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## The role of intellectual capital in enhancing organizational sustainability: An exploratory study of the perspectives of a sample of management leaders in the general company for pharmaceutical industries and medical supplies in Samarra

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### Abstract

The main objective of the research is to understand the role of intellectual capital in enhancing organizational sustainability. The research problem is framed by the primary question: "What is the role of intellectual capital in enhancing organizational sustainability for the researched company?" To achieve the research objective and address its questions, the research adopted an analytical descriptive methodology. The General Company for Pharmaceutical Industries and Medical Supplies in Samarra was selected as the field of study, and a random sample of (115) administrative leaders was chosen from a total of (161) administrative leaders in the researched company. The research relied on surveys as the primary tool for data collection from the field of study. The research arrived at several conclusions, the most important of which is the existence of a significant relationship and impact between intellectual capital and organizational sustainability. Additionally, the research provided a set of recommendations, including the adoption of sustainable recruitment and training strategies and standards to develop the skills and capabilities of human capital.

**Keywords:** Intellectual capital, pharmaceutical industries, medical supplies, general company

### Introduction

Organizations of various types and sizes seek to survive and grow amidst intensified competition and continuous change in the business environment by focusing on investing in intellectual capital. Human capital is considered one of the most important organizational resources due to its possession of renewable intellectual energy that helps the organization generate new ideas, foster innovation, and develop its products to achieve a competitive advantage. Intellectual capital is thus a strategic competitive weapon as it represents non-material strategic capabilities characterized by the integration of knowledge, skills, and experiences that can be leveraged to achieve efficiency, effectiveness, improve market share, and generate added value for the organization.

Organizations face the challenge of survival, growth, and continuity in the market, which requires the preparation and mobilization of resources and their optimal utilization to support organizational sustainability. This ensures the organization's continuity in delivering its products to current customers, preserving the share of future generations of resources, and providing the requirements for living in a high-quality environment through the integration and balance between the economic, social, and environmental aspects of organizational sustainability.

### Chapter One: Research Methodology

#### First: Research Problem

Business organizations face successive changes and crises that have contributed to placing challenges in front of organizations seeking growth, continuity, and development. Additionally, the scarcity of resources is a distinctive feature of the contemporary business environment, making sustainability a fundamental goal that organizations strive to achieve by investing in various tangible and intangible assets to ensure survival in the market and preserve the share of future generations of resources.

To achieve this, it is necessary to make human resources the cornerstone of organizational sustainability due to their ability to innovate and provide new ideas to help the organization confront crises and various challenges, and efficiently utilize resources to preserve the share of future generations and ensure the organization's continuity, growth, and sustainability.

In light of the above, the research problem arises from raising a primary question: "What is the role of intellectual capital in enhancing organizational sustainability for the researched company?" This primary question leads to a set of sub-questions as follows:

- What is the extent of the researched company's awareness of the concept of intellectual capital and its dimensions?
- What is the extent of the researched company's awareness of the concept of organizational sustainability and its dimensions?
- Is there a relationship between intellectual capital and organizational sustainability in the researched company?
- Does intellectual capital have an impact on enhancing organizational sustainability in the researched company?

**Second: Research Significance**

The significance of the research lies in two aspects:

**First:** The theoretical significance involves the importance of the topics addressed by the research, represented by intellectual capital and organizational sustainability. This includes providing a theoretical framework that clarifies the main research variables and their sub-dimensions in terms of concept, importance, and dimensions. The research contributes to enriching studies related to human resources and its role in enhancing sustainability in its economic, social, and environmental aspects.

**Second:** The practical significance includes the significance

of the researched field, represented by the Public Company for Pharmaceutical Industries and Medical Supplies in Samarra, as well as the significance of the researched sample, represented by the administrative leadership within the researched company. It aims to identify the mutual relationships between the research variables in the field and to reach conclusions and recommendations to contribute to enhancing the growth and continuity of the researched company in delivering its products to customers.

**Third: Research Objectives**

The main objective of the research is to understand the role of intellectual capital in enhancing organizational sustainability in the researched company. The following sub-objectives stem from it:

1. Evaluate the organization's awareness of the concept of intellectual capital and its sub-dimensions.
2. Evaluate the organization's awareness of the concept of organizational sustainability and its sub-dimensions.
3. Test the correlation between intellectual capital and organizational sustainability in the researched company.
4. Test the impact of intellectual capital on enhancing organizational sustainability in the researched company.

**Fourth: Theoretical Framework of the Research**

With the aim of methodically addressing the research problem and achieving its objectives, a theoretical framework has been established to illustrate the main variables, their sub-dimensions, and the relationships between them. Figure (1) demonstrates this.

1. **Independent Variable:** Intellectual Capital, consisting of three sub-dimensions: Human Capital, Structural Capital, and Relational (Customer) Capital.
2. **Dependent Variable:** Organizational Sustainability, consisting of three sub-dimensions: Economic Sustainability, Social Sustainability, and Environmental Sustainability.

