

The Impact of Digital Entrepreneurship Components on Enhancing Strategic Performance

Fatima Mohamad Faysal Daas

Tikrit University / College of Administration and Economics, fm230017ad@st.tu.edu.iq

Dr. Hatem Ali Abdullah

Prof., Tikrit University / College of Administration and Economics

Abstract: The study aimed to analyze the impact of digital entrepreneurship components on enhancing strategic performance in the Iraqi Ministry of Higher Education and Scientific Research, within the framework of the "Study in Iraq" program. The descriptive analytical approach was adopted, and the researcher adopted a questionnaire to collect data consisted from a sample of (234) employees distributed in three central departments. The results showed a significant impact of digital components (knowledge leadership, finance, business environment, culture) on the four dimensions of strategic performance: customer, student, internal operations, financial, education, and growth. The study concluded that it is important to adopt these components in a ministerial environment in order to achieve high-quality strategic performance.

Keywords: Digital entrepreneurship, digital literacy, digital leadership, digital finance, digital business environment, digital culture, strategic performance, customer/student internal processes, financial education and growth.



This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license

Introduction

Modern organizations seek to achieve their strategic aims by formulating and implementing effective strategies that enhance strategic performance. The business model which based on providing a value proposition to customers and effective partnerships is essential for achieving high performance. In this context, the Iraqi Ministry of Higher Education and Scientific Research has adopted its ambitious national project, "Study in Iraq", focusing on instilling the culture of entrepreneurship and digitalization in its institutional environment.

Digital entrepreneurship is defined as the process of managing business by using digital technology. It is based on key components, most notably digital literacy, digital leadership, digital finance, digital business environment, and digital culture. These components enable organizations

to adopt modern technologies like cloud computing and data analytics to enhance the efficiency and provide innovative digital services (Xu & Koivumäki, 2019 :1). Also , the Recent studies emphasize on the importance of innovation and creative thinking in achieving market excellence by developing products and services that meet changing customer needs (Ghandour and tiabi , 2022 : 1)

According to the environmental and technical challenges which the educational organizations face , this study came to treat the field need in the Ministry of Higher Education, targeting three central departments : the Department of Research and Development, the Department of Scholarships and Cultural Relations, and the Department of Studies, Planning and control, which represent the strategic and executive structure of the Ministry in achieving its goals.

Chapter One : The Methodological Framework

First : Research Problem

The Iraqi Ministry of Higher Education and Scientific Research is witnessing a significant strategic transformations, represented by the program of the "Study in Iraq" and adopting digital transformation. In light of these transformations, the need to study the extent of digital entrepreneurship components in achieving ministry's strategic performance, especially in light of the environmental, administrative, and technical challenges . The research problem main question is : "What is the role of digital entrepreneurship components in enhancing the strategic performance of the Iraqi Ministry of Higher Education and Scientific Research?" This main question has followed by several sub-questions:

1. What is the availability of the components of digital entrepreneurship in the ministry under study?
2. What is the level of strategic performance in the ministry?
3. What is the impact of digital entrepreneurship components on achieving strategic performance?
4. What is the importance of digital leadership dimensions in improving Ministry's strategic performance indicators?

Second: Research Importance :

The importance of the research stems from the following aspects :

- Academically: It contributes in enriching Arab scientific literature by linking digital entrepreneurship with strategic performance in the public education sector which is new research area in the Arab world.
- Practically: It provides an applied framework that the Ministry of Higher Education can use it in improving its performance by adopting digital leadership techniques and tools .
- Methodologically: The research relies on a descriptive analytical approach supported by quantitative tools : questionnaire, factor analysis, and importance-performance matrix regression, which enhances the reliability of its results.
- Prospective : It provides a knowledge base that can be built upon to expand the study to other ministries or universities, which contributes in Supporting digital transformation efforts in the Iraqi government sector.

Third: Research Aims

This study aims to:

1. Analyzing the impact of digital entrepreneurship components on the strategic performance of the Ministry of Higher Education and Scientific Research in Iraq.
2. Measuring the dimensions availability of digital entrepreneurship in the institutional environment of the Ministry (digital knowledge, digital leadership, digital financing, business environment, and digital culture).
3. Evaluating strategic performance level of the Ministry according to its four dimensions: (customer/ student, internal operations, financial, education and growth).
4. Identifying the most influential digital dimension in improving Ministry's strategic performance indicators.

Fourth: Research Plan

The research plan illustrates the study methodology in Figure (1).

