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The Role Of E-Entrepreneurship in Achieving Sustainability in the Jordanian E-Business Environment

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Abstract

This study aimed to identify the role of e-entrepreneurship in achieving sustainability in the Jordanian e-business environment. The descriptive approach was used, and a questionnaire was designed to verify sustainability consisting of three areas. After ensuring its validity and reliability, it was distributed to the study sample consisting of (750) employees in Jordanian entrepreneurial companies, after collecting data and processing it statistically, it was found that there is a high and statistically significant role at the level of (0.05) in achieving environmental, social and economic sustainability, (R- Square) reached (0.749), (0.842) and (0.831) respectively, p=0.00, a set of recommendations were developed, the most prominent of which are work with the government to avoid risks that may occur in this field, work to improve the conditions of their workers, increase productivity and increase the rates of exporting their products abroad to participate in economic growth in Jordan and improve income rates.

Keywords: *E-Entrepreneurship, Sustainability, E-Business Environment.*

Introduction

The major company's activity system in the business model includes mutual activity with the ecosystem, and the business model includes direct communications related to the central major company, whether with suppliers or customers, while the business ecosystem consists of relevant interconnections (Snihur & Bocken, 2022). It is necessary to benefit from electronic entrepreneurship in development processes for the purposes of sustainability and human behavioral responses, finding ways to mitigate crises related to sustainability (Nishant, et, al., 2020). In Jordan the Innovative Startups and SMEs Fund was established, which is a private sector-managed fund that invests in innovative startups and early-stage SMEs. The Central Bank of Jordan contributed $48 million, and the World Bank Fund contributed $50 million, bringing the total invested capital of the Innovative Startups and Small and Medium Enterprises Fund to $98 million. The ISSF aims at investing in Jordanian companies, providing investment support to partner investors, as well as improve the quality and variety of services provided by intermediaries and networks dedicated to the creation of deal-flow in Jordan's ecosystem (https://issfjo.com/). The number of entrepreneurial companies operating in Jordan has reached more than a thousand companies as a result of the support of the Ministry of Digital Economy and Entrepreneurship - Jordan Fund. These companies provide more than 40 thousand job opportunities, and the sector's contribution to the gross domestic product during the year 2021 amounted to about 900 million dinars, representing 3 percent of the gross domestic product. The majority of the sub-project investments supported by this project are expected to be in the field of technology and services, with limited associated environmental or social risks (such as renewable energy projects, entrepreneurship in pharmaceutical technology) that do not have environmental or social risks (ESMF, 2017).

Sarkis, and Zhu (2018) surveyed sustainability research and how research in environmental sustainability has evolved over the past 55 years, and provided future predictions for research topics and their impacts on environmental sustainability. They found that the call to integrate environmental sustainability into production research goes back a long time, but there is a broader perspective of production research expanding to include research between organizations and the different supply chains, while the need still exists to expand the horizon of production and operations management and environmental sustainability research to reach a healthy society and environment.

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Quality in the outputs of organizations ensures sustainability, especially environmental sustainability (Asongu and Odhiambo, 2019), and state institutions are responsible for this, as the strategies adopted by the state from the cultural and legal aspects work to develop production methods from the social, economic and financial aspects to achieve sustainability (Hassan et al., 2020). Therefore, Since 2010, the European Parliament has been working on a series of resolutions, with the aim of stimulating innovation by European SMEs (European Parliament, 2010), improving the conditions for globalization (European Parliament, 2011), increasing competitiveness and employment opportunities for sustainability (European Parliament, 2012; 2014), supporting the development of information and communication technologies (ICTs) (European Parliament, 2016; 2017) for the transition to a sustainable economy and solving the social and environmental problems mentioned in the European Strategy 2020 solutions. An entrepreneurial companies cannot be a magic cure for all environmental sustainability problems, they must find new ways to take advantage of the available potential, especially human (Badghish & Soomro, 2024) (Gherghina, et, al., 2020).