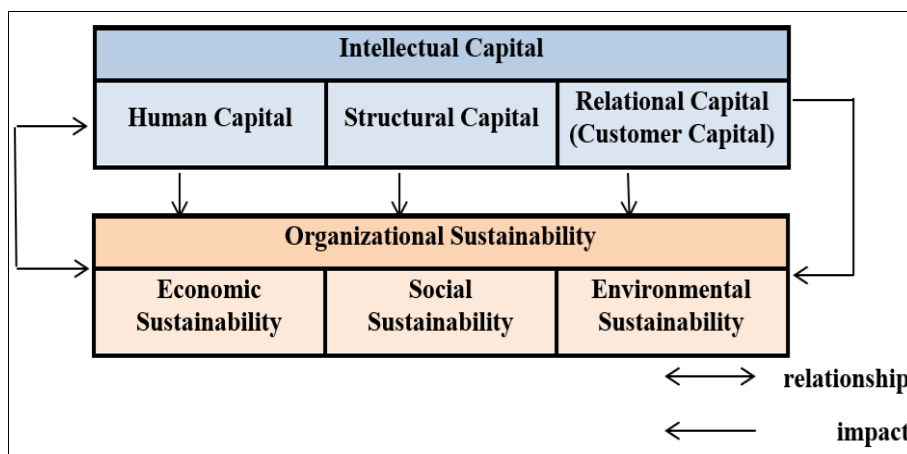


Fig 1: Hypothetical Research Outline

**Fifth: Research Hypotheses**

Based on the hypothetical research outline, the following hypotheses have been formulated:

**First Hypothesis**

**H<sub>1</sub>:** There is a significant relationship between intellectual capital and organizational sustainability in the researched company.

**Second Hypothesis**

**H<sub>2</sub>:** There is a significant impact of intellectual capital on enhancing organizational sustainability in the researched company.

**Third Hypothesis**

**H<sub>3</sub>:** There is a significant impact of each dimension of intellectual capital on enhancing organizational

sustainability in the researched company.

**Sixth: Research Population and Sample**

The research population consists of the managerial leadership in the General Company for Pharmaceutical Industries and Medical Supplies in Samarra, totaling (161) administrative leaders. The sample size of (114) administrative leaders was determined according to the equation (Thompson, 2012:59). The questionnaire was randomly distributed among the sample, and approximately (115) valid questionnaires suitable for statistical analysis were collected with a response rate of (71%).

**Seventh: Normality Test**

Before conducting any analytical process, it is essential to verify the nature of data distribution, as it affects the determination of the appropriate analytical methodology. If the data distribution is normal across all axes, the tests endorsed in the method will be used. Otherwise, if there is non-normal distribution, non-endorsed tests should be employed, as illustrated. Table (1) demonstrates the results of the normality test for the dimensions of intellectual capital and organizational sustainability.

**Table 1: Results of Normality Test**

declaration		Statistics					
		Intellectual Capital			Organizational Sustainability		
		Intellectual Capital	Structural Capital	Relational (Customer) Capital	Economic Sustainability	Social Sustainability	Environmental Sustainability
N	Valid	115	115	115	115	115	115
	Missing	0	0	0	0	0	0
Skewness		-0.427	-0.148	-0.101	-0.698	-0.473	-0.115
Std. Error of Skewness		0.226	0.226	0.226	0.226	0.226	0.226
Kurtosis		-0.654	-1.008	-0.758	0.170	-0.868	-0.780
Std. Error of Kurtosis		0.447	0.447	0.447	0.447	0.447	0.447

Source: SPSS Program

Upon studying the results of the previous table and the values of the standard deviation and dispersion, we can observe that the data values did not exceed (3) and (3-). Therefore, we can consider the data distribution to be normal.

**Eighth: Validity and Reliability of the Questionnaire**

**1. Cronbach's Alpha Scale**

Cronbach's Alpha scale is used to measure the homogeneity

of questions in a questionnaire or scale.

The ideal values for the Cronbach's Alpha coefficient range between (0 - 1).

A value of (0) indicates no consistency, while a value of (1) indicates perfect consistency. The closer the Cronbach's Alpha coefficient is to (1), the better the consistency among the questions.

**Table 2: Results of Cronbach's Alpha Coefficients for Questionnaire Dimensions**

Variables		Number	Result
Intellectual Capital	Human Capital	7	0.785
	Structural Capital	7	0.694
	Relational (Customer) Capital	7	0.764
Organizational Sustainability	Economic Sustainability	7	0.634
	Social Sustainability	7	0.782
	Environmental Sustainability	7	0.772

Source: SPSS Program

After examining the results presented in Table (2), it was found that the values of Cronbach's Alpha coefficient ranged between 0.634 as the lowest value and 0.785 as the highest value, confirming that the items presented in the

questionnaire were homogeneous.

**2. Factor Analysis**

**Table 3: Factor Analysis Values**

Variables		Extraction Factor Value for Factor Analysis
Intellectual Capital	Human Capital	0.604
	Structural Capital	0.630
	Relational (Customer) Capital	0.644
Organizational Sustainability	Economic Sustainability	0.734
	Social Sustainability	0.779
	Environmental Sustainability	0.747

Source: SPSS Program

Based on the factor analysis values above, it is evident that all values exceeded 50%. This indicates that each axis of the questionnaire is represented in the best possible way without any additional changes.

