

# Integrating Artificial Intelligence Capabilities and Organizational Maturity on Enhancing Financial Sustainability - A Field Study in Iraqi Telecommunications Companies (Zain Iraq and Asia Cell)

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## Abstract

*With the advancement and maturity of artificial intelligence, its use in the work environment alongside humans has become necessary. This raises questions about the real value that artificial intelligence can provide and the importance of its integration with organizational maturity. The research aims to test the impact of integrating artificial intelligence capabilities with organizational maturity in enhancing financial sustainability. It highlights how telecommunications companies can benefit from artificial intelligence capabilities and employ them in specific areas to meet business needs and achieve performance gains. Therefore, a questionnaire was used to collect the opinions of a sample of managers, department heads, and unit and division officials. 163 questionnaires were distributed to the two telecommunications companies, Asia and Zain Iraq, in Baghdad. After analyzing the data using (SPSS V28), (AMOS V26), and (SMART PLS) programs, the research reached a number of conclusions, most notably: the existence of a complementary relationship between the research variables (artificial intelligence capabilities, and organizational maturity) in influencing the variable (financial sustainability). Proving that embedding artificial intelligence capabilities in telecommunications companies contributes to achieving tangible gains in financial sustainability.*

**Keywords:** *Artificial Intelligence Capabilities, Organizational Maturity, Financial Sustainability*

## INTRODUCTION

The qualitative and rapid development brought about by the technological revolution over the past century and the first quarter of the current century in the field of information technologies has led to the emergence of new software applications characterized by diversity and continuous innovation, which has increased the intensity of competition at the level of the global market. Recently, modern applications of information technologies have tended to use intelligence, artificial technology, in many fields to benefit from the ability of intelligent systems to make decisions.

Artificial intelligence refers to algorithms that complete tasks by identifying statistical patterns in data to essentially mimic human actions and patterns. Artificial intelligence is defined as the ability of computers, robots, or other machines to acquire the quality of intelligence, and to be able to solve problems and do things. Related to humans, such as: thinking, communicating, and carrying out specific tasks and goals, and it can improve itself through the information collected (Al-Thaqafi et al., 2024: 2).

Because of the obvious benefits of its applications, artificial intelligence has continuously offered a solid basis for technological innovation in all business sectors, including the financial sector. Artificial intelligence also acts as a catalyst for economic growth and technological innovation for businesses and economies, Financial institutions are making extensive use of the power of artificial intelligence to streamline operations, build actionable insights, and provide personalized services to customers. With the increasing reliance on modern technologies in the financial sector, the need has emerged to understand how artificial intelligence affects financial sustainability, ensuring economic stability and long-term growth. Financial sustainability refers to an organization's ability to generate revenues from its operations to cover its expenses now and in the future (Muhammad et al., 2023: 11.8). Integrating Artificial Intelligence technologies with organizational maturity has the potential to significantly impact financial sustainability outcomes by enhancing efficiency, risk management, and customer satisfaction. However, the journey towards leveraging Artificial Intelligence for sustainable

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financial practices is complex and multi-faceted. Therefore, understanding organizational maturity is vital because it can significantly affect the results of adopting artificial intelligence. It is defined as a planned effort directed towards improving and raising the level of effectiveness and quality of performance through planned interventions in organizational learning. Organizational maturity coordinates individual and organizational goals in order to create groups. Cohesive and effective in the organization, organizational maturity enables companies to implement Artificial Intelligence to either amplify or mitigate the impact of Artificial Intelligence on financial sustainability (Eid et al., 2021: 4).

## RESEARCH METHODOLOGY

### Problem Statement

The globe is seeing a significant shift in scientific advancement due to the widespread technology revolution that has affected all fields and sectors. These alterations have had an impact on people's lives, societies, and established systems, either favorably or unfavorably. One of the most prominent phenomena that emerged as a result of the information technology revolution is the emergence of smart technology, including artificial intelligence, which is considered a major challenge in this era. The problem of the study crystallizes in two specific aspects:

**Knowledge Gap:** In the midst of the "interdisciplinary" state that embodied the integration of knowledge and methodologies from several different fields with the aim of achieving a deeper understanding and generating creative and comprehensive solutions to the problems facing societies, the applications of "artificial intelligence" were not isolated from this cognitive development. From this standpoint, we can see a radical shift towards... Integrating the concept of "artificial intelligence" into all areas of human knowledge. Evidence of this is the presence of a huge amount of global knowledge production that reviews the relationship of artificial intelligence to various fields of science and arts. In contrast, Arab knowledge production appears to be very limited, and if it exists, it represents a small part of reality and can be considered just an "echo" that corresponds to the large amount of foreign production. In short, we are witnessing an important development in integrating the concept of "artificial intelligence" into all fields of knowledge, and previous studies in this field are considered important for directing research towards exploring the benefits of this multidisciplinary knowledge interaction and contributing to the development of local and Arab knowledge.

