

# Smart Business Characteristics as an Approach to Develop Business Performance

YANAL M. KILANI  
Faculty of Business, Isra University,  
JORDAN

*Abstract:* The current study aimed at examining the impact of smart business networks' characteristics on organizational performance from the perspective of industrial sector's decision makers in Jordan. Variables of (Adaptability, Agility, Innovation, Ability to meet requirements, and Robust Behavior) were adopted as the main and most obvious characteristics of SBN. Quantitative approach was adopted and (112) general managers, projects managers and operations managers responded to the questionnaire. Results of study indicated that respondents within industrial sector in Jordan had very positive and supportive attitudes towards the idea of SBN among organizations; they also seemed to have been a part of an SBN of an industrial nature and they have experienced its positive impacts on their and their organizational performance. Results of study also indicated that all hypotheses of study were accepted and characteristics of SBN were supportive in developing organizational performance, among the most influential variables of study appeared to be the robust behavior which seemed to have influences the long-term plans that are adopted by the organization through robustly supporting every milestone adopted. Study recommended granting extra attention to IT infrastructure within organizations in order to be able to cope with the concept of SBN and benefit from all its ramifications.

*Key-Words:* Smart Business Network, Business Modeling, Agile Business, Flexibility, Requirements, Business Environment, Business Performance, Organizational Performance.

Received: May 15, 2021. Revised: April 5, 2022. Accepted: May 3, 2022. Published: May 26, 2022.

## 1 Introduction

There are many approaches and principles through which technology is exploited in the service of the business environment, and therefore these uses ranged between automation and modern electronic devices, and linking the organization in the cloud in order to facilitate access to information for working individuals until the stage of automating decision-making processes and what is produced about it [1]. Among the recent developments that cannot be neglected is the idea of the SBN, for which many administrators and representatives of the community of scholars met in the Netherlands in 2006 in order to present the idea of the smart business network, which opened new dimensions to the concept of business networks [2]. And its environment by integrating complexity theory, information systems and theories of organizational change in order to understand what organizations must adopt in terms of line and strategies related to technology [3].

### 1.1 Problem Statement

In light of the international economic transformations that adopt the single market, the corporation lives in a changing and complex

environment dominated by uncertainty, imposing on it many and great challenges that it has not witnessed before. It must confront them quickly and efficiently, to anticipate sudden changes in it, and to secure its future at least in the short term, especially Most of the markets are saturated with goods and services whose life cycle decreases very quickly, in addition to the observed slowdown in global economic growth in some sectors, as well as in demographic growth, which is increasing at a steady pace [4].

Many scholars, administrators and decision-makers tried to understand the fixed system of organizations and individuals in order to succeed in an interconnected world as a result of the presence of technology, which led to the emergence of what is known today as a business operating system based on the idea that the organization must separate the logic of its behavior from its actual implementation [5].

As a result of the great technological development in the business environment – as according to [6]- it is imperative that organizations operate and manage flexible business processes across different organizational domains that are dynamically linked in ever-changing networks. This has led to the formation of new management methods and tools to be able to change operations on the go while

ensuring satisfactory results in a dynamic array of business networks.

**Based on above argument, current study sought to examine the influence of SBN among organizations on its performance from the perspective of general managers, projects managers and operation managers within the industrial sector in Jordan.**

## 2 Literature Review

### 2.1 Smart Business Networks SBN

Mending et al (2017) believed that the idea of smart business is based on a network of organizations that unite together in order to coordinate their internal, commercial and administrative operations in a technological manner based on adaptive and agile behavior by relying on advanced technological networks [1]. Through smart business networks (SBN), organizations are able to form effective results by structuring business and its technology in a technological manner, thus obtaining better performance within a shorter time and less effort [7].

The principle of smart business as indicated [4] is based on the idea of smart design for business structuring in organizations, where internal processes are structured through information technology and thus technology is adopted as a system that provides dynamic logistical and technological support to ensure the creation of a business organization connected to a specific network and able to adopt Innovative businesses with strong strategies to compete in changing markets and renewable environmental conditions.

[5] indicated that most smart business projects are based on enabling smart business networks through the union of organizations and their joining the business network in order to increase the value provided to the customer based on the idea of developing performance in order to develop the quality of service or product provided to consumers.