**Chapter Two: Theoretical Framework of the Research Intellectual Capital**

**First: The Concept of Intellectual Capital**

Intellectual capital is an economic concept that has been

applied in the field of management sciences as a fundamental indicator and a recognized measure for assessing the intangible assets of organizations. The interest in the concept of intellectual capital began in the early 1980s, with researchers emphasizing the importance of intangible assets in generating profits. In the early 1990s, some studies emerged discussing the idea that high production does not rely solely on physical assets, but also on the intellectual and knowledge accumulation, information, skills, and expertise of the organization's employees (Ajil & Abbas, 2022:60) [9].

Some authors and researchers have indicated that skills, information, knowledge, and expertise are considered intellectual capital only if they are: (Shaalán, 2018:176) [48].

1. **Distinctive:** Competitors cannot obtain or imitate them.
2. **Strategic:** They have long-term value, reflected in the customer's willingness to pay for them through purchasing the organization's products.

Intellectual capital is considered one of the strategic intangible assets that organizations cannot do without, as it serves as a strategic weapon to achieve competitive advantage and ensure organizational sustainability. Despite the significant interest in the concept of intellectual capital, there is no universally agreed-upon definition among researchers for this concept due to two reasons: (Al-Aboudi *et al.*, 2019:136)

**First:** The definition of intellectual capital varies depending on the industries or the management of the organizations themselves, making it difficult to define it uniformly.

**Second:** Many researchers define intellectual capital from their own perspectives and do not rely on a generally accepted definition.

From this, we find that there are multiple definitions of intellectual capital, and Table (4) illustrates several of them.

**Table 4:** Definitions of Intellectual Capital

Reference	Definition
(Abu Al-Ghanim, 2012:9) [7]	An interactive sum of the knowledge, skills, and experiences of employees, along with the environment and organizational factors, supporting employee performance and the organization's relationships with suppliers and customers.
(Al-Khafaji <i>et al.</i> , 2014:424) [19]	The intellectual efficiency possessed by certain employees that contributes to achieving the highest levels of performance quality and enhancing the organization's competitive position.
(Al-Omiedy, 2016:220) [11]	The organizational value represented by the knowledge, expertise, and information that the organization can apply to achieve its goals and enhance its strength and superiority in the business environment.
(Alwan, 2018:492) [25]	A knowledge wealth that the organization can invest in and deploy in a manner that achieves competitive advantage.
(Abd, 2020:139)	A part of the workforce in the organization possessing unique capabilities enabling creativity, innovation, and the development of new pioneering projects, thereby contributing to value addition and enhancing the organization's competitive position.
(Al-Kaabi, 2022:34) [18]	A group of individuals possessing knowledge, skills, values, and experience that contribute to increasing innovation and intellectual creativity to develop the organization's performance, thus achieving effective relationships with all stakeholders.

**Based on the foregoing**, the researcher can define intellectual capital as the organization's stock of intellectual, knowledge-based, informational, technical skills, experiences, organizational, and social relationships possessed by some employees in the organization. This contributes to enhancing the efficiency and effectiveness of organizational performance by enabling the presentation of new ideas, creativity, and innovation to achieve strategic goals and industry differentiation.

**Second: The Importance of Intellectual Capital**

Many organizations have increasingly focused on investing in intellectual capital as an important economic resource to achieve efficiency, effectiveness, and added value, enabling the organization to enhance its competitiveness in the era of globalization and rapid technological advancement. Additionally, it serves as a reliable indicator for measuring the organization's profitability and increasing its financial returns (Abdulqadir, 2014:35) [4].

The importance of intellectual capital lies in the ability of employees in the organization to present new ideas, creativity, and innovation that can increase the organization's market value and enhance its competitive position. This importance can be summarized as follows: (Abu Salah, 2019:8) [8]

1. Increasing the organization's ability to optimize the utilization of its resources.
2. Effectively managing intellectual capital is of great

importance for the performance of organizations seeking success through investment in their intellectual assets.

3. It is a significant source for achieving competitive advantage and a powerful competitive weapon that ensures the sustainability of contemporary organizations.
4. One of the most important sources for gaining power and wealth at the individual and organizational levels through the added value derived from knowledge.
5. It serves as a fundamental indicator reflecting the intellectual development of organizational management.
6. Focus on human resources possessing knowledge and skills is essential for investment in reducing costs and increasing the creative capacities of the organization.

**Third: Dimensions of Intellectual Capital**

Many researchers, including (Gogan, *et al.*, 2016:196) [33], (Bakhsha, *et al.*, 2018:1666) [27], (Bahouti & Bannami, 2020:27) [29], (Abdulsattar, 2020:213) [5], (Tai, *et al.*, 2021:448) [49], (Alawneh & Huwamdeh, 2021:176) [14], (Alkhafaji & Aljabouri, 2021:274) [20], (Abdulwahab, 2022:617) [6], (Abdulraza, 2022:264) and (Ajeel & Abbas, 59:2022), have pointed out that the dimensions of intellectual capital include:

- Human Capital.
- Structural Capital.



- Relational (Customer) Capital.

In agreement with the aforementioned, the dimensions mentioned by these researchers will be adopted as follows:

**1. Human Capital:** It represents the most important element in intellectual capital as it serves as the basis for other dimensions or components such as structural and relational (customer) capital. It refers to the workforce characterized by knowledge, skills, creativity, and the ability to generate new ideas and manage relationships with customers to attract them and achieve their satisfaction. Thus, it embodies the accumulation of knowledge in the minds of workers, contributing to the organization's strategic success (Alwan, 494:2018) <sup>[25]</sup>.

