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Digital Entrepreneurship and Its Role in Promoting the Digital Economy during the Covid-19 Crisis: A Study Applied On Al Jeraisy Industrial Group

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Abstract:

This study aimed to identify the extent to which Al Jeraisy companies have adopted digital entrepreneurship and its role in achieving and promoting the digital economy during COVID-19 in the Kingdom. The problem of the study was that the organization under study (Al-Jeraisy Group) is trying to prove its ability to deal with all the changes and challenges brought about by Covid-19, especially the challenge of the necessity of digitizing business. This requires smart systems and solutions in order to develop and enhance the overall performance that can attract customers by offering new and distinctive products and services. The study revealed that there are a number of challenges and obstacles in the use and application of the business intelligence system and the digitization of human resources in these companies, in addition to the difficulty of coordinating and unifying the information of the various dealers with them within programs and applications that enable them to raise their performance in smart ways. Based on this, the research problem can be crystallized with the following questions: What is the role of digital entrepreneurship in raising the company's overall performance, enhancing the digital economy and managing crises? What is meant by digital entrepreneurship and what is its importance in the companies in question? What is the digital economy and what are its most important dimensions?

The study followed the descriptive analytical method in addition to the historical method. The hypothesis of the study was represented in: (there is a significant and statistically significant effect of digital entrepreneurship on enhancing the knowledge economy). The data was collected from a sample of (80) employees of Al Jeraisy Company. The data was analyzed using the Statistical Package for Social Sciences (SPSS). Moreover, it concluded with a number of results:

- The results of the study showed the necessity and inevitability of shifting from the traditional economy to the digital economy by adopting agility, making situational decisions and activating

administrative policies using technology in light of uncertainty and acceleration of change in the complex business environment.

- The study reflected the need to bridge the digital gaps by enhancing the digital skills of workers in entrepreneurial institutions and expanding the use of technology in business.

- One of the tangible outcomes of the global economic crisis left by (Covid-19) is that it has radically changed the ways of solving economic problems by accelerating the process of benefiting from the solutions provided by digital services in entrepreneurial and large projects alike.

Based on the results obtained, we recommend the following:

1-It is necessary to work on empowering workers and enhancing digital capabilities in the economic sectors by developing, managing and integrating technology in all operational systems to enhance competitiveness and survive in light of the threats left by Covid-19 in this field**.**

2- Building and refining the ICT infrastructure by employing new information technologies and software by expanding the use of the fifth generation (5G) technology and attracting foreign and local investments in the technology and communications sector**.**

3- The necessity of working to bridge the digital divides by establishing the latest educational and training programs to enhance digital skills through the transfer of expertise and cooperation between educational and economic institutions to support the digital economy.

Keywords: Digitizing entrepreneurship - digital economy - Al Jeraisy group of companies.

Introduction:

It is known to everyone that the conditions experienced by global organizations concerning the spread of the Corona virus and the changes that occurred in the organizations led to the intensification of competition in the business environment and imposed the necessity of making smart transformations and developments to keep pace with these changes and adapt to the technical, knowledge and cultural development witnessed by the business. It also imposed a wide awareness of the inevitability of adapting to everything that is new. In line with that, many intellectual ideas emerged from the nature of the era, as they represent success factors for organizations if they choose for themselves to survive and continue. Hence the idea of the current research came to address one of the contemporary issues, which has a major role in sustaining the performance of small and entrepreneurial organizations in light of the challenges they face by adopting smart systems capable of sharing and information exchange, then generating knowledge that sustains and empowering its performance. Then it is followed by the processes of acquiring, analyzing and interpreting information in a manner that serves all organizations. From this point of view, the research tested its variables in the small entrepreneurial projects sector, which is in dire need for such studies to reach excellence and improve the provision of its products and services to all those who deal with it. Therefore, the aim of this research is to delve into the intellectual debate of its variables in its theoretical aspect. Its practical aspect, on the other hand, is to answer the questions of the basic problem in order to arrive at the nature of the relationship and the effect between the research variables.

Research problem:

Digital entrepreneurship is one of the concepts that have received wide attention in light of the Kingdom's vision (Vision 2030), which aims to enrich the Saudi economy by supporting youth entrepreneurial projects. This made the owners of small projects tend to benefit from the huge developments in the means of communication and information technologies that have become necessary because digital illiteracy represents great challenges and difficulties for large, before small organizations, that prevent them from achieving their goals, especially in light of the current situation, the consequences of Covid-19 and the crises that it left at the global level.

Accordingly, the research problem is largely centered on this inspiring and vital aspect, which by studying and diagnosing it, the organization will be able to achieve continuity and support the digital economy, especially if the research group tries to prove its ability to change. Moreover, the consequences brought about by Covid-19 to face the challenge of the necessity of digitizing business require smart solutions in order to develop and enhance the digital business performance. This is reflected in the provision of new distinctive products and services to its customers. And this became clear during the survey process. It became clear that there are a number of challenges and obstacles in the use and application of the business intelligence system among the employees of these companies, with the difficulty and inability to coordinate and unify the information of the various employees and the application of its programs to those who deal with it with intelligent programs. Thus, the research problem can be formulated with the following questions: What is the role of digital entrepreneurship in promoting the digital economy and managing crises? What is meant by digital entrepreneurship and what is its importance in the researched companies? What is meant by the digital economy and what are its most important dimensions?

Research Objectives:

This research seeks to achieve the following objectives**:**

1-Testing the influence relationship between research variables in Al Jeraisy companies.

2- Presenting and discussing the conceptual and cognitive frameworks for the research variables within the framework of benefiting from the theses of researchers in this field**.**

3- Determining the extent to which Al Jeraisy companies adopt digital entrepreneurship in a way that contributes to achieving and strengthening the digital economy during COVID-19 in the Kingdom**.**

4- Presenting a number of recommendations that may serve the company in the field of digitizing business and enhancing its role in the digital economy in KSA.

