

# **The Impact of Business Intelligence on Sustainable Business Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies**

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**ABSTRACT** : This study aimed to identify the impact of business intelligence on business sustainable entrepreneurship, the study was applied at the Jordanian Pharmaceutical Industrial Companies in Amman which are (9) companies that accepted to be part of the study. A questionnaire was used to collect data, the study sample consisted of (128) respondents. Used a comprehensive survey due to the limitations of the population. The most important findings the study reached that there is a statistically significant effect at the level of significant ( $P \leq 0.05$ ) of business Intelligence on business sustainable entrepreneurship; there is a strong correlation between business intelligence and business sustainable entrepreneurship dimensions. With the most notably recommendations: The Jordanian Pharmaceutical Industrial Companies should focus on Business Intelligence, as it is one of the most important means to improve sustainable entrepreneurship, developing their sustainable awareness, and the culture of business intelligence among their leaders and employees about the essential role of business intelligence and effective strategic management to anticipate the future, and enhance institutional excellence. As well as enhancing the capabilities and mechanisms of strategic foresight for the future.

**KEYWORDS** - Business Sustainable entrepreneurship, Business Intelligence, Pharmaceutical Industrial.

## **I. INTRODUCTION**

Sustainable entrepreneurship is one of the most modern and widely management methods used for its multiple benefits at all individual, organizational, and community levels, it's a major source of innovation, growth, and strategic renewal through adopting entrepreneurial ideas, translating them into future projects, developing the employees creative abilities to searching entrepreneurial opportunities for their business, ensuring its continuation to adapt with environment requirements, using strategic planning methodology, and inventing methods that contributing at achieving the stakeholders and customers satisfaction by sustainable entrepreneurship (Abdi, 2021). The business world today is characterized by rapid changes in all areas such as : (political , economical , technological, environmental, and Social), which requires rapid response of entrepreneurial businesses to these changes and challenges by understanding the business environment, therefore these pharmaceutical industries need a deep understanding to their internal, external environment using business intelligence as one of the most important and newest organizational practices and trends around the world , that enables their adaptation to different modern developments by providing , or building an information base, based on the collected data that gathering from different sources, processing, organizing, and configuring, to support the process of taking informed decisions, the (BI) has gained great attention due to its role to increase the accessibility of information through electronic means, obtaining, processing, and presenting information in a useful form (Nuesir et al., 2019). Many previous studies recommended to studying business intelligence, and sustainable entrepreneurship such as (Casiro and Coelho, 2019; Romero et al., 2021).

## **II. LITERATURE REVIEW**

### **1.1 Sustainable Entrepreneurship**

The concept of sustainable entrepreneurship has emerged after the appearance of social entrepreneurship and environmental entrepreneurship concepts to emphasize the entrepreneurial business organizations roles in transforming the world's problems related to social and environmental sustainability into economic opportunities using sustainable innovations and creative entrepreneurial skills, the main challenge to business today is how to reaching to sustainable entrepreneurship by finding economically successful entrepreneurial projects, and the success in presenting products and services that changing the prevailing consumption patterns to reducing their negative (environmental, socio-economic and technological) impacts (Sua et al.,2021).

Johnson and Schaltegger (2020) defined (SE) as a multi-level phenomenon connecting between the social, environmental, and economical dimensions, and the transformation processes in the entrepreneurship market, and other large-scale societal developments, (SE) is a process related to understanding how to discover future opportunities, bring them into existence, how to discover, create, and exploit, goods and services, by whom, and with, what the economic, psychological, social, and environmental consequences, entrepreneurial activity is viewed as sustainable, when it integrates holistic economic, social and environmental goals which emphasizing the triple bottom line, (SE) has become a popular topic at the broader field of entrepreneurship (Munoz et al., 2018). (SE) has gained increasing attention of governments, firms, academia, policy-makers and international bodies, it is critical in the pursuit of sustainable development; development that meets the present needs without compromising the ability of future generations to meet their own needs (Arafat et al. 2020).

The importance of sustainable entrepreneurial business is evident in meeting the challenge of reducing the environmental, social, and ecological impact of current unsustainable business practices, reducing the use of expensive resources, resource-wasting, and environmentally unjustified technologies, helping enterprises to improve production capacities, use productive inputs rationally and wisely, including human and natural capital, savings energy, materials, and labor (Martinho, 2020). (SE) can be seen as a multidimensional and transversal concept, that seeks to address the economic factor through lucrative benefits, and environmental preservation with a low impact on its economic and social activities and benefits, contributing to the quality and well-being of customers (Criado-Gomis et al., 2017). This orientation requires an adaptive, strategic, and innovative dynamic on the part of its activities (Tur-Porcar et al., 2018; Urbaniec, 2018).