Although human capital is an important intellectual asset for the organization, it is not owned by it because it leaves with the departure of its employees. However, it contributes to sustaining competitive advantage through the value added by workers as it is unique, rare, and not easily imitated, changed, or replaced by competing organizations (Aljabouri *et al.*, 108:2018).

Human capital in the organization is characterized by the following (Mahdi & Albaladawi, 97:2017) <sup>[40]</sup>:

- Ability to generate new ideas and innovate sophisticated methods that distinguish the organization from its competitors.
  - Difficulty in finding alternatives to competent human resources as they represent the stars and masterminds of the organization's operations.
  - It is considered the most valuable asset in the prevailing knowledge economy of the twenty-first century as it represents the force capable of making fundamental changes in the organization's performance.
- 2. Structural Capital:** Structural capital refers to the non-human repositories of knowledge, represented by the physical and cognitive infrastructure of the organization such as devices, equipment, processes, organizational structures, software, technological systems, trademarks, patents, copyrights, and all the organizational capabilities necessary for delivering products (Babai *et al.*, 2016:1064) <sup>[26]</sup>.

On the other hand, structural capital consists of the systems, processes, procedures, and practices specific to the organization that employees use to carry out various organizational activities. It is described as "what remains in the organization when the employees return home in the evening." It serves as supporting tools for human capital since it is owned by the organization, can be reproduced, and shared within the organization. Thus, it varies from one organization to another due to differences in policies and operations guiding the activities of different organizations (Oyedokun & Saidu, 2018:15) <sup>[43]</sup>.

Therefore, structural capital refers to the mechanism and structure of the organization that assists employees in achieving optimal intellectual performance. No individual can maximize the benefits of the organization's potential if its procedures are poor, as structural capital is the result of the interplay between the organization's systems, programs, technology, and culture. These contribute to enhancing employee efficiency and building strong relationships with

customers to enhance organizational value (Chahal & Bakshi, 2016:63) <sup>[30]</sup>.

**3. Relational (Customer) Capital:** This refers to the internal and external reciprocal relationships between the organization and all its stakeholders, whether individuals or organizations. It encompasses the relationship between the organization and networks of suppliers, distributors, partners, competitors, customers, employees, and investors (Jardon & Martinez, 2021:4) <sup>[36]</sup>. Relational capital also represents the added knowledge for the organization and the beneficiaries due to the value derived from the quantity and quality of relationships the organization holds with various market agents specifically, and the community in general. This helps employees work together efficiently and effectively to achieve objectives. Relational capital consists of commercial capital, which refers to the value (price) of relationships between the organization and the key agents involved in the organization's core activities, and social capital, which indicates the importance of these relationships to the organization (Quintero, *et al.*, 2021:6) <sup>[44]</sup>.

The indicators for measuring relational capital in an organization can be identified as follows (Abdulhadi, 2017:27) <sup>[3]</sup>:

- **Core Marketing Capabilities:** This involves creating and utilizing a customer database, preparing the necessary capabilities to provide service to them, and the ability to identify their needs.
- **Market Intensity:** This refers to the expected market share and the units of product sold to customers, as well as the reputation of the brand and the organization's name, and the establishment of sales and distribution channels.
- **Customer Loyalty:** This indicates customer satisfaction, customer complaints, the amount spent on building relationships with customers, the level of attracting new customers, and the level of losing current customers.

## Organizational Sustainability

### First: The Concept of Organizational Sustainability

Due to the distinctive nature of organizational environments characterized by change, complexity, uncertainty, and weak predictability, it is no longer possible to determine the impact of these variables on organizational activities. Consequently, businesses face increasing challenges that negatively affect their competitive abilities and threaten their survival. To overcome these challenges, organizations must develop the necessary tools to withstand them by adopting a comprehensive framework that integrates environmental and social policies, rather than focusing solely on economic or environmental aspects. The goal is to achieve a dynamic balance between people, welfare, and the planet, as sustainability is linked to the organization's long-term economic, environmental, and social variables (Sezen & Argon, 2020:330) <sup>[47]</sup>.

Organizational sustainability refers to an organization's ability to prepare and utilize its resources effectively to meet the requirements for achieving its goals and operating with high quality within a supportive environment for creativity and innovation. This is essential for facing continuous

environmental changes through an organized process with characteristics and activities aimed at achieving the desired future for all stakeholders. Organizational sustainability means not sacrificing the present for the future or vice versa, but rather practicing to find a true balance between short-term considerations and long-term survival requirements.

This involves continuously addressing issues and leveraging the current situation to achieve the organization's strategic goals (Al-Ani & Abdullah, 2021:393) [12].

Many researchers have defined organizational sustainability, and Table (5) illustrates some of these definitions.