Research Significance:

The significance of the research is reflected in the following aspects:

1- The research derives its importance from the importance of the variables investigated (digitization of entrepreneurship and the economy). They represent the most important thing that studies are directed to because of their necessity in light of the current situation in addition to the importance of the sector in which the research was applied as it is one of the important sectors that has a significant role in sectors in enhancing the number economic and social transformations required in KSA.

2- Assisting Al Jeraisy companies in evaluating the level of digitization and determining its importance by understanding and managing the relationship that links its components with the dimensions of digitizing the economy.

3- It provides the greatest opportunity for Al Jeraisy companies to get acquainted with the reality of business digitization and identify its pros and cons, and then identify the most prominent ways to reach its promotion.

Research Hypothesis:

Based on the research problem and its importance, a hypothesis can be determined (there is a significant and statistically significant effect of digital entrepreneurship on enhancing the knowledge economy).

Research Methodology:

The statistical analysis program (SPSS) was used to analyze the data in order to achieve the objectives of the research and to reach the most important results and recommendations of the study**.**

Data collection sources:

The researchers adopted the social survey method by contacting the largest number of respondents using the questionnaire as a basic tool for data collection. Moreover, the descriptive approach was used to describe, analyze and interpret information.

Delimitation of the research:

People: A number of Al Jerais company employees, and a random sample of (80) individuals representing the study population was selected to express their point of view and attitudes about the subject of the study.

Place: Kingdom of Saudi Arabia - Riyadh city – Al Jeraisy group of companies

Time: 2021.

Topics: Digitizing entrepreneurship - Digitizing the economy.

Second: The theoretical framework of the study:

1- Previous studies:

We review here the previous studies that dealt with the relationship between the variables of this study, as follows:

1/ Mahdi Abdullah Muhammad (2020):

The study aimed to identify the causes of the deterioration of the Sudanese economy and treat it by formulating a number of hypotheses, the most important of which is that there is a direct relationship between transparency, non-corruption and achieving economic development. The study adopted the deductive, inductive, descriptive and analytical approaches. One of the most important results of the study is that decentralized governance, administrative corruption, emigration of qualified

staff, economic blockade, and the government's lack of interest in agricultural and livestock production and manufacturing industries are among the reasons for the failure to implement successful economic policies in Sudan. The study concluded with several recommendations, including a review of the decentralized governance, the development of policies that motivate investors and expatriates to benefit from their savings, the fight against corruption and the separation of executive-legislative-judicial-media powers, the return of qualified staff and paying attention to the aspect of agricultural, animal production and manufacturing industries.

2/ Shalom Wissam (2021):

This study came to show the role of electronic platforms in promoting the growth of the Islamic financial industry by exchanging digital currencies to attract Islamic investments. The researcher relied on the descriptive analytical approach to study the role of the digital economy through Islamic financial technology platforms and identify the aspects that can be benefited from by extracting the results of research, studies, reports and statistical data issued by international financial institutions in addition to the data of financial institutions interested in the Islamic financial sector related to the subject of the study. The research concluded with a set of results, as the adoption and development of technology in the Islamic financial and banking sector will give it a new impetus to move forward, and enable it to compete and sweep the traditional financial and banking sector at the global level.

3-Taher Bakhta (2020):

This study aimed to show the trends of the digital economy in the Arab countries. The digital economy is among the new economies that are closely linked to the extent of technology development in the world. It expresses a future vision for a world in which information is the mainstay of the economy and human relations, as it is based entirely on a high-quality digital infrastructure that is capable of achieving many of the goals sought by the countries that apply it and rely on it in light of the difficult circumstances surrounding it, especially the Arab countries that suffer from the lack of means and possibilities to apply it, which lies in the knowledge and how to use it correctly to get the desired benefit from it. This research concluded that the digital economy has many signs in the Arab countries that have begun to appear in some of them, and they must be given great attention.

4- Huda Abdel Rahim Hussein (2020):

The research was applied to a sample of (80) managers distributed at different administrative levels (board members, general managers, department and division managers, and office managers). The questionnaire was used as the main tool for collecting data and information. The research sought to test the main hypothesis of measuring the influence relationship between its variables, depending on the results extracted from neural networks, in order to answer the questions related to the research problem. A set of conclusions were reached, the most important of which are: The business intelligence system is a vital and important system in the success and continuity of organizations and contribute to enhancing their performance. This was confirmed by the results of the analysis, which showed the existence of a significant influencing relationship between the components of the business intelligence system and the dimensions of high performance. Based on this, a set of recommendations were developed, the most prominent of which is the need to improve the skills of officials in the surveyed

banks to deal with the huge amount of information and at all levels in a way that contributes to achieving high performance and improving it.

This study was distinguished from previous studies because it dealt with the digitization of entrepreneurship and its impact on the digitization of the economy in light of Covid-19, an applied study on Al Jeraisy group of companies, while the studies differed in terms of objective, human and temporal limits and were applied in other environments and countries. The first study focused on addressing the deterioration of the Sudanese economy and its most important causes, while the second study focused on the role of electronic platforms in promoting the growth of the Islamic financial industry by exchanging digital currencies to attract Islamic investments. The third study focused on the trends of the digital economy in the Arab countries. As for the last study, it dealt with the role of the business intelligence system in promoting high performance - an exploratory study of a sample of private banks.

2- Theoretical Background:

First: Entrepreneurship:

The term "entrepreneurship" has become a common term in the writings of most writers and researchers today. This topic has occupied a prominent position in the research presented by various specialists in diverse fields such as anthropology, history, management, psychology, sociology, economics and others. Entrepreneurship is an ancient, modern, and renewable phenomenon that carries many meanings and symbols. Since existence, it has been used to denote creators and innovators in various fields and their multiple achievements (Zaker, 2012, 98).

Linguistic meaning of Entrepreneurship:

It is worth knowing the meaning of leadership from the linguistic side before talking about the concept of leadership. The origin in the Arabic language is derived from the verb ‘رائد’ [rad], and (a pioneer), who was sent by his people to explore new places to eat and the location of rain. The word “entrepreneurship” has many meanings. Many words have been used as synonyms for the meaning of leadership, but the origin of the word leadership is from the French language.