The term sustainable entrepreneurship is a concept that connects sustainable development with entrepreneurship. Sustainable entrepreneurship is an umbrella term for environmental entrepreneurship, green entrepreneurship, and social entrepreneurship which is difficult to distinguish due to the overlap of their conditions (Gholamrezai et al., 2021). Sustainable entrepreneurship is not inherently different from other types of entrepreneurship; it takes into account environmental, and social issues along with economic goals, and therefore, sustainable entrepreneurs consider environmental considerations at all stages of establishing, and developing their business (Ahmed et al., 2018).

### **2.1.1 Sustainable Economic Entrepreneurship.**

(SEE) is the main pillar to achieve sustainable economic performance, it is not possible to create an environmental or social impact without the presence of an economic perspective within the framework of sustainability, economic performance is not only about how to generate revenues and profits, but how to use available resources efficiently, preserve economic resources from waste, or losses, use them rationally (Nsoor et al., 2020). Sustainable entrepreneurial economics is related to the economic growth and the Enterprise capital how to manage it efficiently, provide a high level of profit to stakeholders, avoid financial setbacks and difficulties (Kraus et al., 2018).

Sustainable economic entrepreneurship is represented in many shapes such as the economic surpluses that an enterprise acquires by maximizing its various outputs (production, profit, Value Added, and market share), reducing the use of its resources such as (capital, labor, raw materials, and technology) (Bajdor, 2021). Increasing the company's ability to reduce the cost of obtaining resources, and energy consumption, fines resulting from environmental accidents, and proper waste management, its ability to measure its market share, achieving sales growth, and maximizing its profits (Pramudita, 2021).

Sustainable economic entrepreneurship can be achieved by maximizing the ability of business organizations to achieve their economic and financial stability, fulfilling their financial obligations, rational use of available resources, achieving a competitive advantage, increasing their ability to produce many high-quality, and low-cost products. In addition to their availability at affordable and acceptable prices for customers, achieving investment results, and high levels of profits for stakeholders, ensuring their entrepreneurship in survival, continuity and achieving economic sustainability (Munoz & Cohen, 2018A).

### **2.1.2 Sustainable Environmental Entrepreneurship.**

There is no general agreement on one definition of Sustainable Environmental Entrepreneurship, many different terms are used to denote the concept of environmental entrepreneurship (Rosário and Cruz, 2021). According to ISO14001 specifications, the world organization for Standards (ISO) defines environmental performance as "the results of an enterprise's management assessment of its environmental manifestations, which aims to reduce environmental damage while achieving maximum production efficiency. (Bajdor, 2021). This dimension concerns with how to preserve, and conserve natural resources, use them rationally to predict the future, the optimal use of energy, waste disposal, promotion of safe products, contributing to environmental solutions, and compliance with the environmental obligations that follow (Halati, 2018).

Sustainable environmental Entrepreneurship is usually achieved when entrepreneurial and manufacturing businesses reduce the waste rates resulting from the exhausts of their manufacturing processes, reducing their (carbon emissions, the use of polluting materials and harmful inputs, the overall environmental impact of their activity) (Cankaya et al., 2019). The environmental dimension also concerns with the provision, and use sustainable applications such as the use of renewable energy sources, recyclable materials, and safe disposal of toxic waste (Kraus et al., 2018).

### **2.1.3 Sustainable Social Entrepreneurship**

Social entrepreneurship is defined as entrepreneurial performance that accurately measures the extent of entrepreneurial business organizations practice their social responsibilities with their employees, respect their human rights, and commitment to quality standards, occupational health, and safety which are considered as one of the most important elements in social performance, reflecting the concept of a safe company to provide integrated job opportunities for all, its attention to Labor relations, providing fair wages, conducting fair and equitable evaluations of their employee, adopting various motivational systems, providing the equal training opportunities for all (Al-Naimi, 2022).

Social entrepreneurship is related to the organization's entrepreneurial investment in social initiatives, building organizational reputation among stakeholders beyond its organizational boundaries, using ethical practices, keep communication open with others, and fully complying with societal obligations, social entrepreneurship explains the ability of business organizations to achieve social justice, equality, and equal opportunities among their employees, respect their rights, and community members rights, their commitment to laws, and to regulations that define their social responsibilities, their continuous and sustainable will to achieve the expectations, and needs of various stakeholders, their commitment to provide stability, justice for employees, ensure their safety, ensure that working hours comply with labor laws, and employment contracts, support local community bodies through donations and other volunteer activities (Guppa et al., 2019).

