

The Role of Investment in Information Technology on the Performance of Industrial Companies Listed on Amman Financial Market

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Abstract

This investigation aims at identifying the role of investment in information technology on the performance of industrial companies listed on the Amman Financial Market in the areas of administrative, financial and operational. A sample of 20 Jordanian industrial companies listed on the Amman Stock Exchange was selected. Moreover; the data for this investigation was collected by the distribution of a questionnaire. The study, however; showed that there is a significant effect of the investment in information technology on the ability to enhance decisions making, improve administrative, financial and operational processes and improve financial performance. On the other hand, the study showed that the investment in information technology in industrial companies Jordanian is not effective in creating and developing the competitive advantage and supporting the institutional innovation and the strategy of excellence for these companies

Keywords: Investment, information technology, decisions making, improve administrative, financial and operational.

Introduction:

Information technology (IT) is currently one of the most important ingredients for success in any organization (Newman and Sabherwal, 1996), furthermore; IT occupies a significant position of all activities and areas inside and outside the organization and provides important data and information for timely facilitate the process of providing information as to be used. It has been shown that the concerning in information technology and investment is one of the most important means of departments to develop business, problem's solution and take appropriate administrative decisions for the favor of the organization's strategy.

The economy based on information (information economy) has become one of the most important sources of wealth, a substitute for natural resources and the power of traditional work (PORAT, M. 1977). This type of economy with its various sectors concentrated on information to produce goods and services. Further, the business power of such economy resting on information is more than traditional business power in industries. Therefore, the availability of appropriate information in a timely manner increases the marginal utility of workforce to enable departments to direct these forces towards meaningful investments that have been evaluated through this information.

Most developing countries invest heavily in IT to achieve higher rates of economic development, so that the growth of the technology sector in general protects the economy from the isolation of opportunities for advancement in this evolving technology and can break through new regional and global markets to be integrated into that can expand the areas of competition. However, the IT can be considered as a way for the advancement of the economy, where an open economy and suitable markets became a requirement of development for the transition to a knowledge society encourages innovation, creativity and scientific research through responding to the evolution in information technology (Teece, 1986). For instant, the spending of the United States in communications and information technology ranges between 45 and 55% of the total spending, besides that the size of investment is more than \$400 billion in the Middle East, where the estimated investment size in Kingdom of Saudi Arabia is more than \$53 billion annually, while in Jordan is estimated about \$18.3 million for the 2010. This is a clear indication of the local, regional, and international interest in investment in information technology. (Al Ghad newspaper, issue of 13.10.2012)

To achieve the strategic goals, organizations base their strategic decisions on standards and principles adopted by the decision-maker according to their knowledge, behavioral, technical and scientific accumulation that are often based on experiences, alternatives studies and research. Therefore, the decision-making is related to the ability in obtaining information to determine the requirements, including the size of investment, prices, rates, details of production processes and conditions for obtaining them. Nevertheless; to choose between alternatives and other needs of making prudent decisions.

The lack of detailed information is an important obstacle in delayed investment process which leads to the achievement of the economic process efficiently and effectively without the appropriate level about the rapid shifts in information technology, which provides information necessary for economic analysis to maximize profits and economic returns.

Research problem

In the light of local and global concern in information technology, the size of massive investment in this sector, lightened the attention of many industrial organizations in particular investment organizations, the desired impact of organizations performance, and the fact that the industrial sector in Jordan is the most important business sectors, the research problem can be outlined in following points:

1. What is the role of investment in information technology in administrative decision-making in the Jordanian industrial companies?
2. Is there any impact of investment in information technology on the improvement and development of the financial and operational administrative processes in the Jordanian industrial companies?
3. Is there any investment impact on information technology in creating competitive advantage in the Jordanian industrial companies?

Research significant

The importance of this research is resulted from the global and local interest in the investment of information technology, which became one of the most important intangible assets in organizations. It forms the basis of the knowledge economy. Jordan on the other hand, is one of the leading developing countries that pays attention to this type of investment, moreover; Jordan is based on open market economies and seeks to integrate into the global markets.

The main challenge for all researchers in this field has become to track the expected impact of the investment in information technology for both financial and non-financial performance, and despite the ease of measuring the financial impact of investment, there are difficulties facing the researchers to measure the impact of the non-financial and intangible investment. However, the importance of this study comes from the following:

1. Focusing on the role of investment in information technology in the institutional performance of the Jordanian industrial companies.
2. Emphasizing on investment in information technology to improve the ability of taking decisions, development of the industrial sector and increase competitiveness.
3. Highlighting on the relationship between investment in information technology and increase the efficiency and effectiveness of the industrial companies in the exploitation of the available resources.

