Correspondingly, universities create knowledge, for example through research findings, articles, patents, etc., transmit knowledge through education, and hire knowledge workers (Pedro et al., 2019). Numerous academic researchers have stated that the IC of an educational institution will gain a sustainable CA if it is continuously developed and invested in (Ali et al., 2022; Chahal & Bakshi, 2015; Iqbal et al., 2019). This highlights the need for universities to invest in developing dimensions of IC, namely HC, StC, & SC, to keep CA in academic institutions. This strategy may also result in increased innovation and enhanced organisational performance.

Pedro et al. (2019) (p.359), Focus on the following when speaking about aspects of IC at universities:

- HC of HEIs is “the combination of both explicit and implicit knowledge that an institution's human resources have gained through education that is both official and informal, in addition to training techniques employed in their daily operations.”

- StC of HEIs includes "all explicit knowledge connected to the internal processes of advancing and managing scientific and technical knowledge within the organisation, including both organisational (corporate culture and values, internal procedures, quality systems, and so forth) and technological resources offered by the university, such as inventions, patents, databases, and other similar items."

- SC of HEIs is a reflection of the wide network of institutional, economic, and political ties that HEIs have established and uphold with their non-academic partners (businesses, NGOs, local governments, and society at large).

Organizational innovation in universities

Educational institutions must continuously develop themselves to meet the changes and challenges they face. OI are particularly important in the education sector because of the importance of education in building a sustainable future (Ngoc-Tan, 2020). Universities regard OI as the most essential aspect of their educational program (Falch & Mang, 2015; Saeedinejad et al., 2018). In order to translate academic innovations into real-world applications, HEIs engage with industry, a crucial conduit for growth and execution, using their technological advancements or patents as well as the fresh concepts and discoveries that scholars bring to publications (Koca & Sağsan, 2020). OI speeds the process of skill enrichment and refinement, resulting in high-quality students who are prepared for future challenges. However, OI requires the involvement of all parties (students, instructors, parents, researchers, and policymakers), in addition to creating an innovative learning environment (Ngoc-Tan, 2020). In the higher education environment, innovation is essential. To accomplish innovation continuously, the rector or top management must take care of many different aspects, including processes, manufacturing, and technology, as well as corporate culture and regulations (Ali et al., 2021). Additionally, to accept and implement innovations, they must first identify the factors that influence applying these innovations and then enact policies for them that are in accordance with the goals of the university. So, Brennan et al. recommended some of the following factors to bring about OI in the HEIs: Instilling a culture of innovation among employees in the higher education environment, encouraging the academic staff to use new technologies for teaching, paying attention to incentives and rewards for staff members,

motivating institutional cooperation among employees and sharing their tacit knowledge, and implementing appropriate strategies to train employees and develop their skills (Ngoc-Tan, 2020).

In conclusion, in the context of this university research, OI in universities during COVID-19 is defined as "using/applying novel ideas, new behaviours, new products, new academic services, new technologies, and new administrative practices, and supporting university academic staff in using/applying those innovations to deal with the COVID-19, which has created an unstable and complicated economic and technological environment."

Knowledge Sharing in University

As the notion of knowledge communities and knowledge-based economies grows, KSh is becoming more and more important in all sectors (Javaid et al., 2020). This is further supported by Farahian et al. (2022) who argued that the concepts of knowledge management and KSh are now crucial not only in the industrial sector but also in the service sector, particularly in knowledge-based organisations like universities because these institutions are focused on many fundamental knowledge management processes like knowledge creation, use, and dissemination. In developing countries, to protect academics' expertise and knowledge in universities, focus and priority should be given to KSh (Mazorodze & Mkhize, 2022). In HEIs, the sharing and transmission of knowledge are essential among creators of knowledge and knowledge searchers, as a result, educational institutions would be wise to consider strategies for timely knowledge transmission and sharing from experts to non-experts (Mazorodze & Mkhize, 2022). This can be accomplished through some methods, namely seminars, training sessions, mentorship programmes, and internet tools. As well as, KSh culture helps ensure that knowledge is widely disseminated, and can help organizations enhance creativity, improve decision-making, and improve the quality of education. Thi Chung and Thi Tram Anh (2022), on the other hand, observed that organisations, especially HEIs, may

suffer as a result of employees' unwillingness to share their knowledge. So, the procedure of KSh needs motivation. As a result, Mazorodze and Mkhize (2022) has identified some of the factors that give staff members motivation to use their knowledge and experience to the advantage of the organisation as a whole, such as awards, recognition, promotion, and bonuses.

Finally, the expansion of COVID-19 has also raised the importance of KSh in educational institutions, according to Farahian et al. (2022), since the success of the classes relies on the ability of the instructors and the students to develop, collect, share knowledge. This will be confirmed during this research in Palestinian universities.

Hypothesis Development

This research's objective was to investigate and examine connections between variables mentioned earlier in research model in Figure 1, which was developed from a literature review carried out.

Intellectual Capital and Organizational Innovation

Given the COVID-19 constraints and the increased focus on innovation in academic research, universities should make innovation a part of their organisational culture. In their paper Ebersberger and Kuckertz (2021) state that crises generally have a detrimental effect on inventive activity and that this is likely to be the case with the COVID-19 issue, citing how the 2008 financial crisis constrained innovation. But they also noted that the Coronavirus has presented unexpected problems and new needs, necessitating the development of innovative solutions. And this was emphasized by well-known critics such as Gates (2020), who said, "Consider innovation largely as a response to the health crisis that will produce creative diagnostic, treatment, vaccine, and disease prevention strategies," (Ebersberger & Kuckertz, 2021) (p.126). Alfawaire and Atan (2021) have demonstrated that the development of IC in universities is dependent on three capital resources: HC, StC, and relational

capital. Ebersberger and Kuckertz (2021) indicated that innovation response times in universities to the COVID-19 issue were quicker than anticipated. In addition, a lot of studies agree that there is a strong and obvious connection among IC and OI. For instance, Subramaniam and Youndt (2005) indicated that HC, organizational capital, & SC all had an impact, either separately or in combination, on two different forms of innovation (incremental and radical). According to Ali et al. (2021), human talent and knowledge are essential ingredients in the generation of innovations. Almutirat (2020) revealed that IC dimensions have an effect on OI, and HC is the main force behind increased OI and competitiveness. In order to improve university performance, Chatterji and Kiran (2017) said in their research that administrators at universities should concentrate on SC by developing strong relationships with alumni and businesses, encouraging consulting, and scheduling frequent meetings with stakeholders. As well as found that organizational capital has become a key factor influencing university success and performance. Gomezelj Omerzel and Smolčić Jurdana (2016), in the tourist sector, innovation is largely influenced by the firm's IC. It also showed that there is a strong between innovation_growth relationship. According to the findings of Galeitzke et al. (2015), strategic management of IC improves two types of innovation (product and process). Chahal and Bakshi (2015) found IC and CA have a positive link that is mediated by innovation and moderated by organisational learning. Ahmad et al. (2022) emphasized the role that OI plays in mediating between "corporate social responsibility _and IC," relationship in enhancing sustainable competitive performance in an emerging country. Ali et al. (2022) concluded that IC & innovation mediation are possible solutions to fix the defects in universities' performance in Pakistan. A further point made by Patky and Pandey (2020) was that flexibility in human resources increases the level of innovation. In light of the foregoing literature, hypothesis one is defined as follows:

H1. "Presence of IC positively influences the OI of HEIs during COVID-19."

Intellectual Capital and Knowledge Sharing

Ali et al. (2022) indicated in their study that universities' IC is crucial since it serves as a platform that relies on intellectual talents and contributes to the development and dissemination of knowledge. Mazorodze and Mkhize (2022) study highlights the importance of creating a culture of KSh within educational institutions as well as the need for leadership support to facilitate and motivate employees to share knowledge through a variety of policies such as awards, recognition, promotion, and bonuses. Numerous researchers have emphasized the significance of each IC component in enhancing KSh. Obeidat et al. (2017) stated that firms should manage their human resources properly and promote staff members' behaviour toward knowledge generation, sharing, and application. While Li et al. (2019) suggested KSh can be improved by focusing on several factors, the most important of which are a strong organisational infrastructure, good techniques for motivating, a KM department, and a KSh-focused culture, they also added that a company's possession of a network of mutual relations is an important source for enhancing cooperation and sharing ideas and knowledge easily. KSh was a major contributor during COVID-19. According to Arias Velasquez and Mejia Lara (2021), with the development of COVID-19 and through communities of practice, the technique for sharing and disseminating knowledge was undertaken to obtain a competitive advantage. The contribution, meanwhile, hasn't been put to the test through actual measurement while using virtual technologies under COVID-19. In this regard, based on the material mentioned above, the following hypothesis 2 was developed:

H2. "Presence of IC positively influences the KSh of HEIs during COVID-19."

Knowledge Sharing and Organizational Innovation

By KSh, people and organisations can gain from one another's knowledge and perspectives, which can result in the development of fresh concepts and solutions. This collaborative approach can foster a culture of

innovation and continuous improvement. Obeidat et al. (2017) showed that KSh may help organizations improve their ability to innovate and achieve their goals. Also, Qammach (2016) mentioned that KSh has an essential role in improving innovation performance, so emphasized that organizations should prioritize knowledge sharing. From Obeidat et al. (2017) point of view, KSh is helpful to enterprises for numerous reasons, the three most important being helping the organisation gain a competitive advantage, helping them learn new knowledge and adding value, and enhancing their innovative ability. Li et al. (2019) provided evidence of how OI is being enhanced by establishing methods and procedures for the generation, exchange, and application of tacit knowledge inside organizations. According to Al-Jayyousi et al. (2019), universities have come to understand more than ever that one of the most significant methods to make informed decisions and overcome obstacles is to gather, analyze, and disseminate knowledge about their immediate and indirect surroundings. Alfawaire and Atan (2021) HEI's tasks have changed from a focus primarily on education to also include the creation of new knowledge and, lately, the use of knowledge to achieve OI. Mazorodze and Mkhize (2022) reported that a university's performance can be improved by KSh, so it is regarded as the core of institutional innovation. Farahian et al. (2022) indicated that the emergence of the Coronavirus has enhanced the relevance of KSh in universities since the level of courses is determined by how well instructors and students can produce, gather, share, and transmit knowledge. As a result of the preceding literature, KSh is a key factor in achieving OI in universities, particularly during COVID-19. This topic is still being explored, which led to the development of the third theory as:

H3. "Presence of KSh positively influences the OI of HEIs during COVID-19."

Mediating role of KSh at the nexus of IC and OI

Literature review illustrated that IC, KSh, and OI are related to each other. For instance, Obeidat et al. (2017) discovered that their effective utilisation of IC

improved organisational performance and highlighted the beneficial role of KSh (tacit, explicit) to employees as a mediator in linkage among them. In addition, it was brought out by Elsetouhi et al. (2015) that having a skilled HC is necessary for both innovation and KSh. Also, in construction institutions, Li et al. (2019) concentrated on examining the relationship among IC, innovation performance, and KSh as a mediator and found that investing in IC and KSh with other members of their networks had a positive and significant impact on innovation performance. According to the studies reviewed above, this linkage lacks an investigation of the mediating role within the context of COVID-19 and the academic community; as a result, Hypothesis 4 is proposed as follows:

H4. "The presence of KSh as a positive mediator in the IC-OI relationship of HEIs."

Related Research

In the world of research, concepts like IC, OI, and KSh are becoming increasingly prominent. However, there remains a research gap that has yet to be filled and investigated. Most pertinent studies on the subject are evaluated in this chapter in order to broaden the researcher's knowledge of pertinent materials and identify any gaps in the literature. These studies were arranged chronologically, from more recent to older. As well, A summary has been included at the conclusion of this section in Table No. 4:

Iter et al. (2023) conducted a study at Palestinian universities on the procedures employed by Palestinian institutions during the COVID-19 pandemic outbreak. The study's data were acquired using questionnaires and interviews. The data found that universities used a variety of procedures to help students continue learning securely at a distance. The findings also found that institutions were not effectively equipped for e-learning since no clear and coordinated strategies and policies were in place. The study made various recommendations that universities should adhere to while adopting and implementing e-learning,

comprising “a policy for disaster readiness, one for e-learning quality assurance, and one for e-learning evaluation.”

Ahmad et al. (2022) studied the significant role of “IC and corporate social responsibility” in helping Pakistani SMEs achieve competitive sustainability, together with the mediating role that OI plays in a developing economy. A questionnaire was used to gather data. The findings indicated that improving "sustainable competitive performance" required taking into account nontangible resources like "corporate social responsibility, & IC." They also found that OI mediates these correlations in their research.

According to a study done by Farahian et al. (2022) among undergraduate students taking English literature courses online, there is a positive correlation among the students' knowledge-sharing behaviour and the factors affecting it, as well as between KSh and reflective thinking.

Mazorodze and Mkhize (2022) investigated the elements that foster a culture of KSh at HEIs in developing countries (in Zimbabwe) and found that “rewards, promotion, recognition, & bonuses,” are essential aspects that promote a culture of KSh.

The study by Ali et al. (2022) highlighted the significant shortcomings in Pakistan's HEIs and offered potential remedies, such as IC & innovation, that can enhance HEI performance. The findings showed that each of the three IC dimensions—HC, StC, SC— has a good effect performance of universities, with HC classified as the primary factor that contributes to performance improvement, followed by StC and SC. It was also determined that innovation serves as a mediator, aiding universities in enhancing their performance.

A study done on Jordanian institutions by Alfawaire and Atan (2021) revealed that "KM and strategic human resource management," had a positive

and significant effect on CA. Additionally, it was discovered that OI significantly indirect and partially mediated their link. Data analysis indicates that Baron and Kenny's standards were applied.

Ebersberger and Kuckertz (2021) investigated innovation response times to the COVID-19 for organizational actors by examining data from a business innovation database (Trendexplorer). They assumed that innovative startups would react to this problem faster than academic institutions. The results supported their idea of startups, while universities defied expectations of how quickly they could adopt innovations, as their response was also quickly.

Velásquez and Lara (2021) talk about how to create a theoretical framework that may be applied to evaluate KM in all Peruvian universities. Also discussed is how to incorporate this technology into societyframework that may be applied to evaluate KM in all Peruvian universities. Also discussed is how to incorporate this technology into society. This case study was undertaken both before and after COVID-19, utilising information gathered through surveys at two Peruvian private institutions. The conclusions showed that identifying IC and KM led to new regulations and modifications. The researcher also suggested that future studies should concentrate on KM in light of digitization standards and stages of innovation.

Almutirat (2020) established that there was a significant association between IC, with its three components (HC, StC, and client capital), and OI. This was a case study of Kuwait Petroleum Corporation employees. Using data acquired via questionnaires, the researcher found that the most crucial component in the dimensions of IC is HC, particularly because it fosters creativity and innovation and promotes competitiveness.

Koca and Sağsan (2020) conducted research on the role of OI in mediating among IC_ blue ocean strategy relationships in universities. Email

surveys were sent to 76.616 academics employed at Turkish institutions. The data were statistically analysed with SPSS 24.0 and AMOS 24.0 software, and the structural equation model was used for the mediation analysis. The results showed that OI fully mediated their relationship.

Ngoc-Tan (2020) demonstrated in this essay specifically examines how innovation has affected organizational performance in Vietnam's state higher education institutions. Using structural equation modeling, I found the importance of innovation toward organizational performance, especially in academic settings.

