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The Intellectual Capital Investment and its Impact on Organizational Innovation: An Empirical Study on Jordanian Industrial Public Shareholding Listed Companies (JIPSLC)

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Abstract

The purpose of this study is to investigate empirically the impact of the intellectual capital investment on organizational innovation in Jordanian industrial public shareholding listed companies (JIPSLC). Correlation analysis and regression analysis was conducted. The application of this study was limited to managers and deputy managers in (JIPSLC) in 2012, and the result of this study on the implications of validity and reliability of the tools in the study was used. The result support the hypothesis that the positive relation between intellectual capital investment, and organizational innovation. The results extend the understanding of the role of IC in creating organizational innovation and building competitive advantage for (JIPSLC). Some guidelines are offered about issues related to IC, which should be taken into account in order to increase organizational innovation within (JIPSLC).

Keywords: intellectual capital, organizational innovation, JIPSLC, Jordan

1. Introduction

The importance of intellectual capital in terms of the knowledge-based organizations are better able to maintain it and turn that knowledge into more useful forms, especially with the development of means of communication both within the organization and with the external environment in the light of the growing use of the Internet.

It has become the intellectual capital represents the real wealth of organizations and leading companies have become more keen on investing in intellectual capital as a source of competitive advantage (Carnerio, 2000; Harrison & Sullivan, 2000).

The growing importance of intellectual capital in organizations made new responsibilities imposed on them in order to raise the intellectual capital by attracting the best talent, and develop and promote knowledge exchange, and maintain these human resources by all possible images and create a stimulating learning environment for the survival of the organization, and to increase their ability to interact with customers (Nagem, 2007). This would enhance the creative potential of employees and directing the creative balance towards greater market value for the organization as a whole. In addition to providing a regulatory environment of empowered creative problem solving, decision making, learning, improving their operations and reflected on the overall performance of the organization.

Jordan is a developing country importer of technology, and the industrial sector is a vital economic sector, which requires giving intellectual capital more attention from the constituent departments of this sector as a means of promotion with other economic sectors. This can be achieved through the creation of a regulatory environment that interested in intellectual capital and support innovative approaches (Nazari, 2011; Rehman, 2011; El-Bannany, 2008).

2. General Background to the Problem

The evolution in the business environment, such as rapid technological progress, especially in the field of information technology, the growing global competition in the context of globalization, economic openness and Social Council, the accompanying short product life cycles, and increase the rate of technological changes in production processes and in the same product to achieve the wishes of the customers. Adding to the competition

and breadth of scope and become investment organizations is not limited to investing only in tangible assets such as construction of buildings and the purchase of machinery and equipment productivity modern, it has extended investment organizations to include investment in intangible assets, which is considered the intellectual capital of the most important of these assets.

The business environment of contemporary knowledge-based and technology have increased the importance of intellectual capital as one of the most important elements to support the competitiveness of the organization (Diez et al., 2010), rendering the importance of investing in the recruitment and development and training of human resources, research and development, the establishment of relations Interactive among workers as well as with customers, to reconsider organizational structures facilitated by the use of information communication technology and communication between all levels, to invest in the elements of the intellectual capital of the organization, that promotes creativity and supports organizational capabilities and human resources among workers. From here came the problem of research to answer the following two questions:

1) Do management of Jordanian industrial companies realize the importance of investing in elements of intellectual capital?

2) Do invest in elements of intellectual capital in Jordanian Industrial Public Shareholding Listed Companies (JIPSLC) contributes to the development of organizational innovation in these companies?

2.1 Study Importance

Focus light on the subject of the most important topics in contemporary administrative thought is intellectual capital as intangible assets in companies which are no less importance than tangible assets. As well as knowledge of the business organizations of the importance of intellectual capital as a tool that can be used to achieve its goals efficiently and effectively, so as to enhance its competitive advantage. In addition to show the importance of human resources in industrial companies as one of the assets of intellectual capital and its effective role in the entity of those organizations as a source of creativity and the importance of maintaining and also encouraged and developed it.