Fourth: Study Plan

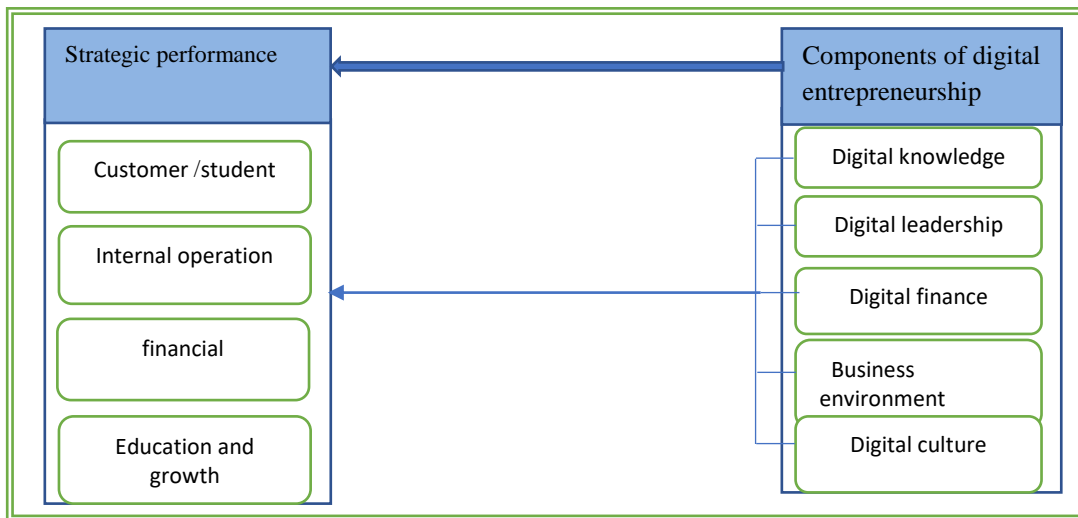


Figure (1) Hypothetical outline of the study

Resource : The researcher preparation

Fifth : Research Hypotheses

According to the study's aims and problems , the following hypotheses were analyzed :

1. The components of digital entrepreneurship are available in varying degrees in the Iraqi Ministry of Higher Education and Scientific Research.
2. The ministry's strategic performance is characterized by levels that can be measured according to its four dimensions : (customer, /student, internal operations , financial, education and growth).
3. There is an impact between digital entrepreneurship components and the strategic performance of the ministry under study.
4. The strength of the influence of each component of digital entrepreneurship in enhancing the dimensions of strategic performance varies.

Sixth: Study Variables

The study relied on two main variables identified according on theoretical and conceptual foundations in previous literature , they are : digital entrepreneurship, which represents the modern methods and practices which adopted by the Ministry of Higher Education and Scientific

Research through using advanced technology and Internet in managing its various operations. This variable is measured through its components: digital knowledge, digital leadership, digital finance, digital business environment, and digital culture, based on (Anckar, 2016) and (Mahrous and Hamada, 2023). Strategic performance defined as a function of the ministry's activities and its ability to achieve its goals and aspirations, and it measure by a set of quantitative indicators that reflect the quality of organizational performance through its dimensions: the customer (student), internal operations, financial education and growth. The study relied on these two sources to construct the scale for strategic performance (Alphuner et al., 2023) and (Al-Sa'bari et al., 2024).

Seventh: Study Methodology

The study adopted the descriptive and analytical approach in order to achieve its aims and test its hypotheses. Data were collected from a purposive sample of consisted from (234) employees distributed across three central departments in the Iraqi Ministry of Higher Education and Scientific Research: Department of Research and Development, Department of Scholarships and Cultural Relations, and Department of Studies, Planning, and control. The questionnaire was used as the main tool for collecting data, and it was statistically analyzed by using (SPSS) and (SmartPS). The analysis tools included:(exploratory and confirmatory factor analysis, structural regression analysis, validity and reliability tests , importance matrix and performance).

Eighth: Community Description and Study Sample

The study community consisted of all administrative employees and those in leadership positions in the Iraqi Ministry of Higher Education and Scientific Research, numbering (590) employees distributed among three central departments which directly linked to the program of “Study in Iraq”. A purposive sample of (234) employees was selected using the proportional distribution method, where the number of individuals was determined, as the number of actual employees in Research and Development Department was (161) employees and the sample size was (63), in Missions and Cultural Relations Department (215) employees and the sample size was (86), and in the Studies, Planning and control Department (214) employees and the sample size was (85). The questionnaires were distributed directly during the period from (March 12, 2025 to April 19, 2025). This sample represents a diverse professional environment that includes different cognitive and administrative fields.