In addition, the idea of Smart business has proven its effectiveness in creating a lot of additional relationships between organizations, which led to the possibility of developing medium and small organizations through its union in SBN with large organizations and thus benefit from the expertise of the latter [8].

By adopting the concept of SBN, organizations become able to achieve a lot of competitiveness and performance development, which is known -

within the scope of SBN - as the Swarm Effect, which is characterized by the following according to [9], [10] and [11]:

- The possibility of evaluating systems that contain more complex steps compared to others
- Maintaining the internal business hierarchy in the organization
- Managing business interactions within the organization well-coordinated and efficiently
- Adaptation to changing markets and conditions
- The ability to learn and take experiences from other organizations
- The ability to learn from the results of previous operations

### 2.2 Environment of SBN

The environment of SBN is based on cooperation in governance, implementation and design, that is, reaching a high organizational stage between the organizations gathered on the network so that they appear as Swarm, and through the swarm organizations make different links that combine many capabilities that are able to adapt to changes continuing in the markets, environmental and political conditions, in an agile and flexible manner [12].

Jamasb et al (2018) indicated that the principle of the SBN in the business environment is based on three clear foundations [13]:

- Internal and external processes govern the success of a SBN, not the products or services that the organization provides

-Organizations in SBN that are trying to consolidate their core operations into capabilities that provide greater value to customers

- Creating new capabilities through the development of internal processes, which will positively affect the external operations and thus the performance of the entire organization.

Based on this, it can be said - as indicated by Das et al (2018) [14] - that the capacity of SBN represents a set of internal processes that are organized in an understandable, strategically based manner, and is not limited to work only, beyond that to business flows in the internal and external environments of organizations in addition to behaviors Common to these organizations that determine the nature of the market environment in which they operate.

Consequently, Gavrilova et al (2013) [6] confirms that SBN provides the required "intelligence" in managing operations, depending on dynamism, modeling, flexibility and agility, in addition to the

ability to adhere to the requirements contained in the organizational processes themselves.

### 2.3 Requirements of SBN

The ability of organizations to work within SBN is based on the availability of a number of requirements that would contribute to deepening the concept of SBN among organizations, gaining awareness of its importance, and appreciating its impact on the organization's operations and its great role in increasing the level of quality and quality of organizational performance [5].

From here [15] confirms that in order for the organization to be able to adopt the concept of SBN in its operations, it must have the dynamism that is already in SBN, that is, it must be able to complete internal and external complex, serial and unconventional operations and even synchronized. [15] added that it was indicated that the most important requirements of the SBN is the availability of administrative creativity in order to facilitate decision-making processes based on clear and understandable foundations and at the same time that is in the interest of organizations and their internal operations without any complications or losses.

Among the requirements of the SBN environment, as indicated by [4] is the ability to learn. Here, it can be said that the ability to learn is the ability of the organization to learn and take lessons from its previous experiences and adapt its activities to the strategic objectives that it has set in its plan. This learning that is created in the organization contributes significantly - as indicated [15] - to the application of the changes required by the SBN environment by adopting new modeling for complex and complex processes within organizations and this is called business modeling, which is a major axis in the identification on what must be adopted and what must be left, or what must be achieved and what must be avoided, therefore, the idea of learning has been referred to, through which the organization guarantees the possibility of being able to draw from its previous experiences as a means of obtaining useful reference parameters in its decision-making processes.

From this standpoint, it can be said that SBN specifications such as agility and flexibility, creativity, accessibility to requirements, and strong performance are the best way to achieve the aforementioned modeling process, as the modeling processes need a lot of support in order to create new jobs Through monitoring, following up and

evaluating work patterns, and then choosing the most appropriate and directing them towards the goal [16].

### 3 Methods

Achieving the previously mentioned aim of study was built on the bases of the quantitative approach. It would have been a good choice to choose the qualitative approach and retrieve qualitative data from different sources, but due to COVID19 health precautions it was implied that quantitative approach is the best option. From that, a survey was chosen to be the tool of study; the questionnaire was built by researcher depending on previous studies including [4]; [15] and [6]. The questionnaire was presented on a group of arbitrators who were specialized in the field, after arbitration, the questionnaire consisted of (33) statements distributed on variables of study (characteristics of SBN as an independent variable, and business performance as the dependent variable). Questionnaire was built of liker 5 scale (5 strongly agree, 4 agree, 3 neutrals, 2 disagree, and 1 strongly disagree).