## **2.2 Business Intelligence**

**(BI)** refers to decision support systems using a variety of organizational data, and using analysis techniques to assimilate, and extract information from dynamic environments generating a great set of integrated knowledge to improve high-quality decision-making, and reducing risks associated with uncertain environments (Al-Saad et al., 2022). **(BI)** expresses the process of an environmental survey of business based on a competitive analysis driven by technological capabilities, or technological intelligence (Nuesir et al., 2019).

Business intelligence systems have great importance due to the complex need that organizations have reached in managing their activities and operations, they are one of the most modern technological tools that contribute to facilitating work procedures, saving effort and time, increasing the speed of obtaining information, enhancing aspects of transparency, neutrality, and accuracy, supporting future forecasts for entrepreneurial organizations (Al-Omouh, 2021).

The importance of business intelligence is evident from its role in the entrepreneurship decision-making process, emphasizing the importance of information as the most important organizational asset, and an essential resource for sustainable entrepreneurship, the rapid and effective collection of required data from an unstable environment to discover opportunities, improve the effectiveness of decision-making processes, track dynamic changes inside and outside organizations while maintaining sustainable goals (Romero et al., 2021).

**(BI)** gains its importance from the ability to transform data into useful knowledge that supports strategic, operational, tactical, and decision-making process at all organizational levels (Nithya and Kirotika, 2021). Using sophisticated software, applications, and computers to collect data related to operational activities which are organized, analyzed, stored, and disseminated to be accessible to decision-makers and stakeholders (Schachline and Bentz, 2017). Helps entrepreneurial organizations to develop and expand the manager's basic knowledge, and organizations, affects the improvement of learning and innovation capabilities of individuals, and represents a top priority for them, and for their senior management to influence the performance of entrepreneurial businesses, (Huang, 2019).

Business intelligence has become indispensable for making strategic decisions at the level of enterprises, it plays an important role in the survival, and business maintenance, maintaining relationships with other companies, considered as a counter-intelligence resource at the medium and long-term goals levels, improving business through organizational performance, and the productivity efficiency, resource growth, resource planning, and cost reduction (Al-batayneh et al., 2020).

### **2.2.1 Emotional Intelligence**

The concept of **(EI)** appeared in 1990, as a series of skills that combine perception and emotions, the ability to understand and feel others, it is one of the branches of (cognition, evaluation, expression, emotional thinking, understanding, and analysis of emotions) (Tai and Karim, 2018). It expresses a range of emotional, and

social skills that affect the way we perceive and express ourselves, and how to develop, maintain our social relationships, how we deal with challenges, indeed emotional intelligence is the ability to perceive, use emotions to facilitate thinking, understanding how to manage emotions, and promote emotional and intellectual growth, recognize one's emotions and how to deal with them in various situations (Issah, 2018).

Leaders who possess and practices emotional intelligence skills or emotional intelligence competencies can improve organizational effectiveness if they communicate and respond and showing empathy with their co-workers, show full sympathy for them through explanation, environmental cues, communication with followers, development of relationships between them (Dunsborough et al., 2021). Inspire co-workers to be empathetic, open to their feelings, take informed decisions about them, raise their performance level (Al-Naimi, 2022). Individuals who have a normal level of emotional intelligence, know how to cope with their emotions well, and understand other people's emotions correctly, they will find more comfort with themselves, excel in all areas of life, and can control their mental structure and push their production to forward (Huang & Lee, 2019).

### **2.2.2 Strategic Intelligence**

It is the process of collecting and analyzing information that provides decision-makers with the knowledge to enable them to make appropriate decisions, and respond effectively to the organizational external environment, develop their abilities to predict, plan for the future, and adapt to environmental changes (Al-Asmari, 2022). Strategic intelligence refers to leaders who have the vision, partnership, creativity, and ability to stimulate and verify data and information employ ideas, and formulate smart strategies by relying on their information system (article, 2018).

Strategic intelligence is related to the ability of leaders to develop their future perceptions, design strategies in innovative ways, and be aware of all the factors and information that affect the organization to face the surrounding changes in the present and the future in a way that ensures the right decisions, the possibility of using a set of tools to adapt to all obstacles, problems and new situations facing them, and their ability to change traditional behaviors when external necessity calls for it (Habib & Sultan, 2021).

