



The impact of strategic management on the development of information technology in the Jordanian industrial corporations

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Abstract

This study aims at identifying the effect of the strategic Management on information technology development in Jordanian Manufacturing Public Limited Companies. The study adopts the descriptive and analytical method by referring to books, research article and peer-reviewed journals that focus on the concept of strategic Management and information technology development. The study population consists of 67 Jordanian industrial corporations; the researcher has used the simple random method in choosing the study sample which consists of 30 companies from the study population, whereas the sampling unit consists of 135 participants including managers, deputy managers, heads of departments and production managers. A questionnaire was distributed to them which include items that reflect the study variables in order to reach the results of this study.

The study has reached at a number of results; the most important ones are the fact that there is an impact of the strategic Management in all its dimensions (environmental analysis, strategy formation, strategy implementation and strategy assessment) on the information technology development in all its dimensions (development of equipment, software, human resources, networks and databases). Moreover, there is an impact of the strategic administration on the development of equipment and software in particular.

According to these results, the study has provide a number of recommendations including working on the continuity of information technology development and its dimensions, and the necessity of making contracts for databases maintenance by officials; in addition to inviting the companies interested in research and development issues.

Keywords: strategic management, information technology development development of equipment, software, human resources, networks and databases

1. Introduction

The organizations, in all their forms and activities, strive to achieve the objectives for which they have been established in a serious and sustainable manner. Therefore, the administrations of these organizations aim to organize their activities and activities and ensure their continuity in the fields in which they operate.

The importance of the role of the administration in translating what the organizations aim to achieve and put into effect requires that it have a strategy that aims to ensure the allocation, recruitment and management of resources in all its forms, material or even organizational, in order to prosper its business and provide competitive advantage. Thereby achieving profitability and growth in targeted markets.

Hence, the need for organizations to vary their activities and objectives by setting long-term goals that take into account the modern technologies and their development within a special strategy of this organization. This strategy is based on research and development using appropriate scientific methods that enable the organization to prepare for the developments and changes and circumstances surrounding it; In addition, organizations should take into account the internal and external environments within which they operate. In this sense, it is necessary to work seriously towards meeting the

needs that accompany these variables and put them into effect through the adoption of these organizations vision and message to reflect their ambitions and objectives for them.

The adoption of information technology in light of the tremendous development in the environment in which these organizations work and keep abreast of everything new where the researcher will seek through this study to look at these organizations and to determine whether these organizations include technology in their strategies and work on developing them, Communities are developing and growing dependent on what is new to achieve their public and private objectives.

It is therefore necessary to study the impact of strategic management on the development of information technology, especially in the industrial companies contributing to Jordan, which may contribute to increase their capabilities in the use of strategic management and the employment of new technology in its existing business and then study the impact of strategic management in the development of information technology in industrial companies Jordanian Contribution.

2. Research Problem

The strategic management is one of the most important pillars that departments view as an important element in our modern era. All organizations in their various fields must strive to achieve their objectives and achieve the best performance

through their sound strategic planning, which reflects their vision and strategy. Time, effort and money through the adoption of modern information technology (IT) elements.

Several studies dealt with strategic management and information technology (Enshassi&Abushaban 2011). But there is a lack of study of the relationship between these two subjects, which led researchers to study this relationship in an important sector of companies.

Based on the above, the purpose of the current study is to measure the impact of strategic management in the development of information technology in Jordanian industrial joint stock companies.

The purpose of this study can be achieved by answering the following questions:

The main question is: What is the impact of strategic management on its dimensions (environmental analysis, strategy formulation, strategy implementation, strategic assessment) in the development of information technology in its dimensions (equipment, software, human resources) in Jordanian industrial joint stock companies?

This question is divided by the following sub-questions:

- Question 1: What is the impact of strategic management in the development of equipment in Jordanian industrial joint stock companies?

- Question 2: What is the impact of strategic management in the development of software in Jordanian industrial joint stock companies?

- Question 3: What is the impact of strategic management in the development of human resources in Jordanian industrial joint stock companies?

3. Importance of the study

- a. The researcher hopes that this study will contribute to providing scientific knowledge about the dimensions of strategic management and the impact of these dimensions in the development of information technology from scientific knowledge. The researchers also hope that the results of the study will contribute effectively to clarifying the impact of the strategy on the development of information technology, which will help the management in these companies to improve their performance for the better in the future.
- b. Thus further clarifying the dimensions of strategic management and preparing for the study of other dimensions in addition to deepening the development of the dimensions of information technology and linking these two topics.
- c. The researcher also hopes that the recommendations of the study will contribute to the benefit of industrial companies in general and organizations in general of these recommendations, especially on the role of strategy in studying the internal and external environment in which it operates, and factors that will contribute mainly to adopting appropriate technology in its various activities, Will effectively contribute to demonstrating the impact of the strategy in the development of information technology, which will help management in these companies improve their performance for the better in the future.