The second section: Theoretical Framework

First: Digital Entrepreneurship

1- The Concept

Entrepreneurship considers one of the most prominent economic engines, as it represents the process of transforming creative ideas into practical projects that achieve added value , It combines innovation, risk-taking, and resource management to achieve economic or social aims .

Cambridge Dictionary confirms this trend, defining entrepreneurship as "the skill in starting new businesses, especially when this involves the ability of seeing new opportunities and risking" . (Rosario et al: 2019 : 4) indicates that entrepreneurship is a phenomenon that stems from the need of creating new enterprises or exploiting opportunities. It is a strategic approach at the organizational level that contributes to develop innovations and create new ones, linking organizational behavior to entrepreneurial action.

(Diandra & Azmy, 2020:301-306) added and defined digital entrepreneurship as the creating new enterprises or the transformation of existing ones through digital technologies or create new usages . It includes activities such as providing technical services online or using the internet as a means of distribution. (Shuaibu et al. , 2021:1-2) indicates that entrepreneurship is a multidimensional phenomenon linked to independence, creativity, and discipline, and aims to

transform traditional customs and institutions to an innovative models which capable of dealing with change and uncertainty.

Digital entrepreneurship refers to the process of launching and managing a business in a digital environment, relying on modern digital technologies and platforms such as the internet, artificial intelligence, and information and communication technologies. This practice represents an innovative model that relates technological creativity and flexibility to facing market changes and is an effective means of developing and expanding businesses sustainably. (Ghandour and Taibi , 2022: 1122) added that digital entrepreneurship represents an essential element in achieving competitiveness within economic organizations, stressing that the shift towards adopting entrepreneurship concepts is no longer an option, but a necessity imposed by the requirements of continuity and survival in contemporary business environments. The researchers also explained that digital entrepreneurship, despite its importance, faces a variety challenges, and its ability to continue and survive. They also explained that digital entrepreneurship faces a variety of challenges in developing countries, which imposed the need for preparing an effective strategies to overcome them and enhance institutional efficiency .

Both (Al-Mamary & Alraja , 2022 : 2) also pointed to the huge impact of digital entrepreneurship on corporate sectors, due to its ability to support innovative growth and continuous digital interaction. It was defined by (Abdullah , 2023 , 21) as an innovative approach in business development that combines creativity and flexibility, while (Paul et al., 2023: 157) considered it as an integration of digital infrastructure with entrepreneurial factors within the digital environmental context.

1- Importance

Digital entrepreneurship is a pivotal concept in the contemporary economy, it is an effective tool for achieving sustainable development by integrating technological innovation with entrepreneurial practice. Its importance has increased with the development of digital environment and the expansion of the use of the Internet and technology platforms, which have provided entrepreneurs with broad opportunities to access markets and improve operational efficiency. (Li , 2023:6) indicates that one of the most prominent benefits of digital entrepreneurship is its ability to create modern solutions that increase productivity levels, improving supply chains, reducing costs, and facilitating expansion into new markets quickly and efficiently. (Satalkina & Steiner , 2020 :7) confirm that digital entrepreneurial models are a sustainable option, as they utilize resources efficiently and reduce the need for traditional infrastructure.

In the same context, (Bensaid & Azdimousa , 2021:87) clarify that digital entrepreneurship provides for small and medium institutions an opportunities for rapid growth, by using tools such as electronic commerce, digital marketing, and cloud computing, enhancing their competitiveness in local and international markets. While (Rozan, 2022:52) highlights the role of social platforms and the internet in reducing geographical barriers and access to a wide audience at low costs, (Kencana, et al., 2024:50) emphasizes the importance of digital entrepreneurship in empowering individuals economically and opening the way for them to establish private projects without the need for significant capital, which contributes to supporting economic independence and achieving self-employment. Thus, digital entrepreneurship represents a strategic engine of economic and social development through flexible tools which it provides, the supportive environment for innovation, and the ability to adapt to market changes.