2.2 Study Objectives

The research aims to show the extent of interest in the management of Jordanian Industrial Public Shareholding Listed Companies (JIPSLC) in investment of elements of intellectual capital as well as a statement after investing in elements of intellectual capital on the creativity of employees in (JIPSLC). Make appropriate proposals in the light of the results of the study to the decision makers in the companies researched thus contributing to strengthen its competitive position in the contemporary business environment.

2.3 Study Hypotheses

The first main hypothesis:

Ho1: Managers of Jordanian Industrial Public Shareholding Listed Companies (JIPSLC) do not realize the importance of investing in elements of intellectual capital represented by (Attracting IC, Creating IC, Developing IC, Retaining IC, and Customer Satisfaction).

The second main hypothesis:

Ho2: There is no statistically significant effect for investment in intellectual capital elements on organizational innovation in Jordanian Industrial Public Shareholding Listed Companies (JIPSLC). And emerge from this hypothesis the following sub-hypotheses:

Ho2a: No statistically significant effect of Investment in Attracting IC in the development of organizational innovation.

Ho2b: No statistically significant effect of Investment in Creating IC in the development of organizational innovation.

Ho2c: No statistically significant effect of Investment in Developing IC in the development of organizational innovation.

Ho2d: No statistically significant effect of Investment in Retaining IC in the development of organizational innovation.

H02e: No statistically significant effect of Investment in Customer Satisfaction in the development of organizational innovation.

3. Literature Review

3.1 Intellectual Capital (IC)

Led the technical development, and the increasing importance of information technology and the increasing role of knowledge-based intangible assets to the emergence of the concept of intellectual capital. It is characterized as ethereal, intangible and difficult to measure and evaluation, despite the great importance which began acquired in the progress and development organizations.

Intellectual capital is output of learning (Mitchell, 2010), and there is general agreement on that intellectual capital of an organization consist of three components, human capital, relational capital, and structural capital. (Kujansivu, 2005). The view of many authors is that intellectual capital will be the harmonize attribute of companies in the future, and in order to expand, and to be prosperous, companies must be continually create knowledge (Nonaka, 1991; Durker, 1994; Bender & Fish, 2000; Bhatt, 2002). The opportunity for sharing knowledge between the customer and the organization has the potential to provide value and benefit to both parties. The knowledge can be applied to the work situation, thus increasing the collective intellectual capital of the organization.

The central source of profitability and competitive advantage lay in the intermixture of intellectual and tangible assets (Harrison & Sullivan, 2000). Organizations have to regard their intellectual property as strategic assists. A critical and necessitous element of strategy planning is to completely understand the extent and availability of an organization's resources, and in particular it's intellectual capital, thus creating an important connection between intellectual capital and strategy (Carnerio, 2000; Harrison & Sullivan, 2000). Also, using intellectual property as a tool for creating the future of the firm, as well as defining the technology future of their particular industry (Davis & Harrison, 2001).

Researchers and practitioners show that the final output of intellectual capital is innovation. Accessing and under standing intellectual capital, and the grade at which it can be converted into innovations, is critical (Preiss, 1999).

Darroch and McNaughton (2002) realized that, managing an organization's IC impacts on both incremental and radical innovation. The result of their research exemplify that, to positively impacts on innovation must be aware of information changes in the market place, working in partnership with international customers, using technology for knowledge dissemination, and being flexible and opportunistic.

So, organizations must invest in intellectual capital through expenditure on having an environment in which employees are given support and encouragement (Brand, 1998). It is vital to invest and elaborate an environment of knowledge sharing and knowledge creation that promotes ideas to flow, and innovations to emerge (Bhatt, 2002; Kanter, 1996; Priess, 1999).

3.2 Investment in Intellectual Capital Elements

Since the intellectual capital represents a competitive advantage is critical in business organizations modern because it is considered a mainstay in the prosperity of organizations and their evolution, (Carnerio, 2000; Harrison & Sullivan, 2000), it requires management organizations follow this kind of intangible resources in order to attract and depolarized to increase cognitive balance of skills and experience in order to be able to increase the organization of innovation and creativity, constantly.