Research objectives

Researcher seeks through this study to the following:

1. To identify the effect of investment in information technology on the administrative decision-making and improve internal processes and the ability to respond to exogenous variables in the Jordanian industrial companies.
2. To determine the impact of direct and indirect investment in information technology to increase competitiveness through the creation of competitive advantage and improve the performance.
3. To address the impact of direct and indirect investment in information technology at the institutional innovation and excellence strategy.

Research hypotheses

To fill the research gap and to answer the research questions and sub questions, researcher formed the following hypotheses:

Hypothesis I - H01: There is no statistically significant impact of investment in information technology on administrative decision-making in the Jordanian industrial companies.

Hypothesis II - H02: There is no statistically significant impact of investment in information technology on improving and developing the financial and operational administrative processes in the Jordanian industrial companies.

Hypothesis III - H03: There is no statistically significant impact of investment in information technology on creating competitive advantage in the Jordanian industrial companies.

Hypothesis IV - H04: There is no statistically significant impact of investment in information technology on the financial performance of the Jordanian industrial companies.

Operational definitions:

- Information Technology

As defined by the United States Information Technology Group (ITAA), it is a study, design, development, activation, support or management information systems that rely on computers, particularly computers and applications (Ashraf Khallaf (2012) .

- Concept of Competitive Advantage

Provide what is new and difficult to imitate. It can achieve more benefits and values that are dominate over which offer by competitors, where the organization is able to reflect this discovery in the field and in other words, make the process of innovation in the broadest sense.

- Organizational Innovation

It is the ability to devise methods and ideas that can receive optimum responsiveness of employees and motivate them to invest their abilities and talents to achieve organizational goals.

Research Methodology

The researcher followed the descriptive analytical method, which is based on the study of the existing condition of investment in information technology in the Jordanian industrial companies by using the study field to get data from major sources, and by relying on the questionnaire designed for this purpose, distributing it on the sample of the study, and then process and analyze the data obtained statically for testing hypotheses and to answer its questions.

Study population and Sample

All industrial companies listed in the Amman Financial Market have been adopted which enjoy the continuity of industrial and commercial activity in 2011 that are 80 industrial companies. The study sample consisted of 20 industrial companies, which represents 25% of the overall size of the study population. The following table shows the names of industrial companies which represent the study's sample.

Table-1

Industrial Activity	Name of company
Pharmaceutical and medical industries	Dar Al Dawa Development and Investment
	Arab Center for Pharmaceutical Industry
	Middle East Pharmaceutical and Chemical Industries and Medical Supplies
	Hayat Pharmaceutical Industries
	Philadelphia for pharmaceutical industry
	Jordanian Pharmaceutical Manufacturing
Mining and Extractive Industries	National Steel Industry
	Jordan Phosphate Mines
	Jordan Cement Factories
	Arab Potash
Chemical Industries	Jordan Industrial Resources
	Intermediate Petrochemicals Industries
	Jordan Chemical Industries
	Jordan and sulfur Industries / Gemco
	Jordanian Sulphochemical
Paper and cardboard industry	Pearl Sanitary Paper
	Arab Investment Projects
	Paper and cardboard factories Jordan
Food and Beverage	Village Industries Food and Vegetable Oil
	Jordan Dairy
	Jordan Vegetable Oil Industries
Tobacco and Cigarettes	Union factories for the production of tobacco and cigarettes

Data collection

To achieve the objective of the study, a questionnaire was designed to obtain data of respondents from each company in the sample, as has been relying on the following tools to get data and information that can be described, analyzed and statistically processed:

1. Information on theoretical side of the studies, articles, thesis, and scientific and foreign books specialized in the subject matter of the study.
2. Questionnaire: To provide data for the study, a questionnaire was designed after taking the views of researchers and writers in the field of study, which aimed at collecting the primary and secondary data to complete the practical side of the study in terms of addressing the questions of the study and test hypotheses. The questionnaire included two key sections:

Section I: A portion of the demographic variables of the study sample through (4) variables: (age, qualification, career center & years of experience).