Population of study consisted of general managers, operation managers and projects managers within the industrial sector in Jordan through the fiscal year 2019-2020. A convenient sample of (125) individuals was chosen to represent population of study. SPSS was utilized in order to screen, process and analyze gather data. After application process; researcher was able to retrieve (112) properly filled questionnaires which gave an indication of (86%) as statistically valid ratio.

Cronbach's Alpha was utilized in order to test reliability of study tool and its suitability to be used as a tool of study. Results indicated that the alpha = 0.931 was higher than the acceptable ratio of 0.60, which indicated the stability of the study tool [18].

### 4 Model and Hypotheses

Based on the above argument, researcher managed to create a model that represented the nature of relationship between study variables as follows:

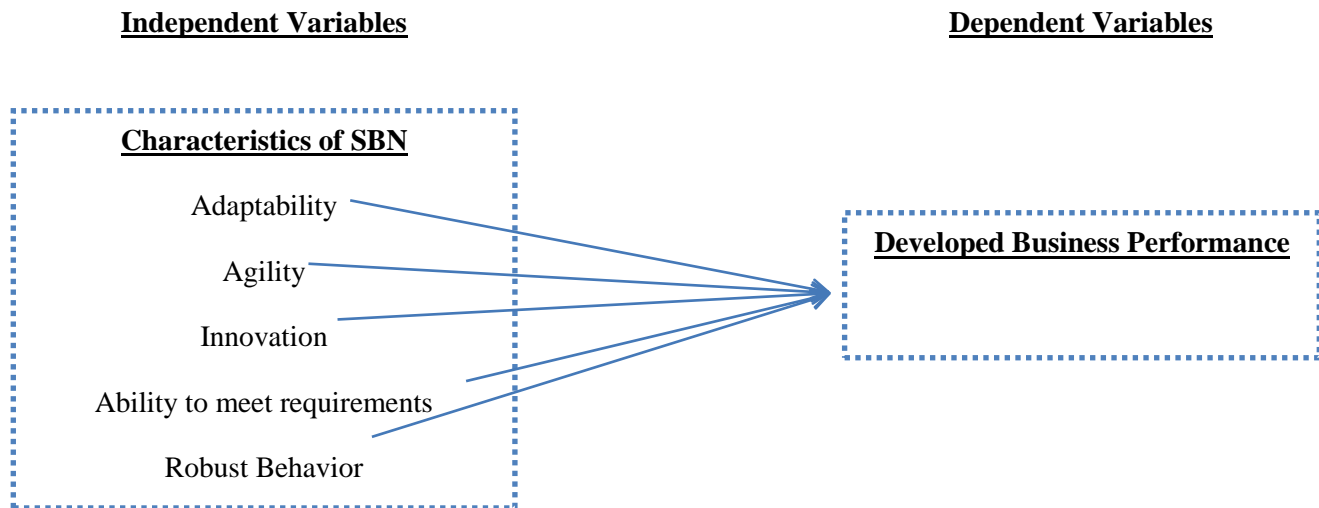


Fig. 1: Study Model ([5]; [6]; [4])

From the above model, following set of hypotheses were developed:

### 5 Main Hypothesis

**H:** SBN characteristics have an effect on Developing Business Performance

#### Sub-Hypotheses

**H<sub>1</sub>:** Adaptability has an effect on Developing Business Performance

**H<sub>2</sub>:** Agility has an effect on Developing Business Performance

**H<sub>3</sub>:** Innovation has an effect on Developing Business Performance

**H<sub>4</sub>:** Ability to meet requirements has an effect on Developing Business Performance

**H<sub>5</sub>:** Robust Behavior has an effect on Developing Business Performance

## 6 Analysis and Discussion

### 6.1 Analysis

Table 1. Sample characteristics according to demographics

Gender		
	<i>f</i>	%
Male	88	78.6
Female	24	21.4
Education		
BA	20	17.9
MA	31	27.7
PhD	61	54.5
Position		
GM	18	16