**Table 5:** Definitions of Organizational Sustainability

Reference	Definition
(Leven, 2013:23) [37]	The approach reflected in providing continuous services and fulfilling the organization's commitments towards stakeholders specifically and society in general.
(Lozano, 2015:33) [38]	The proactive activities of the organization that aim to contribute to balancing social, economic, and environmental dimensions, as well as its mutual relationships with stakeholders in both the short and long term.
(Moldavanova & Goerdel, 2017:4) [42]	The organization's ability to withstand direct pressures to achieve survival by managing the organization sustainably while maintaining and maximizing its social value in the present and across future generations.
(Zawawi & Wahab, 2019:397) [41]	A principle of integrating economic, social, and environmental systems within business operations to maintain business continuity and achieve prosperity without compromising future needs.
(Magd & Karyamsetty, 2021:88)	A work strategy that involves efficiently identifying and allocating available resources to meet current needs and ensure future needs are met, taking into account the organization's environmental, social, and economic variables.
(Mahmoud & Khalaf, 2023:279)	An organizational approach that refers to ethical organizational practices that support both the individual and the organization to maintain the health and excellence of the organization.

**Based on the above,** the researcher can define organizational sustainability as strategic practices aimed at integrating economic, social, and environmental organizational activities to ensure the organization's survival and continuity. This is achieved through the optimal use of various resources and minimizing waste to meet the needs of the current society while preserving resources for future generations.

**Second: The Importance of Organizational Sustainability**

Organizational sustainability reports provide an opportunity to improve the transparency, legitimacy, and reputation of the organization, and enhance its market value by serving as a tool for comparison with competitors and motivating stakeholders interacting with the organization. The importance of organizational sustainability lies in achieving integration and alignment between efficiency and effectiveness to avoid failure due to the need for continuous learning aimed at meeting fundamental goals and developmental processes. Infrastructure development processes are a central focus of organizational sustainability (Al-Ani & Abdullah, 2021:402) [12]. (Al-Rikabi, 2022:264) [24] identified the importance of organizational sustainability as follows:

1. Identifying the strengths and weaknesses of the organization and improving effective intellectual communication both within and outside the organization.
2. Assisting in forming the basic structure of the organization's internal system, monitoring weak activities to avoid repetition, and achieving integration of organizational activities.
3. Encouraging the use of appropriate organizational structures and infrastructure, and promoting daily operations that conform to established standards.
4. Enhancing the organization's competitive edge over other organizations by focusing not only on environmental sustainability but also on other social and economic dimensions of organizational sustainability.
5. Enhancing the organization's ability to survive,

continue, and grow.

6. Contributing to finding new ways to help the organization face economic, social, and environmental risks.
7. Developing the top management's ability to manage the organization efficiently and effectively, achieving high productivity.
8. Contributing to developing the advantages necessary to improve the organization's reputation, boost employee morale, and gain customer satisfaction.

**Third: Dimensions of Organizational Sustainability**

Many researchers, including (Bom, *et al.*, 2019:3) [28], (Zawawi & Wahab, 2019:404) [41], (Al-Hadrawi, *et al.*, 2020:504) [15], (Ikram, *et al.*, 2020:4, Magd & Karyamsetty, 2021:93) [34, 39], (Jahloul & Khudair, 2021:146) [35], (Rahman, *et al.*, 2022:24) [45], (Al-Miyali & Al-Hasani, 2022:421), (Ali & Adel, 2023:583) [16], and (Mahmoud & Khalaf, 2023:273), have indicated that the dimensions of organizational sustainability are as follows:

- Economic sustainability.
- Social sustainability.
- Environmental sustainability.

**In agreement with the above, the dimensions mentioned by the researchers will be adopted as follows:**

1. **Economic Sustainability:** This refers to the organization's ability to continue providing products to its customers over time while focusing on achieving optimal levels of financial, productive, and profitable performance, as well as managing social and environmental assets. This means meeting the needs and requirements of direct and indirect stakeholders without compromising the organization's ability to meet the needs and requirements of future stakeholders. Therefore, organizations must use resources at a rate lower than the natural population growth rate or at a rate less than the development of alternatives for those resources. Additionally, they must use resources that do not leave harmful residues in the environment, causing accumulation at a rate beyond the natural ecosystem's capacity to absorb them (Giovannoni & Fabiatti,

2014:27) <sup>[32]</sup>.

Economic sustainability can also be described through a set of criteria that differ from traditional economic success measures and are characterized by sustainable economics. These criteria include (Al-Ani & Abdullah, 2021:395) <sup>[12]</sup>:

- Focusing on diversity and redundancy in economic structures, technologies, and processes.
- Ensuring balanced exchanges with other economic systems in both physical and monetary terms; otherwise, the coexistence guideline will be breached by undermining the effectiveness guideline of other systems.
- Highlighting creative capacities from economic, social, artistic, and organizational perspectives.
- Demanding effective contributions to enhance quality of life, a healthy environment, social cohesion, and organizational continuity as conditions for economic sustainability.
- Providing organizational, social, and environmental sustainability standards for the economy.

**2. Social Sustainability:** Social sustainability encompasses formal and informal organizational systems, processes, and structures that enhance the ability of current and future generations to create a healthy environment and establish livable communities. Social sustainability is a development that supports social integration, balance, and improves the quality of life for all segments of society. This is achieved through internal strategies such as ensuring employee safety, promoting fairness, adhering to regulatory standards, safeguarding customer information, and involving employees in decision-making. External strategies include organizational participation in social and cultural programs, concern for customer and community rights, responsiveness to their needs, and providing accurate and truthful information (Al-Miyali & Al-Hasani, 2022:427).