Governance is the formal and informal rules that govern human behavior in decision-making processes and determine how society sets and prioritizes goals and actions related to natural resource management. Entrepreneurial companies should be leveraged to determine how their applications integrate basic human needs and environmentally friendly behavioral responses, as the real value of these companies will be in facilitating and promoting effective environmental management for sustainability, making the choice and following through on its implementation through supportive actions is governance (United Nations. (2013). International cooperation in the development of environmental technology contributes to combating carbon dioxide emissions, and helps increase the role of local environmental innovation, renewable energy consumption, and trade openness (You, et, al., 2022). The concept of environmental sustainability includes preserving intergenerational well-being and replacing industrial capital with natural capital. It can be measured by environmental resource conservation (Bateman, & Mace, 2020). This concept means that achieving human well-being should not be at the expense of environmental damage, and thus how to achieve sustainable development from the point of view of smaller private companies (Parrish, 2010). Companies should work to achieve sustainability through the practice of their business activities (Atkinson, 2000) (Lee, 2021). The impact of the industrial and digital (information) revolutions has been significant on all aspects of our society, our lives, our companies, and job opportunities (Makridakis, 2017) (Makridakis, 1995). The biggest challenge facing societies and businesses is to harness the benefits of leveraging AI technologies, providing vast opportunities for both new products/services and massive productivity improvements while avoiding the risks and drawbacks in terms of increased unemployment and increased wealth inequality (Skene, 2022). Entrepreneurial firms can reduce working hours, improve individual well-being, reduce physical harm to workers on the job, increase worker efficiency, and support social philanthropy (Khakurel, et al., 2018). Technological innovation related to the environment in particular is a powerful technology that has a greater positive impact on the environment than traditional technological innovation (Dong et al., 2022). These technologies may help countries improve the efficiency of their production processes, and it is necessary to prevent Climate change, encouraging green economic growth (Zhang et al., 2016).

Economic sustainability refers to the contribution of companies to economic growth and development without compromising the needs of future generations (Rees, 2010). The clear rule of economic sustainability is to reject economic processes that waste natural resources in a short time. There is no doubt that innovations related to the local environment can mitigate environmental damage while producing integration with innovative resources such as solar energy and entrepreneurial projects, which enhances the innovation capabilities of the basic systems related to the green economy and economic sustainability (You et al., 2022). The need for business models that balance economic development, environmental protection and social justice is a real requirement for the future (Vos, 2009). That's means economic sustainability is a broad set of different decision-making procedures and business practices that aim to develop economic growth without entering into the harmful environmental trade-offs that accompany incremental growth (Elsawy & Youssef, 2023).

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Significant of the Study

Emerging e-businesses in Jordan represent a clear investment opportunity, but do they take into account the needs of society, preserve economic and environmental resources, and meet the needs of the developing society? And how do these companies improve their products in light of global sustainability standards in Jordan?

Jordan has recently witnessed a remarkable development in the field of e-entrepreneurship, and its products have contributed to the development of companies, administrative institutions, and society as a whole. It is necessary to protect society from the consequences of its production and use. There is no doubt that innovation and discovery come from natural resources, and their harm or benefit will return to them, but they can form the basis for new goods or new economic advantages, but on the condition that the requirements of sustainability are maintained for future generations.

Study Problem

Entrepreneurship and digital transformation companies must contribute to reducing the level of high consumption of natural resources, which is considered one of the impacts in which industrialization plays a fundamental role. The industrial revolution and new entrepreneurship have created a great opportunity to reshape the way we manage our environment today and its impact on society, and harness Digital capabilities in entrepreneurship and societal transformation companies to solve environmental, social and economic problems and revolutionize sustainable development. This study aims to explore the potential applications of entrepreneurial companies and how to use them to enhance the sustainability of their economic operations, improve their environmental performance in Jordanian society, and contribute to achieving the requirements of sustainable development. Entrepreneurial companies in Jordan need to take advantage of the available opportunities to enhance sustainable development and achieve the requirements of economic, environmental, and social sustainability.