**The Usage Gap:** If talk about "computer illiteracy" has been prevalent over the past decades, then "artificial intelligence illiteracy" is what will stigmatize those who lag behind. The impact of artificial intelligence has extended to all areas, from personal devices to general applications and robotics. As for telecommunications companies in our country, they are still facing challenges and obstacles in the field of AI, especially in the field of harnessing it to improve financial sustainability. Therefore, these companies cannot develop and face the challenges except by creating an appropriate work environment and spreading the appropriate culture that leads employees to accept this transformation. Achieving "organizational maturity" and integrating it with artificial intelligence will improve risk management; preserve financial resources in the long term, and protect the company from turnover due to the fear that may surround employees that artificial intelligence will replace their jobs. Digital transformation has become crucial. It occupies the interest of all companies and societies that are searching for their place in the global economy to benefit from technological transformations. Based on this, the problem of this research arose around studying the integration of artificial intelligence capabilities and organizational maturity and its impact on financial sustainability. The problem can be crystallized with the following questions :

**The first question:** What are the levels of importance of each of the three research variables (artificial intelligence capabilities, organizational maturity, financial sustainability) in telecommunications companies (Zain Iraq and Asia Cell)?

**The second question:** Do artificial intelligence capabilities and organizational maturity have an impact on financial sustainability in the business environment of telecommunications companies (Zain Iraq and Asiacell)?

**The third question:** Is there an impact of the integration of artificial intelligence capabilities and organizational maturity on financial sustainability?

**Research Objectives**

Addressing the knowledge gap through intellectual and methodological linking between research variables.

Revealing the level of importance of artificial intelligence capabilities in the researched companies.

Identify the level of importance of organizational maturity in the researched companies.

Analyzing the level of impact of “artificial intelligence capabilities” and “organizational maturity” on “financial sustainability”.

Revealing the extent of integration in artificial intelligence capabilities and organizational maturity in influencing financial sustainability.

**Hypotheses and Research Model**

The first hypothesis (H1): There is significant effect of the independent variable (artificial intelligence capabilities) on the dependent variable (financial sustainability).

The second hypothesis (H2): There is significant effect of the independent variable (organizational maturity) on the dependent variable (financial sustainability)

The third hypothesis (H3): There is significant complementary effect of the two independent variables (artificial intelligence capabilities) and (organizational maturity) on the dependent variable (financial sustainability).

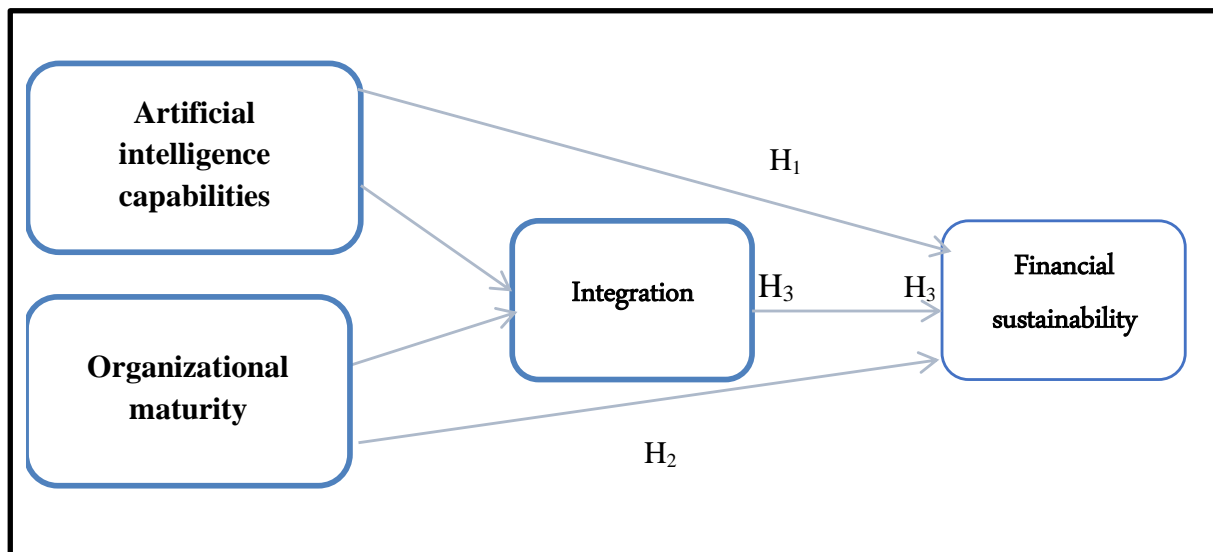


Figure (1) Hypothetical model for the research

**Population and Research Sample**

Telecommunications companies were chosen because of their major role in adopting artificial intelligence. The research community consisted of administrative employees working in companies (Zain Iraq and Asiacell), and the study sample amounted to (163) employees.

## Tools Used to Collect Research Data: They Can Be Divided Into Two Parts

A - The theoretical part: In order to enrich the theoretical aspect, a group of scientific books and journals were used, as well as doctoral theses and master's theses, in addition to international websites, which constituted an important aspect in obtaining recent studies related to the research variables.

B - The practical part: The questionnaire was the basic tool for the practical part of the research, as it consisted of the independent variable (artificial intelligence capabilities) and its dimensions, the independent variable (organizational maturity) and its dimensions, and the dependent variable (financial sustainability) and its dimensions. Each variable included a set of dimensions, and it was Use a five-point Likert scale as shown in Table (1).