Temiz and Salelkar (2020) studied innovation during the COVID-19 crisis, using a qualitative exploratory research approach. All digital services of Swedish university libraries have been explored in response to the ongoing spread of COVID-19. They noted that these findings could provide a basis for other universities on how to respond to the ongoing COVID-19 spread.

Human resource practise flexibility, according to Patky and Pandey (2020), is favourably connected with innovation performance. The IC mediates the link. The researchers advise managers to focus on their human resource practises and keep them current and flexible in order to build or implement new goods, procedures, or methods.

Faced with COVID-19, Mishra et al. (2020) explained how formal education can be easily converted to online education using the resources already available in educational institutions with the use of virtual classrooms and other online tools in this constantly changing educational landscape. In response to the coronavirus outbreak and how to handle the current academic disturbance, they also reviewed a number of online teaching-learning paradigms that the University of Mizoram has employed in its educational system. Data was

gathered by the researchers using questionnaires and interviews in both quantitative and qualitative research methods.

Al-Jayyousi et al. (2019) indicated that the application of a balanced scorecard does not use innovation as one of the four dimensions of the organization's strategy, which are "the financial dimension, customer satisfaction, internal processes, learning and growth." The Arabian Gulf University in Bahrain undertook a case study to pinpoint the crucial elements and characteristics that influence organisational innovation. This case study is based on a modified version of the BSC model that adds organisational innovation to the original model's four aspects. The results showed that each of the four factors had a statistically significant impact on organisational innovation. This research recommends the creation of innovation strategies at HEI to support system thinking and organizational learning by utilizing innovation networks and e-learning tools.

The correlations with IC, KSH, and innovation performance of construction enterprises were examined by Li et al. (2019). According to the "SEM" used in this study, KSh plays a mediating role amongst IC's three dimensions—HC, StC, & relational capital—and has a positive, direct impact on innovation performance. According to the report, they recommended that in order for construction businesses to be competitive in the market, they must increase their investments in IC and share expertise with other people in their networks..

According to Saeedinejad et al. (2018), the study's objective was to look into the interactions among Yasuj University of Medical Sciences students' academic creativity, organisational identity, and higher order thinking skills. Software such as Amos, SPSS, and structural equation modelling were used for data analysis. The results supported the idea that organisational identity with

academic innovation enhances higher-order cognitive abilities. Furthermore, academic innovation has a considerable impact on organisational identity.

In their 2017 study, Chatterji and Kiran (2017) examined the enormous contribution that IC has made to raising university performance all across North India. The study employed SPSS for data analysis and a stratified random sampling approach to gather data. The findings demonstrated that in order to develop SC, universities need to collaborate closely with governmental agencies and private sector companies. and discovered that one of the most important factors impacting university performance and success is organisational capital. The report further recommended that policymakers at universities focus on enhancing SC by developing close links with alumni and business, increasing consultation, and maintaining regular meetings with stakeholders in order to improve university performance.

Obeidat et al. (2017) study looked at the potential positive impact of KSh between the two variables IC and organizational performance in Jordanian manufacturing firms. The analysis's findings showed that KSh and organizational performance were positively impacted by IC. It was also demonstrated how important KSh is to raising organizational performance and its role as a mediator between IC _ organizational performance relationship.

Sutanto (2017) conducted a study at a selected campus of East Java, Indonesia University, on the effects of "organisational learning capability and organisational creativity" on pushing OI. The possibility that the same process will occur in institutes of higher learning has been raised. 179 lecturers were included in this study's purposeful random sample technique. The results confirmed that learning capability and creativity had an impact on the innovation level of universities. Recommends the development of similar research on a larger scale that includes participation from all university components (lecturers

and students) to more strongly establish research results among universities as well as include all provinces in Indonesia.

Gomezelj Omerzel and Smolčić Jurdana (2016) focused on analysing the link between the IC dimensions "(HC, SC, and organisational capital)", innovativeness, and the impact of innovativeness on company growth in tourism SMEs in Slovenia and Croatia. Market share & profitability were used to gauge growth, while elements in the form of products, processes, marketing strategies, and organisational characteristics were used to foster innovation. The findings showed that (IC) heavily influences tourism innovation.

Galeitzke et al. (2015) study found that strategic management of IC enhances the environment for organisational innovation. However, two categories of innovation were highlighted (product & process innovation). 38 claims about German organisations' IC were used to verify interconnectedness.

A study conducted by Chahal and Bakshi (2015) in the banking sector in Jammu, Northern India, revealed that IC had influence on CA. Mediation of the link between IC & CA was discovered through innovation. It is also confirmed that organisational learning is a moderating factor in the connection among them.

According to Elsetouhi et al. (2015), the conceptual model of this study proposes the direct and indirect effects of components of IC (SC, HC, and client capital) on different types of innovations in the service sector (organisational innovation, innovation process, and innovation product). The findings revealed a positive association between them, both directly and indirectly, as organisational capital mediates among them and entirely mediates the interaction between HC, SC, and process innovation.

In a rational research framework, Subramaniam and Youndt (2005) hypothesized that SC, organisational capital, & HC all support incremental and radical innovation, either separately or in combination. Data were gathered for this longitudinal study using two different time periods with two questionnaires. The study came to the conclusion that while social capital interacts with human capital, they are both positively connected with radical inventive capabilities. Organisational capital has also had a favourable impact on incremental inventiveness. However, it's interesting to note that social capital has benefited from and been crucial to both types of innovation (incremental and radical). This framework concludes by showing how companies must utilise their varied knowledge resources in unique ways in order to generate a range of creative capabilities.

Table 4.

Summary of Related Research

No.	Author(s)	Topic	Findings
1.	Iter et al. (2023)	“Proposed policies in light of procedures adopted by Palestinian universities during emergency.”	Palestinian universities were not well equipped for e-learning, the report advised that they implement future policies such as "e-learning quality control policy, e-learning evaluation policy, and emergency preparedness policy for universities."
2.	Ahmad et al. (2022)	“Intellectual capital, corporate social responsibility and sustainable competitive performance of small and medium-sized enterprises: mediating effects of organizational innovation.”	"IC, corporate social responsibility, and OI as a mediator between them," have a positive influence on improving l sustainable competitive performance.
3.	Farahian et al. (2022)	“The mediating effect of knowledge sharing in the relationship between factors affecting knowledge sharing and reflective thinking: the case of English literature	Factors affecting knowledge sharing, KSH, and reflective thinking are highly correlated.

		students during the COVID-19 crisis.”	
4.	Mazorodze and Mkhize (2022)	“Factors and variables to promote a knowledgesharing culture change in higher education institutions of developing countries.”	The KSh culture is stimulated among employees through "rewards, recognition, promotion, and bonuses."
5.	Ali et al. (2022)	“The Mediating Role of Innovation on The Relationship Between Intellectual Capital and Private Universities Performance of Pakistan.”	IC, in all three dimensions "(HC, StC, and SC)," as well as mediating innovation, all contribute to the improvement of university performance.
6.	Alfawaire and Atan (2021)	“The Effect of Strategic Human Resource and Knowledge Management on Sustainable Competitive Advantages at Jordanian Universities: The Mediating Role of Organizational Innovation.”	Competitive advantages are positively and significantly impacted by strategic human resources and knowledge management. Additionally, OI partially and indirectly mediates their relationship.
7.	Ebersberger and Kuckertz (2021)	"Hop to it! The impact of organization type on innovation response time to the COVID-19 crisis."	The COVID-19 crisis innovation response times of organisational actors, whether innovative start-ups or educational organisations, were quick.
8.	Velásquez and Lara (2021)	"Knowledge management in two universities before and during the COVID-19 effect in Peru.”	Through the evaluation of degrees of "knowledge management capability" and "maturity," the research has developed the data as a source of knowledge for improving the administration of higher education. It has also "suggested a more in-depth cohort approach for the analyses of university data."
9.	Almutirat (2020)	"The impact of intellectual capital in organizational innovation: case study at Kuwait Petroleum Corporation (KPC)."	The dimensions of IC have positively affected OI, and HC is the most crucial element of IC due to its support for innovation and competitiveness.

10.	Koca and Sağsan (2020)	"The Mediating Role of Organizational Innovation in the Implementation of Intellectual Capital and Blue Ocean Strategy for Higher Education Sustainability."	OI completely mediates the link between IC and blue ocean strategy.
11.	Ngoc-Tan (2020)	"Innovation and Its Impacts on Public University Performance: An Empirical Study from Vietnam."	The importance of innovation toward organizational performance is acknowledged in academic settings.
12.	Temiz and Salelkar (2020)	"Innovation during crisis: exploring reaction of Swedish university libraries to COVID-19."	Exploring all Swedish university libraries' digital services In response to the ongoing COVID-19 spread.
13.	Patky and Pandey (2020)	"Does flexibility in human resource practices increase innovation? Mediating role of intellectual capital."	"Human resource practice flexibility" impact innovation performance. And intellectual capital only partially mediates the link in the case of the service sector while fully mediating the link in the case of the manufacturing industry.
14.	Mishra et al. (2020)	"Online teaching-learning in higher education during lockdown period of COVID-19 pandemic."	Demonstrating various online teaching and learning strategies and modes that the University of Mizoram has implemented in its educational system in response to the Coronavirus pandemic and how to resolve the ongoing academic disruption.
15.	Al-Jayyousi et al. (2019)	"Entrepreneurial University and Organizational Innovation: The Case of Arabian Gulf University, Bahrain."	Adding OI to the balance scorecard, the revised Balanced Scorecard Framework contains the following five dimensions(the financial dimension, customer satisfaction, internal processes, learning and growth, and organizational innovation).
16.	Li et al. (2019)	"Intellectual capital, knowledge sharing, and innovation performance: Evidence from the Chinese construction industry."	HC, StC, and relational capital had a positive and significant influence on innovation performance. And KSh mediates the link between them.
17.	Saeedinejad et al. (2018)	"Investigating the relationship between academic innovation and organizational identity with higher-order thinking skills among students at Yasuj University of Medical Sciences."	Both variables "academic innovation and organizational identity" have a positive impact on "higher-order thinking skills". And academic innovation variables also impact organizational identity.

18.	Chatterji and Kiran (2017)	"Relationship between university performance and dimensions of intellectual capital: an empirical investigation."	Organizational capital and relational capital influences the performance of university
19.	Obeidat et al. (2017)	"The effect of intellectual capital on organizational performance: The mediating role of knowledge sharing."	IC and KSh a positive effect on organizational performance". As well, KSh mediates the link between both variables "IC and organizational performance".
20.	Sutanto (2017)	"The influence of organizational learning capability and organizational creativity on organizational innovation of Universities in East Java, Indonesia."	"Organisational learning capability and organisational creativity" have had a significant impact on the OI level of universities.
21.	Gomezelj Omerzel and Smolčić Jurdana (2016)	"The influence of intellectual capital on innovativeness and growth in tourism SMEs: empirical evidence from Slovenia and Croatia."	In the tourist sector, innovation is largely influenced by the firm's IC. It also revealed the tight relationship between innovation and growth.
22.	Galeitzke et al. (2015)	"Strategic intellectual capital management as a driver of organisational innovation."	Strategic intellectual capital management improves the framework for two types of innovation: "product and process innovation."
23.	Chahal and Bakshi (2015)	"Examining intellectual capital and competitive advantage relationship: role of innovation and organizational learning."	IC has a favorable impact on competitive advantage. And innovation mediates the connections between them, while organisational learning acts as a moderator.
24.	Elsetouhi et al. (2015)	"Intellectual capital and innovations: is organisational capital a missing link in the service sector?."	Product innovation is significantly influenced by IC, followed by organizational innovation, with process innovation having the least impact. Organizational capital also serves as a mediator in their connection.
25.	Subramaniam and Youndt (2005)	"The Influence of Intellectual Capital on the Types of Innovative Capabilities."	HC, organisational capital, and SC all had an impact, either separately or in combination, on two different forms of innovation (incremental and radical).

Source: Author 2023

Research Gaps

It is clear from these empirical reviews that more research is needed, which presents exciting possibilities for future study and discoveries. Therefore, a research gap has been found in order to show the contribution to the field that this research will make. The researcher summarised these shortcomings as follows:

- After reviewing the literature, similar results were found indicating that IC has an influence on OI in the studied organisations, but without considering the impact of the Corona pandemic (Almutirat, 2020; Elsetouhi et al., 2015; Galeitzke et al., 2015; Gomezelj Omerzel & Smolčić Jurdana, 2016; Li et al., 2019; Subramaniam & Youndt, 2005). Where many unexpected challenges and problems have emerged, resulting in the emergence of new needs. And getting out of this crisis can lead to innovative solutions. Through this investigation and analysis, we are able to offer a fact-based viewpoint on how the COVID-19 epidemic is transforming the innovation landscape.

- The earlier studies argued that innovations play a vital role in both the manufacturing and service sectors; however, the majority of innovation research has focused on the manufacturing industry (Droege et al., 2009; Elsetouhi et al., 2015; Perks et al., 2012). As opposed to that, this study will demonstrate that it has concentrated on the service sector during its application to "Palestinian universities".

- After reviewing the literature, it emphasized the dearth of university-level research on the effects of IC on OI. Where the literature referred, but is not limited to, a case study on the impact of “IC on achieve OI” with KPC employees (Almutirat, 2020). Li et al. (2019) Construction company. In addition, there has been a study of the relationship in tourism SMEs (Gomezelj Omerzel & Smolčić Jurdana, 2016). Hence the importance of

this research is because the researcher re-examined between the IC_OI relationship in different institutional contexts, and in different places, through its application in "Palestinian universities".

- Furthermore, via practical research on "Palestinian universities," the literature is enriched and gaps are filled, where we can categorically state that this study is unique and has never been done at the PhD level in Palestine.

- Looking at the above literature, the researcher also noticed a dearth of studies addressing with the effect of KSh on the linkage between IC and OI, particularly in the academic setting and during the COVID-19.

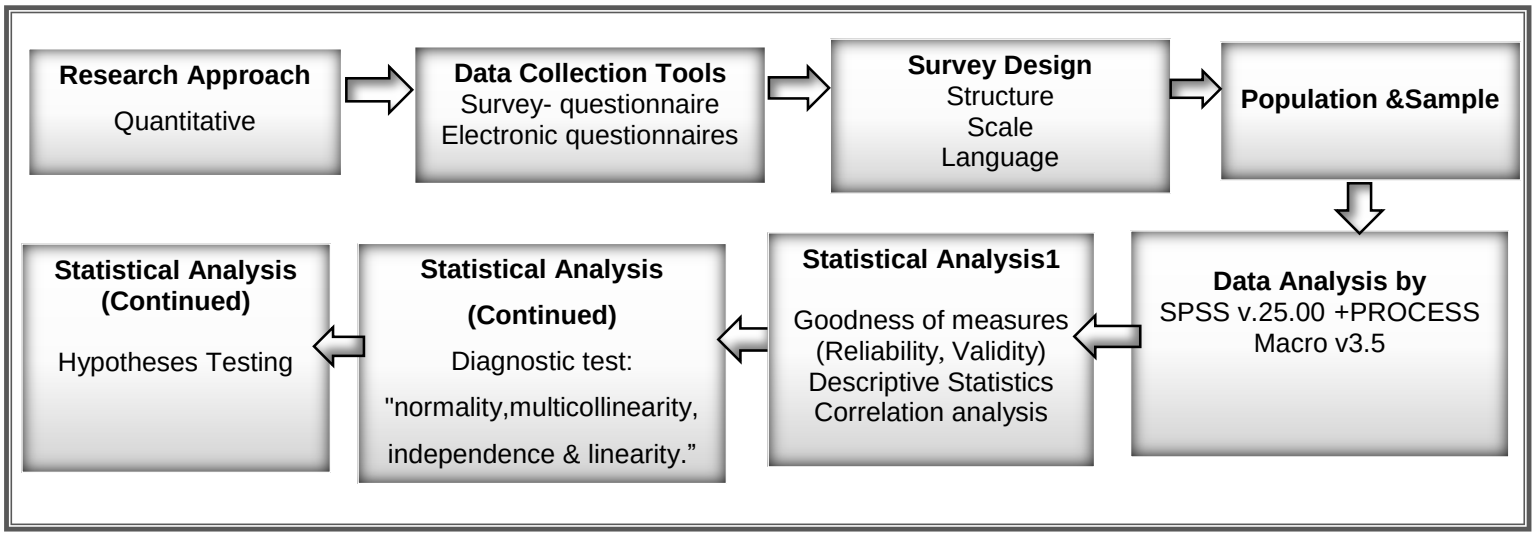
- This makes a compelling case for the necessity for additional study to improve knowledge, increase awareness, and offer recommendations to university department heads on the significance of IC in advancing OI and addressing the difficulties brought on by COVID-19. highlighting KSh's function as a mediator in their relationship.