Section II: included the variables of the study, which was selected in light of access to theses and previous literature in this aspect to each of the following tasks:

1. The impact of investment on information technology in administrative decision-making in the Jordanian industrial companies.
2. The impact of investment on information technology to improve and develop the financial and operational administrative processes in the Jordanian industrial companies.
3. The impact of investment on information technology in creating competitive advantage in the Jordanian industrial companies.

The data was collected from these tasks through (35) paragraphs, 7 paragraphs for each task through which a questions were asked about the impact of information technology for each dimension in such tasks. A number of 160 questionnaires were distributed as 8 questionnaires for each company, 145 have been received which 138 ones can be analyzed as were 86.3%, acceptable.

In spite of the diversity of measurement methods, this study followed the measurement method based on five-Likert scale. Alpha Cronbach's test has been used to define the consistency of study's questionnaire, and the results were as follows:

Table (2): Consistency coefficient for the study questionnaire's variables

Variable	Paragraphs	Scale	Approvability
Administrative decision-taking	1-7	Agree	Consistency ratio (Alpha Cronbach) %
Improvement and development of the financial, administrative and operational processes	8-14	Agree	0.842
Competitive Advantage	15-21	Agree	0.799
Financial Performance	22-28	Agree	0.892
Institutional innovation and excellence strategy	29-35	Agree	0.901
All axes	1-35	Agree	0.872

Table (2) indicates the consistency of study's tool which Alpha Cronbach ratio was 60% which deems acceptable to humanitarian researches Sekaraan,2006:311

Statistical analysis

Test of study hypotheses is one of the means on which the researcher relied to have the indicators supporting the study objectives. The hypotheses have been tested through the use of statistical treatments described below and by applying (SPSS17) software. Among the statistical methods used in this study are the following:

1. Cronbach's Alpha test to calculate the reliability coefficient for variables.
2. Ratios, averages and standard deviations of the values of the variables of the study derived from the study to answer questions.
3. One sample t-test to define the tangible differences averages to answer questions from the questionnaire in each task.

Theoretical Framework

Investment in information technology

A - Concept of investment in information technology

Bacon (1992), identifies the investment in information technology as owning computers and networks, or development prior to software that is expected to enhance the ability of information systems in the organization, and provide short-term benefits (Bacon, 1992). But (Weill and Olson, 1989) has linked the investment in information technology with possession costs of computer hardware, software, networks and people necessary for the management and running information systems in the organization

(Gunasekaram(et al .2001) has differentiated between information technology and information system, while information technology refers to computers, hardware, software communication systems and the Internet, but the concept of information systems indicates how to organize and design the flow of information in an organization or a particular company to meet the requirements of informatics for the organization and management (Gunasekaram et al. 2001). By this definition, we can say that any integrated information system, whether administrative, accounting or others are of the following five elements:

1. Hardware
2. Software
3. Supervisors on the information systems, computer, hardware and software, each according to its competence.
4. Output produced by these systems of data and information.
5. Users of data and information output by this system.

B - Investment in information technology and corporate performance

Nowadays is widely used the technology in various fields and sectors, as companies, to improve their performance In a manner unprecedented, increase their investments in information technology; the percentage of corporate investment in information technology was approximately 21% of its long-term investments in 2007 comparing to 5% in 1977 (Bureau of Economic Analysis, 2008).

Despite this rapid growth in investment in information technology, but there is no evidence to prove that there is a convincing link between investment in information technology and corporate performance. Although there are many literatures on the importance of investing in information technology in improving the performance of companies, but these studies have concentrated on financial performance in particular, and depending on the financial performance indicators. The companies seeking to invest in information technology is due to the ambition of these companies to improve both the efficiency of productivity and create competitive advantage. Investment in information technology can be internally and externally; the internal one aims to reduce costs, improve quality, accelerate internal processes, reduce the frequency of operations and increase flexibility.

(Dehning et al. 2003) thinks that the observed increase in information technology exceeded the tangible benefits which can easily be measured, such as reducing costs to get the benefits of intangible difficult to be measured, such as increasing the ability to make best decisions, increasing understanding of the business environment, as the financial indicators of performance were not designed to measure the intangible benefits and excepted from investment in information technology (Dehning et al. 2003).

The study of Ajlouni was applied on the evaluation of management information systems at Arab Bank and Royal Jordanian. The researcher found that the availability of appropriate information at reasonable time increases the efficiency in management decision-making, and provides sufficient flexibility to respond to developments in business and increase the size (Ajlouni, 1998).