The level of practice	very high	high	average	weak	very weak
Grade	5	4	3	2	1

The questionnaire was also designed with reference to previous studies and in a manner consistent with the field of research, as in Table (2).

Study variables	Dimensions	Number of indicators	Resources
Artificial intelligence capabilities Financial sustainability	Tangible resources	10	Mikalef, P., & Gupta, M. (2021)
	HR	10	
	Intangible resources	10	
AI capabilities Financial sustainability	Strategic financial planning	5	León, P. (2001)
	Sound financial management	5	
	Diversifying funding sources	5	
organizational maturity	organizational behavior	7	Ahmed, F., & Capretz, L. F. (2010)
	Organizational management	7	

## THEORETICAL REVIEW OF RESEARCH

### Artificial intelligence capabilities

**The concept of artificial intelligence capabilities:** There have been many definitions of artificial intelligence capabilities due to the diversity and multiplicity in the fields and aspects of artificial intelligence, which leads to a difference in views among scientists regarding its definition and precisely defining its limits. The most prominent of these was the definition of (Mikalef), which defines it as the company's ability to coordinate resources. the arrangement and use of computer systems that can do all human-like functions, including learning, reasoning, and self-correction, in relation to commercial tasks (Mikalef, et al, 2019: 2)

**Resource-based theory:** The fundamental tenet of the resource-based view is that an organization's standing in a market that is competitive is determined by the kinds of resources it owns or controls. (Fajimolu, et al, 2023: 159). Based on this assumption, all resources They are not equal in value and importance, but rather depend on the competitive positions that companies can achieve as a result of using resources that can be characterized by: They must: (1) be priceless; (2) be uncommon; and (3) be unique. (4) It needs to be irreplaceable. Mikalef & associates, 2021: 2). The capacity to use artificial intelligence is a vital but intangible resource for improving corporate performance. It suggests that businesses could benefit from artificial intelligence in terms of a competitive edge. Additionally, businesses may be able to obtain rare, valuable, and irreplaceable resources thanks to artificial intelligence skills. Capabilities are essential characteristics of an organization. necessary for carrying out work. These skills aid in utilizing more resources that are required to boost business performance. (Chen, et al, 2022:2-3.)

**The importance of artificial intelligence:** Artificial intelligence is considered appropriate for almost every organizational function and ranks first in the list of the top 10 workplace trends issued by the Society for

Industrial and Organizational Psychology, as nearly 80% of large companies have adopted some form of artificial intelligence (AI). in its basic work (Makarius, et al, 2020: 262) This is due to the fact that artificial intelligence enables workers to communicate with gadgets using human language rather than programming languages, making the devices and their use accessible to all workers. Previously, only specialists were able to handle sophisticated technology. Due to their independence, accuracy, and objectivity, smart systems aid in decision-making processes. As a result, choices made by these systems are free from bias, racism, inaccuracy, and even outside or human influence. (Al-Barashdiya, 2021: 26 ).

**Dimensions Of Artificial Intelligence Capabilities:** - We have followed studies that dealt with the topic of artificial intelligence capabilities, and in order to find out the most prominent ones that have the most impact on the activity of organizations, we relied on the dimensions that came in the study (Mikalef, P., & Gupta, M. 2021), which are: (Tangible resources, human resources, intangible resources) have been included as research standards for several reasons, including: the nature of the relationship between the research variables and in view of the environment and field of application, and based on what was mentioned, it can be explained briefly: -

**Tangible Resources** are the physical assets that the company owns and include data, technology and basic resources, and they work to enable the company to achieve competitive parity or enable the company to provide a temporary competitive advantage. However, tangible resources are necessary but not sufficient in themselves to create capabilities (Akinyi, 2012, 4) Technological infrastructure, data and basic resources are considered a prerequisite for investment in artificial intelligence, as the report published by McKinsey in 2018 indicated that one of the most important barriers to adopting artificial intelligence is the lack of technological infrastructure, data and basic resources, represented by financial resources. (Fredriksen, et al, 2021: 9 )

**Human Resources:** - The human resource is considered a distinctive element of the organization because it is an intangible resource and is difficult for competitors to imitate, which gives any organization a potential competitive advantage, as the role of artificial intelligence in the organization is to improve the efficiency and effectiveness of the human resources function through Making management processes agile and accurate (Palos-Sánchez, et al, 2022: 4). On the other hand, developing algorithms and artificial intelligence applications requires significant human intervention in all practical stages. These stages include training, testing, fine-tuning, marketing, and sometimes modernization (Tubaro, 2022: 3). Therefore, understanding the scope of artificial intelligence applications and acquiring skills and experience in using artificial intelligence systems are prerequisites for employees to apply artificial intelligence within organizations (Chen, et al, 2022:3), as a survey of executives conducted by the Boston Consulting Group and the Massachusetts Institute of Technology found that seven out of... Ten Artificial Intelligence projects had little impact and Artificial Intelligence implementation plans decreased from 20% in 2019 to 4%. It is therefore clear that for Artificial Intelligence to succeed, employees must embrace Artificial Intelligence systems, interact with them, and integrate their behavior with them (Lichtenthaler, 2018: 12). -14)

**Intangible Resources:** These are assets and factors that cannot be measured in tangible terms, for example, knowledge, experiences, social relationships, and creative abilities. Modern economies try to understand intangible assets, which in turn can lead to understanding artificial intelligence. (436: (Carol Corrado, et al, 2021) Intangible resources are those that are more valuable in erratic marketplaces and are challenging for rival businesses to imitate. In contrast to the other two types of resources, intangibles are more challenging to pinpoint inside businesses. But still It is a kind of resource that gains a competitive edge even if it is hard to quantify. Because intangible resources are developed through a special combination of organizational culture, people, and processes that distinguishes organizations and enhances the capabilities of artificial intelligence, no two resources are the same across companies because they are not homogeneous and unique. Organizations are also unable to replicate intangible resources. (Mikalef, , et al, 2021: 6).