### **2.2.3 Competitive Intelligence**

(COI) is a necessary ethical business discipline and/or skill set for decision-making based on understanding the competitive environment , to push towards achieving competitive advantage by having employees whose main task is to collect information or develop insights about the external environment components such as (competitors, customers, suppliers, technology, etc.); decision-making is a form of (COI) practice, COI verifies the correctness of decision-making by introducing a disciplined system not only for collecting information but also for analyzing and disseminating results about the external environment, COI is the collection, use of market-based information by managers to understand the business environment for taking, implementing decisions (Kalra et al.,2020).

Competitive intelligence is defined as" the process or practicing, producing and disseminating actionable intelligence by planning, collecting, processing and analyzing information from the internal, external or competitive environment, transforming it ethically and legally to help decision-makers make decisions, provide a competitive advantage to the enterprise", and involves asking questions regarding how the organization plans its intelligence activities, collects information (how they do it, what information is), how it is analyzed and transmitted and how to manage its intelligence operation (Calof & Sewdass, 2020).

## **III. METHOD**

This section should provide sufficient details of the experiment, simulation, statistical test or analysis carried

### **3.1 Research questions and framework**

Despite the growing interest of researchers and students in the topic of entrepreneurship because it is a relatively recent concept, attention is rarely directed towards sustainable entrepreneurship with a balance focus on the environment, people and profit , or even attention to both ethical and social issues and profitability, since the highly competitive, complex, uncertain and dynamic environment poses a new challenge for organizations, multiplying environmental and competitive, It makes it necessary for them to manage the relationship with the Environment ,Control, understand, adapt to it, influence it and take steps that achieve this balance, using business intelligence has addressed many previous studies such as (Xiong et al., 2021; Neuser et al. Daphne and young 2019, Sulaima and Abu al-washab ,2019 ) confirmed the impact of business intelligence in innovation, the Enterprise Performance policy, and risk reduction in profit returns immediately after the operational use of business intelligence systems.

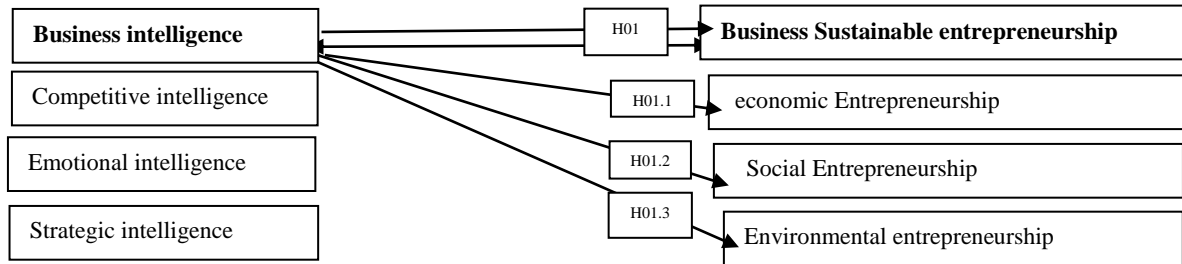
The study problem formulated by answering the main question (What is the impact of business intelligence on business sustainable entrepreneurship in the Jordanian pharmaceutical industry companies?), and answer other sub-questions:

1. What is the level of practicing business intelligence in Jordanian pharmaceutical industrial companies?

2. Is there any correlation between business intelligence and the business sustainable entrepreneurship sub-dimensions?

**a. The Study model**

According to the study problem, objectives, theoretical aspects, research variables, the methodological treatment requires the development of a hypothetical scheme in which the most important impact and correlation relationships addressed by the research are determined, as shown in Figure (1).



**Figure 1: the study model developed by the researcher**

**Independent variable :** which were selected according to the opinions of the researchers such as such as: (Al-Sharafa & Al-sikik, 2018; Tur-Porcar et al., 2018; Urbaniec, 2018)

**Dependent variable:** according to the opinions of researchers such as: (Calof& Sewdass, 2020; Dunsborough et al., 2021; Huang, 2019)

**3.3 Study Hypotheses:**

**(H01):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) of Business intelligence by its dimensions (Emotional intelligence, Strategic intelligence, Competitive intelligence) on Business Sustainable entrepreneurship by its dimension (economic Entrepreneurship, Social Entrepreneurship, Environmental entrepreneurship) in the Jordanian Pharmaceutical Industrial Companies.

A number of subs – hypotheses emerge from this hypotheses:

**(H<sub>0</sub>1-1):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Economic Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>0</sub>1-2):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Social Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>0</sub>1-3):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Environmental entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H02):** There is no statistically significant correlation at the level of significant ( $P \leq 0.050$ ) between Business intelligence by its combined dimensions and Business Sustainable entrepreneurship by its combined dimensions in the Jordanian Pharmaceutical Industrial Companies.