4. Previous Studies

- a. Silkie (2014) ^[6] noted that there is an impact of strategic planning on the management of public institutions in a rational, efficient and effective manner, as well as a positive impact of strategic management on the exploitation and allocation of resources based on self-details and aspirations.
- b. The study (Damilola *et al.*, 2015) ^[5] showed that the implementation of the strategy by the management of the company will make it proactive in the face of changes. She also pointed out that there is a positive impact of the strategy on the competitive advantage and organizational performance. The study recommended that the implementation of the strategy formulated and included in all Management practices and strategy are an indispensable tool in the development of business organizations in general.

5. Study Methodology

The study was based on the descriptive analytical method. The survey tools were used to obtain the necessary data for the analysis and test the hypotheses of the study. The study society is one of the 67 industrial companies in Jordan. A simple random sample of 30 companies was selected. Of all managers and their deputies and heads of departments and directors of production in the study sample has reached 135 people. España designed the dimensions of the independent and sequential variables and distributed to the sampling members.

6. Study Tool

The tool of the present study consisted of a questionnaire prepared to measure the reasons for the low achievement of students in mathematics from the point of view of teachers in the lower basic stage.

Table 1: Cronbach's Alpha value for each research measures from the pilot study (n = 150)

Variable	Stability coefficient
Cronbach's Alpha	0.98

7. Statistical processing

In order to process the data statistically, the computerized statistical package program in social sciences was used by using the following descriptive and analytical statistical treatments:

- Arithmetical averages, standard deviations and percentages.
- Test (t) for independent operations.
- Unilateral analysis of variance (One Way Anova).

8. Testing Hypotheses

To answer Study questions, the statistical averages and standard deviations of teachers' responses were calculated in the sample of this study to estimate the reasons for the low level of achievement of students in the basic basic stage according to the gender variable.

The results of the main hypothesis test, which states: "There is no statistically significant impact at the level ($\alpha = 0.05$) of the

strategic management dimensions (environmental analysis, strategy formulation, strategy implementation, strategy assessment) in the development of information technology in its dimensions (equipment, software, human resources,

Networks, Databases) in Jordanian Industrial Joint Stock Companies".

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 2: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.617	4	3.904	7.523	.000 ^a
	Residual	67.471	130	.519		
	Total	83.088	134			

a. Predictors: (Constant), Strategy Evalu, Enviroment Analsis, Strategy Impl, Strategy formul

b. Dependent Variable: Development

It is seen from the table above that the value of F has reached (7.53) which is greater than the F Tabulated (2.42), and that the moral test is (0.000) which is smaller than (0.05), which means rejecting the null hypothesis and accept the alternative hypothesis and conclude that there is an impact statistically significant at the level of (0.05) strategic management dimensions (environmental analysis, strategy formulation, implementation strategy, strategic evaluation of) in the development of information technology dimensions (hardware, software, human resources, networks, databases),

has reached the value of the correlation coefficient (0.434) and the coefficient of determination (0.188) R², which means that 18.8% of the total variance has been interpreted by the model and the rest is interpreted T by other factors, and to identify any of the elements of the independent variable (environmental analysis, strategy formulation, implementation of the strategy, the strategic evaluation of) has a statistically significant effect of D in the development of information technology, found multiple regression coefficients as in Table 3:

Table 3: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.748	.246		7.111	.000
	EnviromentAnalsis	.098	.076	.116	1.294	.198
	Strategyformul	.202	.075	.260	2.707	.008
	StrategyImpl	.078	.065	.112	1.208	.229
	StrategyEvalu	.063	.070	.080	.910	.364

a. Dependent Variable: Development

Table (3) shows that the strategic formulation reached a level of significance (0.008), which indicates that it has a statistically significant effect at (0.05) in the dependent variable which is the development of information technology. The other dimensions have a positive effect that is apparent but not statistically significant.

The results of the first sub-hypothesis test, which stated that "there is no significant statistical effect at the level of ($\alpha = 0.05$) for strategic management in the development of equipment in Jordanian industrial joint stock companies."