### **Financial Sustainability**

**The concept of financial sustainability:** Sustainability is described as the longevity of an organization, maintaining basic principles, and responsibility towards societal and environmental needs. As for profit-making

institutions, sustainability is linked to survival in a competitive market, especially in light of the increasing global competition that imposes shifts in policies and operations that lead institutions to adopt sustainability programs (Afriyie, 2015: 17). It is defined as the ability of institutions to generate revenues from their operations to cover all their expenses. At the present time and also in the future when you need to expand (said, et a, 2019:245).

**The importance of financial sustainability:** The importance associated with financial sustainability is increasing in business organizations, as stakeholders consider it an important indicator of corporate performance, and financial sustainability refers to the efforts made by the organization to work in a way that leads to the creation of long-term value for the brand, in addition to its responsibility for social and environmental responsibility. And commitment to ethical standards, as financial sustainability has become a decisive factor towards organizations gaining competitive advantage and increasing their chances of survival. Within the framework of financial sustainability, the role of organizations appears as a driver of innovation and effective response to challenges that may arise (Al Zaabi, et al, 2021: 1-2)

**Dimensions of financial sustainability:** - Based on previous studies, it appears that strategic financial planning, diversification of sources of income, and sound financial management are considered important dimensions in the sustainability of financial institutions, as Leon (2001) reviewed all of the dimensions of strategic financial planning, diversification of sources of income, and financial management.

**Strategic financial planning:** - Strategic financial planning is one of the important components in building performance evaluation systems, and in determining how to manage the organization's financial resources in modern business environments, which are characterized by their urgent and continuous need to develop performance, not only current performance but also future performance, as it includes Strategic financial planning is setting long-term goals and effective means to achieve them, with the aim of ensuring the organization's sustainability and success (Al-Jumaili, 2022: 17).

**Diversification of sources of income:** - Diversification of income is defined as the process of creating additional income in addition to the primary source of income by providing new revenues that are added to the total income available to an institution. Researchers point out that in order for organizations to survive in the long term, they must adopt strategies to diversify sources of income and thus achieve additional revenues that meet the requirements of different stakeholders and expand the resource base, which contributes to the continuity of operations and achieving success. The process of income diversification deals with diversifying revenue portfolios and taking advantage of a diverse mix of resources and assets to achieve the required need, improve performance and manage risks (Osei-Kuffour, et al, 2020:12)

**Sound financial management:** Sound financial management means using administrative and planning skills to manage and manage the company's financial activities effectively, with the aim of meeting the company's economic aspirations by providing the necessary assistance and support to members of the Board of Directors to reach the best possible results and financial decisions, by providing and issuing all information. necessary and basic requirements, as well as enabling the use of advanced information processing systems to enhance and facilitate the decision-making process (Mostafa, 2021: 2).

## **Organizational Maturity**

**The concept of organizational maturity:** When an organization is said to be mature, it means that it has reached a point where it can successfully and efficiently accomplish its objectives. We won't find a fully developed organization since there isn't an ideal organization in the real world, and no one has ever achieved the stage of maximum development. It makes sense to discuss a certain level of maturity and try to gauge or describe the organization's maturity. (Andersen, et al, 2003:457) It is defined as a measure of an organization's readiness and ability, which is expressed through its people, processes, data, technologies, and established measurement practices. The maturity model is a tool used in various fields of education, health, energy, finance, and government. It is a means of continuous evaluation and improvement (Hassanin et al., 2022: 4).

**The importance of organizational maturity** Organizational maturity is considered essential for improving the performance of organizations, as it includes aspects such as organizational culture, job satisfaction, and leadership style. Maturity models provide a comprehensive framework that helps identify areas of improvement and develop improved organizational strategies. These models are also used to identify gaps in the organization’s operations and develop A plan for improvement and evaluation of the strengths and weaknesses of the organization’s operations (Jordan, et al, 2023: 9).

**Dimensions Of Organizational Maturity:** Organizational maturity can be divided into several dimensions that reflect the organization’s areas of focus, where it is evaluated to understand the extent of its readiness and ability to achieve continuous improvement, and where the dimensions vary and differ based on the model of organizational maturity used. Two dimensions of organizational maturity have been adopted: (organizational behavior and organizational management) because of their importance in influencing the performance of individuals and the organization of work within the organization, which was mentioned in the study (Ahmed, et al, 2010).