The Concept of Entrepreneurship:

At the beginning of the twentieth century, the term "entrepreneurship" was associated with the concept of innovation, which spread widely in the Japanese business world. In recent times, leadership, especially in the field of business, its development and achievement of excellence, has become a precursor through courage, determination to succeed and taking risks in order to achieve the desired goals.

There were many definitions that dealt with this concept later and differed according to the reference of the identifier. We will mention them:

It is: “a set of characteristics and types of behavior related to business selection, planning, organizing, bearing risks, and requiring creativity in managing.” And it is: "full awareness of the opportunities represented by needs and desires, problems, and challenges, and the best use of resources, towards implementing new ideas in projects that are planned with high efficiency."

Or it is: "Using the outcome of the creative process to help organizations build new sources of competitive advantage and renew their proposals. The innovation process helps organizations identify opportunities and bring new projects to market." (Sarsour, 2019, 16). Entrepreneurship is generally defined as the process of creating a new organization or organizations or developing existing ones; that is, creating new businesses or responding to new investment opportunities by preparing to manage, organize and develop projects in conjunction with exposure to risks in order to reach profits based on the initiative to establish a new business by taking advantage of the available resources besides labor and capital (Jarjis, 2020). Entrepreneurship is defined as: the innovation of systems and practices that did not exist within the institution by some workers under the supervision of the manager in order to improve its economic performance through the efficient exploitation of the institution's resources (Eroglu.O, 2011, p. 146). Entrepreneurship is also defined as: the initiative in designing and organizing new projects or carrying out unique activities to meet business needs by discovering opportunities, exploiting them with a proactive mindset and adopting calculated risk to achieve profits by emphasizing creativity, productivity, work, and economic growth (Mater .V, 2011, 972).

The researchers conclude, according to the previous presentation, that there is a set of different definitions of leadership, some of them considered it a set of characteristics and others considered it a continuous dynamic process through a set of activities. Some also defined it as meaning the first, and some defined it as a process of research and investigation to create qualitative opportunities, and some of them defined it as maintaining competitive advantage through leadership traits, and almost unanimously agreed that it operates in conditions of risk, and always depends on setting policies in Uncertainty remained.

The Importance of Entrepreneurship: Dania Samhan, (2021):

Entrepreneurship and entrepreneurship endeavors have had a wide impact on economic conditions, business environment, and job creation in various countries. Here are some points that illustrate the importance of entrepreneurship:

Economic progress and advancement: Commercial projects are what drive the wheel of economic development and contribute significantly to the national income.

Fostering social change: Bridging the gap between product scarcity and demand will help create a positive impact on people and produce fruitful results from a business point of view.

Providing job opportunities: Business companies have contributed to providing new job opportunities for beginners, training and providing them with experience, and providing experienced labor for large industries.

Community development: If the labor base in the community is diversified among many small entrepreneurial companies, it will allow slums to diminish and increase spending on education, entertainment and other activities, and thus the standard of living in the community will become better.

Innovation: Entrepreneurship fuels innovation, research, and development that deliver new projects, quality goods, and critical services, increasing GDP and improving the standard of living for the individual.

The concept of digital entrepreneurship:

There is no doubt that there is still no agreement between thinkers and experts specialized in this field on a unified definition of digital entrepreneurship, although it is considered one of the most important topics that they dealt with, as it presents a modern image that differs from the previous images and methods for the development of individuals that lead to improved performance of companies.

Digital entrepreneurship is defined as the process of creating a new type of company or developing existing companies based on providing technological opportunities available for their development and advancement through technological infrastructure, technological innovative methods and creative ideas with a comprehensive and positive vision that takes into account the added value of investment to achieve excellence, profits and community service. (Al-Baz, Muhammad Mustafa, 2020).

The importance of digital entrepreneurship:

Digital entrepreneurship is the bright future for companies and countries in the world, as it depends on the basics of management and prepares mechanisms for strategic technological development. It is one of the decision-making inputs related to the optimal use of resources to provide distinguished products and services. As it adopts the enhancement of the business climate in order to implement entrepreneurial investments and encourages the adoption of pioneering technological systems that affect the growth of creativity and innovation to search for and implement new opportunities, it take risks and enhances the production and service process, thus achieving human sustainability.

Skills that must be available in digital leadership:

The characteristics of the entrepreneur lead to success and excellence in corporate management because he is very eager to win the opportunity, initiator of change, bears risks and uses the available resources in a positive way.

There is also a set of skills that must be available in leadership, and they can be categorized as follows:

1. Technological skills: Writing - the ability to communicate - managing technology business - the ability to organize - building relationships - working as a team.

2. Business administration skills: Setting goals and planning - decision making - human relations - management, control and negotiation - marketing - organization – accounting.

3. Personal leadership skills: Risk taking - creativity - role model for implementation - perseverance - leadership vision - control and commitment.

Third: The digital economy:

The "knowledge economy" is a new branch of economics based on a new and deeper understanding of the role of knowledge and human capital in the development of the economy and the progress of society, thanks to the scientific and technological revolution. The last quarter of the twentieth century witnessed the greatest change in human life, which is the third transformation or the third revolution as it is described by Alvin Toffler (Toffler 1991). After the agricultural revolution and the industrial revolution came the highly advanced technological revolution in the electronic, nuclear, physical, biological and space fields. And the information and communication revolution had a leading role in this transformation, as it enabled man to impose his control over nature to the extent that the knowledge development became more influential in life than other physical and natural factors. Information has become an economic resource that has its own privacy. Rather, it is the new strategic resource in economic life that complements natural resources (Alqam, 2013: p. 50).