Furthermore, (Rosen, 2018:11) <sup>[46]</sup> pointed out two key factors of social sustainability:

**Justice:** Refers to justice between current generations and justice between current and future generations. Justice among current generations entails equality among people of the same generation and equitable distribution of wealth among them. Justice between current and future generations means ensuring the ability of future generations to achieve an acceptable quality of life compared to previous generations.

**Health:** Human health and well-being are fundamental factors of social sustainability. Measures of human health include life expectancy and infant mortality rates. Other factors affecting human health include access to healthy food and clean drinking water, safe waste disposal, and providing an environment free from harmful substances

such as toxins and carcinogens that lead to the spread of chronic and serious diseases.

**3. Environmental Sustainability:** Environmental sustainability involves preventing the impacts that an organization has on the natural ecosystem, comprising both living and non-living entities. It entails assessing the effects resulting from the organization's operations and products by eliminating high emissions, reducing unnecessary costs, and avoiding practices that may affect the ability of future generations to access vital natural resources. This means not exerting pressure on the ecosystem beyond its capacity for tolerance and utilizing natural resources as a source of economic inputs and waste disposal, while keeping emissions and waste within the environmental capacity to meet customer requirements without harming the environment's ability to provide the necessities for a good life for all people now and in the future (Ayor & Alikor, 2020:26) <sup>[10]</sup>.

Moreover, environmental sustainability represents organizational activities responsible for environmental conservation to prevent the depletion or wastage of natural resources and preserve them to improve long-term environmental quality to meet the needs of contemporary generations without compromising the requirements of future generations. This entails creating a state of resilience, balance, and interconnectedness in the way humans meet their needs without impacting ecosystems or interfering with other factors. There are five fundamental principles of environmental sustainability: (Dixit & Chaudhary, 2020:3) <sup>[31]</sup>

- Biodiversity conservation.
- Community needs.
- Recycling and reuse.
- Non-renewable resources and energy generation.
- Renewability capacity.

### Chapter Three Description and Diagnosis of Research Variables and Testing of Hypotheses First: Description and Diagnosis of the Intellectual Capital Variable

The independent variable (Intellectual Capital) in Survey (3) encompasses three dimensions. To answer the first question of the research inquiries: What is the extent of the researched company's awareness of the concept of intellectual capital and its dimensions? The researcher extracted the mean and standard deviation for each dimension of the variable as follows:

#### 1. Human Capital Dimension

Table (6) illustrates the small and large values of the responses from the sample individuals, indicating that the responses were high compared to the standard values, and the dispersion values were close, implying consistency in reactions to this dimension.

**Table 6:** Results of Description and Diagnosis of Human Capital

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The company relies on principles and standards that focus on experience and expertise when selecting employees to work for it.	4.800	0.410	High
2.	The company holds continuous training programs that contribute to the development of employees' skills and abilities.	4.226	0.420	High
3.	The company encourages employees to present creative ideas to solve problems and improve work.	4.556	0.532	High
4.	Teams are formed to foster team spirit among employees in the company.	4.478	0.535	High
5.	The company provides moral and financial incentives to employees with initiatives and creative ideas.	4.495	0.626	High
6.	Employees in the company have the ability to handle diverse work responsibilities.	4.460	0.625	High
7.	The company works on retaining individuals with diverse skills.	4.113	0.685	High
Mean and standard deviation of human capital:		4.446	0.320	High

Source: SPSS Program

**2. Structural Capital Dimension**

Table (7) displays the minimum and maximum values of the responses from the sample individuals, indicating that the

responses were high compared to the standard values, with close dispersion values, implying consistency in reactions for this dimension.

**Table 7:** Results of Description and Diagnosis of Structural Capital

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The company regularly updates its information system to keep pace with the changes and developments in the external environment.	4.626	0.520	High
2.	The company adopts policies and procedures conducive to efficient operation execution.	4.260	0.479	High
3.	The company's management clearly explains the policies and procedures followed to all employees.	4.330	0.573	High
4.	The company periodically makes adjustments to its organizational structure to align with the internal and external environment.	4.226	0.593	High
5.	Individuals have the freedom to make decisions regarding their daily work through broad delegation of authority.	4.104	0.717	High
6.	The organizational structure of the company is characterized by a high degree of clarity in the relationships between superiors and subordinates.	4.173	0.728	High
7.	The company compares its administrative performance with other companies in order to improve its operations.	4.165	0.782	High
Mean and Standard Deviation for Structural Capital		4.279	0.399	High

Source: SPSS Program

**3. Relational (customer) capital dimension**

Table (8) illustrates the small and large values of responses from the sample individuals, indicating that the responses

were high compared to the standard values, and the dispersion values were close, indicating consistency in reactions to this dimension.