**3.3 The target population, sample description, and data collection**

The study population comprised from the Jordanian Pharmaceutical Industrial Companies in Amman registered at the Jordanian Federation of Pharmaceutical Producers represented by (Jordan Sweden Medical& Sterilization, Al-Ram, Al-Tagadum, Al-Jadeed, Jordan River, Dar Aldawa, Hekmh pharmaceutical, Al-Arabia, Total Quality Pharma) that accepted to be part of the study (The Jordanian Federation of Pharmaceutical Producers 2020). The study targeted all administrators at the top and middle management levels, which consisted of (128) respondents. Used a comprehensive survey due to the limitations of study society, (128) questionnaires were distributed to the study members, (126) questionnaires were retrieved, (4) of them were not fit to be analyzed. The number of retrieved questionnaires capable to statistical analysis represents (93%) of the total distributed questionnaires which represents a statistically acceptable percentage (Al-Najjar et al., 2018).

The study relied on two types of sources to collect data: (Secondary Data): the data related to the study topic collected through books, articles, thesis, research, journals, and the internet, and the different data and references documented according to the American psychological system (APAs, 2020). (Primary Data): a questionnaire was designed to collect primary data about the study's variable; the response was measured with a five-point Likert scale (Strongly agree=5, agree=4, neutral=3, disagree=2, and strongly disagree =1) (Al- Najjar

et al., 2018). The questionnaire included three sections, the first contained the demographic variables, the second contained paragraphs that represent the independent variable (1-15) after reviewing several previous studies (Al-Sharafa & Al-sikik, 2018; Tur-Porcar et al., 2018; Urbaniec, 2018), and the third part contained the items of the dependent variable (16-27) after reviewing several previous studies (Calof& Sewdass, 2020; Dunsborough et al., 2021; Huang, 2019)

**IV. RESULTS**

**4.1 Validity and Stability of the Study Measurement**

Verifying the validity, stability, and reliability of the study instrument to measure the internal consistency between its paragraphs, it was presented to a number of academics, and specialists in the field of Entrepreneurship strategy and sustainability to express their opinion, based on their suggestions and observations, the required amendments were made, included some words of the paragraph according to structure, language, and content. Cronbach's alpha coefficient analysis showed the stability and reliability of the study tool, as the result of the stability coefficient was about (60) %, which is less than the statistically acceptable percentage in table 1 (Hire et al., 2018).

**Table 1 The values of (Cronbach’s Alpha Coefficient) for the paragraphs study instrument.**

Cronbach Alpha	number of paragraphs	Study dimensions	N.
.630	5	Emotional Intelligence	1
.726	5	Strategic Intelligence	2
.782	5	Competitive Intelligence	3
.690	4	Sustainable economic Entrepreneurship	4
.632	4	Sustainable social Entrepreneurship	5
.675	4	Sustainable environmental Entrepreneurship	6

Source: Prepared by the researcher based on the statistical analysis program (SPSS)

Table 1 indicates that all the values of the Cronbach alpha coefficient for the paragraphs (independent, dependent) variables ranged between (.630 - .782). which has exceeded the minimum allowable value (60) %, this is a good indication of the existence of internal consistency in the study instrument, stability, and reliability to statistical analysis (Hire et al., 2018).

**4.2 Data Analysis for Study Sample Characteristics and Hypotheses Testing**

This part of the study describes the functional and demographic characteristics of the study sample members, the results were as follows in table 2:

**Table 2: Duplicates and percentages of the demographic characteristics**

Variable	Category	Percentage	Frequency
Gender	Male	67.2	82
	Female	32.8	42
Age	Less or 30 year	20.1	25
	31 - 40 years	27.0	33
	41 - 50 year	35.2	43
	51year and above	17.2	21
Career level	Upper management	54.1	66
	Middle management	45.9	56
qualification	Diploma	6.6	8
	Bachelor's degree	70.5	86
	Highly study	33.0	28
work experience	Less or 5 years	21.3	26
	6 - 10 year	22.1	27
	11 -15 year	22.1	27
	16 and above	34.4	42
	Total	100.0	122

Based on the results of the analysis in table 2. it is clear that most of the respondents are male (67.2) %, middle-aged (35.2) %, the majority of the responded from at the Upper management levels (54.1) %, have the

appropriate qualification (Bachelor's degree) (70.5) %, and have sufficient experience in their field of work 16 year and above (34.4) %, these result gives a positive indicator of their ability to answer the questionnaire, and their contributing to achieving the study objectives.