Elements of Digital Entrepreneurship

1- (Heikal, 2022:423-486) indicated that the elements of digital entrepreneurship represent future strategic paths that universities can adopt as effective alternatives that contribute to strengthening their engine towards digital transformation. Improving the information and communications technology (ICT) infrastructure is a fundamental foundation for supporting

digital entrepreneurship within university institutions, as it provides the necessary technical environment for developing entrepreneurial activities. Technology incubators play an important role in enhancing foundations of digital entrepreneurship in universities. Business accelerators and incubators support digital entrepreneurship in universities, providing good funding sources for its advancement. Entrepreneurship education is included in the curriculum as a necessity for advancing digital entrepreneurship in universities. Teaching digital entrepreneurship helps universities effectively market their products and services and enter the business world. Developing digital entrepreneurship in universities is responsibility of all university affiliates, including faculty members, students, and staff. Digital transformation in universities enhances digital entrepreneurship in it . This research will adopt the components that mentioned in the models of (Hussein, 2023) and (Al-Jaberi, 2020), because it suitable for the Iraqi service environment and their integration in addressing digital entrepreneurship dimensions . These components are represented by five main dimensions that form the conceptual framework of the study: digital knowledge , digital business environment, digital finance, digital leadership, and digital culture. These elements form the foundation upon which digital leadership practices in modern organizations are based.

- a) Digital knowledge : Refers to the skills and expertise individuals and organizations possess, and the ability to deal with modern digital tools and systems. Digital knowledge is not limited to the use of technology alone; it encompasses a deep understanding of how to leverage it to improve performance, make data-engine decisions, and create advanced digital solutions. (Anckar ,2016:39) believes that patents in the digital world are among the most prominent indicators of digital innovation. They contribute to generating value and discovering new digital opportunities that support digital entrepreneurship trends. They also provide an important foundation for discovering entrepreneurs who possess the ability to transform innovative ideas into entrepreneurial projects with economic and knowledge impact. Thus, we can say that "digital knowledge is the ability to employing and using information , communications technology and modern digital technologies in the processes of acquiring, generating, storing, distributing, and retrieving data and information related to digital activities and services".
- b) Digital Leadership: This represents a leadership style aligned with digital age requirements. Leaders are characterized by their ability to embrace change and direct teams toward the use of smart solutions and emerging technologies. Digital leadership is a pivotal element in achieving organizational adaptation and building a corporate culture based on creativity and flexibility. Recent literature indicates that digital business models are fundamentally based on effective digital leadership, capable of employing digital tools to improve customer experience and enhance engagement levels, contributing to more efficient results. Ensuring sustainable development within organizations and achieving better results requires leadership capable of formulating a strategic vision and implementing clear plans to achieve digital goals.
- c) Digital finance refers to using electronic means to obtain financial resources, whether through electronic crowdfunding platforms, digital payment systems, or electronic wallets. Digital finance provides flexibility and speed in supporting entrepreneurial projects, especially in environments that face challenges in accessing traditional financing. It is also defined by (Shahada ,2022: 48) as the ability of an individual or organization to access various financial services that contribute in enhancing economic activity and supporting financial decisions efficiently and sustainably. The ability of an individual or organization of obtaining financial services in addition to credit, debit, payment, and other services.
- d) Digital business environment : refers to the availability of an integrated infrastructure that includes technical systems, digital legislation, and institutional support that enables organizations to effectively adopt digital innovation. The digital business environment is a

crucial factor in the sustainability of entrepreneurship, as it provides opportunities for expansion, access to markets, and integration of digital activities. The digital business environment is also described (Senyo et al., 2019:53) as an integrated system of social and technical nature that enables individuals and organizations to interact, collaborate, and work together through the use of digital technologies. This environment is interconnected through cooperative and competitive relationships, contributing to the creation of shared value through interactive digital platforms that bring together various parties within an interconnected and evolving work system.

- e) Digital culture is embodied in employees' willingness to embrace digital transformation and their acceptance of technology as an essential part of work environment. It reflects organizational values and behaviors that support creativity, continuous learning, and openness to change. Digital culture creates an appropriate environment for experimenting with new tools and encourages productive digital interaction. Furthermore, (Mariuszet et al., 2020:14) added that digital entrepreneurship can be enhanced by instilling a culture of continuous learning among all employees within the organization, enabling them to experiment and implement innovative technological solutions that contribute to improving performance and enhancing service quality. Allocating a portion of work time to generating and testing new ideas is a strategic step that supports the shift from traditional business practices in adopting digital thinking as the foundation of innovation and continuous improvement.