Diez et al. (2010) found a positive relation between intellectual capital and value creation. This requires measuring the level of progress resulting from the investment in intellectual capital, when they do not measure intellectual capital is difficult to deal with, and therefore cannot be judged on the value and effectiveness of Investment (Lenner & Shook, 1998). Knowledge management is the organization responsible for organizing and note production of intellectual capital and searched and achieve mutual interaction between its components (Koening, 1999).

The investment in the intellectual capital of human resources working in the organization falls within the input generated by organizations of talent and cutting-edge technology and used by individuals efficiently in order to achieve the competitive advantage of the organization and that should be valuable and unique, making it difficult for competitors in the market to obtain.

The organization also invests in the establishment of an organizational culture that encourages cooperation and teamwork is one of the most important characteristics of creative contemporary organizations. That it requires organized to encourage employees to brainstorm and support for experimenting with new ideas and make it something familiar, before sentencing the extent of success or failure (Mafraji & Saleh, 2003).

Here are highlights the role of senior management in the organization to contribute to the promotion of workers

at all levels of management to be creative thinkers by themselves through the effective role of senior management in the promotion of creative activities and the development of knowledge, experiences and ideas. The successful administration be able to determine the value and importance of intellectual capital and social status (Brown, 1998).

For organizations management and knowledge management in particular, investment in intellectual capital elements to get to the lead and achieve competitive edge and close the doors in competitors through spending in these areas of investment. For the purposes of this study has been adoption elements of expenditure on intellectual capital that espoused by Mafragy and Salh (2003). And that have been identified in Table (1).

Table 1. The elements of intellectual capital and investment areas

No.	Element	Element components	Aspects of investing
1	Attracting IC	The organization's ability to search for advanced expertise and scarce skills and attracted to work in.	- Investment in research for advanced expertise. - Investment in attracting advanced technical skills. - Investment in information system design facilitates the task of attraction and polarization**.**
2	Creating IC	The ability of the organization to increase its total down through cognitive capacity enhancement and development of relations between individuals to cooperate in solving complex problems (Quinn et al., 1996)	- Investment in strengthening the capacity of individual employees. - Programs for the development of human relationships in the workplace to reduce the opposition between individual employees. - Create intellectual tissues and representing those tissues intellectual group of individuals cooperation on joint learning and spreading it among a group of professionals.
3	Developing IC	Collection methods used by the organization to revive the process of innovation and creativity among employees constantly (Kanter, 1999).	- Use the method of brainstorming ideas with the staff to stir creative ability they have, and to generate the largest number of ideas. - Create spirited and groups that represent active groups like the challenge and high achievements in the work. - Set up a system to gather the views of employees and their development proposals.
4	Retaining IC	The organization's ability to pay attention and cognitive energies shining stars of workers who are able to produce new ideas or developing old ideas serve Organization (Saleh, 2001).	- Ongoing training and development. - Physical and creative incentive. - Reduce the chances of organizational expatriation.
5	Customer Satisfaction	Attention span of organization views of customers and their suggestions taken into account when designing new products or upgrade existing ones.	- Customers requirements documentation system - Service delivery system for customers - Granting additional benefits to customers

Source: Adapted from Mafragy & Salh (2003). The impact of the Intellectual Capital Expenditure on the success of industrial companies, The second scientific conference at the university of applied sciences, Amman, Jordan.

3.3 Organizational Innovation

The innovation of the organizational features of contemporary organizations, and innovative organization is constantly striving to motivate employees to experimentation and give priority to the development of their performance and creativity. Strong leadership is capable of successful introduction of renewal through distinguished embrace and reduce resistance to change and the opposition in the organization (Hansen et al., 1999).

There are many definitions of innovation, has provided useful one through Kanter (1996), which is known simply as "the creation and exploitation of new ideas." And according to Drucker (1998) "Innovation is a work of genius".