**Organizational Behavior:** - It is the study of the behavior of individuals within the organizational environment, with the aim of improving organizational effectiveness by reducing undesirable behaviors, such as absenteeism and employee turnover, and promoting desirable behaviors, such as high performance and job satisfaction, as organizational behavior focuses on how individuals behave. And groups within the organization, and how organizational culture, leadership, and motivation affect behavior (Chams-Anturi et al, 2020: 1), and includes elements of organizational behavior in (organizational culture, organizational commitment, organizational learning).

**Organizational Management:** It is considered one of the areas of business administration that is concerned with how to organize the organization’s operations. It focuses on forecasting, planning, organizing, implementing, and making decisions to design an effective organizational structure, develop administrative processes, and improve the organization’s performance (Nantoi, et al 2023: 16-17).

**ANALYZE AND DISCUSS THE RESULTS OF DESCRIPTIVE STATISTICS FOR THE RESEARCH VARIABLES**

**Independent Variable (Artificial Intelligence Capabilities)**

The results of the analysis showed that the variable (artificial intelligence capabilities) achieved an arithmetic mean (4.006) at a good level. The standard deviation was (0.550), with a coefficient of variation (13.74), as in Table (3).

**Table (3): Summary of the dimensions of the artificial intelligence capabilities variable**

No.	Dimensions of the artificial intelligence capabilities variable	M	S	CV	Ranking of variables
1	Tangible resources	3.991	0.621	15.57	1
2	Human Resources	3.951	0.660	16.71	2
3	Intangible resources	4.075	0.639	15.69	3
the artificial intelligence capabilities variable		4.006	0.550	13.74	

Source: output of program (SPSS,V.28).

**Independent Variable (Organizational Maturity)**

The results of the analysis showed that the variable (organizational maturity) achieved an arithmetic mean of (4.059) at a good level. The standard deviation was (0.548), with a coefficient of variation (13.51), as in Table (4).

**Table (4): Summary of the dimensions of the organizational maturity variable**

No.	Dimensions of the organizational maturity variable	M	S	CV	Ranking of variables
1	organizational behavior	4.112	0.606	14.75	1
2	Organizational management	4.005	0.635	15.86	2
organizational maturity variable		4.059	0.548	13.51	

Source: output of program (SPSS,V.28).

### Dependent Variable (Financial Sustainability)

The results of the analysis showed that the variable (financial sustainability) achieved an arithmetic mean (3.972) at a good level. The standard deviation was (0.622), with a coefficient of variation (15.66), as in Table.(5).

**Table (5): Summary of the dimensions of the financial sustainability variable**

No.	Dimensions of financial sustainability variable	M	S	CV	Ranking of variables
1	Strategic financial planning	3.971	0.822	20.70	3
2	Sound financial management	4	0.675	16.88	2
3	Diversify sources of financing	3.944	0.656	16.63	1
	financial sustainability variable	3.972	0.622	15.66	

Source: output of program (SPSS,V.28)

### The Relative Importance of The Research Variables

The results of Table (6) showed that the variable (organizational maturity) came in first place and achieved the highest overall average of (4.059), at a good level, and the lowest coefficient of variation of (13.51), and the lowest overall average was at (financial sustainability), reaching (3.972), at a good level. It came in third place among the study variables.

**Table (6): Summary of research variables**

No.	variables	M	S	CV	Ranking of variables
1	Lean manufacturing Practices	4.006	0.550	13.74	2
2	Lean Culture	3.972	0.622	15.66	3
3	Sustainable performance	4.059	0.548	13.51	1

Source: output of program (SPSS,V.28).

### HYPOTHESIS TESTING

#### The First Hypothesis (H1): There Is No Statistically Significant Effect of The Independent Variable (Artificial Intelligence Capabilities) On The Dependent Variable (Financial Sustainability)

$$\text{Financial sustainability} = -0.332 + 1.040 (\text{Artificial Intelligence capabilities})$$

Table (7) and Figure (2) show the results of the impact analysis between artificial intelligence capabilities in financial sustainability, as the (F) value reached (84.602), and the result indicates that there is an impact of artificial intelligence capabilities in financial sustainability, and based on this result we reject the null hypothesis. We accept the alternative hypothesis, i.e. (there is a significant effect of artificial intelligence capabilities on financial sustainability), as can be seen from the extracted (t) value of (9.198) that the effect of the parameter ( $\beta$ ) is a real effect, as increasing the effect by one unit will lead to an increase in sustainability. Finance by (70%), as the artificial intelligence capabilities variable was able to explain (38%) of the changes that occur in financial sustainability.