Mubarak has studied the impact of information technology on the strategic and organizational structure and performance of insurance companies of Jordan, as he found a relationship between the use of information technology and the strategy followed in achieving the long-term objectives of the company by virtue of alliances strategic, competitive strategy related to cost and competition, e-insurance. It also enhances the geographic diversification strategy and the degree of decentralization through delegation of authority and financial, administrative and technical powers at all different levels in the company, as well as to improving operations, costs reduction, increasing the degree of coordination and control, and reduce routine works and facilitate the decision-making process. The researcher proved that there is a positive relationship between investment in information technology, improvement of productivity and growth, indicators financial indicators and the development of knowledge for staff (Mubarak, 2004).

C. Information Technology and Strategy

Information technology can achieve the strategic objectives of the company by enabling them to gain a competitive advantage to increase the market share of the company and therefore sales growth. This can assist the company to achieve its strategic goals of increasing the profit, validation of the company, and lifting up the wealth of owners (Thomson, et al. 2000).

D. Information Technology and Performance

Many studies have shown that there is an impact of information technology on the performance of companies, both at level of overall performance or financial performance, and pointed out the extent of its contribution to the achievement of strategic objectives, competitive advantage, effective management and the provision of goods and services and appropriate information in a timely manner. Many researchers also shown the impact of information technology on the financial performance of companies by testing the relationship between them and the return on investment, growth in sales, return on equity and on assets. A number of studies also found a positive relationship between investment in information technology and market performance (market value) of the company, as well as between them and the financial performance of the company (Bharadwaj, et al. 1999).

E. Information technology investment, institutional innovation and excellence strategy

Information technology has a prominent role in improving and developing services and goods, methods of production, distribution and knows the views, requirements and the needs of the market and customers to goods and services, as well as to choose the most appropriate way to meet these needs. This led to a relationship between investment in information technology and institutional innovation on one hand and strategic excellence on the other hand (Licht and Moch, 1997).

Results

In this chapter I will provide a description of the study sample and the statistical analysis of the measurements of statistical descriptive variables of the study demographic variables that go into building a model of the study. This is in light of the answers of the study sample, in addition to statistical analysis to test hypotheses and inferences period for each of them.

1. Description of demographic variables of the study sample

The demographic variables of the study included: age, educational qualification, career center and years of experience. The following tables show demographic variables description of the study sample.

Table (3)
Description of the study sample by demographic variables

No.	Variable	Category	Frequency	Ratio
1	Age	20-29	55	39.86
		30-39	43	31.16
		40-49	30	21.74
		More than 50	10	7.24
		Total	138	100
2	Education	Diploma	25	18.12
		BA	93	67.39
		MA	15	10.87
		PhD	5	3.62
		Total	138	100
3	Position	Computer technician or programming	31	22.46
		Network technician	32	23.19
		CEO	15	10.87
		Financial Manager	26	18.84
		Head Section	34	24.64
		Total	138	100
4	Years of experience	Less than 5	44	31.88
		5-10	53	38.41
		More than 10	41	29.71
		Total	138	100

We note from table (2) that the most frequently of age group are (20-29 years) and were 39.86% of the total study sample. This indicates that the sample is mostly of youth who have witnessed tremendous development in information and communication technology and understand easily these developments because they accustomed to change and grew up in it. So they can't resist changing and understanding the need to keep up with the global scientific changes. The table is also indicates that a bachelor's degree campaign formed the majority of the study sample by 67.39%, and this fits with the fact of personnel and information systems hardware, software and networks that make up the size of the technology necessary for the company to keep pace with information technology. The sample included workers in information technology and administrative centers, and this is an indication that the sample included all categories of workers in industrial companies and those responsible for information systems, information technology and administrative decisions. As shown in the table, the distribution of the study sample by experience was as follows: (5-10 years) in first place (38.41%), (less than 5 years) (31.88%), more than 10 years (29.71%). This can be explained that the business in the industrial sector is characterized by the need for expertise and thus companies keen to retain employees who are characterized by training your business and administrative skills.

2. Description of the study variables

First: The impact of investment in information technology in administrative decision-making

The arithmetic mean of the investment in information technology's impact on administrative decision-making has reached 3.16.

The paragraph "IT enables the availability of adequate information, adequate and more effective management decisions" ranked first place with an average of 3.29, while the phrase "IT enables to measure and review the effects and consequences of the decisions that have been taken" rated last place by 3.00.