According to the opinion of Rami (1994) innovation in two forms: the first, a radical innovation or Breakthrough penetration and is to reach a new product or a new process that is totally different from what preceded them, so as to achieve a significant strategic leap in the market. Here, significant progress happens unexpectedly different from what preceded and interrupted it, with a new creative cycle with the highest level of the previous session in terms of efficiency. The second type of innovation is gradual improvement, through to reach a new product in part through the many small improvements that have been made to the products and the current process, as some of these improvements may be substantial and accumulation bring creative radically.

Armbruster et al. (2008) found that several studies has been shown and proven the importance of organizational innovation for competitiveness which analyzed the impact of organizational innovations on business performance or output dimensions (Caroli & Van Reenen, 2001; Damanpour et al., 1989; Greenan, 2003; Piva & Vivarelli, 2002). Organizational innovation is the heart of the strengthening of organizational capabilities and henceforth the building of relative advantages. Therefore, two different results were found by these studies. Leadoff, organizational innovations perform as the prerequisites and facilitators of an efficient use of technical product and process innovations as their supernova depends on the degree to which the organizational structures and processes respond to the use of these new technologies. Moreover, organizational innovations present an immediate source of competitive advantage since they themselves have a significant impact on business performance or output dimensions with regard to productivity, lead times, quality and flexibility (e.g., Womack et al., 1990; Hammer & Champy, 1993; Goldman et al., 1995).

Hodge, Anthony and Gales (2003) assert that organizational innovation refers to weird choice for the present circumstances. It means create positive valuable change, the systematic change of organizations, the change of the relationship between inputs and outputs, the change of the course of techniques or transformations, the change of personnel' roles in organizations, organizational cultures' change, and the changes of the situations of all the perspectives within the organizations. In other words, change in polices or procedures to create value.

4. Related Studies

The study of Delgado-Verde (2011) aimed to test empirically the relationship between organizational knowledge assets and the innovation capability of the firm. The purpose of the study is to examine the phenomenal innovation from an internal point in view specifically from an intellectual capital view. The study was based on the innovation capability of a certain firm depends very closely on the intellectual and organizational knowledge assets that it possesses, as well as on its ability to deploy them. Has prepared a questionnaire for the collection of data from the study sample included 251 factories in Spain. The study concluded that organizational knowledge stocks on the firm play capabilities to innovate through its products constitutes.

The study of Nazari (2011) aim to investigate empirically the effects of region of residence on moderating the role of organizational culture and climate in supporting intellectual capital management systems. The study where conducting in an international setting by comparing Canada and the Middle East (Iran and Lebanon). The study sample included 163 respondents from Canada and 44 from the Middle East, the study concluded that the culture and climate play a vital role in intellectual capital management systems (human, structural, and relational). The study further explained that, for country when organizational climate improves, Middle Eastern respondents perceived an even greater improvement in intellectual capital management systems compared to their Canadian counterparts.

Some studies had built the model for the measurement of intellectual capital in a certain organization and one of those studies study of Kok (2007).This study aimed to build a model in which the management and measurement of intellectual capital in the institutions of higher education. The model tested in the Rand Afrikaans University, the study has discussed the contents of the intellectual capital where the skills and expertise of the university staff as a part of human capital and the role of innovation and intellectual property rights as a part of structural capital, the study also discussed the customer capital. The study framework could be used at institutions of higher education that wish to measure their intellectual capital.

The study of Rehman et al. (2011) this study aimed to test the intellectual capital of 12 Madaraba companies in Pakistan and its impact on financial returns.

The study examined the performance of three main components of value added intellectual coefficients (Human capital efficiency, Structural capital efficiency, and Capital employed efficiency) and its impact on corporate

performance by employing the predictive analysis. The study concluded that one of the important components for measuring intellectual capital is the human capital efficiency which has a significant relation with financial performance. Structural capital efficiency and capital employed efficiency are also worth full having a significant relation with performance.