Defining the digital economy:

The digital economy is defined as “the continuous interaction, integration and coordination between information technology and communication technology on the one hand, and the national, sectoral and international economy on the other hand, in order to achieve transparency, instantaneousness, and availability of all economic indicators that support all economic, commercial and financial decisions in the country during a certain period. In short, it is an economy based on the use of information technology in many key processes such as planning, management and marketing. (Nawais and Quraish, 2018:262). It is also known as "the most transparent and Internet-oriented economy where it is easy to compare prices between sellers and buyers and reduces transaction costs and entry obstacles. Knowledge is the key to generating jobs and high incomes resulting from innovations and inventions in the field of industry and the Internet. The economy has led digital technology to the development of the human element and the increase in the inherent benefit of investing in human capital and the information technology industry.” (Khalifa and Al Jawadi, 2005: 48).

The importance of the digital economy:

The digital economy has become a new source of knowledge, whether in terms of economic theory, intellectual and methodological frameworks, or at the level of practical applications. It is also considered a pivotal tool in measuring the extent to which countries are able to acquire the reasons for progress necessary for the success of their plans and programs for comprehensive economic development. As land, labor and capital were the three main factors of production in the economy, the important assets in the new economy are technical knowledge, technology, creativity, intelligence and information, and they became more important than these factors. (Ibrahim, 2017: p. 202).

Concerning the structure of the digital economy, it is based on a group of electronic institutions that are intertwined with each other through internal and international information networks. E-mail and Internet sites are the broad basis for achieving economic interlocking between institutions to implement electronic commerce, i.e. exchanging services, goods and money over the Internet or transferring money between sellers, buyers and banks using plastic money via e-mail via the Internet and other electronic tools. The digital economy also includes the marketing of many wholesale or retail banking products through electronic distribution channels, which are the so-called electronic banks,

and this achieves the speed of transactions and continuous renewal in them. The electronic joint stock companies in the digital economy design a website and an electronic catalog to introduce the company, its activities, plans, financial centers, markets and export objectives to achieve immediate contact with global markets. Companies also use video and teleconferencing for the same purposes (Nawish and Quraish, 2018: 263-264).

Characteristics of the digital economy:

The digital economy has a set of characteristics that can be addressed as follows:

- Ease of access to information sources, as the success and growth of the digital economy depends on the ability of individuals and institutions to participate in information networks and various Internet sites. Effective participation in that network and in the digital economy requires the need to provide infrastructure in the economy, such as electricity networks and others.

- Competition and market structure in the light of the digital economy: The digital economy includes information and communications technology, e-commerce, electronic delivery service, software and information, which vary according to the volume of economic transactions, specialization, economic resources, economic sectors and components of GDP.

- The future of the economy in light of the digital economy: Information technology plays a key role in increasing economic growth rates, capital investments, internal and external electronic commerce. Moreover, the Internet affects the methods of performing commercial transactions and work methods. (Tenu, 2019: 367-368).

The impact of digital economy applications in building the competitive advantage of business organizations: (Taher Bakhta, 2020)

The increasing reliance on digital management methods has had a significant impact on the organization. And it has brought about profound changes at various levels, especially those related to production, marketing, and human resources. The digital management has contributed to achieving the logic of "management of excellence and creativity" models by facilitating transformations in the patterns of work organization and the implementation of operations in the organization, among which we mention the following:

- Radical development in communication systems and mechanisms that allow the application of parallel engineering systems, where multiple individuals work in one project from distant sites, but they are in constant and immediate contact.

- Making organizational changes that fully comply with the requirements of the Excellence Department, the most important of which are the following:

- Re-design planning systems by adding flexibility and sensing changes through linking to performance measurement and control systems.

- Re-design the business by excluding automatically compensated activities and tasks, and taking into account the elements of integration and empowerment.

- Expansion of automated or automatic use leads to a reduction in the number of workers, even at administrative levels, especially) middle management and supervisory jobs).

- Simplifying the organizational structure by dividing the organization into a group of strategic units and self-working teams, while at the same time developing effectiveness, speed of performance and decision-making at implementation points, making it more flexible and responsive to surrounding changes.

- Investing emergency work teams instead of permanent organizational formations and divisions, then switching to network organization, where there is a simultaneous link between strategic units and different work teams with electronic means that allow communication, interaction, continuous coordination, joint work, and information exchange between all of them. Thus, the organization is able, thanks to the electronic management methodology, to transform from the traditional management style that is based on the idea of production for storage and then selling from stock to a new management style based on the idea of production for storage according to the customer's request or what is called "skinny production." This model is applied by now by many companies in the field of computer industries, including Dell and Compaq, where personal computers are made after receiving customer requests and not before and storing them.

Corona Virus:

A widespread family known to cause illnesses ranging from the common cold to more severe illnesses such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). This novel virus was first detected by WHO on December 31, 2019 after a cluster of viral pneumonia cases were reported in Wuhan, People's Republic of China. And it has had dire economic effects at the international level as a result of the precautionary measures imposed by the governments of countries, which resulted in the necessity of digital transformation in the fields of production and service provision.

Third: The field study:

3.1. On Al Jeraisy Company:

Al Jeraisy Group Company belongs to its owner Abdul Rahman bin Ali Al-Jeraisy and his partners. It is considered a closed joint stock company and is a 100% Saudi company with a capital of 300,000,000 (three hundred million Saudi riyals). It is a group that includes economic entities specialized in industrial and commercial fields. It has adopted the concept of total quality in providing high-level services aimed at meeting the needs and desires of clients. More than fifty-five years ago, businessman Abdul Rahman bin Ali Al-Jeraisy initiated the establishment of the Riyadh House Foundation as the nucleus of what is known today as Al-Jeraisy Group Company. From the beginning, attention was focused on providing high-level services and products aimed at customer satisfaction with the commitment and responsibility to participate in the support and development of the Kingdom of Saudi Arabia. With the tremendous development that the Kingdom witnessed later on, that nucleus resulted in the birth of an elite group of companies, institutions and factories that engage in independent and diverse commercial and industrial activities. But it seeks to achieve one goal, which is to provide products, and services that meet all the requirements of the equipment and furniture sector, office

automation, information and communication services, training and education. In order to maintain the reliability gained from its decades-long experience, and throughout a career full of achievements, Al Jeraisy Group Company has been keen on adding value in all its products, services or projects. Therefore, it is not surprising that the company obtained a number of certificates, the international ISO quality mark, and the first place for the King Abdul Aziz Prize for the Ideal Factory 1419 AH, and the first place for the King Fahd Prize for the Ideal Factory. It also won the first place for the best company that implements preventive safety requirements in its factories. It is not a coincidence that Al Jeraisy Group Company has the highest satisfaction of the largest category of customers in the public and private sectors, as well as individuals.