Second: Strategic Performance

1- The Concept

Strategic performance is an integrated framework that reflects the organization's ability in achieving its long-term aims by balancing between financial, operational, and creative performance. This concept includes measuring the efficiency of internal operations, achieving customer satisfaction, and developing organizational resources in a way that ensures sustainable growth and adapting to environmental changes. (Awad 2021: 178) describes it as: "The overall function of financial and operational performance, the rate of innovation, and achieving customer satisfaction, through the organization's ability to create its vision and mission and adapt with environment." (Santati et al. ,2022: 112-113) defines it as a system that links institutional capabilities and stakeholder value, making positive changes in the organization's culture and operations. As (Panescu & Dragomir, 2024:78) indicate , strategic performance is the alignment of an organization's objectives with its operational performance to ensure financial and non-financial success, taking into account the expectations of internal and external stakeholders.

2- Importance

As for (Awad , 2021:178) opinion , strategic performance represents one of the vital pillars that reflect an organization's ability to achieve its long-term goals efficiently and effectively. It is viewed as a comprehensive measure that combines financial, operational, creative, and social performance. It contributes in supporting organization's strategic direction and enhancing its ability to suit environmental changes. (Santati et al. ,2022:112) indicated that strategic performance is not limited to measuring results, but rather extends beyond that to being a system that enables management to link organizational capabilities to stakeholder value and brings about fundamental changes in corporate culture and work systems. (Panescu & Dragomir ,2024:87) also confirm that strategic performance is a means of integrating operational aims with long-term aims, enabling the organization in achieving a balance between financial and non-financial success, while meeting the expectations of internal and external stakeholders. The importance of strategic performance is also highlighted by its role in proactive planning, enabling the organization to put its priorities and direct its resources toward value-added activities. It also helps in building a

positive image in beneficiaries minds and decision-makers, thus enhancing its competitive position.

3- Strategic Performance Dimensions

This concept reflects the ministry's activities and its efficiency in achieving its set aims and aspirations, through the optimal use of resources, and the ability to suit the environmental variables efficiently and effectively. The construction of the scale in this study was based on the ideas of (Alphun et al., 2023), while utilizing the results of the study of (Al-Saabry et al., (2024), which demonstrated high standard quality through the application of both exploratory and confirmatory factor analysis. Strategic performance is a modern approach which organizations seek to achieve a balance between financial, operational, social, and creative performance, through a set of indicators that translate goals and vision into tangible results (Khamis & Al-Zaidi, 2021, 59). This study adopted four main dimensions of strategic performance, namely:

- A. Customer (student) dimension: (Kalender & Vayvay , 2016 , 78) believe that this dimension measures the degree of customer satisfaction with the services provided by the organization, focusing on market share, customer loyalty, and customer impressions. It also reflects the organization's ability in meeting customer expectations and provide services that align with their desires.
- B. Internal operations dimension: (Gawankar et al.) indicates the organization's efficiency in implementing operational activities and tasks that contribute to achieving customer satisfaction and improving overall performance, through effective management of resources and procedures, according to pre-defined aims.
- C. Financial dimension: (Hasan & Chyi , 2017 : 91) believes that it focuses on organization's economic results, such as profitability, return on investment, and cost control. It is considered one of the essential dimensions for measuring organization's success in achieving its strategic objectives.
- D. education and Growth: (Quesado et al., 2018: 188) clarify that this dimension focuses on developing human resources and intellectual capabilities within the organization through training, motivation, and innovation, thus enhancing performance sustainability and achieving future excellence.

Section Three: Practical Framework

This section will include structural equation modeling usage by evaluating the measurement model and testing the construct model as follows:

First: Measurement Model Evaluation

modeling process requires verifying the validity of the collected data to measure the targeted variables, as well as verifying their reliability and stability under various research conditions, to ensure the accuracy of the results and the soundness of the statistical interpretation. It also aims to ensure the ability of the tools used to measure the same variable for which they were included, which contributes in achieving accuracy and reliability of the extracted results. These tests are divided into convergent validity and discriminant validity, as in the first section of this chapter. However, after combining the variables into a single model and conducting the test, the results are revealed as shown in Table 1.

Table 1: Measurement Model Evaluation

Variables	Dimensions	Discriminant validity		Convergent validity		Researcher decision
		External loads	Fortel-Larcker Standard	Structure stability	Average of extracted variance	
Comparison standard		0.70		0.70	0.50	
Digital entrepreneurship	Digital knowledge	0.898	0.909	0.948	0.826	Acceptable
	Digital leadership	0.933				
	Digital finance	0.908				
	Environment of digital business	0.922				
	Digital culture	0.881				
Strategic performance	Customer (student)	0.884	0.907	0.929	0.822	Acceptable
	Internal processes	0.924				
	Financial	0.928				
	Education and growth	0.890				

Source: Prepared by the researcher based on the outputs of the (SMARTPLS4) program.