The study of El-Bannany (2008), conducted on the major British Banks Group over the period 1999–2005. The purpose of the study was to investigate the determinants of intellectual capital performance in the UK Banks. The findings of this study were investment in information technology systems, bank efficiency, barriers to entry and efficiency of investment in intellectual capital variables, have a significant impact on intellectual capital. The coefficients on bank profitability and bank risk were statistically significant in this study.

Mafraji and Saleh (2003) discussed that identifying the impact of the intellectual capital expenditure (ICE) on the success of industrial companies. The study used five variables (expenditure on Creating IC, Attracting IC, Developing IC, Retaining IC, and Customer satisfaction) which has direct and indirect effects on the success industrial companies.

5. Methodology of the Study

The study used a descriptive analytical method, statistical descriptive style analysis technique has been used by the approach of comprehensive survey, sample included all companies Industry (JIPSLC) in Jordan, (74) companies covered, distributed (180) questionnaires, retrieved (139) questionnaires by (77%), ruled out (5) thereof due to incomplete data, it was adopted (134) questionnaires for analysis (74%). The questionnaires were distributed to the general managers and their deputies and assistants during June and July of 2012.

5.1 Analytical Procedures

To achieve the objectives of the study a statistical software packages for the Social Sciences (SPSS 22) was used to analysis the answer questions of the study.

5.2 The Reliability and Validity of the Tool

Reliability is a mechanism employed to check the internal consistency of test questions against every other test item when completed by different participants. In order to estimate reliability, 30 questionnaires were sent to employees. Overall Cronbach's alpha for the sample was 0.76 which indicate an excellent level of statistical internal consistency. Sequentially to increase the content validity of the research instrument, the questionnaire was "pilot-examined" by interviewing 8 managers and experts in the **JIPSLC** who agreed to fill in the questionnaire and also to comment on the scales employed. Then, their suggestions were collected and some reformations were made to improve validity of questionnaire.

5.3 The Unit of Analysis

The unit of analysis for this study was the administrator of the category senior management level: CEOs and/ or their representatives, Assistant Director-General in the Jordanian Industrial Public Shareholding Listed Companies (JIPSLC).

5.4 Research Design

Model was developed in order to study consistent with the objectives of the study and hypotheses Fig. 1.

The study model has been adopted on the following variables:

Independent variables: factors that represent investment in intellectual capital (Attracting IC, Creating IC, Developing IC, Retaining IC, Customer Satisfaction) were measured with (15) items. The dependent variable: organizational innovation was measured through ten items in the questionnaire. Study benefited in the design of the questionnaire of studies: Quinn, Anderson and Finkelsten (1996); Mafragy and Salh (2003); Armbruster, Bikfalvi, Kinkel and Lay (2008); Delgado, Castro and Lopez (2011).

To answer the questionnaire paragraphs, Likert scale was used, which ranged from Strongly Agree worth five degrees, and Strongly Disagree worth one degree.

6. Hypotheses Test

The first hypothesis:

Ho1: Managers of Jordanian Industrial Public Shareholding Listed Companies (JIPSLC) do not realize the importance of investing in elements of intellectual capital represented by (Attracting IC, Creating IC, Developing IC, Retaining IC, and Customer Satisfaction).

To test the hypothesis has been applied One-sample T-test to determine the differences in averages for each of

the elements of intellectual capital from the middle (3), the results are as shown in Table 2 as follows.