Al Jeraisy Group Company has adopted the concept of total quality since its launch more than fifty years ago. In 1958, businessman Abdul Rahman bin Ali Al Jeraisy initiated the establishment of the Riyadh House Foundation as the nucleus of what is known today as Al Jeraisy Group Company. From the beginning, the attention was focused on providing high-level services and products targeting customer satisfaction, while ensuring that it participates in the support and development of the Kingdom of Saudi Arabia, where Al Jeraisy Group Company was the pioneer in the field of computers and was the first to introduce the computer to the Kingdom.

Al Jeraisy companies include several companies, including:

1- Al Jeraisy Riyadh House.

2- Al Jeraisy for Computer and Communications Services.

3- Al Jeraisy Electronic Services.

4- Al Ariba Center for Women's Skills.

5- Computer paper production company.

6- Al Jeraisy Card Technology Factory.

Third: Procedures and Analysis of Research Data:

3.3. Study Population:

The research community is represented in the private companies in the Kingdom of Saudi Arabia. The researchers focused on taking a sample from this community represented by Al-Jeraisy Company as one of the leading companies in this community.

3.4. Study sample:

The research sample was represented by Al Jeraisy Company, which is one of the major companies. Due to the large sample of Al Jeraisy Company community, the categories of the research community that will be studied were limited, as they were represented by the 80 employees.

3. Data collection tools:

The researchers relied on the questionnaire as a main tool for collecting data from the research sample**.** The questionnaire consisted of two main sections**:**

The first section: This includes the personal data of the individuals of the research sample**.**

The second section: This section contains (32) phrases that the research sample members were asked to answer according to what each phrase describes according to the five-point Likert scale**.**

Third: The validity and reliability of the study tool:

The researcher verified the validity of the questionnaire through the following:

Reliability of the arbitrators (apparent reliability):

The researchers presented the questionnaire in its initial form to a group of specialists in the fields of accounting, management and statistics, and all opinions agreed upon by the arbitrators were taken**.**

Procedures for validating the paragraphs of the questionnaire:

The researchers used the Cronbach-Alpha method to test the extent to which there is a correlation between the measurements expressing the opinions of the study sample. The value of the reliability coefficient was 0.91, which is a percentage greater than the minimum acceptable stability coefficient of 0.70. This means that a large degree of validity and reliability of the results of statistical analysis is available.

Fourth: The statistical methods used:

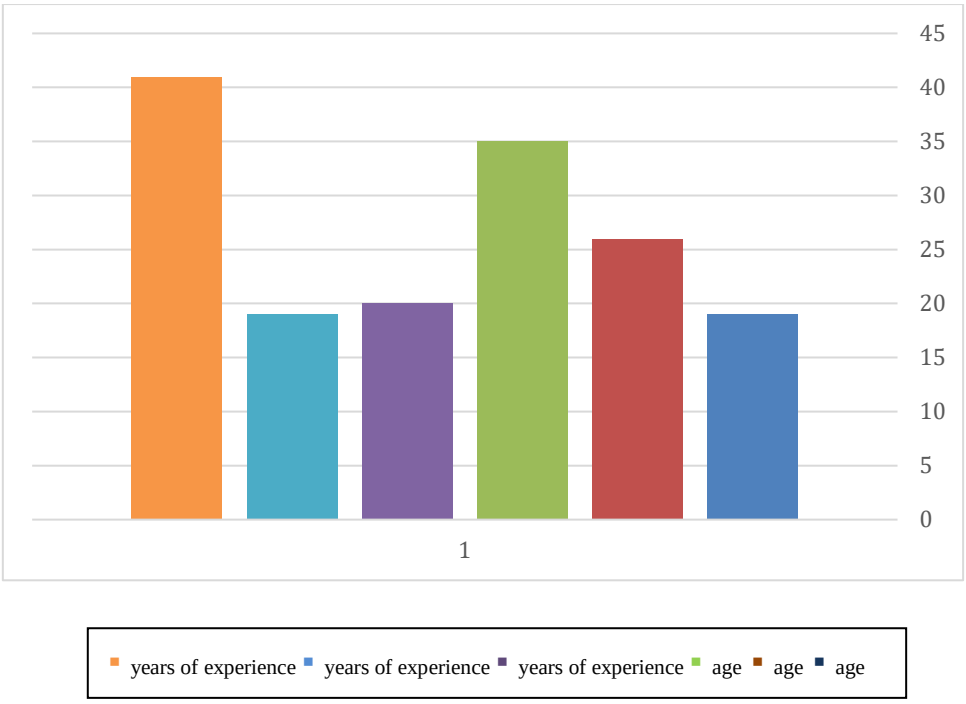
To obtain as accurate results as possible, the statistical program SPSS was used.

Analyzing data and testing research hypotheses: (personal information)

Table (1): The personal information related to the demographic and scientific aspects of the respondents

Variables	**Response type**	**F**	**R**	**Variables**	**Response type**	**F**	**R**
Age	Less than 30 years	19	23.8	Years of experience	Less than 5 years	20	25.0
	30-40 years	26	32.5		5-10 years	19	23.8
	More than 50 years	35	43.8		More than 10 years	41	51.3
Total		**80**	**100.0**	**Total**		**80**	**100.0**

Source: Prepared by the researchers based on the results of the analysis of the questionnaire in SPSS package, October 2021.