**Table (7) Impact analysis of the dimensions of artificial intelligence capabilities in financial sustainability**

Dependent variable	Variable dimensions of artificial intelligence capabilities			(R2)	Adj (R <sup>2</sup> )	(F)	(t)	Sig	
financial sustainability	Tangible resources	HR	( $\alpha$ )	2.145	0.209	0.203	35.430	5.952	0,000
			( $\beta$ )	0.458					
	Intangible resources	HR	( $\alpha$ )	2.123	0.247	0.241	43.912	6.627	0,000
			( $\beta$ )	0.468					
	Tangible resources	HR	( $\alpha$ )	1.401	0.421	0.416	97.283	9.863	0,000
			( $\beta$ )	0.631					
	artificial intelligence capabilities		( $\alpha$ )	1.155	0.387	0.382	84.602	9.198	0,000
			( $\beta$ )	0.703					



Tabular F value = 3.94 / Tabular t value = 1.984 / N = 136

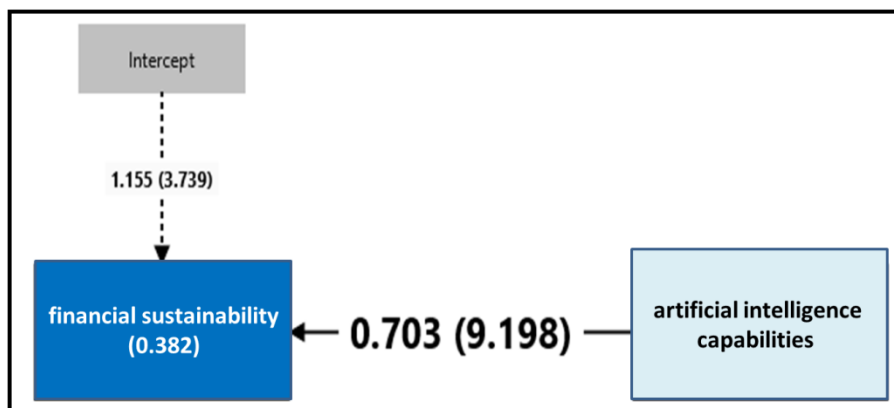


Figure (2) Analysis of the impact between artificial intelligence capabilities in financial sustainability

Source: smart pls 4 program output

**The second hypothesis (H2): There is no statistically significant effect of the independent variable (organizational maturity) on the dependent variable (financial sustainability.)** There is no significant effect of organizational maturity on financial sustainability

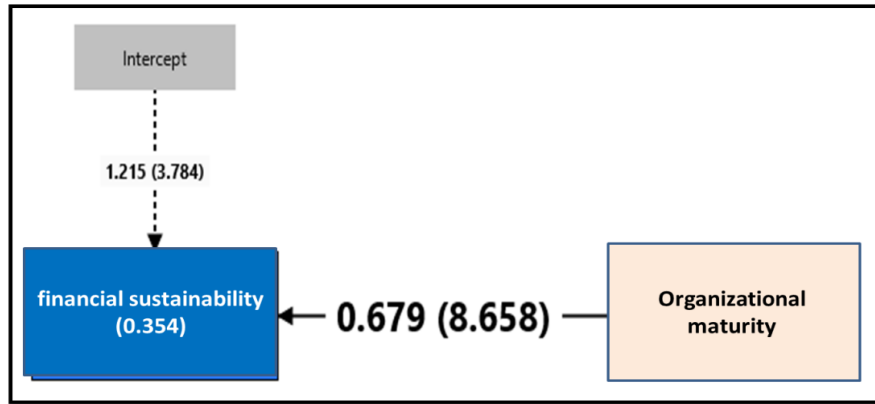
$$\text{Financial sustainability} = 1.215 + 0.679 (\text{organizational maturity})$$

It is noted from Table (8) and Figure (3) the results of the analysis of the effect between organizational maturity on financial sustainability, as the value of (F) extracted was (74.953). The result indicates the existence of an effect between organizational maturity on financial sustainability. In light of this result, we reject the null hypothesis and accept the hypothesis. Alternatively, that is, (there is a significant effect between organizational maturity and financial sustainability), as it is clear from the extracted (t) value of (8.658) that the effect of the parameter ( $\beta$ ) is a real effect, as increasing the effect by one unit will lead to increasing financial sustainability by (67%), as the organizational maturity variable was able to explain (35%) of the changes that occur in financial sustainability.

Table (8) Impact analysis of the dimensions of organizational maturity on financial sustainability

Dependent variable	Variable dimensions of organizational maturity		(R2)	Adj (R <sup>2</sup> )	(F)	(t)	Sig	
financial sustainability	organizational behavior	( $\alpha$ )	1.495	0.345	0.340	70.590	8.402	<b>0,000</b>
		( $\beta$ )	0.602					
	Organizational management	( $\alpha$ )	2.117	0.224	0.218	38.664	6.218	<b>0,000</b>
		( $\beta$ )	0.463					
	Organizational maturity	( $\alpha$ )	1.215	0.3590	0.354	74.953	8.658	<b>0,000</b>
		( $\beta$ )	0.679					