Table 1 shows that the regression model of digital entrepreneurship components on strategic performance achieved a high level of validity and reliability, confirming its accuracy in accurately representing the variables. At the detailed level, the following can be observed :

- 1- The structural stability and average variance extracted cross the cut-off threshold, indicating that the model possesses convergent validity. Meanwhile, Fortel-Larcker criterion and external loadings achieved discriminant validity, exceeding the minimum cut-off threshold (0.70), which explains the following:
 - Digital knowledge (0.898), which reflects the possession of advanced digital skills and technologies of individuals and leaders.
 - Digital leadership (0.933), which indicates the highest load, indicating that digital leadership is the most influential factor in supporting digital entrepreneurship.

- Digital financing (0.908), which represents the readiness of digital financing systems to support entrepreneurial projects.
- Digital business environment (0.922), such as digital and organizational infrastructure that fosters entrepreneurial projects.
- Digital Culture: (0.881) indicates the extent of digital culture adoption at the individual and institutional levels.

2- Strategic Performance: This variable also achieved convergent validity and discriminant validity at the same level as the components of digital entrepreneurship. The results were as follows:

- Customer (Student): (0.884) indicates customer (student) satisfaction and loyalty measure in light of digital transformation.
- Internal Operations: (0.924) indicates a significant improvement in efficiency and effectiveness of internal operational processes.
- Financial: (0.928) indicates the organization's effectiveness in achieving good financial results as a direct result of digital transformation.
- Learning and Growth (0.890) reflects the organization's ability in developing human competencies and knowledge structures.

We note that financial performance and internal operations are the most influenced by strategic performance, especially the importance of focusing on maturing the ministry's internal operations. Therefore, we can move to the second step.

Second: Structural Model Testing

After confirming the evaluation of the measurement model, the structural model was tested by using a (bootstrapping test), which demonstrates the relationships between studied variables. The structural model test was conducted by using the (SMART PLS4) program. The results are shown in Figure 2. The path coefficient between the two variables reached (0.870) , a high positive value indicating a very strong and direct relationship between the components of digital entrepreneurship and strategic performance. The value of (41.046-T) exceeds the table value of (1.96), indicating that the relationship is highly statistically significant at a confidence level of 0.99. This means that the higher level of availability of digital entrepreneurship components within the Ministry of Higher Education and Scientific Research, the more positively this reflects on its strategic performance. We note that all dimensions have a fundamental impact on shaping the concept of digital entrepreneurship, especially "digital leadership" (0.933) and "digital business environment" (0.922), without forgetting the role of other components, as shown in Figure 8.

Figure (2): Construction Model Testing

Source: Prepared by the researcher based on the outputs of the (SMARTPLS4) program.

Figure (3) : Structural Regression Model

The results of the regression model showed that components of digital entrepreneurship play a fundamental role in explaining the variance in strategic performance, as the coefficient of determination (R) reached a value of (0.768), reflecting high ability of independent variables to explain 76.8% of the variance in strategic performance.

The results showed that the most influential component was digital culture with a value of (0.303), followed by the digital business environment with a value of (0.258), then digital financing with a

value of (0.217), which confirms these dimensions importance in enhancing the effectiveness of strategic performance in the ministry .

In contrast, digital leadership and digital knowledge did not show a statistically significant impact, which calls for directing efforts toward developing these aspects through effective training programs and practical applications that increase their effectiveness and impact on institutional performance.

The data in Table 20 support these results, as it shows that the elements of digital culture, as mentioned in the questionnaire paragraphs, have direct repercussions on work behaviors and the achievement of strategic aims , followed by business environment and finance elements . As for digital leadership and knowledge, their impact remained limited, which necessitates reviewing the policies and mechanisms for activating them in practice.

Table 4: Structural Regression

	Original review	Sample mean	Standard deviation	(T) Test	P
Digital knowledge Strategic performance	0.083	0.082	0.078	1.070	0.285
Digital leadership Strategic performance	0.099	0.100	0.096	1.028	0.304
Digital finance Strategic performance	0.217	0.216	0.091	2.396	0.017
Digital Business environment Strategic performance	0.258	0.261	0.108	2.399	0.016
Digital culture Strategic performance	0.303	0.302	0.081	3.726	0.000

Source: Prepared by the researcher based on the outputs of the (SMARTPLS4) program.