The problem of the current study is summarized in the role of e-entrepreneurship in achieving sustainability in the emerging Jordanian e-business environment, small and medium-sized, and that many sectors use electronic products in different ways, but it is necessary to warn about how to dispose of the waste of these industries, and that it is of high quality so that it does not affect the environment, and achieves valuable benefits for workers and society.

Study Objectives

The main objective of this research is to explore the role of e-entrepreneurship in achieving sustainability (environmental, social and economic) in the Jordanian e-business environment.

Study Question

This study seeks to answers the following questions:

Main question: What is the role of e-entrepreneurship in achieving sustainability in the Jordanian e-business environment? And the following sup questions:

- What is the role of e-entrepreneurship in achieving environmental sustainability in the Jordanian e-business environment?
- What is the role of e-entrepreneurship in achieving social sustainability in the Jordanian e-business environment?
- What is the role of e-entrepreneurship in achieving economic sustainability in the Jordanian e-business environment?

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Study Hypotheses

Main Hypothesis: There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving sustainability in the Jordanian e-business environment. And the following sup hypotheses:

(H1): There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving environmental sustainability in the Jordanian e-business environment.

(H2): There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving social sustainability in the Jordanian e-business environment.

(H3) There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving economic sustainability in the Jordanian e-business environment.

The Methodology

In order to achieve the objectives of the study, the descriptive analytical approach was used, where a questionnaire was designed to collect data and distribute it to the target sample. The descriptive approach is one of the most important approaches used in scientific studies and scientific research methods in general. It contributes to identifying the studied phenomenon, placing it in its correct framework, and explaining all the surrounding circumstances. This is the beginning of reaching the study results related to the research, and crystallizing the solutions represented in the recommendations and proposals that the researcher markets to end the controversy contained in the research text. Information and data related to the research phenomenon are collected in different ways, including questionnaires, interviews, and others. It was used in this study due to its suitability to the nature of the current study in revealing the role of e-entrepreneurship in achieving sustainability (environmental, social and economic) in the Jordanian e-business environment.

Study Population and Participants

The study population consisted of all electronic pioneer companies in Jordan, which numbered more than (1000) companies, employing 40,000 employees, according to statistics from the (Ministry of Digital Economy and Entrepreneurship - Jordan). The study sample consisted of (93) entrepreneurial or electronic companies in Jordan that were randomly selected, and (7-10) employees were taken from each company randomly, so that the sample consisted of (750) participants; discerption the demographic information for the sample indicates to (491) male by percent (65.5%) and (259) female by percent (34.5%) on study population, (62) by percent (8.3%) Less than 25 years old, (291) by percent (38.8%) from 25 years - less than 35 year,(261) by percent (34.8%), (136) by percent (18.1%) More than 45 years. (39) by percent (5.2%) have a diploma, (479) by percent (63.9%) have a bachelor's degree but postgraduate studies (232) by percent (30.9%). For experience variable, less than 5 years (101) by percent (13.5%), from 5 years - less than 10 years (260) by percent (34.7%), From 11 years - less than 15 years (215) by percent (28.7%), and more than 15 years (174) by percent (23.2%). Administrative jobs reached (436) by percent (58.1%) but technical jobs (314) by percent (41.9%), table (1) reveals that.

Table (1): discerption of the demographic information for the sample

variables	Categories	Frequency	percent
Gender	Male	491	65.5
	Female	259	34.5
	Total	750	100.0
Age	Less than 25 years old	62	8.3
	From 25 years - less than 35 years	291	38.8
	From 36 years - less than 45 years	261	34.8

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	More than 45 years	136	18.1
	Total	750	100.0
Education	Diploma	39	5.2
	Bachelor's degree	479	63.9
	Postgraduate studies	232	30.9
	Total	750	100.0
Experience	Less than 5 years	101	13.5
	From 5 years - less than 10 years	260	34.7
	From 11 years - less than 15 years	215	28.7
	More than 15 years	174	23.2
	Total	750	100.0
Job	Administrative jobs	436	58.1
	Technical jobs	314	41.9
	Total	750	100.0