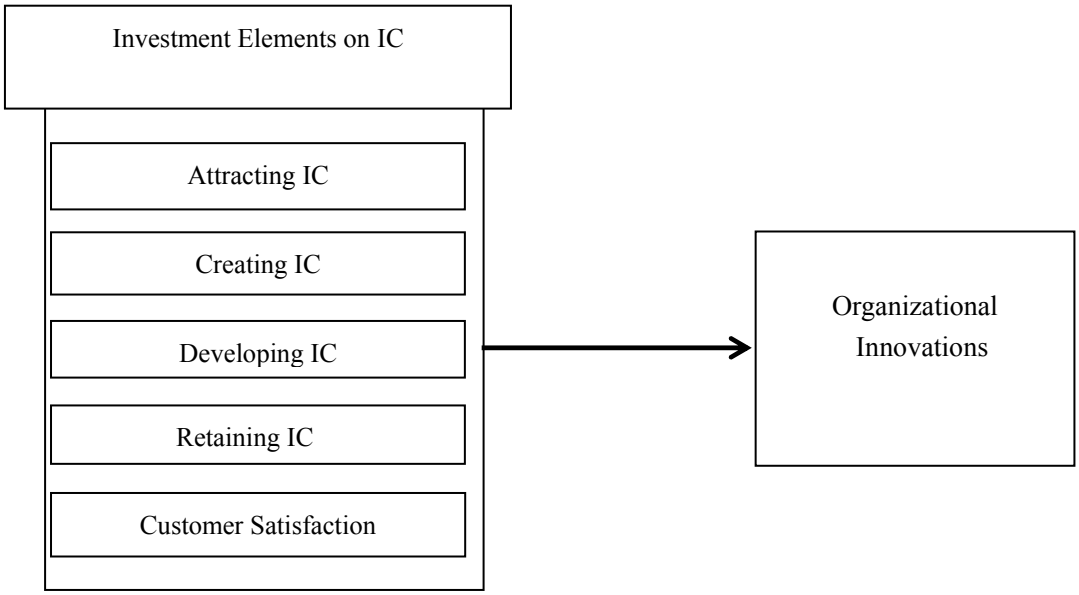

Figure 1. Research model

Table 2. Statistical differences of means through the test one-sample T-test

IC Elements	Mean	S.D.	M.D	T	Sig.
Attracting IC	3.691	1.09	0.691	6.677	0.000
Creating IC	3.679	1.13	0.679	6.322	0.000
Developing IC	3.590	1.08	0.590	5.766	0.000
Retaining IC	3.555	1.13	0.555	5.168	0.000
Customer Satisfaction	3.630	1.17	0.630	5.651	0.000

As shown in Table 2 the differences in means of intellectual capital elements (Attract IC, Creating IC, Developing IC, Retaining IC, Customer Satisfaction) are statistically significant. The values of (T) were greater than indexed (T) at level of significant (Sig= 0.000) of all the elements, and indicating that Managers of Jordanian Industrial Public Shareholding Listed Companies (JIPSLC) realize the importance of investing in elements of intellectual capital.

Also, as can be seen in Table 2 that means of the elements of investment in intellectual capital at (JIPSLC) humble, and did not exceed (3,691) for the element attracting intellectual capital, and the lowest mean was (3.555) for the retaining IC. It should be noted that this in turn is reflected in the level of organizational innovation in the companies surveyed, and thus did not exceed the mean of organizational innovation (3.52) in (JIPSLC).

This is an indication that senior management attitudes toward care of intellectual capital is not high, and thus the need to assume senior management in (JIPSLC) more attention to the intellectual capital that an intangible asset, which is no less important than the tangible assets.

The second hypothesis:

Ho2: There is no statistically significant effect for investment in intellectual capital elements on organizational innovation in Jordanian Industrial Public Shareholding Listed Companies (JIPSLC). And emerge from this hypothesis the following sub-hypotheses:

Table 3. Correlation coefficient

Hypothesis	R	R Square	F Calculated	Sig**
Attracting IC	0.734	0.539	126.18	0.000

Ho2a: No statistically significant effect of Investment in Attracting IC in the development of organizational innovation.

This targeted hypothesis test for the presence of the impact of investment in attracting intellectual capital in the development of organizational innovation, the following explanation to test the hypothesis:

As shown in Table 3, the value of (F) calculated equal to (126.18), as well as the value of correlation coefficient (0.734) and that evidence of the positive relationship between the two variables.

As that R Square has reached (0.539), and that means that the independent variable explains proportion (53.9%) of the changes in the dependent variable.