**4.3 Descriptive Statistics for Study Main Variables**

To identify the attitudes of the study sample members about the main variables of the study model, arithmetic averages and standard deviations, Skewness, and Kurtosis, the level of relative importance were used for each variable, and the results as in table 3.

**Table 3 Arithmetic averages and standard deviations of the study sample:**

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
EI	122	2.20	4.80	3.6443	.52916	-.113-	.219	-.203-	.435
SI	122	1.40	4.60	3.3967	.52254	-.790-	.219	2.349	.435
CI	122	1.20	4.60	3.3705	.64008	-.851-	.219	1.278	.435
ESE	122	2.50	5.00	3.7131	.52487	.204	.219	-.260-	.435
SSE	122	2.25	5.00	3.9078	.56700	.114	.219	-.200-	.435
ENV	122	2.25	5.00	3.8852	.49808	-.332-	.219	.762	.435
Valid N (list wise)	122								

Table 3 shows that the statistical values of the independent variables ranged between (3.37 - 3.64 ), the (EI) dimension came at the first place of interest, with medium arithmetic mean ( 3.644), then (SI) dimension came at the second place of interest, with medium arithmetic mean ( 3.39) ,while (CI) came at the last place, with medium arithmetic value (3.37) , this indicates the medium interest of the Jordanian Pharmaceutical Industrial Companies with business intelligence , we note from table 3 that the statistical values of the dependent variables ranged between (3.71 – 3.90) , (SSE)came at first of interest with high arithmetic mean(3.90). While the second place came (ENVSE) with high arithmetic mean (3.88), finally (ESE) with high arithmetic mean (3.88). All these value indicating the highly interest of the Jordanian Pharmaceutical Industrial companies with business sustainable entrepreneurship. Table 3 indicates that all the skewness coefficient and Kurtosis test values came between (3<sup>±</sup>), which indicating that data follow the normal distribution (Hire et al., 2018).

**4.4 The hypothesis testing**

**(H<sub>0</sub>1):** There is no statistically significant impact at the level of significance (P≤0.050) for Business intelligence by its dimensions (Emotional intelligence, Strategic intelligence, Competitive intelligence) on Business Sustainable entrepreneurship by its dimension (economic Entrepreneurship, Social Entrepreneurship, Environmental entrepreneurship) in the Jordanian Pharmaceutical Industrial Companies.

**Table 4 Results of the simple linear regression analysis for the first main hypotheses.**

Coefficients					ANOVA			Model Summary		variable
Sig t*	T	Standard error	β	Statement	Sig F*	DF	F	R <sup>2</sup>	R	
0.000	6.562	.070	.514	SE	.000	1	14.13	.264	.514	<b>BI</b>

Table 4. shows the results of statistical test for the main hypotheses model, represented by Business intelligence by its dimensions (EO, SI, CI) on Sustainable entrepreneurship by its dimension (economic entrepreneurship, social entrepreneurship, environmental entrepreneurship), and as it noted from the model summary that the value of coefficient determination for (BI) is (R<sup>2</sup> = .264), this means that the dimension of (BI) has explained (26.4%) of variance on (SE) with its combined dimensions, which indicates weak positive explanatory power. The analysis of variance (ANOVA) showed that the calculated value(F=14.138) at the level of significance (Sig=.000), confirming the significance of the regression at the level of P ≤ (0.050), (DF= 1). Table 4. Indicate that the value of (β) for individual relation between both variables (dependent, independent) was (.514), the amounted (t) value (6.562) at the significance level (Sig,t=.000). Therefore, we can't accepted

the first main null hypothesis but accepting the alternative one that says: “There is statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its dimensions (Emotional intelligence, Strategic intelligence, Competitive intelligence) on Business Sustainable entrepreneurship by its dimension (economic Entrepreneurship, Social Entrepreneurship, Environmental entrepreneurship) in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>0</sub>1-1):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Economic Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**Table 5 Results of the standard multiple regression analysis for the sub- hypotheses.**

Coefficients					ANOVA			Model Summery		variable
Sig t*	T	Standard error	$\beta$	Statement	Sig F*	DF	F	R <sup>2</sup>	R	
0.00	6.54	.088	.513	ESE	.000b	1	42.78	.263	.513a	<b>BI</b>