Conclusions and Recommendations

The results of the study at the Ministry of Higher Education and Scientific Research represented the importance of focusing on digital knowledge and leadership in supporting strategic performance, increase its levels among employees, and achieve digital entrepreneurship by adopting innovative technical solutions that enhance institutional work efficiency. Digital knowledge also plays a pivotal role through modern information systems that contribute to raising administrative efficiency. The results emphasized that digital financing is an essential element for keeping in touch with technological transformations, as the Ministry has put advance budgets to develop the digital infrastructure. The study also emphasized the importance of building a secure digital business environment that enhances user confidence, in addition to establishing an entrepreneurial culture, which has achieved a high level. Therefore, it must be maintained through training and awareness, which contributes in enhancing confidence and developing institutional performance in an effective and sustainable manner.

Recommendations:

1. Enhancing digital knowledge and leadership is a top priority for their impact on long-term strategic performance.
2. Maintaining current levels of both digital culture and business environment, while proposing gradual and sustainable development programs.
3. Focusing on digital finance performance by improving the efficiency of financial resources and adopting innovative digital solutions in allocation and monitoring to increase the Ministry's financial availability.

4. Proposing future studies that include a wider sample of higher education institutions or other sectors to examine generalizability.
5. Necessity of introducing mechanisms to measure digital performance and link them to tangible results that support decision-making Strategy in the ministry.

Arabic References

1. Al-Jabri, Laith Shanawa .(2022) . Strategic containment and its role in promoting digital entrepreneurship. *Al-Ghari Journal of Economic and Administrative Sciences*, 18.(2)
2. Al-Hussein Ali Abdullah .(2023). The impact of digital entrepreneurship on improving product quality, the mediating role of workforce agility - an analytical study on leadership in Noor Al-Kafeel Food Industries Company in Karbala Governorate, *Al-Kut Journal of Economic and Administrative Sciences*, 16(55), 500-571.
3. Al-Saabri N. A. Al-Khafaji Ibrahim, A.M., Qasim N.... Hussein, L.T. K.T. and Jabbar, K.K. (2024) . The Role of Program and Performance Budgeting in Improving the Strategic Performance of Government Institutions, *Journal of Accounting and Financial Studies (JAFS)*, Special Issue, within the Proceedings of the Third International and Fifth National Scientific Conference “Reforming the Iraqi Economy: Present Challenges and Future Visions”, 490476.
4. Al-Zaidi, Azhar Abdel-Majeed, and Khamis Taha Najm Abdel (2021) Strategic leadership and its impact on strategic performance - an analytical study in the General Company for the Manufacture of Cars and Equipment in Alexandria *Journal of Economic and Administrative Sciences*, 27 (126), 75.58
5. Hamza Ghandour and Ratiba Taibi . (2022) . Digital Entrepreneurship and its Role in Achieving the Competitiveness of Economic Institutions: An Analytical Study, *Journal of Legal and Social Sciences*, Ziane Achour University in Djelfa, Algeria, Vol. (7) Issue (2).
6. Hamada Shaaban, A. & Mahrous R. H. .(2023). Proposed mechanisms to activate digital entrepreneurship in Egyptian universities, *Journal of the Faculty of Education, Ain Shams University* 40 (Issue 7 - Part 1), 426393.
7. Awad, Hala Omar Muhammad .(2021). Evaluating the strategic performance of special education institutions in light of the integration between quality requirements and the balanced scorecard. *Journal of Childhood and Education Studies*, Issue Nineteen, 163-225.
8. Ghandour and Tayyabi, F. . (2022). Digital Entrepreneurship and Innovation in Educational Institutions: An Analytical Study. *Arab Journal of Administrative and Economic Sciences* 15.4-(1)
9. Shahada, Maha Khalil .(2022) . Digital Transformation and Digital Entrepreneurship, *Ramah Journal of Research and Studies . Human Resources Research and Development Center*, 1(1) 45 .
10. Faraj, Hussein Abdul Karim . (2023) . The impact of digital leadership on strategic performance through digital empowerment, an applied study in the Iraqi Ministry of Higher Education, Master’s thesis, Tikrit University, College of Administration and Economics.
11. Heikal, Hanaa Mohamed .(2022). Components of digital entrepreneurship in Egyptian universities and ways to enhance it in light of the Corona pandemic: A prospective study, *Faculty of Education Journal, Faculty of Education, Ain Shams University*, Issue 46, Part (1) .