Table 4. Results test the effect of investment in attracting IC in organizational innovation

β Standard	Standard error	T Test	Sig.*	Result
0.687	0.061	11.233	0.000	Accepted

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

In addition, as shown in Table 4, the model simple regression for the dependent variable innovation organizational and independent variable attracting IC, significant in terms of statistical 0.05, the degree value of (β) amounted to (0.687), representing the total effect of a variable attracting IC in innovation organizational, which is significance in terms of value (T) calculated (11.233), which is significant at a level of statistical significance (0.05), and this leads to accept the hypothesis that provides for the existence of a statistically significant effect to attract IC in organizational innovation.

Ho2b: No statistically significant effect of Investment in Creating IC in the development of organizational innovation.

This targeted hypothesis test for the presence of the impact of investment in Creating IC in the development of organizational innovation, the following explanation to test the hypothesis:

Table 5. Correlation coefficient

Hypothesis	R	R Square	F Calculated	Sig**
Attracting IC	0. 847	0. 718	274.68	0.000

Table 6. Results test the effect of investment in creating IC in organizational innovation

β Standard	Standard error	T Test	Sig.*	Result
0. 764	0. 046	16.574	0.000	Accepted

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

As shown in Table 5, the impact of creating IC on organizational innovation significantly in terms of statistical 0.05, where the value of (F) calculated equal to (274.68), as well as the value of correlation coefficient (0.847) and that evidence of the positive relationship between the two variables.

As shown in Table 6, the degree value of (β) has reached (0.764), representing the total effect of the variable

creating IC in organizational innovation, which is significance as the calculated value of (T) was (16.574), which is statistically significant at the level of (0.05), and this leads to accept the hypothesis that provides for the existence of a statistically significant effect of creating IC in organizational innovation.

Ho2c: No statistically significant effect of Investment in Developing IC in the development of organizational innovation.

This targeted hypothesis test for the presence of the impact of investment in Developing IC in the development of organizational innovation, the following explanation to test the hypothesis:

Table 7. Correlation coefficient

Hypothesis	R	R Square	F Calculated	Sig**
Attracting IC	0. 756	0. 571	143.72	0.000

As shown in Table 7, the impact of developing IC on organizational innovation significantly in terms of statistical 0.05, where the value of (F) calculated equal to (143.72), as well as the value of correlation coefficient (0.756), and that evidence of the positive relationship between the two variables.

Table 8. Results test the effect of investment in developing IC in organizational innovation

β Standard	Standard error	T Test	Sig.*	Result
0. 714	0. 060	11.988	0.000	Accepted

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

As shown in Table 8, the degree value of (β) has reached (0.714), representing the total effect of the variable developing IC in organizational innovation, which is significance as the calculated value of (T) was (11.988), which is statistically significant at the level of (0.05), and this leads to accept the hypothesis that provides for the existence of a statistically significant effect of Developing IC in organizational innovation.

Ho2d: No statistically significant effect of investment in retaining IC in the development of organizational innovation.

This targeted hypothesis test for the presence of the impact of investment in Retaining IC in the development of organizational innovation, the following explanation to test the hypothesis:

Table 9. Correlation coefficient

Hypothesis	R	R Square	F Calculated	Sig**
Attracting IC	0. 865	0. 747	319.68	0.000

Table 10. Results test the effect of investment in retaining IC in organizational innovation

β Standard	Standard error	T Test	Sig.*	Result
0. 780	0. 044	17.880	0.000	Accepted

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

As shown in Table 9, the impact of retaining IC on organizational innovation significantly in terms of statistical 0.05, where the value of (F) calculated equal to (319.68), as well as the value of correlation coefficient (0.865), and that evidence of the positive relationship between the two variables.

As shown in Table 10, the degree value (β) has reached (0.780), representing the total effect of the variable Retaining IC in organizational innovation, which is significance as the calculated value of (T) was (17.880), which is statistically significant at the level at the level of (0.05), and this leads to accept the hypothesis that provides for the existence of a statistically significant effect of Retaining IC in organizational innovation.