Following section presented results of analysis which was operated utilizing SPSS and it appeared in two man sections, the first took into perspective demographics of study sample while the later section presented statements related to study variables and individuals' response according to Likert 5 scale:

### 6.2 Demographics

As it can be seen in the table below, respondents who participated in study were mostly males forming (78.6%) of the sample. In terms of education and experience, it appeared that majority of participants held (PhD) degree forming (54.5%) of the sample with and experience of (9-11 years) forming (44.6%) of the total sample. Study also took the perspective of individuals as according to their position which ranged between general managers, project managers and operation managers. Results indicated that majority who responded to the questionnaire were operation managers forming (58.9) of total sample.

Operation Manager	66	58.9
Project Manager	28	25
<b>Experience</b>		
3-5	19	17.0
6-8	34	30.4
9-11	50	44.6
+12	9	8.0
<b>Total</b>	<b>112</b>	<b>100%</b>

Participants' attitudes to variables  
 Participants attitudes to variables of study was calculated, it was seen that individuals help the most positive attitude towards the variable of (robust behavior) as one of SBN characteristics and it scored a mean of (4.03) indicating that this

variable was the most positively answered one, compared to the characteristic of (adaptability) which scored a mean of (3.79) and appeared as the least positively answered variable of the study in general.

Table 2. Mean of study variables

	Mean	Std. Deviation
Adaptability	3.7982	.77923
Agility	3.8714	.78079
Innovation	3.9232	.67770
Ability	3.8607	.59780
Robust Behavior	4.0393	.58746
Organizational Performance	3.9699	.66064

### 6.3 Questionnaire Analysis

Going deeper into analysis, each and every statement in the questionnaire was analyzed in order to identify its mean and standard deviation. As it can be seen in table below, all statements of questionnaire scored higher than mean of scale 3.00 which indicated that individuals had a high level of awareness regarding the statements and were able to answer them as according to their own perspective.

It can be seen through the table that the highest statements in scoring means appeared to be

(Without innovation SBN becomes meaningless) which scored (4.27) and appeared to have the highest attitude from respondents, compared to the least positively answered statements articulated (Through SBN all organizational needs are met in a precise approach) and scored a mean of (3.46). Generally speaking, table below showed that all statements were understandable for participants and they had full awareness of its meaning and content.

Table 3. Descriptive Statistics of Questionnaire

	Mean	Std. Deviation
<b>Characteristics of BI</b>		
<b>Adaptability</b>		
Adaptability of SBN leads to better management	3.57	1.037
Adapting SBN to business environment helps in avoiding gaps	3.74	1.279
If SBN is adaptable enough there would be a space for innovation	3.86	.976
All organizations seek to have an adaptable SBN within their environment	3.72	1.172
Adaptability leads to better business execution	4.10	.977
<b>Agility</b>		

Agility of SBN help in solving problems	3.60	1.127
If SBN were agile, business becomes agile as well	3.87	.978
Agility of business leads to better business execution	3.93	.927
Agile business means ability to take better decisions	4.03	.885
Agility through SBN means better response to risks	3.93	.927
<b>Innovation</b>		
Innovation is a must when there is a need to develop business	3.88	1.029
Without innovation SBN becomes meaningless	4.27	.958
Innovation supports decision taking skills which leads to better performance	3.77	1.123
Better performance with SBM means better organizational performance	3.92	1.050
Innovation gives decision makers ability to meet goals of organization	3.78	1.137
<b>Ability to meet requirements</b>		
Through SBN all organizational needs are met in a precise approach	3.46	1.030
SBN help in giving the organization its needs and desires according to the changing environment	3.79	.905
SBN leads to improved customer service and adaptability to customer requirements	3.76	.913
SBN offer new functionality and satisfying diverse non-functional requirements	4.12	.768
SBN offer all requirements to process management in a satisfactory way	4.18	.774
<b>Robust Behavior</b>		
Robust behavior in SBN is important when necessary set of networked structures and networking processes are established	3.89	.933
SBN support robust qualitative thinking	4.10	.827
An organization can depend on the robust behavior of SBN	4.18	.785
Decision making is always supported by SBN	3.97	.944
Robust behavior of smart business can help develop internal performance of an organizing	4.05	.721
<b>Developed Business Performance</b>		
The organization has all the technical capabilities to develop its performance	3.70	.976
There are multiple resources to respond to clients and suppliers	4.05	.868
The organization always meets requirements of strategies thanks to its developed IT tools	4.11	.874
Internal processes are all automated	3.83	1.003
The organization depends a lot on smart business to take decisions and they all meet requirements	4.04	.914
Organization makes sure that all goals are met	4.13	.892
Management innovation is a part of the internal processes	3.91	1.018
Organization rarely reaches a gap in managing performance	3.99	.822