Table 5. shows the results of the statistical test of this sub-hypotheses model, from (Model Summery) notes that the value of coefficient of determination for the (BI) ( $R^2 = .263$ ), which means that the (BI) explained (26.3) % of the variance in (ESE), this indicates the lowest positive explanatory power. The analysis of variance (ANOVA) showed that the calculated value ( $F=42.781$ ) at the level of significance (Sig.  $F=0.000^b$ ), this confirms the significance of the regression at the level of  $P \leq (0.050)$ , at ( $DF= 1$ ). Also, table No. 5 Indicates that the coefficients value of ( $\beta$ ) for individual relationships between variables (independent, sub- dependent) is (.513), and the value of ( $t=4.201$ ) at the significance level (Sig. $t=.000$ ), which indicates the effect of this dimension is significant. Therefore, we cannot accept the first null sub-hypothesis, but accepted the alternative one that says: “There is a statistically significant effect at the level of significance ( $p \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Economic Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>0</sub>1-2):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Social Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**Table 6 Results of the simple linear regression analysis for the sub - hypotheses.**

Coefficients					ANOVA			Model Summery		variable
Sig t*	T	Standard error	$\beta$	Statement	Sig F*	DF	F	R <sup>2</sup>	R <sup>a</sup>	
0.000	4.326	.102	.367	SSE	.000 <sup>b</sup>	1	18.71	.134	.367a	<b>BI</b>

Table 6. shows the statistical test results of the second sub-hypotheses model, from the (Model Summery) we noted that the value of coefficient determination for the (BI) is ( $R^2 = .134$ ), which means that (BI) explained (13.4%) of the variance in (SSE), this indicates the positive weak power explanatory that reflects the weakness of this model. The analysis of variance (ANOVA) showed that the calculated ( $F= 18.716$ ) at the level of significance (Sig.  $F=0.000^b$ ), this confirms the significance of the regression at the level of  $P \leq (0.050)$ , at ( $DF= 1$ ). Table 6 Indicates that the coefficients value of ( $\beta$ ) for individual relationships between both variables (independent, sub-dependent) (.367), the value of ( $t= 4.326$ ) at the significance level (Sig. $t=.000$ ), which indicates the effect of this dimension is significant. Therefore, we cannot accept the second main null sub-hypothesis and accept the alternative one that says: “There is a statistically significant effect at the level of significance.” ( $p \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Social Entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>0</sub>1-3):** There is no statistically significant impact at the level of significance ( $P \leq 0.050$ ) for Business intelligence by its combined dimensions on Sustainable Environmental entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**Table 7 Results of the simple linear regression analysis for the sub- hypotheses**

Coefficients					ANOVA			Model Summery		variable
Sig t*	T	Standard error	$\beta$	Statement	Sig F*	DF	F	R <sup>2</sup>	R <sup>a</sup>	
0.000	4.081	.091	.349	ENV	.000 <sup>b</sup>	1	16.652	.122	.349	<b>BI</b>



Table 7. shows the results of the statistical test of this hypotheses model, from (Model Summery) notes that the value of coefficient of determination for the (BI) ( $R^2 = .122$ ), which means that (BI) explained (12.2%) of the variance in (ENV), this indicates a weakness positive explanatory power that reflects the weakness of the study model. The analysis of variance (ANOVA) showed that the calculated ( $F=16.652$ ) at the level of significance ( $Sig. F=0.000^b$ ), this confirms the significance of the regression at the level of  $P \leq (0.050)$ , at ( $DF= 1$ ). Also, Table No. 7 Indicates that the coefficients value of ( $\beta$ ) for individual relationships between both variables (independent, sub- dependent) (.247), the value of amount(t) (4.081) at the significance level ( $Sig.t=0.000$ ), which indicates the effect of this dimension is significant. Therefore, we cannot accept the third main null sub-hypothesis and accept the alternative hypothesis one that says: “There is a statistically significant effect at the level of significance.” ( $p \leq 0.050$ ) for the Business intelligence by its combined dimensions on Sustainable Environmental entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**(H<sub>02</sub>):** There is no statistically significant correlation at the level of significant ( $P \leq 0.050$ ) between Business intelligence by its combined dimensions and business sustainable entrepreneurship by its combined dimensions in the Jordanian Pharmaceutical Industrial Companies.