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 4: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.74	4	2.68	1.77	0.14
	Residual	195.37	130	1.50		
	Total	206.103	134			

The significance of the test is (0.14), which is greater than (0.05), which means acceptance of the zero hypothesis that stated that there is no significant statistical significance at the level of (0.05) (The environmental analysis, strategy formulation, strategy implementation, strategy assessment) in the equipment development. The correlation coefficient (0.23) and the coefficient of determination (0.05) R², which means

that 23% of the total variance has been interpreted by the model and the remainder explained by other factors, And to determine which elements of the independent variable (environmental analysis, strategy formulation, implementation of the strategy), Strategic evaluation) has a statistically significant impact on equipment development, multiple regression coefficients were found as in Table 5:

Table 5: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.14	0.42		5.10	0.000
1 EnviromentAnalsis	0.08	0.13	0.06	0.63	0.53
Strategyformul	0.21	0.13	0.18	1.68	0.10
StrategyImpl	0.05	0.11	0.04	0.41	0.69
StrategyEvalu	0.01-	0.12	0.01-	0.07-	0.94

Table (5) shows that the elements have a clearly visible but not statistically significant positive impact on equipment development.

The results of the second sub-hypothesis test, which stated that "there is no significant statistical effect at ($\alpha = 0.05$) level

of strategic management on the development of software in the Jordanian industrial joint stock companies"

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 6: ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	21.00	4	5.25	4.14	0.003
Residual	165.00	130	1.27		
Total	186.00	134			

The above table shows that the value of F has reached (4.14) and is larger than the table F, the significance of the test is 0.003, which is smaller than 0.05, which means rejecting the null hypothesis and accepting the alternative hypothesis, and finding that there is a significant statistical significance at the level of (0.05) for the strategic management of its dimensions (environmental analysis, strategy formulation, strategy implementation, strategy evaluation). (0.34) and the

coefficient of determination (0.11) R², which means that 11% of the total variance has been interpreted by the model and the remainder is explained by other factors, and to determine which elements of the independent variable (environmental analysis, strategy formulation, Strategy) has a statistically significant impact on the development of R.at, found multiple regression coefficients as in Table 7:

Table 7: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.70	0.38		4.41	0.000
1 EnviromentAnalsis	0.14	0.12	0.11	1.16	0.25
Strategyformul	0.33	0.12	0.28	2.80	0.006
StrategyImpl	0.02-	0.10	0.02-	0.18-	0.86
StrategyEvalu	0.01	0.11	0.01	0.07	0.94

Table (7) shows that the strategic formulation reached a level of significance (0.006) indicating that it has a statistically significant effect at (0.05) in the component of the dependent variable which is the development of the software. The other dimensions have a positive effect that is apparent but not statistically significant.

The results of the third sub-hypothesis test stating that "there is no statistically significant effect at ($\alpha = 0.05$) level of strategic management on the development of human resources in Jordanian industrial joint stock companies."

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 8: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	18.38	4	4.60	3.72	0.007
Residual	160.45	130	1.23		
Total	178.83	134			

The above table shows that the value of F has reached (3.72) and is larger than the table F, the significance of the test is 0.007, which is smaller than 0.05, which means rejecting the null hypothesis and accepting the alternative hypothesis, and finding that there is a significant statistical significance at the level of (0.05) for the strategic management of its dimensions

(environmental analysis, strategy formulation, strategy implementation, strategy evaluation). (0.32) and R² (0.10). This means that 10% of the total variance has been interpreted by the model and the remainder is explained by other factors. To determine which elements of the independent variable (environmental analysis, strategy formulation, implementation

of the strategy), Strategy evaluation) has a statistically significant impact In the development of human resources,

multiple regression coefficients were found as in Table (9):

Table 9: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.58	0.38		4.17	0.000
1 EnviromentAnalsis	0.05	0.12	0.04	0.42	0.86
Strategyformul	0.20	0.12	0.18	1.74	0.08
StrategyImpl	0.14	0.10	0.13	1.35	0.18
StrategyEvalu	0.08	0.10	0.07	0.76	0.45

Table (9) shows that the elements have a clearly visible but not statistically significant positive impact on the development of human resources.

The results of the fourth sub-hypothesis test stating that "there is no significant statistical effect at the level ($\alpha = 0.05$) for

strategic management on the development of networks in the Jordanian industrial joint stock companies"

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 10: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	22.11	4	5.53	4.12	0.004
Residual	174.58	130	1.34		
Total	196.69	134			

The above table shows that the value of F has reached (4.12) and is larger than the table F, the significance of the test is 0.004, which is smaller than 0.05, which means rejecting the null hypothesis and accepting the alternative hypothesis, and finding that there is a significant statistical significance at the level of (0.05) for the strategic management of its dimensions (environmental analysis, strategy formulation, strategy implementation, strategy evaluation). (0.34) and the

coefficient of determination (0.11) R², which means that 11% of the total variance has been interpreted by the model and the remainder is explained by other factors, and to determine which elements of the independent variable (environmental analysis, strategy formulation, Strategy evaluation) has a statistically significant impact on the development Networks, found multiple regression coefficients as in Table 11:

Table 11: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.47	0.40		3.71	0.000
1 EnviromentAnalsis	0.13	0.12	0.10	1.02	0.31
Strategyformul	0.16	0.12	0.14	1.35	0.18
StrategyImpl	0.15	0.10	0.14	1.48	0.14
StrategyEvalu	0.10	0.11	0.08	0.85	0.39

Table (11) shows that the elements have a positive effect that is apparent but not statistically significant for the development of networks. The results of the fifth sub-hypothesis test, which stated that "there is no statistically significant effect at ($\alpha =$

0.05) level of strategic management in the development of databases in the Jordanian industrial joint stock companies"

Multiple regression was performed to test this hypothesis and the result was as follows:

Table 12: ANOVA^{b=}

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.92	4	3.23	2.50	0.045
Residual	167.50	130	1.29		
Total	180.42	134			

The above table shows that the value of F has reached (2.50) and is larger than the table F, the significance of the test is 0.045, which is smaller than 0.05, which means rejecting the null hypothesis, accepting the alternative hypothesis, and finding that there is a significant statistical significance at the level of (0.05) for the strategic management of its dimensions

(environmental analysis, strategy formulation, strategy implementation, strategy evaluation). (0.27) and R² (0.07), which means that 7% of the total variance has been interpreted by the model and the remainder is explained by other factors, and to determine which elements of the independent variable (environmental analysis, strategy formulation, implementation

of the strategy), Strategic assessment) has a statistically significant impact In developing databases, multiple

regression coefficients were found as in Table (13):

Table 13: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.86	0.39		4.81	0.000
	EnviromentAnalsis	0.10	0.12	0.08	0.82	0.42
	Strategyformul	0.11	0.12	0.10	0.92	0.36
	StrategyImpl	0.08	0.10	0.07	0.74	0.46
	StrategyEval	0.14	0.11	0.12	1.28	0.20

Table (13) shows that the elements have a positive effect that is apparent but not statistically significant in the development of the databases.

9. Discussion of Results

- The results of the study showed a statistically significant impact of strategic management in the dimension of strategy formulation on the development of information technology in its dimensions (equipment development, software development, human resources development, network development and database development). Positive in the development of information technology is since the development of information technology must be guaranteed in a special plan to suit the developments in this area.
- The results of the statistical analysis showed that there is a significant statistical impact of the strategic management on its dimensions (environmental analysis, strategy formulation, strategy implementation and strategic assessment) on the development of information technology in its dimensions (equipment development, software development, human resource development, network development and database development). There is a difference in the level of influence of the components of the independent variable on the dependent variable. This indicates the interest of the departments in the companies in developing the use of information technology because of the positive reflection on the type of service provided and the response to work orders thus maintaining a certain level of competition and expanding its market share.
- The results of the statistical analysis showed a statistically significant effect of strategic management on the development of equipment. In view of the independent effect of the components of the independent variable, the environmental analysis, implementation of the strategy and evaluation of the strategy did not have a statistical impact on equipment development. The statistical significance of the test under which there was a statistically significant effect on the formulation of the strategy on the development of the equipment. This variable affected the total effect of the elements of the independent variable combined and led to the non-acceptance of the zero hypothesis of.
- The results of the statistical analysis of the responses of the sample on the effect of strategic management on software development showed a statistically significant

- impact of the strategic management on software development. Given the results related to the effect of each dimension of the independent variable, there is no statistical significance for the impact of environmental analysis, On the other hand, there was a statistically significant effect on the formulation of the strategy. The value of t (3.915) and the statistical significance level (.000) were reflected in the combined effect of the dimensions and led to the non-acceptance of the null hypothesis and acceptance of the alternative hypothesis.
- The results of the statistical analysis of the responses of the respondents on the impact of strategic management on the development of human resources showed a statistically significant effect of strategic management on the development of human resources. In view of the results related to the effect of each dimension of the independent variable, The implementation of the strategy and the evaluation of the strategy on the development of software in the industrial companies of public shareholding. In contrast, there was a statistically significant effect on the formulation of the strategy, where the value of t (3.348) and the level of statistical significance (.001), which was reflected in the effect of dimensions Combined, led to the non-acceptance of the null hypothesis and acceptance of the alternative hypothesis.

10. Recommendations for future research

In light of the results of the study and its discussion, the following recommendations may be proposed:

- The need to adopt special strategies by companies to develop their IT elements and allocate the necessary funds within their budgets.
- The need to focus on linking the development of information technology in companies in the process of environmental analysis and evaluation and implementation of the strategy.
- The need to focus companies on the support of research and development in the field of information technology being one of the most important resources supporting the gross domestic product in developed countries.
- The need to develop and train human resources operating in the technology sector in a way that enables them to self-produce software and other technology factors.
- The need to conduct comparative studies between the cost of technology and the benefits obtained from them to put the decision makers in the companies the usefulness of

the use of technology.

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