### 6.4 Hypothesis Testing

Hypotheses of study were examined using multiple and linear regression, results appeared as followed:

#### H: SBN characteristics have an effect on Developing Business Performance

Table 4. Testing Main Hypothesis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.726 <sup>a</sup>	.527	.504	.46519		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.507	5	5.101	23.574	.000 <sup>b</sup>
	Residual	22.938	106	.216		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.530	.348		1.524	.131
	Adaptability	-.052	.086	-.062	-.608	.545
	Agility	.009	.106	.011	.087	.931
	Innovation	-.034	.112	-.035	-.304	.762
	Ability to meet requirements	.189	.095	.171	1.990	.049
	Robust Behavior	.745	.107	.662	6.981	.000

Multiple regression was employed to test for the main hypothesis, it is found that Pearson correlation coefficient of 0.726 reflected a high correlation relationship, and we also noticed from the value of determination coefficient of 0.527 that independent variables explained 52.7% of the

variance in dependent variable. The calculated F value of 23.574 was significant at 0.05 level which reflected the significance of regression. This result indicated that smart business characteristics have an effect on developing business performance.

#### H1: Adaptability has an effect on Developing Business Performance

Table 5. Testing H1

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.392 <sup>a</sup>	.154	.146	.61042		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.457	1	7.457	20.013	.000 <sup>b</sup>
	Residual	40.988	110	.373		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.706	.288		9.390	.000
	Adaptability	.333	.074	.392	4.474	.000

Table 5 indicated results of the linear regression test for 1<sup>st</sup> sub-hypothesis, it is found that Pearson

correlation coefficient of 0.392 reflected a medium correlation relationship, and we also noticed from

the value of determination coefficient of 0.154 that independent variable explained 15.4 % of the variance in dependent variable. The calculated F value of 20.013 was significant at 0.05 level which

reflected significance of the regression. That means adaptability has an effect on developing business performance.

**H2: Agility has an effect on Developing Business Performance**

Table 6. Testing 2<sup>nd</sup> Sub-hypothesis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.425 <sup>a</sup>	.180	.173	.60081		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.738	1	8.738	24.206	.000 <sup>b</sup>
	Residual	39.707	110	.361		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.579	.288		8.941	.000
	Agility	.359	.073	.425	4.920	.000

The above table 6 indicated the of linear regression test for 2<sup>nd</sup> sub-hypothesis, it was found that Pearson correlation coefficient of 0.425 reflected a medium correlation relationship, and we also noticed from the value of determination coefficient of 0.18 that the independent variable explained 18

% of the variance in dependent variable. The calculated F value of 20.206 was significant at 0.05 level, which reflected the significance of the regression. That means agility has an effect on developing business performance

**H3: Innovation has an effect on Developing Business Performance**

Table 7. Testing 3<sup>rd</sup> Sub-hypothesis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.393 <sup>a</sup>	.154	.147	.61032		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.471	1	7.471	20.057	.000 <sup>b</sup>
	Residual	40.974	110	.372		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.468	.340		7.253	.000
	Innovation	.383	.085	.393	4.478	.000

Table 7 presented the results of the linear regression test for the 3<sup>rd</sup> sub-hypothesis, it was found that Pearson correlation coefficient of 0.393 reflected a medium correlation relationship, and we also noticed from the value of determination coefficient of 0.154 that independent variable

explained 15.4 % of variance in dependent variable. The calculated F value of 20.057 was significant at 0.05 level, which reflected the significance of regression. That meant innovation has an effect on developing business performance