Table (4)

No.	Phrase	Average	Standard deviation	Grade
1	Information technology and the availability of systems and networks helps in making decisions in a timely manner.	3.23	0.74	3
2	IT enables the availability of adequate information, adequate and more effective management decisions.	3.29	0.75	1
3	Decisions, which had been canceled or amended after the administration focus on the adoption of modern information technology, were reduced.	3.14	0.82	5
4	The adoption of information technology in the company facilitates the contribution of employees in decision-making.	3.25	0.64	2
5	Rely on information technology assists in effective strategic decision-making accuracy and clarity.	3.18	0.91	4
6	IT contributes in raising the efficiency of communication and exchange of information which affects the quality of the administrative decisions.	3.01	0.79	6
7	IT enables to measure and review the effects and consequences of the decisions that have been taken.	3.00	0.85	7
Grand Average & standard deviation		3.16	0.51	

Second: The impact of investment in information technology on improving and developing the financial, administrative and operational processes

According to table(4), the arithmetic mean of the impact of investment in information technology to improve and develop financial and administrative processes and operational was 3.13, and the paragraph "IT enables evaluation of the strategic plan for the production function periodically to ascertain the extent of the continuing validity in improving operational processes" In the first place with an average of 3.29, while paragraph "The company achieves a continuous reduction in indirect expenses whenever allocations investment in information technology increased" ranked last place with an average of 2.95.

Table (5)

No.	Phrase	Average	Standard deviation	Grade
1	Information technology assists in production management to conduct a SWOT analysis to demonstrate the strengths, weaknesses, opportunities and threats.	3.22	0.79	3
2	The information provided by the components of information technology is used in the preparation of production plans.	3.05	0.94	5
3	IT contributes in the implementation of the operational objectives, as well as in the optimal use of the capacity of the production function.	3.24	0.83	2
4	IT enables evaluation of the strategic plan for the production function periodically to ascertain the extent of the continuing validity in improving operational processes.	3.29	0.85	1
5	IT contributes in utilizing available resources and possibilities for mechanisms that can achieve profits above the level of the ordinary.	3.19	0.89	4
6	The company achieves a continuous reduction in indirect expenses whenever allocations investment in information technology increased.	2.95	1.13	7
7	IT facilitates performance assessments at various administrative levels, and determines the programs adequate and appropriate training for staff.	2.99	0.92	6
Grand Average & standard deviation		3.13	0.47	

Third: Impact of investment on IT in competitive advantage

the arithmetic mean of the impact of investment in information technology in the competitive advantage was 3.02, and the paragraph "IT enables the company from acquiring the capabilities and skills and resources which allow the company to have the opportunity to outdo its competitors" ranked first place with an average of 3.22, while paragraph "Information technology contributes to improve organization performance to the level at which it excels over competitors through financial and operational performance and the performance of its staff" ranked last place with an average of 2.76.

Table (6)

No.	Phrase	Average	Standard deviation	Grade
1	Investment in the information technology supports the company's competitive position in the industry to which it belongs.	3.04	0.75	3
2	IT enables the company from acquiring the capabilities and skills and resources which allow the company to have the opportunity to outdo its competitors.	3.19	0.91	2
3	IT helps improving the non-financial effects while supports the financial effects through the optimal mixture of material and non-material matters.	3.22	0.89	1
4	Information technology owned by the company is deemed the means enabling the organization to achieve excellence in the field of competition with others.	2.89	1.15	6
5	Information technology increase the organization's ability to reduce the overall cost and achieve returns through price compared to competitors and achieves greater value to customers.	2.91	0.88	4
6	IT assists improving and enhancing the company's competitive position commensurate with the requirements of the current market and competition and the ongoing consumer desire to change.	2.90	0.81	5
7	Information technology contributes to improve organization performance to the level at which it excels over competitors through financial and operational performance and the performance of its staff.	2.76	1.01	7
Grand Average & standard deviation		3.02	0.48	

3. Hypotheses Testing

In testing hypotheses, This research used in relying on software SPSS17 the one sample t-test to measure if there is an expected impact of investment in information technology on the performance of companies, according to the study variables; the questions directed to members of the sample was to find out if these is such direct impact through the paragraphs of questionnaire, where a hypothetical average's reference was placed for the answers. However, the results were as follows:

1. Testing the hypothesis one H01: There is no statistically significant impact of investment on information technology in administrative decision-making in the Jordanian industrial companies.