**Table 8:** Results of Description and Diagnosis of Relational (Customer) Capital Dimension

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The company continuously seeks to establish cooperative relationships with local and international institutions to enhance its operations.	4.434	0.563	High
2.	The company carefully examines all concerns and complaints of stakeholders and endeavors to resolve them.	4.330	0.573	High
3.	The company offers diverse products that align with the purchasing power of customers.	4.173	0.704	High
4.	All departments and divisions in the company contribute to meeting the needs of customers.	4.165	0.647	High
5.	The company owns electronic platforms to communicate with customers, facilitating service delivery to them.	4.260	0.636	High
6.	The company consistently works on updating its database of suppliers.	4.165	0.724	High
7.	The company is committed to introducing new products to its customers through alliances with other companies.	4.234	0.729	High
Mean and standard deviation of Relational (Customer) Capital		4.255	0.359	High

Source: SPSS Program

**Second: Description and Diagnosis of the Organizational Sustainability Variable**

The dependent variable (Organizational Sustainability) in the questionnaire (3) encompasses three dimensions. To answer the second question of the research inquiries: What is the extent of the researched company's awareness of the concept of organizational sustainability and its dimensions? The researcher computed the mean and standard deviation

for each dimension of the variable as follows:

**1. Economic Sustainability Dimension**

Table (9) illustrates the small and large values of the responses from the sample individuals, showing that the responses were high compared to the standard values, and the dispersion values were close together, indicating consistency in reactions to this dimension.



**Table 9:** Results of Description and Diagnosis of Economic Sustainability

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The revenues from the products offered to customers enable the company to sustain its product offerings.	4.591	0.560	High
2.	The company's product prices are lower compared to alternatives available in the market.	4.460	0.566	High
3.	The financial budgets of the company are sufficient for the continuity of providing products to customers.	4.426	0.562	High
4.	The company's products contribute to providing financial returns that exceed their production costs.	4.373	0.668	High
5.	The company management works on increasing market share by offering high-quality products.	4.721	0.522	High
6.	The company management primarily relies on internal resources to cover operational expenses.	4.660	0.544	High
7.	The company management focuses on efficiently utilizing raw materials in production.	4.687	0.502	High
Mean and standard deviation of economic sustainability.		4.564	0.325	High

Source: SPSS Program

**2. Social Sustainability Dimension**

Table (10) displays the minimum and maximum values of the responses of the sample individuals, indicating that the

responses were high compared to the standard values, and the dispersion values were close together, indicating consistency in responses to this dimension.

**Table 10:** Results of Description and Diagnosis of Social Sustainability

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The company provides products for free to cases classified below the poverty line.	4.365	0.551	High
2.	The company organizes health awareness campaigns for citizens in the geographical area where it operates.	4.608	0.490	High
3.	There is harmony and compatibility between the company's culture of values and customs with the social upbringing of its employees.	4.539	0.534	High
4.	The company's management adopts social responsibility to enhance its presence and increase its market share.	4.469	0.625	High
5.	The company's management evaluates the impact of production decisions on society.	4.434	0.702	High
6.	The company's management ensures fair distribution of rights and duties among employees.	4.208	0.694	High
7.	The company provides all necessary supplies to maintain the safety of its employees.	4.069	0.697	High
Arithmetic Mean and Standard Deviation for Social Sustainability		4.389	0.331	High

Source: SPSS Program

**3. Environmental Sustainability Dimension**

Table (11) illustrates the minimum and maximum values of the responses from the sample individuals, indicating that

the responses were high compared to the standard values, and the dispersion values were close together, indicating consistency in reactions to this axis.

**Table 11:** Results of Description and Diagnosis of Environmental Sustainability

S	Paragraph	Mean	Standard Deviation	Evaluation Level
1.	The company's mission considers the importance of environmental performance and the need to enhance it.	4.756	0.470	High
2.	The company management insists on using environmentally friendly raw materials.	4.513	0.535	High
3.	The company is committed to implementing environmental governance procedures in its production operations.	4.373	0.553	High
4.	The company's management evaluates environmental impacts when making operational decisions.	4.269	0.551	High
5.	Medical waste is collected from all company departments daily.	4.321	0.628	High
6.	The company ensures the separation of medical waste from other types of waste.	4.173	0.652	High
7.	Medical waste is disposed of in dedicated sites away from public waste dumps.	4.260	0.714	High
Mean and standard deviation of environmental sustainability		4.383	0.302	High

Source: SPSS Program

**Third: Testing and analyzing the correlation between research variables**

Analyzing the correlation helps in uncovering the details of the relationships between research variables and enhances a comprehensive understanding of the phenomena under study. Based on that, we can evaluate the strength of the correlation between variables according to the following criteria:

1. Weak correlation: Less than (0.10).
2. Moderate correlation: Between (0.10) and (0.30).

3. Strong correlation: More than (0.30).

**First Hypothesis**

**H<sub>1</sub>:** There is a significant correlation between intellectual capital and organizational sustainability in the researched company.

Based on the following table, it shows that there is a significant correlation between the variables and it is of great importance.

**Table 12:** Correlation coefficients between variables

Variables		Human Capital	Structural Capital	Relational (Customer)Capital
Organizational Sustainability	The correlation coefficient value.	.0781	0.692	0.719
	The significance.	000	000	000
	N	115	115	115

Source: SPSS Program

**From the results in the table above, the following conclusions can be drawn**

1. There is a strong positive correlation between human capital and organizational sustainability, as the correlation value reached (0.781), indicating a positive correlation of (78.1%). This percentage is acceptable compared to the significant value (0.05). Therefore, this suggests a positive correlation between the variables.
2. There is a statistically significant positive correlation between structural capital and organizational sustainability, with a correlation value of (0.692), representing (69.2%). This percentage is acceptable compared to the usual significant value of (0.05), indicating a correlation between the variables.
3. There is a significant positive correlation between relational capital (customer-related) and organizational sustainability, with a correlation value of (0.719),

equivalent to (71.9%). This value is acceptable when compared to the predetermined significance value of (0.05), indicating a correlation between the variables.