**H4: Ability to meet requirements has an effect on Developing Business Performance**



Table 8. Testing 4<sup>th</sup> Sub-hypothesis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.519 <sup>a</sup>	.269	.262	.56745		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.025	1	13.025	40.448	.000 <sup>b</sup>
	Residual	35.421	110	.322		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1	(Constant)	1.758	.352		4.994	.000
	Ability to meet requirements	.573	.090	.519	6.360	.000

In table 8 above, results of linear regression test for 4<sup>th</sup> sub- hypothesis found that Pearson correlation coefficient of 0.519 reflected a medium correlation relationship, and we also noticed from the value of the determination coefficient of 0.269 that

independent variable explained 26.9 % of the variance in dependent variable. The calculated F value of 40.448 was significant at 0.05 level, which reflected the significance of the regression. That meant ability to meet requirements has an effect on developing business performance

**H5: Robust Behavior has an effect on Developing Business Performance**

Table 9. Testing 5<sup>th</sup> Sub-hypothesis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.712 <sup>a</sup>	.506	.502	.46622		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.536	1	24.536	112.880	.000 <sup>b</sup>
	Residual	23.910	110	.217		
	Total	48.445	111			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1	(Constant)	.737	.307		2.398	.018
	Robust	.800	.075	.712	10.624	.000

Table 9 indicated results of the linear regression test for the 5<sup>th</sup> sub-hypothesis, it was found that Pearson correlation coefficient of 0.712 reflected a high correlation relationship, and we also noticed from the value of determination coefficient of 0.506 that independent variable explained 50.6 % of the variance in dependent variable. The calculated F value of 40.448 was significant at 0.05 level, which reflected the significance of the regression. That means robust behavior has an effect on developing business performance.

**6.5 Discussion**

The current study aimed at examining the impact of smart business networks' characteristics on organizational performance from the perspective of industrial sector's decision makers in Jordan. Variables of (Adaptability, Agility, Innovation, Ability to meet requirements, and Robust Behavior) were adopted as the main and most obvious characteristics of SBN. Quantitative approach was adopted and (112) general managers, projects managers and operations managers responded to the questionnaire.

Study was able to reach the following findings:

- Respondents within industrial sector in Jordan had very positive and supportive attitudes towards the idea of SBN among organizations; they also seemed to have been a part of an SBN of an industrial nature and they have experienced its positive impacts on their and their organizational performance.
- All hypotheses of study were accepted and characteristics of SBN were supportive in developing organizational performance.
- Among the most influential variables of study appeared to be the robust behavior which seemed to have influenced the long-term plans that are adopted by the organization through robustly supporting every milestone adopted.
- Majority of individuals who responded to questionnaire appeared to be operation managers, which indicated a higher level of knowledge among operation managers compared to other levels within the Jordanian industrial sector.

The study was able to accept the hypothesis that the researcher assumed in his study that SBN contributes significantly to developing the performance of organizations by referring to the characteristics of SBN that were adopted in the study. The study also proved that the importance of SBN in the business environment is evident in that it is the tool that decision makers need in order to manage the competitive environment in which they work and the only means to face the rapid technological development that the world is witnessing. This was supported by the ability of SBN to support organizations with the needed info and tools (requirements) in order to achieve the needed milestones of the moment; this was supported by [15]; [4] and [16].

In addition, the results of the study and referring to the responses of the respondents showed that SBN has an effect in giving valuable information and data that will clarify the features of the business environment in the current situation and in the future and thus evaluate the level of competition and keep pace with globalization in a way that supports individuals working in Achieving the organization's goals and supports the decision makers in making the right decisions at the right time.

The idea of the SBN by bringing organizations together in one common technological circle had a great impact - according to the results of the study - in creating an informational technical framework that would help organizations manage and develop

their performance by developing the outputs of their intangible assets such as knowledge, skills, command. This was agreeing on by [6] and [17] who argued that SBN can give the organization agility, flexibility and adaptation and thus harmony with the knowledge economy community.

## 6.6 Conclusion and Recommendations

SBN, through its specialization that it provides to organizations, is the cornerstone of gathering organizations in all its forms and opening up areas of cooperation and learning for small and medium organizations by supplying accurate and timely information in a manner similar to the principle of business memorization by relying on data analysis and presenting it as valuable information.