Tool of Study

For this study the role of e-entrepreneurship in achieving sustainability in the Jordanian e-business environment, theoretical literature and studies related to the objectives of the study were reviewed, and the design of a questionnaire consisting of (18) items were distributed on 3 fields: environmental sustainability (6) items, social sustainability (6) items, economic sustainability (6) items, Moldavska, A and Welo, T. (2018), Sun, H et.al. (2023), and Ong, T et, al., (2019) studies in developing the questionnaire items.

The validity and Reliability

The questionnaire was presented to (4) experts from academic staff to evaluate the items suitability to measure the study fields. Hence, after reviewing all experts' comments, some items have been modified. Then, a pilot study was applied twice on (30) employee out of the sample within two weeks to extracting the Pearson correlation coefficient between them to identifying the test–R.test Reliability. All reliability coefficients for the domains were more than (0.80) table (2) and the scale as a whole was (0.94). This indicates to high reliability and validity of the study's questionnaire (Sekaran, 2010). Also, the internal consistency by Cronbach alpha was used, the result shown in table (2). Thus, the highest Cronbach alpha value reached (0.95) for domain (Social sustainability), and the lowest alpha value was (0.87) for domain (Environmental sustainability, the scale as a whole was (0.96).

Table (2): the result of Test–R.test and (Cronbach's Alpha)

No	Variables	Alpha	Test–R.test	Item No
2	Environmental sustainability	0.87	**0.88**	**6**
3	Social sustainability	0.95	**0.86**	**6**
4	Economic sustainability	0.94	**0.89**	**6**
Total		**0.96**	**0.94**	**18**

Data Collection

After ensuring the validity and reliability of the questionnaire, the was contacted, and the operating companies were listed with their detailed addresses from Ministry of Digital Economy and Entrepreneurship - Jordan. Then contact was made with around 100 companies, and coordination was made with them for the purposes of applying the study to their employees. The items information of the questionnaire was converted into an electronic link to facilitate the data collection process, to obtain the company's approval, the questionnaire link is sent to distribute to (10) employees in the company on a random basis, (750) responses were collected during a month of follow-up for the application to company employees, and they were dealt with and transcribed into the SPSS program and the appropriate statistical analysis was conducted.

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*Statistical Treatment :*The following statistical analysis through statistical software packages (SPSS, Vs 24) were used: Frequencies and percentage of the characteristic's variables of the study sample, The reliability Pearson correlation "Test–R.test" and (Cronbach' Alpha) coefficient were applied. One sample t.test for study domains and total them, multiple regression analysis for hypothesis testing.

The Results and Discussion: This part includes the results of the study, which aimed to identify the role of e-entrepreneurship in achieving sustainability in the Jordanian e-business environment, the results will be presented according to their questions and hypotheses.

Main question: What is the role of e-entrepreneurship in achieving sustainability in the Jordanian e-business environment?, to answer this question, One sample t.test was applied, table (3) reveals that, the total means for the role of e-entrepreneurship in achieving sustainability areas in the Jordanian e-business environment was (4.17) out of (5), t.value was (63.630) (p= 0.00), this indicate to there is high role of e-entrepreneurship in achieving sustainability in Jordan, and the following sup questions: What is the role of e-entrepreneurship in achieving environmental sustainability in the Jordanian e-business environment? means for the role of e-entrepreneurship in achieving environmental sustainability was (4.23), t.value was (69.463) (p= 0.00), this indicate to there is high role of e-entrepreneurship in achieving environmental sustainability in Jordan. What is the role of e-entrepreneurship in achieving social sustainability in the Jordanian e-business environment? means for the role of e-entrepreneurship in achieving social sustainability was (4.08), t.value was (47.657) (p= 0.00), this indicate to there is high role of e-entrepreneurship in achieving social sustainability in Jordan. Finally; What is the role of e-entrepreneurship in achieving economic sustainability in the Jordanian e-business environment? means for the role of e-entrepreneurship in achieving social sustainability was (4.19), t.value was (57.462) (p= 0.00), this indicate to there is high role of e-entrepreneurship in achieving economic sustainability in Jordan. This indicates that leading e-business companies clearly practice the requirements of environmental, social and economic sustainability in their various products, and maintain the quality of their products to be environmentally friendly, while participating in economic growth, and providing the necessary needs and job benefits for employees.