CHAPTER III
Methodology

This chapter describes in detail the research methodology used to examine the conceptual framework proposed in the introduction chapter; it includes the research design, population & sample, data collection tools, data collection procedure, statistical analysis, and ethical considerations. Figure 9 illustrates this.

Figure 9.

Research Methodology Framework



Purpose of the research

When planning a study, researchers must consider kind of proof that will be necessary to provide a persuasive response to the research question or test hypothesis. According to the literature on research methodologies, Study aims can be categorised into three groups, including explanatory, exploratory, & descriptive (Saunders et al., 2009). Exploratory investigation asks questions and looks at phenomena from an entirely new perspective in an effort to determine

what is happening. They are also appropriate when a pertinent theory is ambiguous and when significant traits and relationships are challenging to ascertain, or when there is insufficient theory to serve as a foundation for developing a theory (Sekaran & Bougie, 2016). While descriptive research aims to collect data that accurately depicts the subject of interest and provides a description of the people, things, or circumstances (Sekaran & Bougie, 2016). Explanatory investigations, on the other hand, look into the causes and relationships between variables. Where you can see if changing one variable causes another variable to alter. That is, the researcher performing a causal study hopes to be able to declare that variable X causes variable Y (Sekaran & Bougie, 2016). Due to the fact that the purpose of this study is to investigate the impact of IC on OI of universities during COVID-19, and to investigate KSh's role as a mediator in their interaction. i.e. this thesis tries to explain how variables are related causally, so this thesis is explanatory.

Research approach

Within the social sciences, there are basically two research approaches. The first is quantitative, whereas the second is qualitative. Nonetheless, the researcher has the option of doing a mixed study, which implies that they can choose between a qualitative, quantitative, or a combination of the two. Qualitative data are words generated from an unstructured survey, broad answers to questions in interviews, observation, material public, obtained from a variety of sources, like Internet (Sekaran & Bougie, 2016). While qualitative aims to make appropriate inferences from the large amount of data that will be collected, compared with, quantitative analysis are data that can be represented as numbers and are often acquired through the use of structured questions (Sekaran & Bougie, 2016). This approach is appropriate for statistical analysis. With the aid of quantitative analysis methods like statistics, figures, and diagrams, we may explore, display, and analyze linkages and patterns in data (Saunders et al., 2009). Punch (2013) stated that the research methodologies used should be appropriate for the study questions or hypotheses. Thus, the

researcher employed a quantitative approach in this study. In order to test a hypothesis and provide an answer to the research question, the quantitative approach starts deductively from theories that have already been produced and employed before data collection (A theory is a collection of premises that leads to testable predictions). In brief, the researcher adopted a quantitative approach based on a survey questionnaire for this study to evaluate objective hypotheses by looking at the correlation between variables, which helps create statistical evidence on the strength of links between variables.

Research strategy

The researcher came to the conclusion that the correlational survey research methodology was the most suitable for the study's goal of assessing the impact of investing in IC on achieving OI in HEIs. As a result, the major technique of data collection is a survey questionnaire. This strategy arguably is one of the most essential measuring techniques used in research for business due to its ability to conduct Multiple analyses combining quantitative and qualitative methodologies (Sekaran & Bougie, 2016). Additionally, the questionnaire is a useful tool for measuring the motives, opinions, and behaviors of a sizable population. Questionnaire surveys are classified into three types Sekaran and Bougie (2016): The first method is to use personally administered questionnaires, which is an excellent strategy to gather data when the survey is limited to a certain geographic area. The second kind is mail questionnaires, which are self-administered (with paper and pencil) questions that are mailed to respondents. The third category includes electronic and online surveys, which are best suited when data is to be obtained on a substantial scale through structured questions at a reasonable cost from a sample that is widely dispersed geographically. The electronic questionnaire was utilized in this study, and how to use it is detailed in the data collection section.

Population and Sample

This study's research population is made up of academic staff members from Palestinian universities_Tthe three pillars of academia: academic administration, research, and teaching_ They were chosen for this study precisely because, as university workers during COVID-19, their opinions and job responsibilities are important and pertinent to this study. Furthermore, several, if not all, of them utilized these innovations in their fields of work. The researcher chose HEIs because this sector was the one that was most affected by the COVID-19 epidemic, where the effects of the disease changed how classes are taught from face-to-face to virtual classes. This necessitated the preparation and strengthening of educational standards and quality in order to achieve its goals, which requires innovative solutions. As a result, in order to achieve OI through which the education sector would combat this epidemic, the researcher looked at the impact of embracing and utilising HEIs for their IC and sharing their knowledge. Additionally, neither scholar has ever addressed the concerns and issues brought on by coronavirus in Palestinian educational institutions when compared with similar research. As shown in Table 5, there are 16 traditional universities that follow a closed educational system ("10 West Bank area; 6 Gaza Strip"), and there are also two HEIs for open education. Moreover, these HEIs include 5,859 academicians working in universities throughout all of the Palestinian Territories (1,292 in Gaza; 4,567 WestBank) (Ministry of Higher Education & Scientific Research, 2021). However, the research is limited to educational institutions in the West Bank region & closed system due to the fact that open education has its own law. Additionally, the Gaza Strip has unique challenges as a result of its exposure to occupation, the blockade imposed on it, and wars. Therefore, this study will focus on the academic staff at 10 universities in the West Bank region of the Palestinian Territories, totaling 4,567 academics (1219 female (26.7%) and 3,348 male (73.3%)).

Table 5.

Distribution of Staff by Institution

No.	Traditional Universities in West Bank	No. of staff
1.	Hebron University	479
2.	Palestine Polytechnic University	159
3.	Bethlehem University	197
4.	Al-Quds University	659
5.	Birzeit University	631
6.	An-Najah National University	1366
7.	The Arab American University	545
8.	Palestine Ahliya University	119
9.	Palestainian Acadmic Security College (Al-Istiqlal University)	105
10.	Palestine Technical University- Kadoori	307
	(1,219 Female and 3,348 male)……Total	**4,567**
	Traditional Universities in Gaza Strip	
11.	Al-Azhar University – Gaza	217
12.	Islamic University – Gaza	410
13.	Al Aqsa University – Gaza	427
14.	Gaza University	28
15.	Israa University	97
16.	University of Palestine	113
	Total	**1,292**
	Open University in Palestine	
17.	A-Quds Open University	461
18.	The Arab Open University	7

Source: Author 2023

"National Education Association in US'" developed a formula for estimating the ideal sample size, as noted below, and determined that an appropriate sample is 355 was sufficient for a target population of 4,567 (Krejcie & Morgan, 1970; Sekaran & Bougie, 2016).

Where:

"$s = X^2NP(1-P) \div d^2(N-1) + X^2P(1-P)$".

Where:

"s: Required sample size".

"X^2: Confidence level at 95% (3.841)".

"N: Population size".

"P: Population Proportion (0.5)".

"d: Error proportion (0.05)".

However, the researcher chose 500 academics at random to take part in the survey using a purposive sample approach, with a 4.1% margin of error, 95% confidence levels, and a 50% response distribution. Depending on the desired sample size X(No. of academic personnel) divided by the population size, a survey was given to each university. as shown in Table 6.

Table 6.

Distribution of Sample Size

No.	Traditional Universities in West Bank	Sample Frequency	Percent %
1.	Hebron University	51	10.2
2.	Palestine Polytechnic University	17	3.4
3.	Bethlehem University	22	4.4
4.	Al-Quds University	72	14.4
5.	Birzeit University	69	13.8
6.	An-Najah National University	150	30.0
7.	The Arab American University	60	12.0
8.	Palestine Ahliya University	13	2.6
9.	Palestainian Acadmic Security College(Al-Istiqlal University)	12	2.4
10.	Palestine Technical University- Kadoori	34	6.8
	Total	**500**	**100 %**

Source: Author 2023

Data Collection Tools

There are several ways to collect data, and each has pros and cons. The researcher's selection of the data gathering techniques is nevertheless crucial. According to Sekaran and Bougie (2016), the difficulties that were researched using appropriate approaches for gathering their data considerably increase the worth of the study, and they noted that purpose, research questions, & research strategy all influence the data-gathering technique selection. Choice of technique will also be influenced by the facilities available, the kind of data needed, the time length of the research, and any related expenses and resources available for data gathering. For this study, the researcher obtained material from primary as well as secondary sources. Electronic survey questionnaire served as the primary source of data. Because of the Israeli occupation and COVID-19, which restrict access to specified sites and make conducting surveys in person difficult, the researcher realised that the electronic survey was the most effective method for gathering data to support the research's hypothesis. This is a crucial element of Internet questionnaire because it permits interaction with participants who were unavailable for contact in a conventional manner and covers a vast geographic region (Sekaran & Bougie, 2016). Furthermore, this method is easy to manage and quick to deliver because survey is provided by a link and responses are automatically gathered and saved in your own Google Drive database. As a result, this automated survey processing is less expensive, quicker, and more effective. Another advantage of using an electronic questionnaire is that respondents may respond at their convenience. Despite these advantages, some disadvantages included when using Google Drive surveys, like low computer literacy. Furthermore, Sekaran and Bougie (2016) found that survey respondents might not at all accurately reflect the demographic they were asked to represent. They also revealed that such surveys often have poor response rates since email invites are often viewed as rude and offensive; as a result, emails are deleted, complaints are made, or the survey is simply not noticed. Also,The inability to clarify any doubts that respondents may have is another drawback of

computerized surveys. To prevent these weaknesses, researcher conducted the following: formal letter from NEU was provided to universities to illustrate the credibility and significance of the issue. Researcher collaborated with academics he had previously related relationships with them, as well as trustworthy organizations such as MOHE which are knowledgeable about universities and the coordination and collaboration that exist between them. According to Sekaran and Bougie (2016), collaborating with a well-known research organization enhances response rates. Furthermore, because academic workers are the major audience, it is assumed that they are computer literate and have email accounts. As a result, it has been proven that the respondents represented the desired audience.

On the other hand, secondary data and a literature review were based on published and unpublished materials such as books, online journals, dissertations, and others. Moreover, some collective search engines, such as "Emerald Insight", "Science Direct", "Taylor & Francis Group", "IEEE Explorer", "Web of Science", "Scopus", and lastly "Google Scholar", were used to aggregate scientific literature. Furthermore, access to the library databases was gained via the library account and login with my library ID and password using this link: http://library.neu.edu.tr/cgi-bin/koha/opac-main.pl.

Questionnaire Design and Variable Measurement

In effective questionnaire design recommendations, three elements should be prioritized: The way the questions are phrased; how the variables will be categorized, scaled, and coded once the respondents have responded; and, lastly, how the questionnaire will appear in general—these three are critical standards since they can help reduce bias in research (Sekaran & Bougie, 2016).

As shown below and in Table 7, A questionnaire with four sections and a total of 39 questions was developed to evaluate the link among variables utilizing pre-existing constructions from research papers:

Section A. was intended to concentrate on demographic details of respondent.

Section B. Contains 14 components, including IC scales derived from (Koca & Sağsan, 2020; Subramaniam & Youndt, 2005). This scale contains three subsections: "HC, StC, and SC." HC is measured by five items, and these aspects provide insight into the overall levels of staff members' competence, knowledge, and experience during the COVID-19 outbreak. Similarly, SC is evaluated using five items; these items evaluate a university's overall capacity to transmit and share information during the COVID-19 pandemic through interaction, contacts, teamwork, and the organisation's network of connections. Finally, StC is evaluated using four questions that examine an organisation's capacity to capture, encode, and keep human knowledge in its database and systems.

Section C. Includes the OI Scale, which was adapted from (Hilmiyanti, 2021; Sutanto, 2017). Six indicators are utilized to determine how widely OI was executed/utilized in the presence of a coronavirus, namely the use/apply of new ideas, new behaviours, new goods, new academic services, new technology, and new administrative practises.

Section D. Discusses the KSh Scale, which was adapted from (Obeidat et al., 2017; van den Hooff & de Leeuw van Weenen, 2004). This measure, which includes 14 items, assessed whether faculty members at HEIs shared their knowledge during the COVID-19 epidemic with colleagues both inside and outside the department.

Table 7.

Questionnaire Components

Section		Sub-Section	No. of Items
Section A	Demographic Profile	Respondent Profile	6
Section B	Intellectual Capital Scale	Human Capital	5
		Social Capital	5
		Structural Capital	4
Section C	Organizational Innovation Scale	New Ideas	1
		New Behaviors	1
		New Products	1
		New Academic Services	1
		New Technologies	1
		New Administrative Practices	1
Section D	Knowledge Sharing Scale	Inside of Department	7
		Outside of Department	7

Source: Author 2023

Respondents were asked to rate their level of agreement or disagreement with the questions in Section B to evaluate IC using a 7-point Likert scale, ranging from 1 for "strongly disagree" to 7 for "strongly agree," and to evaluate OI and KSh in Sections C and D using a 5-point Likert scale, with 5 indicating "strongly agree" and 1 indicating "strongly disagree." (Göb et al., 2007).

Regarding the wording and language of this questionnaire, both English and Arabic were employed. The original questionnaire (in English) was translated into Arabic by a qualified translator who is competent in both languages to avoid an inaccurate translation from English to Arabic and any confusion or misunderstanding because the research is dependent on Palestinian universities. Sekaran and Bougie (2016) indicated that questions posed, language utilised, and phrasing all needed to be appropriate in order to comprehend the respondent's attitudes and perspectives. "Participant

Information Sheet" & every part of survey explicitly stated to respondents that they should consider the effects of COVID-19 when responding.