This hypothesis has been subjected to (t) test with level of significance ($\alpha=0.05$), under the following decision rule: We reject the null hypothesis (H0) and accept the alternative one (Ha) if significance is (Sig) \leq (0.05) and vice versa. Based on, table 8 shows the result of such test:

Table (7)

Test to find out if there is an impact of investment in information technology on administrative decision-making in the Jordanian industrial companies.

Average	Difference in average	Standard deviation	DF	T	Sig.
3.1584	0.15839	0.50961	137	3.651	0.000

It is noted that the average of the impact of investment in information technology on administrative decision-making in the Jordanian industrial companies is 3.1584 which is greater than the standard or reference average adopted by a researcher that is 3.00. The significance value was (Sig) 0.000 > 0.05 which requires rejecting the null hypothesis (H01), and then accepting the alternative one:

"There is a statistically significant effect of investment in information technology on administrative decision-making in the Jordanian industrial companies."

2. Testing the hypothesis two H02: There is no statistically significant impact of investment in information technology to improve and develop financial, administrative and operational processes in the Jordanian industrial companies.

Table (8)

Test the impact of investment in information technology to improve and develop financial, administrative and operational processes in the Jordanian industrial companies

Average	Difference in average	Standard deviation	DF	T	Sig.
3.1325	0.13251	0.47322	137	3.289	0.001

It is noted that the average of the impact of investment in information technology to improve and develop financial, administrative and operational processes in the Jordanian industrial companies is 3.1325 which is greater than the standard or reference average adopted by a researcher that is 3.00. The significant value was (Sig) 0.001 > 0.05 which requires refusing the second null hypothesis (H02), and then accepting the alternative hypothesis which stipulates that:

"There is a statistically significant effect of investment in information technology to improve and develop financial, administrative and operational processes in the Jordanian industrial companies"

3. Testing the hypothesis three H03: There is no statistically significant impact of investment in information technology on creating competitive advantage in the Jordanian industrial companies.

Table (10)

Test the impact of investment in information technology in creating competitive advantage in the Jordanian industrial companies

Average	Difference in average	Standard deviation	DF	T	Sig.
3.0197	0.01967	0.48181	137	0.480	0.632

It noted that the average of the impact of investment in information technology on creating competitive advantage in the Jordanian industrial companies is 3.0197, which is greater than the standard or reference average adopted by the researcher which is 3.00. However, the significance value (Sig) was 0.632 < 0.05, which requires accepting the third null hypothesis (H03), and then rejecting the alternative hypothesis which stipulates that:

"There is a statistically significant effect of investment in information technology on creating competitive advantage in the Jordanian industrial companies"

Conclusions and Recommendations

In reviewing the literature of this study, studies that dealt with the importance of investing in information technology as one of the main pillars in the development of facilities, durability and their ability to compete, and through the studies addressed the importance of information and communication technology and investment in this area inside and outside the organization, as well as through what have been added in this study about the expected impact of investment in information technology on performance of the Jordanian industrial companies as to financial and non-financial matter depending on the results of statistical analysis to study hypotheses, the followings points have been concluded:

1. There is an impact of investment in information technology to improve the ability to take decisions in industrial companies, as when any information has been available to decision maker it will be a management tool that can direct decisions to use this information, take advantage of investment opportunities, and identify obstacles, strengths and weaknesses. However, a clear vision for the internal and external environment of the organization will be reached to make the decision-making process oriented towards the strategic goals efficiently.
2. There is an investment impact in information technology to improve the internal operations of the Jordanian industrial companies. This is due to the possibility of obtaining information about the internal operations properly, in timely manner and quickly that make the process of carrying out the operations to be done simply, quickly and accurately. It could be said therefore that the availability of information technology systems in the industrial companies is an internal management control tool, through which problems and detect defects can be identified and detected to do corrective actions quickly which would reduce the risk of business and increase the efficiency of performance, both at administrative, financial or operational levels.
3. Despite the size of spending on investment in information technology in the Jordanian industrial companies, but this investment has not contribute as required to find out a competitive advantage for these companies. This may be due that the reliance on the information in making decisions did not reach the level of being a common culture in industrial companies. There are many decision-makers keep relying on their personal opinion and experience in defining the optimal business behavior. In addition, many industrial companies are still beneficiaries of technological advances, but did not contribute in which that can place the investment in information technology in specific areas to enabling the application of strategies that would find the value to consumer that cannot be applied by the existing and prospective competitors.

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