Based on analysis, discussion and conclusion, current study recommended:

- Design of a SBN is a complex issue and some of these issues are being addressed through ongoing SBN research
- SBN is a very promising structure as it addresses the flexibility dimension of organizational design, which is so critical in many of the industry sectors.

## References:

- [1] Mendling, J., Baesens, B., Bernstein, A., & Fellmann, M. "Challenges of smart business process management: An introduction to the special issue", *Decision Support System*, Vol. 100, No.4, pp. 1-5, 2017.
- [2] Hashem, T. "Smart Business AS A Booster FOR Better E-Marketing Results Moderating Influence of Technological Vigilance". Proceedings of The ISERD International Conference, Zurich, Switzerland, 16th– 17th August, 2021.
- [3] Hashem, T. "Smart Business as an Approach for De-marketing During COVID 19 Pandemic: Insights from Health Sector". *Turkish Online Journal of Qualitative Inquiry*, Vol.12, No. 8, pp.4058-4071.2021
- [4] Pau, L. F. "Smart business networks: the evolution". In *Annales des Mines-Realites industrielles* (No. 3, pp. 109-112). FFE. 2017. DOI : 10.3917/rindu1.173.0109.
- [5] Langley, D. J., van Doorn, J., Ng, I. C., Stieglitz, S., Lazovik, A., & Boonstra, A. ." The Internet of Everything: Smart things and their impact on business models". *Journal of Business Research*, Vol. 122, pp. 853-863,2021
- [6] Gavrilova, T., Carlucci, D., & Schiuma, G. ." Art of visual thinking for smart business

- education". In *Smart Growth: Organizations, Cities and Communities* (pp. 138-138),2013
- [7] Yoon, C. Y.. Analyzing Enterprise Smart Business Capability in a Smart Technology Environment. In *2020 3rd International Conference on Information and Computer Technologies (ICICT)* (pp. 224-229). IEEE. (2020, March)
- [8] Camarinha-Matos, L. M., "Collaborative smart grids—a survey on trends". *Renewable and Sustainable Energy Reviews*, No. 65, pp. 283-294.2016
- [9] Perrin, R., "Retaining older employees is a smart business move". *Strategic HR Review* Vol. 15 No. 6, pp. 246-249,2016. <https://doi.org/10.1108/SHR-12-2015-0097>
- [10] La Rocca, A., & Snehota, I., "Relating in business networks: Innovation in practice". *Industrial Marketing Management*, Vol. 43, No. (3), pp.441-447,2014.
- [11] Shahtahmasbi, E., Khodadad Hoseini, S. H., Kordna'eej, A., & Azad Armaki, M. T. "Investigating the Impact of Business Networks on Competitive Advantage by Explaining the Role of Capability of Building Capabilities Case Study: Construction Industry". *Journal of Business Management*, Vol.6, No.(1), pp.107-124, 2014.
- [12] Sato, A., Huang, R., & Yen, N. Y." Design of fusion technique-based mining engine for smart business". *Human-centric Computing and Information Sciences*, Vol. 5 No. (1), 1-16,2015.
- [13] Jamasb, T., Thakur, T., & Bag, B. , Smart electricity distribution networks, business models, and application for developing countries. *Energy policy*, 114, 22-29,2018.
- [14] Das, S., Deshpande, S., Salvi, S., Goyal, S., & Bhirud, N. S. RATAN: A Smart Business to Business (B2B) Communicator. In *2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)* (pp. 1-5). IEEE(2018, August).
- [15] Saxena, K. B. C.. "Business process management in a smart business network environment". In *The network experience* (pp. 69-81). Springer, Berlin, Heidelberg,2009.
- [16] Pau, L. F. ," Discovering the dynamics of smart business networks". *Computational Management Science*, 11(4), 445-458,2014.
- [17] Vervest, P., Van Heck, E., & Preiss, K. . "Smart business networks: A new business paradigm". *SBNi Discovery Session*, 529.2008.
- [18] Sekaran, U. and Bougie, R. "*Research Methods for Business: A Skill-Building*

*Approach*". 7th Edition, Wiley & Sons, West Sussex,2016.

**Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)**

This article is published under the terms of the Creative Commons Attribution License 4.0

[https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US)