Data Collection Procedures

This research chose an electronic, structured survey as part of a quantitative analysis to gather data. Scholar communicated with the appropriate parties at every educational institution prior to delivering the questionnaire. There was also cooperation with staff members with whom the researcher had a prior relationship to make the process of gaining approval to distribute and fill out the questionnaire easier. And a researcher's permit was sought after providing the universities with an official letter from the researcher's university (the Near East University) to show credibility, as well as the research proposal for this study for those universities who requested it. Similarly, in order to ease the task of a postgraduate student, universities received an official letter from MOHE, with which the researcher also cooperated to make the distribution survey simple. Following that, a number of universities distributed the survey URL to their faculty members, while others gave the researcher access to the staff's electronic mail addresses so the author could distribute the link to them. Additionally, 500 surveys were delivered through email, utilizing electronic questionnaire link, in the spring of 2022, together with a participant information sheet and informed consent form. This distribution took place over the period of two months (March and April). It was completed by 407 survey participants. Due to the necessity of completing the survey and the rejection of partial responses, the response rate is relatively high. Thus, no surveys had any information that was missing. According to Mugenda and Mugenda (2003), data from a survey that obtains a response rate of 50% is suitable for analysis; 60%<response rate<70% is good, and data that receives a response rate of 70% or more are excellent for analysis and yield more precise findings. An analysis with a response rate of 50% is deemed appropriate, one with 60%<response rate<70% is deemed good, and one with a response rate of 70% or higher is deemed

excellent and produces more accurate conclusions. Therefore, 407 was deemed sufficient for analyzing data, drawing judgments, and drawing inferences.

After that, the replies were automatically compiled and saved to a private Google Drive database. Researcher then conducted a statistical analysis of the data using “SPSS V25.0 software,” and conducted a mediation analysis using “PROCESS Macro v3.5 software by Hayes (2015),”.

Data Analysis Procedures

The collected data will be analysed using the statistical methods listed below:

Goodness of Measures (Validity; Reliability)

To guarantee that study is correct, it is crucial to check through reliability and validity testing that the instrument is accurately measuring the variables that it is intended to assess. According to Sekaran and Bougie (2016), Validity refers to the ability to measure the subject of a test. To put it another way, validity inquires as to whether we are measuring the right notion. Whereas the research tool's accuracy and consistency are what reliability looks at. To assess reliability, Cronbach alpha test is utilized, with a minimum acceptable value of 0.60 (Hair et al., 2014).

Nevertheless, the findings of the reliability as well as validity tests were provided in the chapter after, "Data Analysis and Results,".

Correlation Coefficient

The Pearson correlation coefficient was employed to assess the interaction across both dependent & independent variables' dimensions.

Descriptive Statistics

This section's opening paragraph provides a description of the characteristics of the survey participants. While Next section, A statistical

analysis of each of the indicators included in the questionnaire is provided utilizing maximum, minimum, arithmetic mean, and standard deviation. Each indicator was evaluated using the following methodology based on arithmetic means of participant replies (Pimentel, 2019):

As you can see in Table 8, According to the rule of periods, the length of each of the earlier five-dimensional periods is equal to 0.80 of the unit: (4/5) = (((the distances between periods - 1) / number of periods)) = 0.80, and (6/7) = 0.86 for the seven-dimensional periods. This proves that the earlier estimates were not biased, and ensures the evaluation of public opinion is unbiased.

Table 8.

5 & 7- Point Likert Scale

Overoall Likert Scale	**Arithmetic Mean Period**
5-point Likert scale	
Strongly Disagree	1.00-1.80
Disagree	1.81-2.60
Neutral	2.61-3.40
Agree	3.41-4.20
Strongly Agree	4.21-5.00
7-point Likert scale	
Strongly Disagree	1.00-1.85
Disagree	1.86-2.71
somewhat Disagree	2.72-3.56
Neutral	3.57-4.42
Somewhat Agree	4.43-5.28
Agree	5.29-6.14
Strongly Agree	6.15-7.00

On the other hand, The following equation was used to determine how long the class interval would be: (highest value-lowest value)/number of levels equals (5-1) interval: 3=1.33 was the duration of the interval. Seventh level, the

category length was (7-1):3=2; As a consequence, Table 9 will be used to represent the arithmetic averages from the study.

Table 9.

Importance Level

7-point Likert scale	**Important level**	
5.2 - 7	High	H
3.1 - 5.1	Intermediate	I
3 - and below	Low	L
5-point Likert scale	**Important level**	
3.68 – 5	High	H
2.34 - 3.67	Intermediate	I
2.33 - and below	Low	L

Regression Analysis, Diagnostic Tests, & "Baron and Kenny's criteria"

"Regression coefficient", according to Hair et al. (2014), is the proportion of the dependent variable's change caused by an increase of one unit in the independent variable. The model has a R_square (the square of multiple r), which is determined by calculating the percentage of construct variation and reveals how modifying independent variables clarifies changes in the dependent variable (Sekaran & Bougie, 2016). As well as, the T test was employed during data analysis to determine whether independent variable had an effect how dependent variable was explained (Sutanto, 2017).

Additionally, Hair et al. (2014) added that prior to data analysis, , the following assumptions must be verified: linearity, independence, multicollinearity, & normality. In order to determine whether the data were acceptable for drawing conclusions, the researcher first conducted a number of diagnostic tests before doing the Hypotheses Testing to see whether the data were acceptable for drawing conclusions.

Then, "Baron and Kenny's criteria" were used to test the hypotheses (Baron & Kenny, 1986), by using "Process Macro v3.5 software," (Hayes, 2015), as illustrated in the chapter "Data Analysis & Results."

Analytical procedure

This part discusses which programs and tests are utilized for statistically analyzing the questionnaire data, as shown in Table 10.

Table 10.

Statistical Analysis Tools and Tests

Statistical Analysis	Tools and Test
Process collected data	IBM SPSS v. 25 software And PROCESS Macro v3.5 program for SPSS.
Statistical test	Participant demographics; descriptive statistics; correlation analysis
Goodness of measures	Validity and reliability
Diagnostic test	Normality, multicollinearity, independence, and linearity
Hypotheses Testing including mediation analysis	SPSS v.25 with PROCESS Macro v3.5

Source: Author 2023

Ethical Considerations

Ethics, according to Minja (2009), are the standards that guide behavior and have a big influence on people's welfare. Resnik (2020) stated that ethics requires making a judgement about what behaviour is acceptable and unacceptable, and ethics in research refers to the process of respecting the moral and legal standards that govern research. Additionally, Sekaran and Bougie (2016) noted that confidentiality of the respondent's information and the protection of their privacy are two of the researcher's primary responsibilities.

The survey was created with ethical considerations in mind since it was made clear that participation in study is completely voluntary. Additionally, information's confidentiality is guaranteed, and no third parties will ever be given

access to the participant's identity. Scientific Research Ethics Committee of Near East University (NEU/SS/2022/1217), dated February 15, 2022, gave its clearance for the study to proceed on ethical grounds. The researcher reassured participants that confidentiality would be kept in the treatment of the research data in both the opening paragraph of questionnaire as well as Participant Information Sheet and Informed Consent Form, which were supplied to participants along with the URL to the questionnaire by email. Additionally, the researcher protected participant data during data collection by using a Google Drive questionnaire, ensuring that information obtained via email and other technical means remained secret. Also, the data was password-protected and retained in secure storage within the folders. Following the end of data collection, the personal information about the questionnaire was kept confidential and other data by a password-protected flash drive USB, and will be held for a minimum of three years in a secured cabinet.

CHAPTER IV
Data Analysis and Findings

Researcher used SPSS version 25 in this chapter to analyze the data, as there were 407 sample responses to the questionnaire in total, as explained in the methodology chapter. And the data were put through a number of tests, including those on characteristics of the respondents, correlation analysis, an overview of the statistics, validity & reliability of the measures, and diagnostic tests like "normality, multicollinearity, independence, and linearity." Finally, PROCESS Macro v3.5 was used to analyze the study's hypotheses, including the mediation analysis.

Test of Validity

Validity test was verified to ensure tool's effectiveness through adopting validity of indicators from a selection of academic papers published online in prestigious international journals known for their quality, which proved the validity of their study variables' questions. In designing a survey, indicators relating to IC, OI, and KSh were taken from earlier studies. Cited from three articles (Subramaniam & Youndt, 2005; Sutanto, 2017; van den Hooff & de Leeuw van Weenen, 2004), as previously illustrated in Chapter 3, in "Questionnaire design and variable measurement." As a result, after being approved and validated in other sectors, these indicators were applied to Palestinian universities. According to Sekaran and Bougie (2016), researchers might utilize pre-made tools that are regarded as being "good" rather than developing new ones. Due to the aforementioned, the researcher believed the study instrument to be valid for measuring what it was intended to test, and the final survey was developed in the manner described in (Appendix A). In addition to being valid, the tool must additionally be credible. As a result, the researcher will now talk about reliability.

Test of Reliability

Reliability test used the coefficient of Cronbach's alpha. Table 11 presents the reliability statistics. For IC, the coefficient alpha was 0.957, and for its components, HC, SC, and StC, it was 0.941, 0.935, and 0.906, respectively. Additionally, it was noted that the coefficient alpha value for the dependent variable of OI was 0.945, while the mediator variable of KSh was 0.936. As a result, the alpha coefficient values ranged from 0.906 to 0.957. As well as overall consistency of Cronbach's α for the three variables was 0.969, indicating a very high degree of reliability, reaching 97% for all research items, which is larger than the critical point which was 0.6. Sekaran and Bougie (2016) stated that Cronbach's α of more than 0.8 is regarded as strong, "0.6 ≤ α < 0.7" is often seen as adequate, and "less than 0.6" is thought to be subpar. Consequently, the three variables might be regarded as reliable.

Table 11.

Reliability Test

Variables	Items	Critical point	Cronbach's α	Remarks
IC	14	0.6	0.957	Reliable
HC	5	0.6	0.941	Reliable
SC	5	0.6	0.935	Reliable
StC	4	0.6	0.906	Reliable
OI	6	0.6	0.945	Reliable
KSh	14	0.6	0.936	Reliable
Total	**34**	**0.6**	**0.969**	**Reliable**

"IC=Intellectual Capital: HC=Human Capital, SC=Social Capital, StC=Structural Capital; OI=Organizational Innovation; KSh=Knowledge Sharing."

Correlation Analysis

Pearson correlation coefficient was applied to analyze an association among the variables being studied. Table 12 below shows the correlation coefficient's findings. These results revealed that correlation coefficient values were strongly linked at a statistical significance level of P <0.01. The correlation coefficient for IC showed a significant positive connection with both OI and KSh,

measuring 0.769 and 0.690, respectively. All of the correlations between the parts of the IC are statistically significant, and the results indicated that KSh and StC had the least association while IC and HC had the greatest. KSh and OI had a very high positive association, as shown by the correlation coefficient of 0.646.

Table 12.

Correlation between variables

	(1)	(2)	(3)	(4)	(5)	(6)
(1) Intellectual Capital	1	-	-	-	-	-
(2) Organizational Innovation	0.769 **	1.00	-	-	-	-
(3) Knowledge Sharing	0.690 **	0.646 **	1.00	-	-	-
(4) Human Capital	0.898 **	0.644 **	0.627 **	1.00	-	-
(5) Social Capital	0.825 **	0.702 **	0.656 **	0.749 **	1.00	-
(6) Structural Capital	0.875 **	0.734 **	0.573 **	0.671 **	0.721 **	1.00

** “Correlation is significant at the 0.01 level” N= 407. Source: designed by authors.

Descriptive Analysis

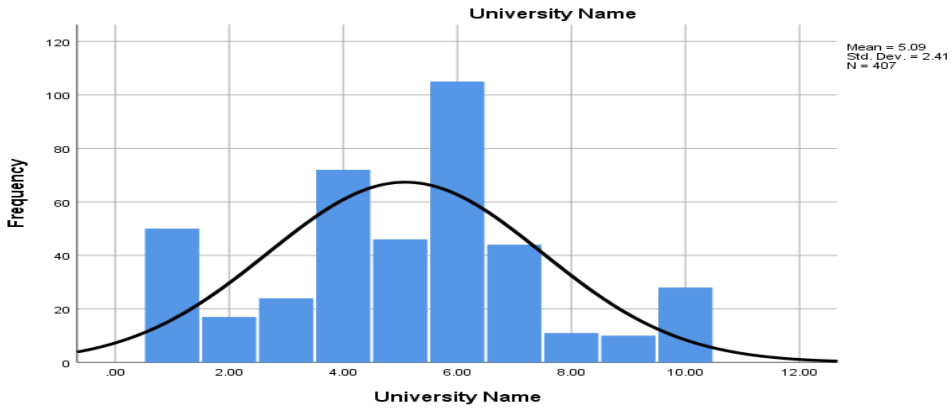
Profile of Respondents

All 10 universities returned 407 completed surveys for this study. And the following is a summary of participant characteristics, as shown in Table 13.

University Name. The findings reveal that the sample was distributed in accordance with the agreement in Table No. 6 above, "distribution of sample sizeThus, it was determined that the 407-person aggregate sample size adequately represented all HEIs, West Bank region of Palestine. Following is the number of surveys that were obtained from each university, shown in Figure 10: Hebron University 50 (12.3%), Palestine Polytechnic University 17 (4.2%), Bethlehem University 24 (5.8%), Al-Quds University 72 (17.7%), Birzeit University 46 (11.3%), Al-Najah National University 105 (25.8%), The Arab American University 44 (10.8%), Palestine Ahliya University 11 (2.7%), Al-Istiqlal University 10 (2.5%), and Palestine Technical University-Kadoori 28 (6.9%).

Figure 10.

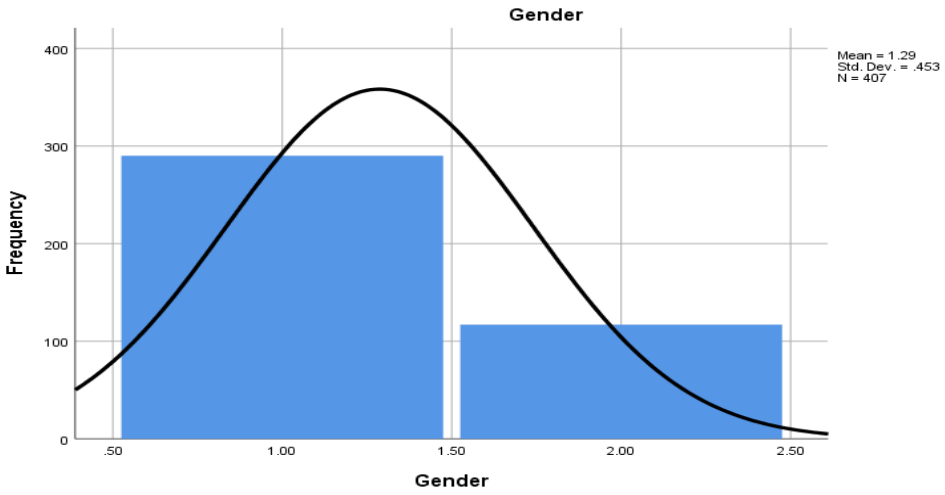
University Name



Gender. Where the distribution was satisfactory between the genders due to the percentage of female academic employees being 26.7% and the percentage of male academic employees being 73.3% according to Ministry of Higher Education & Scientific Research (2021),whereas the percentage of questionnaires received from both genders in the mentioned universities was as follows: males 290 (%71.3) and females 117 (%28.7). And this indicates logic in distribution. As demonstrated in **Figure 11.**

Figure 11.