Tabular F value = 3.94 / Tabular t value = 1.984 / N = 136



**Figure (3)** Analysis of the influence between organizational maturity and financial sustainability

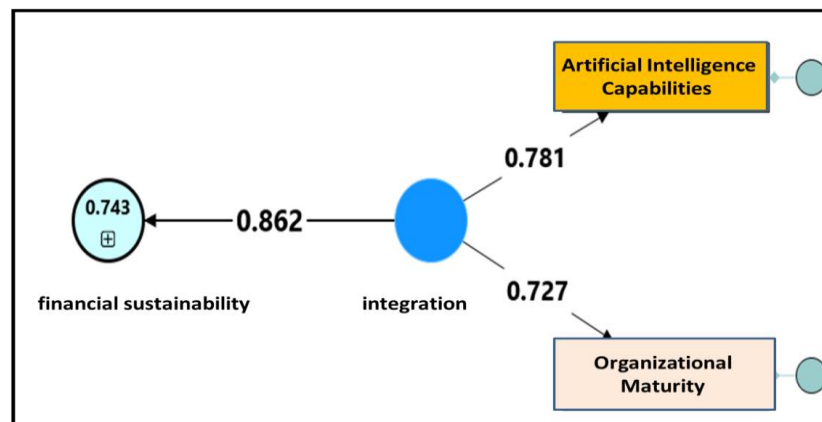
Source: smart pls 4 program output

**The Third Hypothesis (H3): There Is No Statistically Significant Complementary Effect of The Independent Variable (Artificial Intelligence Capabilities) And the Independent Variable (Organizational Maturity) On the Dependent Variable (Financial Sustainability)**

It appears from the results of Table (9) and Figure (4) that the t-test for the integration between (artificial intelligence capabilities and organizational maturity) in financial sustainability reached (7.014), which is greater than the table value of (1.984). In light of this result, we reject the null hypothesis. We accept the alternative hypothesis, i.e. (there is an integration between artificial intelligence capabilities and organizational maturity in financial sustainability), as it is generally clear from the results that the integration between artificial intelligence capabilities and organizational maturity has a strong and effective impact on the financial sustainability process. The results showed that the effect of the integration between artificial intelligence capabilities and organizational maturity on financial sustainability reached (86%). The results also indicated that the effect of artificial intelligence capabilities on integration reached (78%), and the effect of organizational maturity on integration reached (72%). The results also showed that the integration between (artificial intelligence capabilities and organizational maturity) was able to explain (74%) of the changes that occur in financial sustainability.

**Table (9)** Integration between artificial intelligence capabilities and organizational maturity in financial sustainability

Dependent variable	path	variable	Estimation	t	P	R <sup>2</sup>	decision
Financial sustainability	--->	integration	0.862	7.014	0.000	0.743	effective



**Figure (4)** Integration between artificial intelligence capabilities and organizational maturity in financial sustainability

Source: smart pls4 program output

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The results of the descriptive analysis reveal a high level of importance for all research variables, from which it can be concluded the extent of understanding and awareness that the sample members have regarding the research topic in general, the movement of its variables, and the relationship of the researched topic to their field of work in particular.

The results of the correlation and influence relationships of the independent variables on the dependent variable were strong, and predicted a good level of interpretation of those relationships within the research model, as it proved that the dependent variable (financial sustainability) is clearly affected by any expected change that occurs in the independent variables (artificial intelligence capabilities). And (organizational maturity).

The results of the analysis of the integration relationships between the research variables (artificial intelligence capabilities and organizational maturity) in influencing the variable (financial sustainability) revealed that there is a synergistic relationship between both independent variables that can reflect their positive impact on (financial sustainability).

### Recommendations

The research recommends the need to direct greater attention by the companies sampled towards developing artificial intelligence capabilities so that artificial intelligence is a fundamental support for financial sustainability.

The need for companies in the field of research to adopt sustainable policies for organizational maturity because this would provide the best conditions for success for artificial intelligence applications.

We recommend to other researchers the need to conduct more studies to explore more of the relationships between financial sustainability and artificial intelligence.

## REFERENCES

Studies & University thesis:

- Akinyi, J. A. (2012). *The Influence of Tangible and Intangible Resources on the Performance of Public Secondary Schools in Bondo District, Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Al-Jumaili, Firas, (2022) *Financial sustainability and its role in reducing the budget deficit in the Iraqi economy for the period (2005-2020)*, Master's thesis, University of Fallujah, College of Administration and Economics.
- Fredriksen, S. F. B., & Skjervik, M. E. (2021). *Understanding the role of organizational culture on Artificial Intelligence capabilities and organizational performance* (Master's thesis, University of Agder).
- Scientific Journal:
- Ahmed, F., & Capretz, L. F. (2010). *An organizational maturity model of software product line engineering*. *Software Quality Journal*, 18,
- Al Zaabi, M. A., & Nobanee, H. (2021). *Challenges of Financial Sustainability*. [https://www.researchgate.net/profile/HaithamNobanee/publication/355214851\\_Challenges\\_of\\_Financial\\_Sustainability/links/6168f29e25be2600acedba42/Challenges-of-Financial-Sustainability.pdf](https://www.researchgate.net/profile/HaithamNobanee/publication/355214851_Challenges_of_Financial_Sustainability/links/6168f29e25be2600acedba42/Challenges-of-Financial-Sustainability.pdf)
- Al-Barashidiya, H. s. (2021). *Digital entrepreneurship under the Corona pandemic (Covid-19): opportunities and challenges*. *Journal of Information Studies and Technology*, 2021, 1, 5 .
- Al-Thaqafi, S. A. A., & Al-Rashdi, M. R. No. (2024). *Applications and challenges of artificial intelligence in religious tourism and hospitality: a systematic review*. *Journal of Information and Technology Studies*, 2024 (1), 4
- Andersen, E. S., & Jessen, S. A. (2003). *Project maturity in organisations*. *International journal of project management*, 21(6).
- Chams-Anturi, O., Gomez, A. P., Escorcia-Caballero, J. P., & Soto-Ferrari, M. (2020). *Assessing organizational behavior: a case study in a colombian retail store*. *IBIMA Business Review*. <https://repositorio.cuc.edu.co/handle/11323/7818>
- Chen, D., Esperança, J. P., & Wang, S. (2022). *The impact of artificial intelligence on firm performance: an application of the resource-based view to e-commerce firms*. *Frontiers in Psychology*, 13, 884830
- Corrado, C., Haskel, J., & Jona-Lasinio, C. (2021). *Artificial intelligence and productivity: An intangible assets approach*. *Oxford Review of Economic Policy*, 37(3), 435-458.
- Eid, Dr. a. A. A., & Dr. Ayman Adel Abdel Fattah. (2021). *The role of institutional maturity as a mediating variable in the relationship between intellectual capital and achieving organizational immunity*. *Scientific Journal of Financial and Administrative Studies and Research*, 12(2).
- Fajimolu, O., Okonji, P., & Onyemaobi, C. (2023). *The Role of Organizational Creativity Between Artificial Intelligence Capability and Organizational Performance*. *Business and Entrepreneurial Review*, 23(1), 157-174.