As it is noticed in Table (1) and Figure (1) above, the demographic characteristics and educational qualifications are distributed according to the mentioned variables as follows:

1. According to the age variable, most of the responses of the respondents focused on the age group of more than 41 years, with a response rate of 43.8% with 35 cases, the response rate for the age group from 30-40 years is 32.5% with 26 cases, while the response rate (less than 30 years) is 23.8%, with 19 cases, and it is the lowest response rate observed concerning the age variable.

2. According to the variable of years of experience, most of the responses focused on the category of years of experience more than 10 years, with a response rate of 51.3%, or 41 cases, and the response rate for the category (less than 5 years) is 25%, with 20 cases monitored from the data, while the response rate for the category of years of experience (from 5-10 years) is 23.8% with 19 cases in response to the respondents.

Table (2): The respondents' answers to the first question (Has your interest in technology and digitization increased after the Corona pandemic?):

Variables	Response type	F	R
Has your interest in technology and digitization increased after the Corona pandemic?	No	4	5%
	Yes	76	95%
Total		80	100%

Source: Prepared by the researchers based on the results of the analysis of the questionnaire in SPSS package, October 2021.

From the table (2) above, we find that most of the responses focused on the (yes) response, with a response rate of 95%, with 76 cases monitored from the data, while the response rate for (No)

is 5%, with 4 cases in response to the respondents, and we note that there is an increase in interest in technology and digitization after the Corona pandemic.

Table (3): The respondents' answers to the first question (Do you believe that adopting technology in your operations will contribute to strengthening the digital economy during the Corona virus?)

Variables	Response type	F	R
Do you believe that adopting technology in your operations will contribute to strengthening the digital economy during the Corona virus?	No	3	3.8%
	Yes	77	96.2%
Total		80	100%

Source: Prepared by the researchers based on the results of the analysis of the questionnaire in SPSS package, October 2021.

From the table (3) above, we find that most of the responses focused on the (Yes) response, with a response rate of 96.2%, with 77 cases monitored from the data, while the response rate of (No) is 3.8%, with 3 cases in response to the respondents. We note that there is a belief that the adoption of technology in operations will contribute to strengthening the digital economy during the Corona pandemic.

Objective data analysis:

Descriptive Distribution of Likert Scale:

The following is the calculation of descriptive statistics for each of the axes of the study, in order to know the general trend of each of the hypotheses of the axes, and then determine the general trend of the hypotheses axis.

Since the variable that represents the options (strongly disagree, disagree, neutral, agree, strongly agree) is an ordinal scale in Likert Scale, the boundaries between each of the options of the scale are shown in Table (4).

Table (4): The limitations of Likert scale options

Response (level, option)	Average
Strongly disagree	1.00 to 1.79
Disagree	1.80 to 2.59
Neutral	2.60 to 3.39
Agree	3.40 to 4.19
Strongly agree	4.20 to 5.00

Source: Prepared by the researchers, 2021.

The following are the results of the analysis: Description of the elements of the digital entrepreneurship scale hypothesis that lead to strengthening the digital economy:

Table (4): The descriptive statistics of the elements of the digital entrepreneurship scale and the promotion of the digital economy

Paragraphs	Mean	Response Intensity	Standard Deviation	Opinion	Significance
1/ The company has clear plans to shift towards the use of technology and digital transformation	3.8	2.00	2.588	Disagree	Low
2/ Small projects have been greatly affected by the financial crisis that institutions are going through during the Corona virus pandemic	3.9	3.00	3.684	Agree	High
3/ Promoting digitization in entrepreneurial projects requires bridging the digital divide by holding intensive courses in the field of technology	3.91	3.00	2.976	Neutral	Average
4/ Enhancing the use of technology leads to improved decision-making and policy-making processes in light of uncertainty.	3.91	3.00	2.976	Neutral	Average
5/ The use of technology helps entrepreneurial organizations to identify and create opportunities.	3.96	3.00	4.962	Strongly agree	High
6/ The use of technology in small projects helps in evaluating performance and taking corrective actions in a timely manner	3.96	3.00	4.962	Strongly agree	High
7 / The digitization of the business of the entrepreneurial projects helps to find the correct interpretation of the information by integrating the information stored in the information base system and available in the environment	3.96	3.00	4.962	Strongly agree	High
8 / Business digitization supports the culture and processes of continuous improvement and development based on the requirements of the current situation	3.92	3.00	3.289	Neutral	Average
9/ Digitizing business helps to improve and encourage levels of transparency by achieving integration between different processes and enhancing communication among them.	3.92	3.00	3.289	Neutral	Average

10/ Business intelligence contributes to strengthening the intellectual maturity of individuals, and ensures that they draw a clear road map for the future of their business	3.88	3.00	2.500	Disagree	Very high
11/ Does business intelligence help direct the outputs to the end beneficiary and the customer	3.90	3.00	3.238	Neutral	Low
12/ Enhancing digitization in entrepreneurial businesses helps to understand the methods of managing excellence	3.90	3.00	2.718	Neutral	Low
13/ Does the digitization of business help in managing time and reaching markets in a timely manner?	3.95	3.00	4.209	Strongly agree	High
14/ Does the digitization of business help in managing crises and making situational plans?	3.88	3.00	2.500	Disagree	Low
15/ Does business digitization help to understand the management engineering of operational processes?	3.87	2.00	3.055	Neutral	Average
16/ The digitization of business helps to implement the standards and requirements of governance in entrepreneurial projects	3.88	3.00	2.500	Disagree	Low
17/ Does the digitization of business help with occupational safety standards and equipment technology for operational processes?	3.95	3.00	4.209	Strongly agree	High
18/ The digitization of the entrepreneurial business helps to understand the methods of modern marketing and access to global markets in a timely manner	3.92	3.00	3.289	Neutral	Average
19/ Digitizing the entrepreneurial business helps to analyze the internal environment to know the strengths and exploit them in seizing opportunities, addressing weaknesses, and changing for the better	3.90	3.00	3.735	Agee	High
20/ The digitization of business helps to continue operational processes by promoting remote work and from home and not losing opportunities	3.90	3.00	3.735	Agee	High