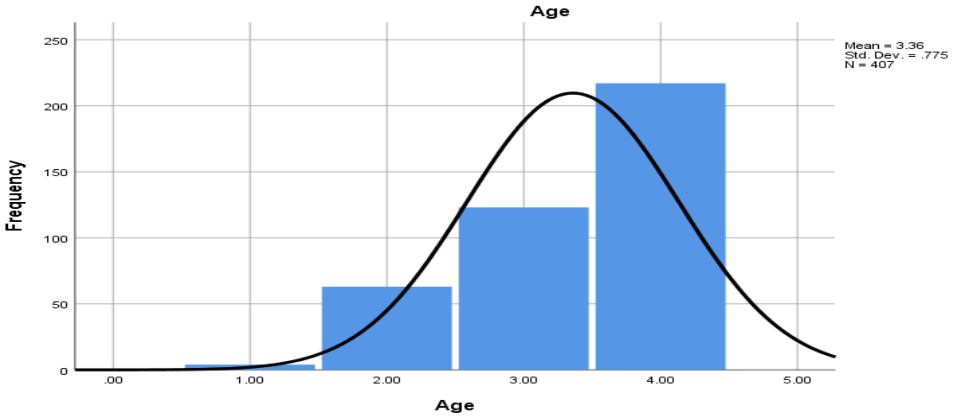
Gender



Age. The majority was for those over 45 years old, demonstrating that the study's respondents may be able to provide accurate information about the research factors, as the findings were as follows: ”≤25 years 4 (1.0%), 26-35 years 63 (15.5%), 36-45 years 123 (30.2%), and over 45 years 217 (53.3%).” **Figure 12** explains this.

Figure 12.

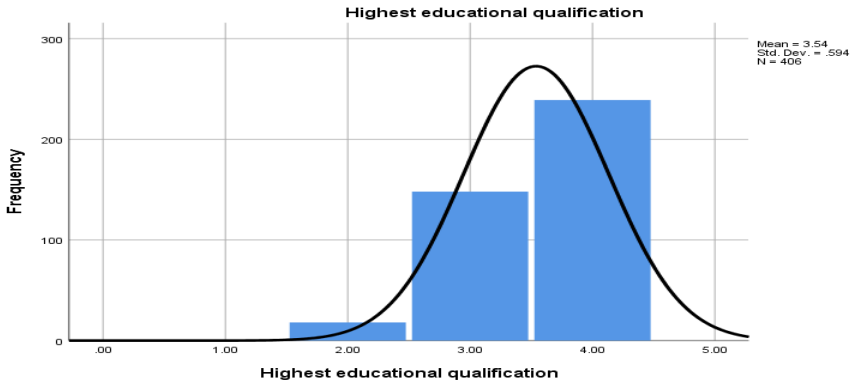
Age



Highest-Educational Qualification. The majority of administrative centres at universities reported having advanced degrees, particularly the doctoral degree, which accounted for 59% of all degrees held. They were categorised as follows, as seen in **Figure 13**: 2 diploma (0.2), 18 bachelors (4.4), 148 masters (36.4), and 239 doctorates (58.7). This shows that firm's human resources division has a substantial impact on IC by hiring individuals with experience, knowledge, and skills while also maintaining the competencies and expertise already existing in organisation.

Figure 13.

Highest-Educational Qualification



Years of Experience. It is clear from the results that many participants have held their jobs for over twenty years, indicating that employees are knowledgeable about their jobs and possess a high level of competence & tacit knowledge that improves OI. **Figure 14** shows how it was categorised: 5 years and below: 5 years and below 57 (14.0), 6-10 Years 70 (17.2), 11-20 Years 135 (33.2), and More than 20 Years 145 (35.6).

Figure 14.

Years of Experience

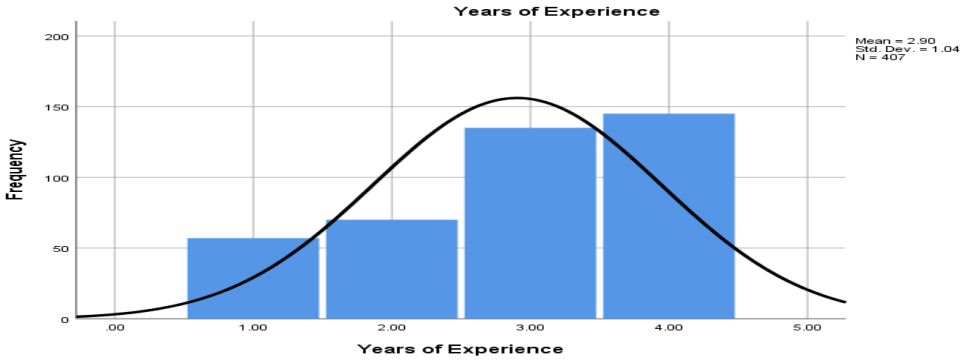


Table 13.

Demographic Findings

Variable	Categories	Frequency	Percent
University Name	Hebron University	50	12.3
	Palestine Polytechnic University	17	4.2
	Bethlehem University	24	5.9
	Al-Quds University	72	17.7
	Birzeit University	46	11.3
	Al-Najah National University	105	25.8
	The Arab American University	44	10.8
	Palestine Ahliya University	11	2.7
	Al-Istiqlal University	10	2.5
	Palestine Technical University- Kadoori	28	6.9
Gender	Male	290	71.3
	Female	117	28.7
Age	5 years or less	4	1.0
	26-35 years	63	15.5
	36-45 years	123	30.2
	Above 45 years	217	53.3
Highest-Educational Qualification	Diploma	2	0.2
	Bachelor	18	4.4
	Master	148	36.4
	Doctorate	239	58.7
Years of Experience	5 years and below	57	14.0
	6-10 Years	70	17.2
	11-20 Years	135	33.2
	More than 20 Years	145	35.6

Study Items

Table. 14 showed for the HC variable during COVID-19, the Mean ranged between 5.197 and 5.445 and Std.D between 1.246 and 1.354. Additionally, the HC mean and Std. Deviation for all items were 5.311 and 1.173, respectively, showing a highly significant arithmetic mean of the participant's views. HC4 had highest arithmetic average, In contrast, according to the respondents, HC3 had the smallest arithmetic mean. Findings of respondents demonstrated that the employee staff are extremely qualified and professionals in their respective fields. And universities also work to create novel concepts and inventions that advance the growth and innovation of their institutions.

Table 14.

"Descriptive Statistic for Human Capital"

NO.	Items	N	Min.	Max.	Mean	Std. Deviation	Important Level
1	HC1	407	1.00	7.00	5.430	1.277	H
2	HC2	407	1.00	7.00	5.241	1.312	H
3	HC3	407	1.00	7.00	5.197	1.326	H-
4	HC4	407	1.00	7.00	5.445	1.246	H+
5	HC5	407	1.00	7.00	5.241	1.354	H
Total	**HC**	**407**	**1.00**	**7.00**	**5.311**	**1.173**	**H**

According to Table 15, the mean value for the SC variable during COVID-19 varied between 4.840 and 4.996, while the std. deviation was between 1.406 and 1.536. Furthermore, the SC variable's Mean and Std. deviation for all items were 4.891 (1.305), displaying the respondents' viewpoints on study investigation as intermediate Arithmetic Mean. SC5 had the best arithmetic average. While question SC4 earned the lowest arithmetic average of the study investigation's responses, this demonstrates that the institution's exploitation of SC has a mediocre level of skill development and problem-solving cooperation, which creates favourable circumstances for knowledge sharing,

interaction, and idea exchange among administrative staff in Palestinian universities. to be able to generate better solutions, administrative personnel must also be developed and given the necessary training.

Table 15.

"Descriptive Statistic for Social Capital"

NO.	Items	N	Min.	Max.	Mean	Std. Deviation	Important Level
6	SC1	407	1.00	7.00	4.862	1.536	I
7	SC2	407	1.00	7.00	4.877	1.474	I
8	SC3	407	1.00	7.00	4.880	1.477	I
9	SC4	407	1.00	7.00	4.840	1.423	I-
10	SC5	407	1.00	7.00	4.996	1.406	I+
Total	**SC**	**407**	**1.00**	**7.00**	**4.891**	**1.305**	**I**

Table 16 shows that the mean for the StC variable during COVID-19 was between 4.437 and 5.061, with a standard deviation of 1.475 to 1.525. In addition, the mean and std. deviation for all items of StC variable during COVID-19 were 4.870 (1.331), indicating the arithmetic mean is an intermediate. The question StC2 received the highest arithmetic average. While question StC1 received the lowest arithmetic average of the respondents to the research investigation, this illustrates that educational institutions in Palestine utilise StC moderately by offering enhanced databases, ways to store information, and suggestions for doing academic business, as well as through integrating knowledge into systems and procedures.

Table 16.

"Descriptive Statistic for Structural Capital"

NO.	Items	N	Min.	Max.	Mean	Std. Deviation	Important Level
11	StC1	407	1.00	7.00	4.437	1.510	I-
12	StC2	407	1.00	7.00	5.061	1.475	I+
13	StC3	407	1.00	7.00	5.030	1.515	I
14	StC4	407	1.00	7.00	4.953	1.525	I
Total	**StC**	**407**	**1.00**	**7.00**	**4.870**	**1.331**	**I**

Table 17 indicates that for the OI variable during COVID-19, the mean ranged between 3.494 and 3.745 and the std. deviation ranged between 0.901 and 0.992. Moreover, Mean & std. deviation for all questions of OI variable during COVID-19 were 3.634 (0.824), indicating Arithmetic Mean is a high-intermediate. Best arithmetic average was obtained by OI5. While the O16 received the lowest arithmetic average of the respondents to the research investigation. It was found that HEIs put in medium effort into coming up with ideas, putting them into practise, and creating new services, technologies, and behaviours.

Table 17.

"Descriptive Statistic for Organizational Innovation"

NO.	Items	N	Min.	Max.	Mean	Std. Deviation	Important Level
15	OI1	407	1.00	5.00	3.656	0.901	I
16	OI2	407	1.00	5.00	3.631	0.935	I
17	OI3	407	1.00	5.00	3.585	0.922	I
18	OI4	407	1.00	5.00	3.690	0.922	H
19	OI5	407	1.00	5.00	3.745	0.906	H+
20	OI6	407	1.00	5.00	3.494	0.992	I-
Total	**OI**	**407**	**1.00**	**5.00**	**3.634**	**0.824**	**I**

Table 18 illustrates that the mean for the KSh variable during COVID-19 ranged between 3.221 and 4.216, with a std. deviation of 0.793 to 0.981. Also, the mean and standard deviations for all KSh questions were 3.819 and 0.655, respectively, demonstrated Arithmetic Mean is an intermediate-high. KSh8 received the highest arithmetic average. While the question KSh5 received lowest Mean, The administrative staff of the universities was quite supportive of KSh. There was no collaboration to extensively share knowledge among friends and coworkers. but there was widespread understanding and agreement among department and section leaders on the KSh outside of the area of work. However, it is critical to remind management of the importance of supporting KSh in educational institutions.

Table 18.

"Descriptive Statistic for Knowledge Sharing"

NO.	Item	N	Min.	Max.	Mean	Std. Deviation	Important Level
21	KSh1	407	1.00	5.00	3.968	0.840	H
22	KSh2	407	1.00	5.00	3.514	0.959	I
23	KSh3	407	1.00	5.00	3.779	0.970	H
24	KSh4	407	1.00	5.00	3.477	0.933	I
25	KSh5	407	1.00	5.00	3.221	0.944	I-
26	KSh6	407	1.00	5.00	3.450	0.981	I
27	KSh7	407	1.00	5.00	4.209	0.856	H
28	KSh8	407	1.00	5.00	4.216	0.838	H+
29	KSh9	407	1.00	5.00	3.934	0.898	H
30	KSh10	407	1.00	5.00	3.907	0.866	H
31	KSh11	407	1.00	5.00	4.061	0.821	H
32	KSh12	407	1.00	5.00	4.108	0.793	H
33	KSh13	407	1.00	5.00	3.818	0.837	H
34	KSh14	407	1.00	5.00	3.808	0.861	H
Total	**KSh**	**407**	**1.00**	**5.00**	**3.819**	**0.655**	**H**

Diagnostics Test

Before testing the hypotheses of the study, the researcher applied some statistical assumptions, including "normality, multicollinearity, independence, and linearity," to see if the data was appropriate for drawing conclusions. And the outcome was as follows:

Test of Normality

It is examined through the "skewness and kurtosis" test to determine whether or not the data had a normal distribution. Table 19 displays that skewness scores of all variables spanned from -0.799- to -1.250-. Additionally, the kurtosis values fall between 0.287 and 2.419. This demonstrates that the values for both kurtosis & skewness don't surpass specified critical value (±2.58) (Hair et al., 2014), demonstrating that the sample's distribution is normal.

Table 19.

Skewness-Kurtosis Statistics

Variables	Skewness	Kurtosis
IC	-1.011-	1.266
OI	-0.897-	0.981
KSh	-0.981-	2.419
HC	-1.250-	1.928
SC	-0.893-	0.499
StC	-0.799-	0.287

Test of Multicollinearity

By Tolerance & Variance Inflation Factor (VIF) calculation, it is verified that the numerous independent variables are unrelated. Results demonstrate in **Table 20** that there is no overlap among independent variables, demonstrating robustness of study sample since the VIF values range from 2.269 to 2.840 (<10.00), Hence Tolerance scores fall between 0.35 and 0.44 (more than 0.10) (Sekaran & Bougie, 2016).

Table 20.

Collinearity Statistics

Model	Independent variables	Tolerance	VIF	Comment
OI ⟶	HC	0.403	2.482	No multicollinearity
	SC	0.352	2.840	No multicollinearity
	StC	0.441	2.269	No multicollinearity
KSh ⟶	HC	0.403	2.482	No multicollinearity
	SC	0.352	2.840	No multicollinearity
	StC	0.441	2.269	No multicollinearity

Tests of Independence

It is investigated by computing Durbin-Watson (DW) test to reveal that the model residuals have not been autocorrelated. **Table 21's** results showed that 2.5 ≥DW suggested value ≥1.5 (Garson, 2012), implying that there was no autocorrelation amongst the research models.

Table 21.

Durbin-Watson Statistics

Model	Durbin -Watson
IC → OI	1.980
IC → KSh	2.088
KSh→ OI	2.090

Test of Linearity

The test is performed by using graphical analysis "scatterplots"(Hair et al., 2014), and "Cook's Distance" (Tabachnick & Fidell, 2013) to detect outliers. Cook's distance analysis shows that No problems exist with potential outliers, as shown in Table 22 by getting minimum and maximum values that were less than 1. Additionally, as shown in Figure 15, the outcomes of checking scatterplots revealed that the straight line is nearly parallel to all spots and there is no

dispersed data. So, there are no nonlinear relationships mong both dependent & independent variables.