**Fourth: Testing and Analyzing the Influence between Research Variables**

The significant relationship between variables will be elucidated using an F-test, as well as through the correlation coefficient and the estimated value to achieve the desired objective, which fulfills the hypotheses posited by the researcher, as follows:

**Second Hypothesis**

**H<sub>2</sub>:** There is a significant effect of intellectual capital on enhancing organizational sustainability in the researched company.

**Table 13:** Simple Regression Test for the Impact of Intellectual Capital on Organizational Sustainability

Independent Variable	$\alpha$	$\beta$	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	t	sig	Dependent Variable
Intellectual Capital	1.441	0.651	0.367	0.364	114.909	10.720	0.000	Organizational Sustainability

Source: SPSS Program

The table above indicates that the F-test value is (114.909). To accept or reject the hypothesis, it will be compared with the critical value. Since it is greater and at a significance level of (0.05), the hypothesis is accepted, suggesting a significant effect of intellectual capital on promoting organizational sustainability in the researched company. With a correction factor value of (0.364), approximately (36.4%) of organizational sustainability is attributed to intellectual capital. The beta coefficient result is (0.577), indicating that a one-unit increase in intellectual capital

leads to a (57.7%) increase in organizational sustainability. The t-test value is (10.720), which is greater than the critical value at a significance level of 0.05, suggesting that intellectual capital rates are constant and consistent.

**Third Hypothesis**

**H<sub>3</sub>:** There is a significant effect of each dimension of intellectual capital on promoting organizational sustainability in the researched company.

**Table 14:** Regression Coefficients for the Impact of Intellectual Capital Dimensions on Organizational Sustainability

Dimensions of Intellectual Capital	$\alpha$	$\beta$	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	t	sig	Dependent Variable
Human Capital	1.157	0.671	0.531	0.528	223.742	14.958	0.000	Organizational Sustainability
Structural Capital	0.733	0.772	0.600	0.598	296.620	17.223	0.000	
Relational (Customer) Capital	0.486	0.826	0.681	0.679	422.707	20.560	0.000	

Source: SPSS Program

**From the table above, the following conclusions can be drawn**

1. There is a strong positive relationship between human capital and organizational sustainability, as indicated by the F-test value of (223.742). This value exceeds the critical value at a significance level of (0.05), indicating a significant impact of human capital on organizational sustainability. The beta coefficient of (0.671) suggests that a one-unit increase in human capital leads to a (67.1%) increase in organizational sustainability. Additionally, the t-test value of 14.958 is greater than the critical value, indicating that the effect of human capital on organizational sustainability is statistically significant.
2. There is a significant positive effect of structural capital

on organizational sustainability, as evidenced by the F-test value of (296.620), which exceeds the critical value at a significance level of (0.05). The beta coefficient of (0.772) suggests that a one-unit increase in structural capital leads to a (77.2%) increase in organizational sustainability. The t-test value of (17.223) is greater than the critical value, indicating the stability of the effect of structural capital on organizational sustainability.

3. There is a significant positive impact of relational (customer) capital on organizational sustainability, with an F-test value of (422.707), which exceeds the critical value at a significance level of (0.05). The beta coefficient of (0.826) suggests that a one-unit increase in relational (customer) capital leads to an (82.6%)

increase in organizational sustainability. The t-test value of (20.560) is greater than the critical value, indicating the stability of the effect of relational (customer) capital on organizational sustainability.

## Chapter Four

### Conclusions and Recommendations

#### First: Conclusions

1. There is a significant positive relationship and influence of intellectual capital on organizational sustainability, emphasizing the importance of investing in the development and enhancement of employees' capabilities and skills, fostering innovation and creative thinking to ensure the sustainability of the researched company.
2. Research results demonstrate the effective role of human capital in enhancing sustainability by focusing on training and developing human resources and creating a work environment that encourages learning and creativity, leading to improved sustainable performance of the researched company.
3. The study results therefore supported the fact that social capital has a positive effect on organizational sustainability through the establishment of positive relations with the organization and other outside partners, the improvement of social communication and the development of social capital in order to foster sustainability and togetherness towards sustainability goals in the organization.
4. The findings supported the hypothesis that environmental capital contributes to organizational sustainability through the researched company, adapting to environmental conditions and embracing sustainable business practices that will help in protecting the environment and mitigate the effects of adverse environmental impacts using sustainable energy technology and green manufacturing.

#### Second: Recommendations

1. Promote sustainable recruitment and training policies and processes which enhance the competency and capacity of human capital.
2. Recommendations for policies and procedures for organizational improvement will include making upgrades to the information systems and periodically readjusting the structure of the organization based on the internal and external environment.
3. To cooperate with the local and foreign institutions to learn from their experience in developing the company's work, to solve some of the stakeholders' problems mentioned in the complaints and to search for solutions.
4. Integrate environmental responsibility into business strategies by utilizing clean energy technology, as well as establishing principles of environmental management for the stewardship of resources for future generations and eventually improve the company's environmental footprint.

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