Foreign References

A- Book:

1. Mariusz Soltanifar, Mathew Huges, Lutz Gocke. (2020). "Digital Entrepreneurship. Impact on Business and Society", Springer Nature, 14.
2. Abdullah, N. H. N. (2023). Digital Entrepreneurship: Opportunities, Barriers, Key Drivers. In Handbook of Research on Designing Sustainable Strategies to Develop Entrepreneurial Intention (pp. 103–123).
3. Al-Mamary, Y. H. S., & Alraja, M. M. (2022). Understanding entrepreneurship intention and behavior in the light of TPB model from the digital entrepreneurship perspective. *International Journal of Information Management Data Insights*, 2(2), 100106.
4. Anckar, B. (2016). Digital Entrepreneurship in Finland – A Narrative of a Finnish Digital Entrepreneur.
5. Alphon, C., Turker, N. & Sainaghi, R. (2023). The Strategic Performance Measurement System and Organisational Performance Through the Lenses of Contextual Factors: Empirical Evidence from the Hotel Industry. *European Journal of Tourism, Hospitality and Recreation*, 13(1), 1-13.
6. Bensaid, M., & Azdimousa, H. (2021). Digital entrepreneurship and innovation in educational institutions: A conceptual approach. *Arab Journal of Administrative and Economic Sciences*, 4(1), 87–102.
7. Chavan, M. (2009). The balanced scorecard: a new challenge. *Journal of Management Development*, 28(5), 393–406.
8. Diandra, M. R. M., & Azmy, A. M. (2020). Digital Entrepreneurship and Its Role in the Development of Small and Medium Enterprises in the Industrial Revolution Era 4.0. *International Journal of Innovative Science and Research Technology*, 5(3), 301–306.
9. Gawankar, S.A., Kamble, S.S., & Raut, R.D. (2015). Performance Measurement using Principal Component Analysis for SME supply chain. *Benchmarking: An International Journal*, 22(7), 1129–1152.
10. Hasan, H. & Chyi, N.K. (2017). Financial performance indicators and their impact on firm value: Evidence from Malaysia. *International Journal of Economics and Management*, 11(S3), 89–102.
11. Kalender, Z.T. & Vayvay, Ö. (2016). The Effects of Strategic Orientations on Innovation Capabilities and Market Performance: The Case of ASEM. *Procedia - Social and Behavioral Sciences*, 235, 756–763.
12. Kencana, P. D., Kustini, K. N., & Hamidah, N. (2024). Digital entrepreneurship as an effort to empower millennial generation in the creative economy era. *International Journal of Digital Business*, 2(1), 44–55.
13. Li, Z. (2023). The role of digital entrepreneurship in improving competitive advantage of SMEs in emerging economies. *Journal of Entrepreneurship and Innovation Studies*, 5(2), 1–10.
14. Pănescu, L. C., & Dragomir, M. (2024). A Football Club's Strategic Performance Management. *Bulletin of the Transilvania University of Braşov, Series IX: Sciences of Human Kinetics*, 17(66), 77–84.
15. Paul, J., Alhassan, I., Binsaif, N., & Singh, P. (2023). Digital entrepreneurship research: A systematic review. *Journal of Business Research*, 156, 113507.

16. Quesado, P., Guzmán, B.A. & Rodrigues, L.L. (2018). Advantages and contributions in the balanced scorecard implementation. *Intangible Capital*, 14(1), 186–201.
17. Rosario, A. L., Rita, P., & Guerreiro, J. (2019). A bibliometric analysis of fashion marketing research. *Journal of Global Fashion Marketing*, 10(1), 1–15.
18. Rozan, A. (2022). Digital transformation and market reach: The new horizon of digital entrepreneurship. *Review of Contemporary Business Trends*, 11(3), 49–58.
19. Satalkina, L., & Steiner, G. (2020). Digital entrepreneurship research: A conceptual framework. *Technological Forecasting and Social Change*, 154, 119956.
20. Santati, P., Sulastri, S., Perizade, B., & Widiyanti, M. (2022). Strategic performance measurement system in higher education in Indonesia: New public management approach. *Sriwijaya International Journal of Dynamic Economics and Business*, 6(1), 107–130.
21. Shuaibu, A. M., Akinlabi, B. H., & Adebayo, S. O. (2021). Exploring the Art of Entrepreneurship: A New Framework. *Entrepreneurial Studies Review*, 3(1), 4-12
22. Xu, H., & Koivumäki, T. (2019). Digital entrepreneurship: The role of digitalization in business model innovation. *Journal of Innovation Management*, 7(2), 1–13.