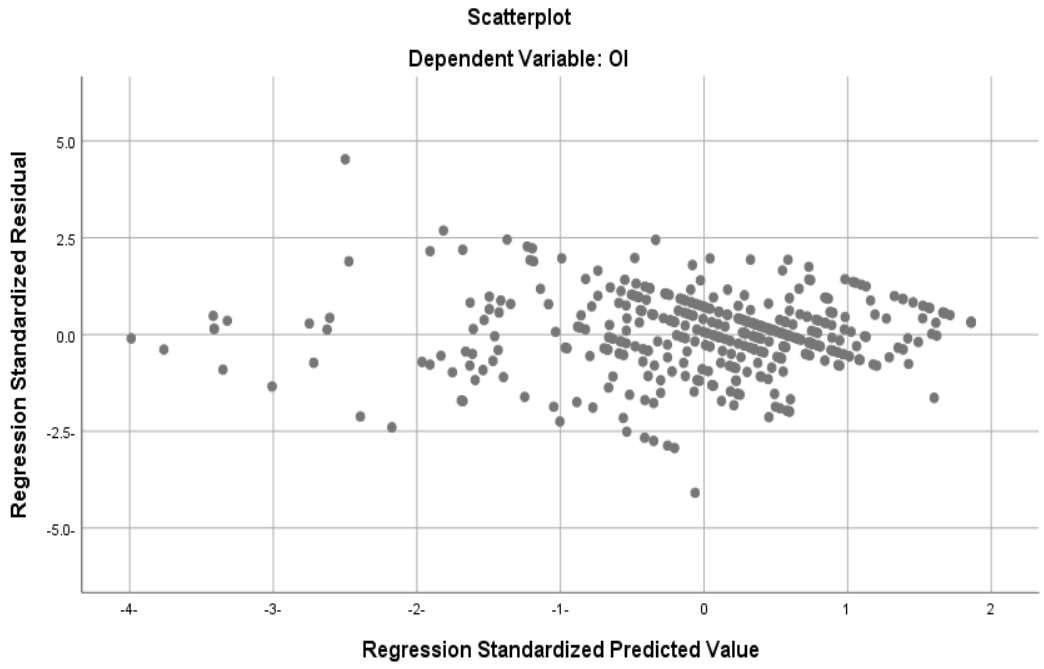
Table 22.

Cook's Distance Statistics

Model	Min.	Max.
IC → OI	0.000	0.150
IC → KSh	0.000	0.074
KSh→ OI	0.000	0.108

Figure 15.

Linearity test graphs



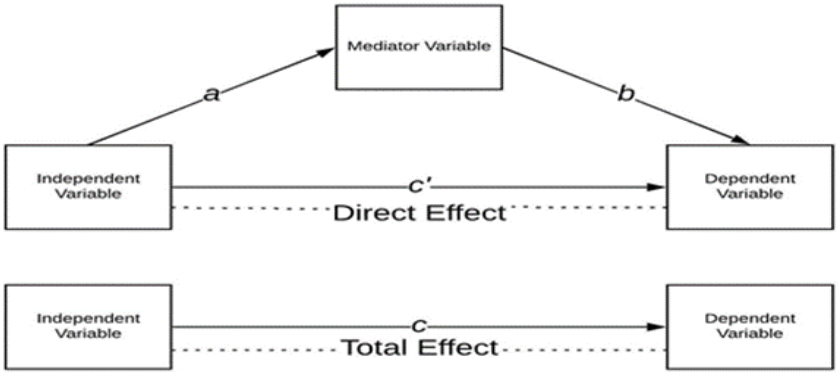
Hypotheses Testing

The findings of the earlier analyses indicated the feasibility of using data to validate the study's hypothesis. To evaluate the research's hypotheses, the study investigator utilised SPSS PROCESS Macro v3.5, a programme made to help scholars analyse relationships amongst variables that contain a mediator or moderator (Hayes, 2015). The primary goal is to evaluate the significance of the relationships within the conceptual framework in order to investigate the interactions and find both direct and indirect effects between various variables in a comprehensive study. To determine the significance of the mediating variable in this study, "Baron & Kenny's criteria" were used (Alfawaire & Atan, 2021; Baron & Kenny, 1986). These standards are applied in a three-variable framework where two causal pathways have an impact on the outcome variable.

According to these criteria, the independent variable must have a strong association with both the dependent variable (like Path c in Figure 16) and the mediating variable (like Path a in Figure 16). The mediator variable and the dependent variable should likewise be significantly correlated (as shown by Path b in Figure 16). The last criterion is that whenever both the mediator variable and the independent variable are examined simultaneously, the previously significant correlation between the independent and dependent variables should either cease to exist or lose some of its prior level of significance.

Figure 16.

Direct and Indirect effect



Results depended on regression coefficient, t-test, & taking into consideration values of upper (ULCI) & lower (LLCI) limits to calculate standard error & confidence interval for both direct & indirect effects, there shouldn't be a zero value, and based on 95% confidence, the researchers strengthened the CIs of 5,000 smoothing samples (Hayes, 2015). Table 23 provides the values.

Table 23.

Direct / Indirect Effect of IC, KSh, and OI

OUTCOME VARIABLE:						
KSh						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
0.690	0.476	0.2503	367.815	1.0000	405.0000	0.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.9557	0.1122	17.4237	0.0000	1.7350	0.1764
IC	0.5129	0.0301	17.0234	0.0000	0.4537	0.5721
OUTCOME VARIABLE:						
OI						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
0.8095	0.6552	0.4501	383.8703	2.0000	404.0000	0.0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	0.0424	0.1991	0.2128	0.8316	-0.3490	0.4337
IC	0.7669	0.0529	14.4935	0.0000	0.6629	0.8709
KSh	0.5777	0.0666	8.6695	0.0000	0.4467	0.7086
Direct effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	0.7669	0.0529	14.4935	0.0000	0.6629	0.8709
Indirect effect(s) of X on Y:						
	Effect	BootSE	BootLLCI	BootULCI		
KSh	0.2963	0.0518	0.2017	0.4051		

** Level of confidence for all confidence intervals in output: 95.0000.
** Number of bootstrap samples for percentile bootstrap confidence intervals: 5000.
IC=Intellectual Capital; OI=Organizational Innovation; KSh=Knowledge Sharing.

The following are the specifics about the hypothesis testing:

H1 predicts that IC during COVID-19 positively impacts OI.

In Table 25, H1 is supported by the findings (b =.7669, t = 14.494, p <.001). Moreover, (LLCI = 0.663; ULCI =.871), Therefore, the absence of zero numbers between them makes it important. This proved Hypothesis 1, and Figure 17's path (c) shows that the effect was direct.

H2 predicts that IC during COVID-19 positively impacts KSh.

As seen in Table 25, outcomes supported second premise (b = .512, t = 17.023, p < .001). Furthermore, (LLCI = .4537; ULCI = .5721) is noteworthy because there are no zeros between them. As a result, Hypothesis 2 accepted (see Path (a) in Figure 17).

H3 predicts that KSh during COVID-19 positively impacts OI.

Table 25 shows that H3 is supported (b = .5777, t = 8.670, p < .001). Likewise, (LLCI = .4467; ULCI = .7086) is significant since there are no zeros between them. Thereby, H3 was verified; see Figure 17's Path (b).

H4 predicts that KSh mediates link among both variables (IC and OI).

Table 24 concluded that the results supported H4:
Indirect effect = a (.5129) * b (.577) = 0.2950;
Direct effect =.767;
Total effect = indirect + direct: .295 + .767 = 1.0620.

As well, (BootLLCI = .202 and BootULCI = .405) due to the absence of zeros between them, is important. Thus, A verified H4; see Figure 17.

In this case, Researcher wondered whether the effect is complete or partial?

Since direct as well as indirect impacts are significant, there is **partial mediation** (Hayes, 2015). In a deeper sense, the KSh serves as a partial mediator between OI and IC. As seen in Table 24.

Table 24.

Summary of KSh's mediation analysis on IC & OI

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		t-statistics	Conclusion
				Lower Bound	Upper Bound		
IC===>OI===>KSh	1.062	0.767	0.295	0.202	0.405	14.494	**Partial Mediation**
Sig.	(0.00)	(0.00)	(0.00)				

**"Level of confidence for all confidence intervals in output:95.0000."
**"Number of bootstrap samples for percentile bootstrap confidence intervals:5000."

To summarise, PROCESS macro program's examination of data produced findings that confirmed hypotheses following: hypothesis1, hypothesis2, hypothesis3, as well as hypothesis4.

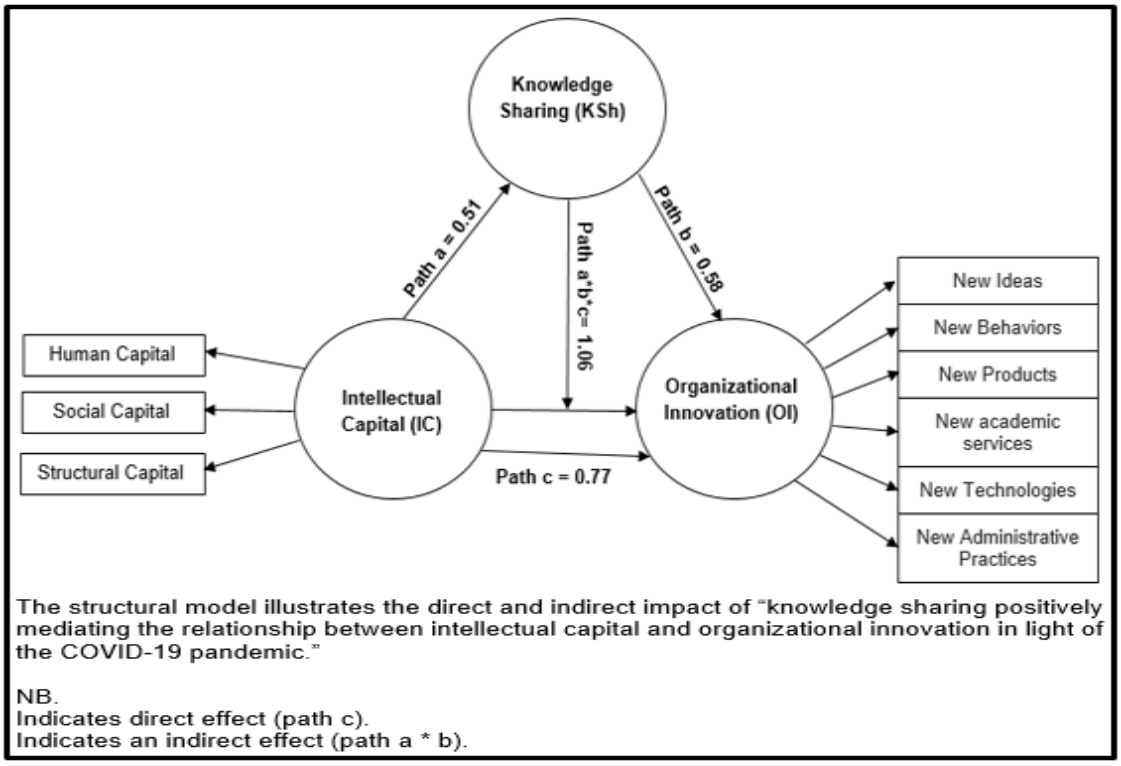
Table 25.

Finding of Hypothesis Testing

Hypothesis	Path	B Coefficient	t-test	P	R2	LLCI	ULCI	Hypotheses Acceptance
H1	IC===>OI	0.767	14.4935	0.00	0.591	0.6629	0.8709	Accepted
H2	IC===>KSh	0.512	17.0234	0.00	0.476	0.4537	0.5721	Accepted
H3	KSh===> OI	0.577	8.6695	0.00	0.417	0.4467	0.7086	Accepted
H4	IC===>KSh===>OI (indirect effect)	1.062			0.655	**Boot LLCI** 0.2017	**Boot ULCI** 0.4051	Accepted

Figure 17.

Structural model of direct & Indirect effect



The structural model illustrates the direct and indirect impact of "knowledge sharing positively mediating the relationship between intellectual capital and organizational innovation in light of the COVID-19 pandemic."

NB.
Indicates direct effect (path c).
Indicates an indirect effect (path a * b).

CHAPTER V
Discussion

This chapter talks about the results from previous one.

As a result of the global coronavirus outbreak, Palestinian universities, like every other institution globally, have experienced a multitude of difficulties and challenges. Therefore, it has become critical to take a deeper look at the concept of IC, its definition, components, and how to exploit it in Palestinian universities, with the aim of implementing several new policies that accelerate OI in this sector, enabling it to address the difficulties posed by sickness and improve the standard of educational methods and scientific research.

Relationship between IC & OI was the subject of earlier studies. It has been demonstrated to be helpful in building and gas sectors, as well as tourist activity. However, few of them have looked into its impact on the HEI field, and effect of KSh as a mediator on them without examining the impact of COVID-19, particularly in Palestinian HEIs, where no research for this relationship has been conducted. As a consequence, this study makes a significant contribution to the subject of IC and OI by empirically applying it to the university sector and adding the variable of KSh as a mediator between them. This association hasn't been confirmed with actual measurements during COVID-19, making it all the more crucial given the dearth of empirical studies in the field. During the coronavirus pandemic, this work sought to undertake an empirical investigation to clarify how IC investment combined with KSh can greatly contribute to achieving an OI inside Palestinian HEIs, as well as take into account the prospect that KSh might serve as a mediator. It also emphasises how important administration is in developing these partnerships.

We looked at how IC directly affected OI. The results analysis showed that IC has a favourable and statistically significant impact on promoting OI for universities in palestine. This finding agrees with researchers Ahmad et al. (2022); Koca and Sağsan (2020); Almutirat (2020); Li et al. (2019); Gomezelj Omerzel and Smolčić Jurdana (2016); Galeitzke et al. (2015), who confirmed the importance of institutions embracing their intellectual capital for achieving OI. According to Table 25, R2 was 0.591, indicating that HEIs in Palestine invested their IC during COVID-19, resulting in the adoption of new OI by up to 59.1%, while the remaining 40.9% was affected by other factors. University managers must have unique qualities due to their substantial role in the exploitation and development of IC, as well as their interest in innovative ideas and their implementation as owners of authority in the university departments. This is congruent with AbuNaser and AlShobaki (2017), who stated that university administrators should possess the traits of institutional excellence, which include "leadership excellence, service excellence, and knowledge excellence." Furthermore, Palestinian university decision-makers should work to focus on IC and its components (HC, StC, and SC) to support OI, as investing in HC necessitates focusing on human resource practises such as hiring experienced staff with competencies and good skills, as well as providing support, training, and refining existing skills and knowledge at the university. While StC calls for the development of knowledge storage systems and regular organisational practises to facilitate knowledge transfer and sharing, SC urges the creation of guidelines to promote communication, collaboration, and connections both inside and outside of the university. This is in line with the findings of the researchers, as Alfawaire and Atan (2021) said that Office of Human Resources in the company are viewed as one of its most essential resources and the reason for its success. As well, according to Koca and Sağsan (2020), by utilising the skills and expertise of highly trained workers, the expansion of new markets and technological advancements may result in the development of unique products and methods. Furthermore, Chatterji and Kiran (2017) emphasised that universities' good performance is heavily reliant on accessibility

to the extensive knowledge they have stored in their archives. Zahedi and Naghdi Khanachah (2020) also discussed importance and value of knowledge structures and networks in pursuit of innovation. Additionally, Elsetouhi et al. (2015)'s research proved the ability of social networks to support and encourage innovations.

Furthermore, the direct effect of IC on KSh was assessed as well. The findings demonstrated that the presence of IC influences KSh positively, confirming Conclusions of prior research Li et al. (2019); Obeidat et al. (2017), which indicated IC's significance in motivating employees to share their expertise, knowledge, & proficiency. Table 25's R2 value of 0.476 indicates that, HC, SC, and StC—IC's three components—were present and exploited Palestinian universities during COVID-19, and this had a positive impact on and boosted by 47.6% the sharing of employees' knowledge and skills both inside and beyond the department. According to the empirical findings of this study, IC contributed to encourages employees to share their knowledge, skills, and creative thinking. This supports previous research findings that indicated that KSh can be improved by focusing on all aspects of IC through the effective role of human resources and leadership in stimulating KSh, providing an appropriate infrastructure, and having good and mutual social relations to enhance cooperation and facilitate sharing of ideas & knowledge (Li et al., 2019). Mazorodze and Mkhize (2022) also emphasised the importance of leadership in supporting and fostering the sharing of knowledge through a range of techniques and policies, the most significant of which are "rewards, recognition, promotion, and bonuses."