14/ Does the digitization of business help in managing crises and making situational plans?	3.85	2.00	2.618	Strongly agree	Low
22/ Enhancing digitization in business helps in cooperation between entrepreneurial projects and transfer of expertise in digital transformation between projects	3.91	3.00	2.976	Neutral	Average
23/ The digitization of entrepreneurial businesses requires strengthening the ICT infrastructure in the Kingdom of Saudi Arabia	3.95	3.00	4.209	Strongly agree	High
24/ The digitization of business and the economy requires Arab governments to enhance digital capabilities in the economic sectors affected by the crisis generated by Corona	3.93	3.00	3.684	Agee	High
25/ The digitization of entrepreneurial businesses and the economy requires attracting foreign and local investments to the technology and informatics sector	3.91	3.00	2.976	Neutral	Average
26/ The digitization of business and the economy requires interest in supporting and developing telephone networks, especially in rural areas, to facilitate technical transactions	3.91	3.00	2.976	Neutral	Average
27/ Enhancing digitization in business helps in cooperation between entrepreneurial projects and transfer of expertise in digital transformation between projects	3.90	3.00	3.735	Agee	High
28/ The digitization of entrepreneurial businesses and the economy requires updating education and training systems with entrepreneurial projects to keep pace with global digital developments	3.93	3.00	3.684	Agee	High
29/ Does the digitization of the Saudi business and economy help achieve the goals of the Kingdom’s Vision 2030 by promoting the economies of small projects?	3.91	3.00	2.976	Agee	High
30/ Digital Entrepreneurship Leads to Enhancing the Digital Economy in 2030	3.95	3.00	4.209	Strongly agree	High

Full hypothesis	3.91	Agee	High

Source: Prepared by the researchers based on the outputs of the SPSS analysis of the questionnaire, October 2021.

From the table (4) above, we find that most of the averages of the statements and opinions of the respondents were "agree", where the response averages of the respondents fall between 3.52-4.20, which is within the confirmation of the direction of the direct opinion of "agree" and "strongly agree". We also find that the general orientation for all elements of the digital leadership scale was "agree", and the general average of the hypothesis reached 3.67, which is within the confirmation of the direction of opinion "agree". The validity of the previous results is confirmed by looking at the intensity of the MO response, which represents the most common frequency of the responses that were observed against each of the hypothesis statements.

It is obviously noticed that there is agreement between the opinion that was reached and the severity of the response, where the output 5 represents the response pattern "strongly agree" according to the Likert five-scale. We also find that the standard deviations of the statements were relatively small. This indicates the presence of homogeneity in the response pattern of the respondents around the hypothesis statements, because the standard deviation represents a measure of the difference in the quality and pattern of recording responses. Whenever it is small, this indicates the presence of homogeneity and lack of difference, and otherwise the result will be different from what was mentioned.

Objective tests:

One-sample T-test to test the significance of the factors and the hypothesis:

The t-test will be conducted at a significance level of 5%, depending on the sig-probability value of the computed t-test statistic, which gives $t=(x-\mu)/\sigma$. The hypothesis will be accepted or rejected based on the criterion that if the sig-probability value of the t-test statistic is less than 5%, the validity of the stated hypothesis is confirmed by measuring the difference between the actual mean of the expression MA and the response unit MO. The test results are as shown in Table (5).

Table (5): The results of the t-test for the individual and full scale Entrepreneurship Scale statements of digital entrepreneurship

Paragraphs	t	Degree of freedom	Sig
1/ The company has clear plans to shift towards the use of technology and digital transformation	77.112	79	.000
2/ Small projects have been greatly affected by the financial crisis that institutions are going through during the Corona virus pandemic	144.580	79	.000
3/ Promoting digitization in entrepreneurial projects requires bridging the digital divide by holding intensive courses in the field of technology	123.069	79	.000
4/ Enhancing the use of technology leads to improved decision-making and policy-making processes in light of uncertainty.	123.069	79	.000
5/ The use of technology helps entrepreneurial organizations to identify and create opportunities.	185.382	79	.000
6/ The use of technology in small projects helps in evaluating performance and taking corrective actions in a timely manner	185.382	79	.000
7 / The digitization of the business of the entrepreneurial projects helps to find the correct interpretation of the information by integrating the information stored in the information base system and available in the environment	185.382	79	.000
8 / Business digitization supports the culture and processes of continuous improvement and development based on the requirements of the current situation	132.450	79	.000
9/ Digitizing business helps to improve and encourage levels of transparency by achieving integration between different processes and enhancing communication among them.	132.450	79	.000
10/ Business intelligence contributes to strengthening the intellectual maturity of individuals, and ensures that they draw a clear road map for the future of their business	109.351	79	.000
11/ Does business intelligence help direct the outputs to the end beneficiary and the customer	129.189	79	.000
12/ Enhancing digitization in entrepreneurial businesses helps to understand the methods of managing excellence	115.547	77	.000
13/ Does the digitization of business help in managing time and reaching markets in a timely manner?	161.088	79	.000

14/ Does the digitization of business help in managing crises and making situational plans?	109.351	79	.000
15/ Does business digitization help to understand the management engineering of operational processes?	93.956	79	.000
16/ The digitization of business helps to implement the standards and requirements of governance in entrepreneurial projects	109.351	79	.000
17/ Does the digitization of business help with occupational safety standards and equipment technology for operational processes?	161.088	79	.000
18/ The digitization of the entrepreneurial business helps to understand the methods of modern marketing and access to global markets in a timely manner	132.450	79	.000
19/ Digitizing the entrepreneurial business helps to analyze the internal environment to know the strengths and exploit them in seizing opportunities, addressing weaknesses, and changing for the better	70.758	79	.000
20/ The digitization of business helps to continue operational processes by promoting remote work and from home and not losing opportunities	70.758	79	.000
14/ Does the digitization of business help in managing crises and making situational plans?	87.627	79	.000
22/ Enhancing digitization in business helps in cooperation between entrepreneurial projects and transfer of expertise in digital transformation between projects	123.069	79	.000
23/ The digitization of entrepreneurial businesses requires strengthening the ICT infrastructure in the Kingdom of Saudi Arabia	161.088	79	.000
24/ The digitization of business and the economy requires Arab governments to enhance digital capabilities in the economic sectors affected by the crisis generated by Corona	144.580	79	.000
25/ The digitization of entrepreneurial businesses and the economy requires attracting foreign and local investments to the technology and informatics sector	123.069	79	.000
26/ The digitization of business and the economy requires interest in supporting and developing telephone networks, especially in rural areas, to facilitate technical transactions	123.069	79	.000