- Hassanein, Abd al-Rahim Muhammad Abd al-Rahim. (2022). Measuring institutional maturity as an input to the success of strategy implementation in public organizations, an analytical vision. *Arab Journal of Management*
- Hye, Q. M. A., Wizarat, S., & Lau, W. Y. (2016). The impact of trade openness on economic growth in China: An empirical analysis. *The Journal of Asian Finance, Economics and Business*, 3(3), 27-37.
- Jordan, S., & Sternad Zabukovšek, S. (2023). Organizational Maturity and Sustainability Orientation Influence on DMS Life Cycle—Case Analysis. *Sustainability*, 15(5), 4308.
- Jam, F. A., Singh, S. K. G., Ng, B., & Aziz, N. (2016). Interactive effects of Gender and Leadership Styles on Open Service Innovation: A Study of Malaysian Doctors, *International Journal of Economics Research*, 13(3), 1287-1304.
- León, P. (2001). Four pillars of financial sustainability. *Nature Conservancy.pdf.usaid.gov/pdf\_docs/Pnadf342.pdf*
- Lichtenthaler, U. (2018). Substitute or synthesis: the interplay between human and artificial intelligence. *Research-technology management*, 61(5), 12-14.
- Makarius, E. E., Mukherjee, D., Fox, J. D., & Fox, A. K. (2020). Rising with the machines: A sociotechnical framework for bringing artificial intelligence into the organization. *Journal of Business Research*, 120,.
- Mikalef, P., & Gupta, M. (2021). Artificial intelligence capability: Conceptualization, measurement calibration, and empirical study on its impact on organizational creativity and firm performance. *Information & Management*, 58(3), 103434.
- Mikalef, P., Fjortoft, S. O., & Torvatn, H. Y. (2019). Developing an artificial intelligence capability: A theoretical framework for business value. In *Business Information Systems Workshops: BIS 2019 International Workshops*, Seville, Spain, June 26–28.
- Mostafa, S., & Nobanee, H. (2021) Linking Sustainability to Financial Management [https://www.researchgate.net/profile/Haitham-Nobanee/publication/354376255\\_Linking\\_Sustainability\\_to\\_Financial\\_Management/links/613509550360302a007dd32a/Linking-Sustainability-to-Financial-Management.pdf](https://www.researchgate.net/profile/Haitham-Nobanee/publication/354376255_Linking_Sustainability_to_Financial_Management/links/613509550360302a007dd32a/Linking-Sustainability-to-Financial-Management.pdf)
- Muhammad Ramadan Al-Salmouni, T., Muharram Al-Jarhi, F., & Farid. (2023). The impact of financial sustainability on the financial performance of institutions. *Scientific Journal of Business and Environmental Studies*, 14(3), 1101-1127.
- Nantoi, V., & Nantoi, D. (2023). Organization manageability enhanced through topological modular forms. *Journal of Social Sciences*, (2), 16-36.
- Osei-Kuffour, F., & Peprah, W. K. (2020). Correlate of Income Diversification and Financial Sustainability: Of Private Tertiary Institutions as Moderated by Institutional <https://knowledgewords.com/images/correlate-of-income-diversification-and-financial-sustainability-of-private-tertiary-institutions-as-moderated-by-institutional-profile.pdf>
- Palos-Sánchez, P. R., Baena-Luna, P., Badicu, A., & Infante-Moro, J. C. (2022). Artificial intelligence and human resources management: A bibliometric analysis. *Applied Artificial Intelligence*, 36(1), 2145631.
- Said, Mariam Swalehe, et. al (2019); An Investigation into The Financial Sustainability of Islamic Saving, Credit Cooperative Society (SACCOS) in Tanzania, *International Journal of Ethics and Systems*, Vol. 35 No. 2 .
- Tubaro, P. (2022). Learners in the loop: hidden human skills in machine intelligence. *Learners in the loop: hidden human skills in machine intelligence* <https://www.torrossa.com/it/resources/an/5334220>