It was also investigated how directly KSh affected OI. The results show that KSh significantly and favourably influences Palestinian universities' capacity to achieve OI. As shown in Table 25, the R2 value was 0.417, indicating that during COVID-19, staff behaviour towards KSh improved in Palestinian HEIs, which helped the institutions achieve a 41.7% OI. This conclusion was

consistent with other similar studies, such as Li et al. (2019); Qammach (2016); Mazorodze and Mkhize (2022) which has shown that stimulating KSh among employees inside a company encourages development of new ideas &, consequently, enables innovation. In addition to role that human resources play in inspiring knowledge holders to release hidden knowledge through the previously mentioned methods, platforms must be built, technologies developed, and policies implemented to contribute to the production of new knowledge, which raises level of OI. This is compatible with Li et al. (2019)'s statement that Create systems and platforms for creation& sharing of knowledge that encourage OI. Nonaka adds to this by stating that having a shared knowledge base among employees facilitates the transmission of tacit knowledge (Abdullah & Alqarni, 2022). Furthermore, Li et al. argue in another section of the same articlethat high-quality human resources are essential for KSh & OI (Li et al., 2019).

However, the present study's most significant findings, which set it apart from others, are that there is evidence for a significant indirect and partial mediation association between the mediating variable (KSh) and the relationship of IC to OI in university sector in Palestine during COVID-19. R2 was 0.655 in Table 25, which suggests that KSh amongst the employees at HEIs in Palestine played a substantial role in 65.50% improvement in the IC-OI connection during pandamic. This conclusion comes as evidence for earlier research and studies' predictions regarding influence of KSh on connection of IC on OI without conducting empirical studies of real measurements during COVID-19, and albeit not in the educational sector. For example, Li et al. (2019) pointed out that in construction institutions, IC affects innovation performance of organisations, and that this impact is enhanced and more obvious when KSh is present, which contributes to converting employees' experiences, skills, & tacit into explicit knowledge that improve raised the level of innovation. This was also further supported by Obeidat et al. (2017), who found that IC and organisational performance have significant overlapping relationships in Jordanian

manufacturing companies. They also emphasised the beneficial role of sharing tacit and explicit employee knowledge as a mediator in link among IC & organisational performance, which raised the level of organisational performance.

CHAPTER VI
Conclusion and Recommendations

In this section, the conclusions, implications, and future research are presented.

Conclusions

COVID-19's greatest effect has historically been on educational institutions all across the world. In order to face this sickness with methods that assure the university's achievement of its objectives and raise its performance, new ideas & policies, as well as the creation of innovative solutions, are required. This study's objective was to investigate how IC influenced OI in HEIs, as well as how essential the KSh medium was in this connection.

In conclusion, the instrument's validity and reliability were confirmed. Additionally, it was confirmed that the data were sufficient for generating conclusions by using diagnostic tests. Furthermore, Pearson's analysis of research variables (IC, KSh, OI) demonstrated that there are correlations between them. Results of data analysis using PROCESS macro software then demonstrated validity of following hypotheses: First hypotheses, second hypotheses, third hypotheses, & forth hypothesis. this study's findings contribute to clarifying how IC investment alongside KSh can greatly contribute to obtaining an OI inside a system of academic institutions. Likewise, study's key conclusion demonstrated that mediating variable (KSh) has a partial mediation influence enhancing association amongst IC-OI. Therefore, in order for universities to overcome COVID-19, they shall continuously innovate in their programs and their teaching and learning processes by developing an IC portfolio through "creating synergies between qualified staff, instilling a culture of KSh, building a strong organizational infrastructure, creating a shared knowledge base, strengthening the internal and external relations of the

university, and emphasizing human resource practices including employing qualified candidates with experience, implementing effective training and skill-development programs for staff members, and, putting a focus on employee incentives and rewards." Furthermore, in order to establish innovative educational institutions, higher education administrators or decision-makers need to create a learning atmosphere and foster a culture that values creativity between their employees, motivating them to share their explicit & tacit knowledge as well as put their creative suggestions and solutions into action.

Contribution to the Research

This research shows that there are many contributions, the most important of which are:

First, the primary contribution was to fill the gap in the literature that demonstrated the scarcity of studies that combine the three variables with consideration of COVID-19 in the education sector, as no empirical investigations of this relationship are being undertaken with real measurements of virtual technologies during this pandemic. Additionally, no other researcher had ever carried out comparable research in Palestinian universities. Thus, this research shows its contribution by conducting an empirical study in a new sector, place, and circumstance. Second, this research attempts to enrich the literature and contribute to innovation-related studies by enriching the topic with new results, where the scholars previously indicated in their paper that crises in general have a negative effect on innovative activity, citing how the 2008 financial crisis restricted innovation (Ebersberger and Kuckertz 2021). This research contributed to altering this perspective by illustrating the need for universities to constantly innovate in order to overcome crises. Third, previous research showed that Palestinian universities lacked suitable e-learning infrastructure due to a lack of strategies and policies (Iter et al. 2023). As a result, this study makes an important contribution to raising awareness among university CEOs and senior managers to enhance and exploit the existing IC components in universities to stimulate KSh to promote OI by creating a helpful

infrastructure, fostering relationships both inside and outside of the university, and enacting the role of human resources, as well as encouraging a culture of knowledge sharing through incentive programmes. Using these tactics will assist the organisation in growing and improving its research and teaching systems, especially since empirical research in this field is scarce. Finally, the literature on intangible resources is also enriched as a result of this research because there are so few studies on them, whereas earlier studies tended to focus on tangible resources (e.g. financial perspective).

Implications

The study's two major results are that, in the university system, especially under conditions similar to COVID-19, the development and exploitation of IC when combined with KSh will enhance and achieve OI, and that KSh efficiently acts as a sort of mediator to strengthen the IC-OI linkage. Accordingly, this contributions to the research has various significant theoretical & practical implications, including:

Regarding **theoretical implications**, the current research seeks to enrich the literature review related to intangible resources with new findings, especially in developing countries. Besides, this investigation is distinctive because it is the first of its kind in Palestinian universities, as well as filling a scholarly gap in the theory regarding influence of KSh on relationship of IC on OI in university sector through empirical research that combines the three variables while taking into account COVID-19. Furthermore, adding the conclusion that innovation continues in educational institutions as a result IC & KSh to the literature of scientific knowledge would give significant insights for future similar crises. At last, future academics, undergraduates, or researchers who have the desire to undertake more research in this sector may utilize the study's findings.

Concerning the conclusions' **practical implications**, they recommend that universities extend their responsibilities beyond lecturing to encompass the

development of novel insights, procedures, and strategies to achieve OI as a result of outside obstacles and threats by leveraging intangible resources and capabilities such as IC and KSh. Additionally, This research benefits universities by offering methods, guidelines, and frameworks that will help HEIs adopt IC & stimulate KSh in a manner that causes OI. Contributes to increasing awareness among higher education department heads of the value of making investments in IC to enhance and achieve OI, particularly in the wake of COVID-19, leading to improved HEI performance. Finally, this research urges actors and stakeholders to enhance and exploit IC components and to stimulate KSh to promote OI by creating a helpful infrastructure, fostering relationships both inside and outside of the university, and enacting the role of human resources as previously discussed.

Recommendations for Further Research

Current study suggested several opportunities for future study, including following:

First, the research was carried out in Israeli-occupied Palestinian territory, where there are a lot of constraints. Similarly, the Gaza Strip has a special status as a result of Israel's occupation and siege imposed on it. The investigation was therefore restricted to staff at West Bank region HEIs. Because of this, it is uncertain if the link between the three variables _OI, KSh,IC_ is similar in Gaza & different nations. study's author suggests that Prospective scientists should expand on the present study to additional nations, in addition to other university constituents, including administrative staff and pupils, to confirm and expand the research's conclusions.

Second, because this study only examined one sector—the Palestinian universities—it is unclear how its findings would apply to other sectors. Therefore, in order to address this topic, we advise future scholars to replicate

this study in many fields in order to strengthen their findings and boost the reliability of their conclusions.

Third, since OI that took place at Palestinian universities during COVID-19 was not included in present study, the researcher suggests future research refer to them.

Fourth, to enhance outcomes, future studies may take into account combining qualitative and quantitative research methodologies.

Last but not least, future studies may take into account a few mediating or moderating variables, such as "organizational learning; staff satisfaction; leadership; KM processes."

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APPENDICES

Appendix A: Questionnaire in English

Intellectual Capital and its Relationship to the Organizational Innovation of Universities in the Light of the Coronavirus Pandemic and the mediating role of knowledge sharing: An applied study in the Palestinian Universities in West Bank area

Survey Questionnaire to be filled by academic staff of Palestinian Universities in West Bank area

Dear Prospective Participant,

I am Amani ALNatsheh, a PhD candidate at department of Innovation and Knowledge Management, University of Near East, Northern Cyprus, working toward a doctorate degree in Innovation and Knowledge Management. The objective of this questionnaire is to determine the influences of intellectual capital on organizational innovation of universities during COVID-19, and this influence will be enhanced by the role of the knowledge-sharing mediator. Let me emphasize that your participation in this study is voluntary and please be assured that all information you provide will be kept strictly confidential and it will be used just for scientific research. Please indicate your level of agreement with the statements given below with seven scales or five scales. Your participation represents a valuable contribution to this research. I would like to thank you very much in advance for your cooperation and I hope that will serve the scientific research and will help in developing your university.

Sincerely Yours,

Amani ALNatsheh

Department of Innovation and Knowledge Management, University of Near East, Northern Cyprus.

Email: natshehamani@gmail.com

INSTRUCTION: Please tick (√) the appropriate box or provide written answer where space is provided.

SECTION A: Demographic Profile

About your university	
1.	University Name: .....
About you	
2.	Gender: □ Male □ Female
3.	Age in years: □ 25 years or less □ 26-35years □ 36-45years □ above 45 years
4.	Highest educational qualification: □ Diploma □ Bachelor □ Master □ Doctorate □ other.....
5.	Years of Experience □ 5 years and below □ 6-10 years □ 11-20 years □ More than 20 years

SECTION B: Intellectual Capital during COVID-19

* **Intellectual Capital:** defined as a set of intangible assets such as resources, competencies and capabilities which increase organizational performance and also results in value creation. It is classified into: Human Capital, Social Capital, and Structural capital.

* Please indicate for each item, to what extent do you agree with the following items describing your organization's intellectual capital during COVID-19? Use a scale of 1-7 where:

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Tick ✓ where appropriate

Human Capital during COVID-19		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
1.	Our employees are highly skilled.							
2.	Our employees are widely considered the best in our industry.							
3.	Our employees are creative and bright.							
4.	Our employees are experts in their particular jobs and functions.							
5.	Our employees develop new ideas and knowledge.							
Social Capital during COVID-19		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**
6.	Our employees are skilled at collaborating with each other to diagnose and solve problems.							
7.	Our employees share information and learn from one another.							
8.	Our employees interact and exchange ideas with people from different areas of the university.							
9.	Our employees partner with customers, suppliers, alliance partners, etc., to develop solutions.							
10.	Our employees apply knowledge from one area of the company to problems and opportunities that arise in another.							
Structural Capital during COVID-19		**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Neutral**	**Somewhat Agree**	**Agree**	**Strongly Agree**

11.	Our organization uses patents and licenses as a way to store knowledge.							
12.	Much of our organization's knowledge is contained in manuals, databases, etc.							
13.	Our organization's culture (stories, rituals) contains valuable ideas, ways of doing business, etc.							
14.	Our organization embeds much of its knowledge and information in structures, systems, and processes.							

SECTION C: Organizational Innovation during COVID-19

* **Organizational Innovation:** was defined as the department head's efforts to utilize/execute the new ideas, behaviors, products, new academic services, technologies, and new administrative practices and support the academic staff of universities to use/apply those innovations especially in the Light of the Coronavirus Pandemic.

* Please indicate for each item, to what extent to which you agree with each statement. Use a scale of 1-5 where:

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

Tick ✓ where appropriate

Organizational Innovation during COVID-19		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15.	Utilize/execute new ideas for development					
16.	Utilize/execute new behaviors for development					
17.	Utilize/execute new products for development					
18.	Utilize/execute new academic services for development					
19.	Utilize/execute new technologies for development					
20.	Utilize/execute new administrative practices for development					

SECTION D: Knowledge Sharing during COVID-19

Knowledge Sharing: is one of the most important processes of knowledge management. It leads to a faster transfer of knowledge between the parts of the organization.

Please indicate for each item, to what extent to which you agree with each statement. Use a scale of 1-5 where:

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

Tick ✓ where appropriate

Knowledge Sharing during COVID-19		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
21.	**Knowledge Sharing inside of department:** When I've learned something new, I tell my colleagues in my department about it.					
22.	When they've learned something new, colleagues within my department tell me about it.					
23.	Knowledge sharing with my colleagues within my department is considered a normal thing.					
24.	I share the information I have with colleagues within my department, when they ask me to.					
25.	I share my skills with colleagues within my department, when they ask me to.					
26.	Colleagues within my department tell me what they know, when I ask them about it.					
27.	Colleagues within my department tell me what their skills are, when I ask them about it.					
28.	**Knowledge sharing outside of department:** When I've learned something new, I tell my colleagues outside of my department about it.					
29.	When they've learned something new, colleagues outside of my department tell me about it.					
30.	Knowledge sharing with my colleagues outside of my department is considered a normal thing.					
31.	I share the information I have with colleagues outside of my department, when they ask me to.					
32.	I share my skills with colleagues outside of my department, when they ask me to.					
33.	Colleagues outside of my department tell me what they know, when I ask them about it.					
34.	Colleagues outside of my department tell me what their skills are, when I ask them about it.					

Thank you for your co-operation

Appendix B: Questionnaire in Arabic

تهدف الباحثة إلى القيام بدراسة بعنوان:

رأس المال الفكري وعلاقته بالابتكار التنظيمي للجامعات في ظل جائحة فيروس كورونا والدور الوسيط لتبادل المعرفة: دراسة تطبيقية في الجامعات الفلسطينية في منطقة الضفة الغربية

السادة/ أعضاء الهيئة الأكاديمية في الجامعات الفلسطينية_ منطقة الضفة الغربية_فلسطين المحترمين ،،،

تهدف هذه الإستبانة إلى تحديد تأثير رأس المال الفكري المتمثل في (رأس المال البشري, رأس المال الإجتماعي, ورأس المال الهيكلي) على الابتكار التنظيمي للجامعات خلال COVID-19, وتحديد دور تبادل المعرفة كوسيط في التأثير على العلاقة بينهم. وسيتم تنفيذ هذا المشروع البحثي كجزء من متطلبات الحصول على درجة الدكتوراه في إدارة المعرفة والإبتكار من جامعة الشرق الأدنى في قبرص التركية. نأمل من سيادتكم التكرم بالإجابة على أسئلة الإستبانة، بوضع علامة (√) في المربع المناسب أو تقديم إجابة مكتوبة عند توفر المساحة، لتوضيح مستوى موافقتك أو عدم موافقتك على البيانات الواردة أدناه بإستخدام مقياس ليكرت الذي يتكون من سبع درجات أو خمس درجات. إسمحوا لي أن أؤكد أن مشاركتك في هذه الدراسة طوعية، وبأن المعلومات التي ستقدمها ستكون سرية للغاية وسيتم استخدامها فقط للبحث العلمي. تمثل مشاركتك مساهمة قيمة في هذا البحث. أود أن أشكركم جزيل الشكر مقدمًا على تعاونكم وآمل أن يخدمكم هذا البحث العلمي ويساعد في تطوير جامعتكم.