**Table 8 Results of the Pearson Correlations.**

**Correlations**

		EI	SI	CI	ESE	SSE	ENV
EI	Pearson Correlation	1	.509**	.500**	.385**	.220*	.167
	N	122	122	122	122	122	122
SI	Pearson Correlation	.509**	1	.606**	.426**	.325**	.340**
	N	122	122	122	122	122	122
CI	Pearson Correlation	.500**	.606**	1	.463**	.361**	.354**
	N	122	122	122	122	122	122
ESE	Pearson Correlation	.385**	.426**	.463**	1	.461**	.365**
	N	122	122	122	122	122	122
SSE	Pearson Correlation	.220*	.325**	.361**	.461**	1	.524**
	N	122	122	122	122	122	122
ENV	Pearson Correlation	.167	.340**	.354**	.365**	.524**	1
	N	122	122	122	122	122	122

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

To find the correlation relation between (BI) and (BSE), Pearson correlation coefficient was used it is clear from table 8, that there is a statistically significant positive correlation at a significant level ( $sig=0.000$ ), as it can be seen from table 8, Pearson's correlation coefficients between business intelligence and sustainable entrepreneurship ranged between( .325 -.606), these results indicate strong correlation coefficients with statistical significance, we exclude from these results that the degree of practice business intelligence greatly affects sustainable entrepreneurship, as this positive relation indicates that the higher degree of application and practice business intelligence, reflects the higher degree of application of sustainable entrepreneurship, and vice versa, we can explain that the individuals of the study believe that business intelligence active and homogeneous in achieving sustainable entrepreneurship. So we can't accept the second null hypothesis, accepting the alternative one that says: There is a significant correlation between Business intelligence and Business Sustainable entrepreneurship in the Jordanian Pharmaceutical Industrial Companies.

**V. DISCUSSION, CONCLUSION AND FINDINGS**

The results of study sample analysis indicated that Jordanian pharmaceutical industry companies employed middle-aged males more than females, with a first university degree, at higher administrative levels, to benefits from these positive economically productive youth energies, with ambitions to successes at an early age, which contributing pharmaceutical industry companies' sustainability.

The results of the descriptive statistics showed the highly level of interest with business sustainable entrepreneurship which indicate that these Companies practicing (SSE) as a strategic method to develop their business, create value, reaching economic benefits, and maximize (results, profitability, and realization of benefits for various stakeholders), reaching the expectations of customers, suppliers and the surrounding community in the Jordanian Pharmaceutical Industrial companies. However, the interest in business intelligence was moderate, and this may be due the novelty of this concept, and the lack of understanding, the awareness degree of its important role in providing the necessary, strategic information to decision maker.

There is a statistically significant effect for Business intelligence by its dimensions (Emotional intelligence, Strategic intelligence, Competitive intelligence) on Business Sustainable entrepreneurship by its dimension (economic Entrepreneurship, Social Entrepreneurship, Environmental entrepreneurship) in the Jordanian Pharmaceutical Industrial Companies.

There is a statistically significant effect of Business intelligence by its combined dimensions on every sub variable of business sustainable entrepreneurship in the Jordanian Pharmaceutical Industrial Companies It's clear that in the first place of Impact came sustainable economic entrepreneurship, followed by sustainable environmental entrepreneurship, while social entrepreneurship came in the last place of impact, which confirms the necessity of these companies ' attention to the social dimension of entrepreneurship.

There is a positive correlation between business intelligence at the sub-and macro form, and the dimensions of sustainable entrepreneurship in the sub-and macro form, this result explain that the degree of implementing of business intelligence affects the degree of sustainable entrepreneurship practice, as the higher degree of implementing of business intelligence, the higher degree of sustainable entrepreneurship practice, and vice versa in the Jordanian Pharmaceutical Industrial Companies.

Based on the previous results, the study recommended the Jordanian Pharmaceutical Industrial Companies:

- a) Should be focusing more on Business intelligence to achieve Business Sustainable entrepreneurship.
- b) Must reinforce creative, innovative behavior to leaders and employees in all organizational levels, with the new concepts and strategy in the field of business intelligence and business sustainable entrepreneurship.
- c) Establish specialized organizational units to explore the future of knowledge in Pharmaceutical industry.
- d) Use Business intelligence in their operation and activities to ensure appropriate decision-making under the exceptional, unplanned circumstances.
- e) Reinforcement the social dimension by give more interest in worker and community and stakeholder and customer's.
- f) Finally, the study recommends conducting further studies on various topics of strategic mindfulness, organizational excellence and entrepreneurship, strategic foresight, using other variables, or conducting them in other workplaces or different sectors.

The results of this study must be viewed very carefully, bearing in mind some limitations. Whether it is related to the study population, which is a very homogeneous professional community, is probably difficult to accurately describe, in addition to some limitations of this type of applied research and related to methodology. All required measurements of error and fit described in the relevant literature applied in this research have been made, and we can never be confident enough in the strength of conclusions and in minimizing errors and random effects.

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