Table (3) The results of One sample t.test for study domain and total them

Variables	Means	St,Dev	d.f	t. value	Sig.
Environmental sustainability	4.23	0.48	749	69.463	0.00
Social sustainability	4.08	0.62	749	47.657	0.00
Economic sustainability	4.19	0.57	749	57.462	0.00
Total sustainability	4.17	0.50	749	63.630	0.00

Results Of Study Hypotheses:

Main Hypothesis: There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving sustainability in the Jordanian e-business environment. And the following sup hypotheses:

(H1): There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving environmental sustainability in the Jordanian e-business environment.

(H2): There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving social sustainability in the Jordanian e-business environment.

(H3) There is a statistically significant role of e-entrepreneurship at the level of significance (0.05) in achieving economic sustainability in the Jordanian e-business environment.

Due to testing these hypothesis, multiple regression was applied, table (4) reveals that.

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Table (4) the results of multiple regression for each area

Variable	R	R^2	B	St,Error	t. value	Sig.
Environmental sustainability	0.865	0.749	0.898	0.019	47.194	0.00
Social sustainability	0.918	0.842	0.743	0.012	63.245	0.00
Economic sustainability	0.911	0.831	0.804	0.013	60.582	0.00

Table (4) shows that (R) values for three area were (0.865), (0.918) and (0.911), and predictive ratio (R^2) were (0.749), (0.842) and (0.831) this indicate to correlation coefficients and predictive ratio for environmental, social and economic sustainability are high, its mean high roles of e-entrepreneurship in achieving these areas in the Jordanian e-business environment. Also, t.values for environmental, social and economic sustainability were (47.194), (63.245), (60.582) (*p*; 0.00) for each one respectively. This leads to acceptance of all study hypotheses, and that there are statistically significant roles of e-entrepreneurship at the level of significance (0.05) in achieving environmental, social and economic sustainability in the Jordanian e-business environment. This indicates that electronic entrepreneurship companies in Jordan take into account all elements of environmental, social and economic sustainability in Jordan, as they take into account the preservation of the environment through their products, take into account employees in terms of securing their material needs, and work to support some social institutions operating in Jordan to combat unemployment and poverty. These companies also play a pioneering role in modifying and distinguishing their operations and products in response to the requirements of the economic environment.

Conclusion

This study is based on the role played by entrepreneurial electronic companies in Jordan, as the Jordanian market is considered one of the emerging markets, especially in the field of entrepreneurship, but due to government support for these institutions and the facilities granted to investors and the low level of taxes and customs duties, the demand for these companies and investment has increased recently. In the field of electronics, these companies have worked to take into account all elements of environmental, social and economic sustainability to ensure success in the future, preserve the elements of the environment necessary for their continuity, work to support some social institutions, increase the level of social responsibility in Jordan, and alleviate the phenomena of unemployment and poverty that are increasing. In Jordan, as a result of the deteriorating economic conditions, it played a major role in the issue of sustainability in all its aspects, and focused on its products being environmentally friendly, and offering them at prices suitable for all segments of society.

Recommendation

Based on the findings, the study recommends that electronic entrepreneurial companies continue to maintain social, environmental and economic sustainability, work with the government to avoid risks that may occur in this field, work to improve the conditions of their workers, increase productivity and increase the rates of exporting their products abroad to participate in economic growth in Jordan and improve income rates.

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