27/ Enhancing digitization in business helps in cooperation between entrepreneurial projects and transfer of expertise in digital transformation between projects	70.758	79	.000
28/ The digitization of entrepreneurial businesses and the economy requires updating education and training systems with entrepreneurial projects to keep pace with global digital developments	144.580	79	.000
29/ Does the digitization of the Saudi business and economy help achieve the goals of the Kingdom's Vision 2030 by promoting the economies of small projects?	123.069	79	.000
30/ Digital Entrepreneurship Leads to Enhancing the Digital Economy in 2030	161.088	79	.000
Full hypothesis	3.80	30	.000

Source: Prepared by the researchers based on the results of the SPSS package analysis, October 2021**.**

From Table (4), we find that the values of the T-test statistics are accompanied by a significant level of less than 5.0%. Thus, the validity of the statements under test is confirmed, and the researcher infers the verification of these statements. From Table (4) we also notice that the level of statistical significance of the T-test statistics is less than 5.0%. This result confirms that these statements verify the hypothesis, as there are statistical significance and essential differences that prove their validity.

Findings and Recommendations:

Through the presentation and analysis of the data, the following conclusions and recommendations were reached:

First: The results:

1. The study found that, through the personal details of the respondents, more than half of the sample, with a percentage of (51.3 %) years of experience, have more than ten years of experience in the company. This indicates that the company's work turnover is low and there is an interest by the company's management in creating an attractive work environment for employees. Also, 53.8% of the respondents were over 40 years old, which led to the company's distinction concerning having experienced employees.

2. The study showed that the respondents have positive attitudes and strongly agree with some statements, including (that the adoption of technology in operations contributes to strengthening the digital economy during (Covid-19), in addition to that the use of technology in entrepreneurial organizations helps to identify and create opportunities, and helps in evaluating performance and taking corrective actions, and that digital entrepreneurship leads to the promotion of the digital economy in the Kingdom in light of the 2030 vision.

3- The researchers concluded from Table (2), regarding the personal data of the respondents, that the percentage of (95%) increased their interest in technology and digitization after the Covid-19 pandemic.

4- The data in Table (3) revealed that more than (96%) of the respondents affirm that they believe that the adoption of technology in operations will contribute to strengthening the Saudi digital economy in light of COVID-19.

5-The study also revealed that the respondents had negative attitudes and expressed their disagreement with a few statements, namely: (Al Jeraisy Company has clear plans to shift towards the use of technology and digital transformation, in addition to the statement that digitizing business helps in managing crises and taking situational plans, and helps in strengthening the capabilities of international trade rules for products and supporting distribution during the Corona virus**.**

6- The study reflected that the respondents expressed their neutrality towards a number of statements, namely (that digitization requires bridging the gap through intensive training courses in the field of technology, and that business digitization leads to improving decision-making and policy-making processes in light of uncertainty, in addition to the statement that the digitization of business supports a culture and processes of continuous improvement.

7- It became clear to the students through the outputs of the (T) test table that the significance level for all paragraphs, without any exception, is less than (5%), which indicates the validity of the study hypothesis.

8- One of the tangible results of the global economic crisis left by (Covid-19) is that it brought about a fundamental change in the ways of solving economic problems by accelerating the process of benefiting from the solutions provided by digital services in entrepreneurial and large projects alike.

9- The results of the study revealed the necessity and inevitability of shifting from the traditional economy to the digital economy by adopting agility, making situational decisions and activating administrative policies in light of uncertainty with the acceleration in changing the complex business environment.

10- The study revealed the necessity of bridging the digital gaps by enhancing the digital skills of workers in entrepreneurial institutions and expanding the use of technology in business.

Second: Recommendations:

Based on the findings, the researchers recommend the following:

1- There is a strong need to work on empowering workers and enhancing digital capabilities in the economic sectors by developing, managing and integrating technology in all operational systems to enhance competitiveness and sustainability in light of the threats left by Cov-19 in the field.

2- Building and refining the ICT infrastructure by employing new information technologies and software. This will be done by expanding the use of the fifth generation (5G) technology and attracting foreign and local investments in the technology and communications sector.

3- There is a necessity of working to bridge the digital gaps by establishing the latest educational and training programs to enhance digital skills through the transfer of experiences and cooperation between educational and economic institutions to support the digital economy.

4- There is a need to enhance cyber security in economic institutions and encourage the free flow of information in economic institutions to help develop realistic plans and take necessary decisions in light of crises**.**

5- Adopting and activating the electronic marketing of the products and services of the entrepreneurial projects to support and increase sales in the digital age**.**

6- There is a necessity of motivating workers to take initiative and present new ideas in work systems to shift towards innovation and creativity and to enhance the digital economy, while providing opportunities for training and empowerment**.**

7- Paying attention to the business digitization system as it constitutes the basis for the success of organizations in the current situation to facilitate the exchange of data and information and the implementation of activities accurately and effectively.

8-The pioneering projects in general and those researched in particular should develop accurate scenarios by anticipating the needs of customers and working to provide services and products that create relationships with them to increase revenues and contribute to supporting the economy**.**

9. There is a necessity of working to involve the employees of Al Jeraisy Company in developing operational plans to enhance the employees' belonging to the organization and to make them creative.

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