وتفضلوا بقبول فائق الإحترام والتقدير ،،،

الباحثة: أماني النتشة

قبرص التركية_جامعة الشرق الأدنى_دائرة إدراة المعرفة والإبتكار

E-Mail:natshehamani@gmail.com

القسم (أ): معلومات ديموغرافية

معلومات عن الجامعة	
.1	**إسم الجامعة:**
معلومات شخصية	
.2	**الجنس:** □ ذكر □ أنثى
.3	**العمر:** □ 25 سنة فأقل □26-35 سنة □36-45 سنة □46 فأكثر
.4	**المؤهل العلمي:** □دبلوم (كلية) □بكالوريوس □ماجستير □دكتوراه □أخرى.....
.5	**عدد سنوات الخبرة:** □ 5 سنوات فاقل □6-10 سنوات □11-20 سنة □21 فأكثر

القسم (ب): رأس المال الفكري في ظل جائحة كورونا (Intellectual Capital)

* **رأس المال الفكري:** يُعرَّف بأنه مجموعة من الأصول غير الملموسة مثل الموارد والكفاءات والقدرات التي تزيد من الأداء التنظيمي وتؤدي أيضًا إلى خلق القيمة. وهي مصنفة إلى: رأس المال البشري(**Human Capital**) ، ورأس المال الاجتماعي(**Social Capital**) ، ورأس المال الهيكلي(**Structural Capital**).

* الأسئلة الآتية تتعلق برأس المال الفكري التي تملكه الجامعة التي تعمل بها في ظل جائحة كورونا, يرجى وضع علامة (✓) للإشارة إلى أي مدى تتفق وموقفك, بإستخدام مقياس ليكرت الذي يتكون من سبع درجات، تتدرج من (1-7) كما هو مبين فيما يلي:

موافق بشدة	موافق	موافق إلى حد ما	محايد	غير موافق إلى حد ما	غير موافق	غير موافق بشدة
1	2	3	4	5	6	7

رأس المال البشري في ظل جائحة كورونا Human Capital		موافق بشدة	موافق	موافق إلى حد ما	محايد	غير موافق إلى حد ما	غير موافق	غير موافق بشدة
1.	موظفو الجامعة على درجة عالية من المهارة.							
2.	يعتبر موظفو الجامعة على نطاق واسع الأفضل في مجالهم.							
3.	موظفو الجامعة مبدعون وبارعون.							
4.	موظفو الجامعة خبراء في أعمالهم ووظائفهم الخاصة.							
5.	يطور موظفو الجامعة أفكارًا ومعرفة جديدة.							
رأس المال الإجتماعي في ظل جائحة كورونا Social Capital		**موافق بشدة**	**موافق**	**موافق إلى حد ما**	**محايد**	**غير موافق إلى حد ما**	**غير موافق**	**غير موافق بشدة**
6.	موظفو الجامعة ماهرون في التعاون مع بعضهم البعض لتشخيص المشكلات وحلها.							
7.	موظفو الجامعة يشاركون معلوماتهم ويتعلمون من بعضهم البعض.							
8.	يتفاعل موظفو الجامعة مع بعضهم ويتبادلون الأفكار مع أشخاص من مناطق مختلفة من الجامعة.							
9.	يتعاون موظفو الجامعة مع الآخرين (جامعات أخرى, الموردين, شركاء التحالف، وما إلى ذلك) لتطوير الحلول.							
10.	يطبق موظفو الجامعة المعرفة التي حصلوا عليها من منطقة معينة من الجامعة على المشاكل والفرص التي تظهر في مناطق أخرى من الجامعة.							
راس المال الهيكلي في ظل جائحة كورونا Structural Capital		**موافق بشدة**	**موافق**	**موافق إلى حد ما**	**محايد**	**غير موافق إلى حد ما**	**غير موافق**	**غير موافق بشدة**

11.	تستخدم جامعتنا براءات الاختراع والتراخيص كوسيلة لتخزين المعرفة.							
12.	يوجد الكثير من المعلومات والمعرفة التي تمتلكها جامعتنا في الكتيبات وقواعد البيانات وما إلى ذلك.							
13.	تحتوي ثقافة جامعتنا على أفكار قيمة وطرق لممارسة الأعمال الإدراية والخدمات الأكاديمية وما إلى ذلك.							
14.	تقوم جامعتنا بتضمين الكثير من معرفتها ومعلوماتها في الهياكل والأنظمة والعمليات.							

القسم (ج): الإبتكار التنظيمي في ظل جائحة كورونا (Organizational Innovation)

***الابتكار التنظيمي:** تم تعريفه على أنه الاستخدام / والتنفيذ للأفكار الجديدة والسلوكيات والمنتجات والخدمات الأكاديمية الجديدة والتقنيات والممارسات الإدارية الجديدة.

*يرجى وضع علامة (✓) في العمود الذي يعبر عن درجة موافقتك على كل فقرة، بإستخدام مقياس ليكرت الذي يتكون من خمس درجات، تتدرج من (1-5) كما هو مبين فيما يلي:

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
1	2	3	4	5

	الإبتكار التنظيمي في ظل جائحة كورونا Organizational Innovation	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
15.	يتم استخدام / تنفيذ أفكار جديدة من أجل التنمية.					
16.	يتم استخدام / تنفيذ سلوكيات جديدة من أجل التنمية.					
17.	يتم استخدام / تنفيذ منتجات جديدة للتطوير.					
18.	يتم استخدام / تنفيذ خدمات أكاديمية جديدة من أجل التنمية.					
19.	يتم استخدام / تنفيذ التقنيات الجديدة من أجل التنمية.					
20.	يتم استخدام / تنفيذ الممارسات الإدارية الجديدة من أجل التنمية.					

القسم (د): تبادل المعرفة في ظل جائحة كورونا (Knowledge Sharing)

* **تبادل المعرفة(Knowledge Sharing):** هي إحدى أهم عمليات إدارة المعرفة, وهي تؤدي إلى نقل أسرع للمعرفة بين أجزاء المنظمة

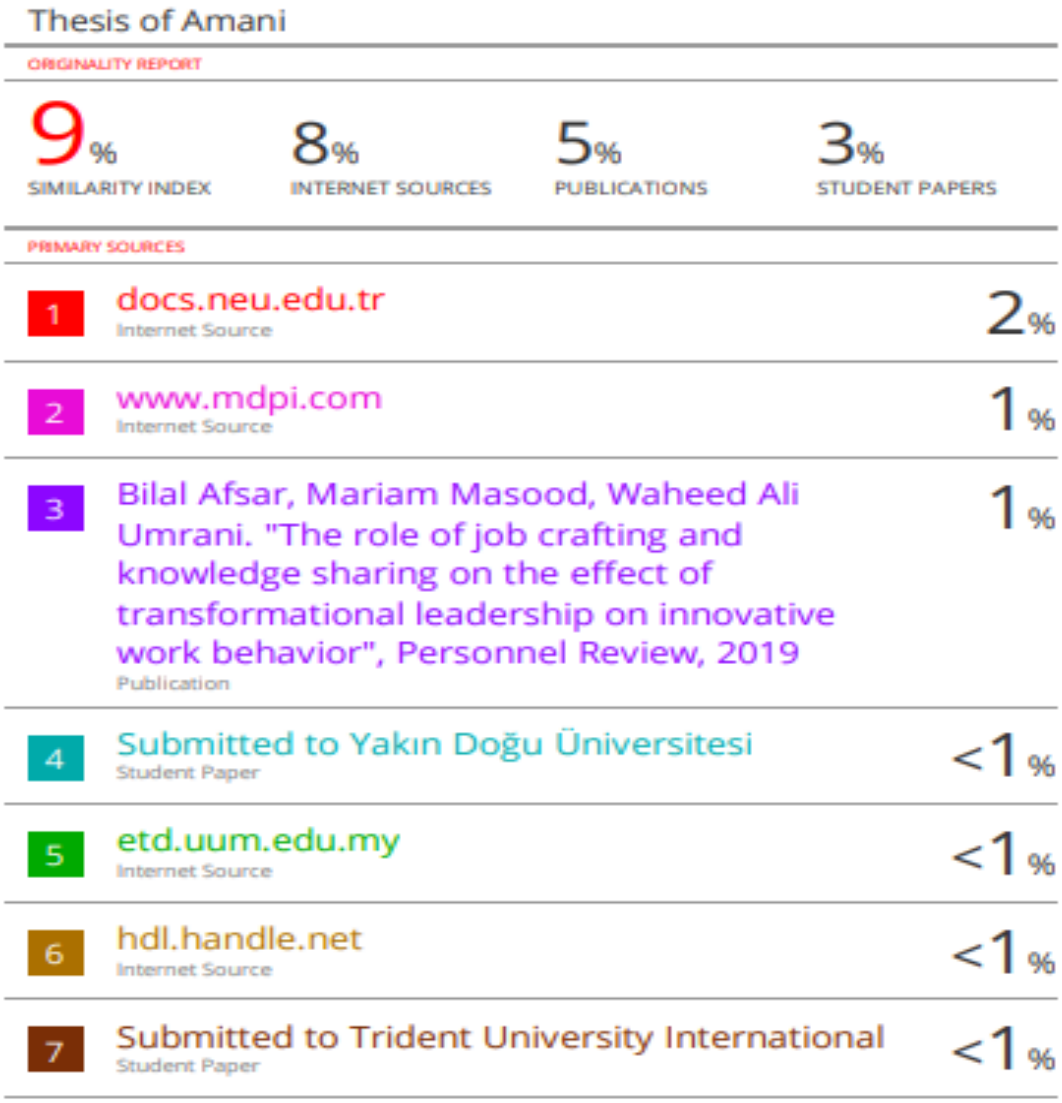
*يرجى وضع علامة (✓) في العمود الذي يعبر عن درجة موافقتك على كل فقرة، بإستخدام مقياس ليكرت الذي يتكون من خمس درجات، تتدرج من (1-5) كما هو مبين فيما يلي:

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
1	2	3	4	5

	تبادل المعرفة في ظل جائحة كورونا Knowledge Sharing during COVID-19	موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
21.	**تبادل المعرفة داخل القسم:** عندما أتعلم شيئًا جديدًا، أخبر زملائي الذين في نفس القسم به.					
22.	عندما يتعلمون زملائي الذين في نفس القسم شيئًا جديدًا, يخبروننني بذلك.					
23.	تعتبر مشاركة المعرفة مع زملائي الذين في نفس القسم أمرًا طبيعيًا.					
24.	أشارك المعلومات التي لدي مع زملائي في نفس القسم عندما يطلبون مني ذلك.					
25.	أشارك مهاراتي مع زملائي في نفس القسم ، عندما يطلبون مني ذلك.					
26.	يخبروننني زملائي في نفس القسم بما يعرفونه، عندما أسألهم عن ذلك.					
27.	يخبروننني الزملاء في نفس القسم الذي أعمل به عن مهاراتهم، عندما أسألهم عنها.					
28.	**تبادل المعرفة خارج القسم:** عندما أتعلم شيئًا جديدًا, أخبر زملائي في الأقسام الأخرى به.					
29.	عندما يتعلمون زملائي في الأقسام الأخرى شيئًا جديدًا, يخبروننني به.					
30.	تعتبر مشاركة المعرفة مع زملائي خارج قسمي شيئًا طبيعيًا.					
31.	أشارك المعلومات التي لدي مع زملائي في الأقسام الأخرى عندما يطلبون مني ذلك.					
32.	أشارك مهاراتي مع زملائي في الأقسام الأخرى، عندما يطلبون مني ذلك.					
33.	يخبروننني في الأقسام الأخرى بما يعرفونه، عندما أسألهم عن ذلك.					
34	يخبروننني الزملاء في الأقسام عن مهاراتهم، عندما أسألهم عنها.					

شاكرين لكم حسن تعاونكم ،،،

Appendix C: Turnitin Similarity Report



Thesis of Amani

ORIGINALITY REPORT

9%	8%	5%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	docs.neu.edu.tr Internet Source	2%
2	www.mdpi.com Internet Source	1%
3	Bilal Afsar, Mariam Masood, Waheed Ali Umrani. "The role of job crafting and knowledge sharing on the effect of transformational leadership on innovative work behavior", Personnel Review, 2019 Publication	1%
4	Submitted to Yakın Doğu Üniversitesi Student Paper	<1%
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6	hdl.handle.net Internet Source	<1%
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Appendix D: Ethics Committee Approval

YAKIN DOĞU ÜNİVERSİTESİ

BİLİMSEL ARAŞTIRMALAR ETİK KURULU

15.02.2022

Dear Amani Yaser Yaseen ALNatsheh

Your application titled **"Intellectual Capital and its Relationship to the Organizational Innovation of Universities in the Light of the Coronavirus Pandemic and the mediating role of knowledge sharing: An applied study in the Palestinian Universities in West Bank area"** with the application number NEU/SS/2022/1217 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

Direnç Kanol

Appendix E: Participant Information Sheet

NEAR EAST UNIVERSITY

INSTITUTE OF GRADUATE STUDIES – INNOVATION AND KNOWLEDGE MANAGEMENT DEPARTMENT.

PhD's PROGRAMME.

Participant Information Sheet and Informed Consent Form (questionnaire)

Dear Prospective Participant,

I am a PhD student in Near East University at department of Innovation & Knowledge Management in Northern Cyprus. This questionnaire is part of a research study that we are carrying out in order to understand if there is any relationship between intellectual capital and organizational innovation of universities. The title of the study is "*Intellectual Capital and its Relationship to the Organizational Innovation of Universities in the Light of the Coronavirus Pandemic and the mediating role of knowledge sharing: An applied study in the Palestinian Universities in West Bank area*". The data collect through this questionnaire will be used by SPSS (Statistical Package for Social Science) version 25.00 to provide empirical proofs and insights into how Intellectual Capital, negatively or positively, influence organizational innovation of universities in the Light of the Coronavirus Pandemic. To accomplish this purpose, you have been selected to participate in this scholarly research. I therefore kindly request to assist me to collect the data by filling in the research questionnaire. The answer takes no longer than 3 minutes.

Questionnaire link:

https://docs.google.com/forms/d/e/1FAIpQLSd0RJbAB0O1CY6yW6mH168bNJtg9K2ul4vyV3IoABRg38ur4Q/viewform

By filling in the following questionnaire, you agree to participate in this study.

Please note that your participation in the study is voluntary and whether you agree to participate or not will have no impact on your grades for job. Your identity will not be revealed in any case to third parties. The data collected during the course of this study will be used for academic research purposes only and may be presented at national/international academic meetings and/or publications. You may quit participating in this study at any time by contacting us. If you opt out of the study, your data will be deleted from our database and will not be included in any further steps of the study. You should know that this study will contribute to generating awareness and provide the department heads in the universities recommendations concerning the importance of intellectual capital to support and enhance organizational innovation, especially during COVID-19.Thus, achieving high organizational performance for Palestinian universities to become one of the first universities at the Arab and international levels. As well, your participation represents a valuable contribution to this research. I would like to thank you very much in advance for your cooperation. In case you have any questions or concerns, please contact us using the information below:

Ms. Amani ALNatsheh
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