H02e: No statistically significant effect of Investment in Customer Satisfaction in the development of organizational innovation.

This targeted hypothesis test for the presence of the impact of investment in Customer Satisfaction in the development of organizational innovation, the following explanation to test the hypothesis:

Table 11. Correlation coefficient

Hypothesis	R	R Square	F Calculated	Sig**
Attracting IC	0. 763	0. 582	150.239	0.000

As shown in Table 11, the impact of customer satisfaction on organizational innovation significantly in terms of statistical 0.05, where the value of (F) calculated equal to (150.239), as well as the value of correlation coefficient (0.763) and that evidence of the positive relationship between the two variables.

Table 12. Results test the effect of investment in customer satisfaction in organizational innovation

β Standard	Standard error	T Test	Sig.*	Result
0. 662	0. 054	12.257	0.000	Accepted

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

As shown in Table 12, the degree value (β) has reached (0.662), representing the total effect of the variable Customer Satisfaction in organizational innovation, which is significance as the calculated value of (T) was (12.257), which is statistically significant at the level at the level of (0.05), and this leads to accept the hypothesis that provides for the existence of a statistically significant effect of Customer Satisfaction in organizational innovation.

To know the degree of effect of the independent variables in the dependent variable, the study used Stepwise Multiple Linear Regression and the results appeared in Table 13 as follows:

Table 13. Results of testing the impact of investment in all elements of intellectual capital in the organizational innovation

Model	IC Elements	β	Sig**	R^2	S.E.	F Cal.	Sig**
1	Attracting IC	0.780	0.000	0.747	0.513	319.68	0.000
2	Attracting IC	0.468	0.000				
	Creating IC	0.387	0.000	0.812	0.445	230.39	0.000
3	Attracting IC	0.376	0.000				
	Creating IC	0.337	0.000	0.829	0.426	170.99	0.000
	Developing IC	0.173	0.001				

As shown in Table 13, the first model indicates that the process of investing in attracting intellectual capital, has interpreted the rate of 74.7% of the total variance in the development of organizational innovation at (JIPSLC), and the second model shows that the processes of attracting IC, and creating IC, explain 81.2% of the total

variance. Proportion of the total variance explanation made in the development of organizational innovation increased in the third model to 82.9% by adding developing IC process to the processes of attracting IC and creating IC. As well as the Coefficient β showed that the overall impact of the dimensions of intellectual capital in the three models that have emerged in the analysis is the effect of positive and has statistically significant.

In addition, the results of the analysis indicate the absence of a direct impact in terms of statistical significance, and that each of the retaining on intellectual capital, and customer satisfaction, in spite of Jordanian industrial companies attention to these processes. This would return to the failure to provide various training programs sufficient to sharpen organizational innovation, and the low level of material and moral incentives that encourage organizational innovation, and enhance the loyalty of employees of the company, and increase the chances of merger workers, thus creating a supportive environment for intellectual capital.

As for the dimension of customer satisfaction attributable to the lack of granting additional benefits to the company's customers and employees, which requires that these companies pay more attention to providing advanced information systems interested in and concerned with documenting the requirements of customers.

7. Conclusion and Discussion

The main contribution of the empirical findings of this research is precisely providing evidence that supports that intellectual capital is one of the main sources for organizational innovation.

This study found a positive relation between intellectual capital investment and organizational innovation. This study has confirmed the importance of investing in intellectual capital elements in Jordanian Industrial Public Shareholding Listed Companies (JIPSLC). Because it leads the organization to raise the level of organizational innovation.

This in turn improves the status of the organization's competitive position in the era of globalization, which is knowledge, information and skills essential source of competitive advantage (Kok, 2007; El-Bannany, 2008; Nazari et al., 2011).

The results emerged from this study that there is interest in investing intellectual capital elements in (JIPSLC), but the level of this interest from the administration is not high. Making an impact on the overall level of organizational creativity expected of employees in those companies where the level of innovation appeared modestly, which has reached the arithmetic mean of the organizational creativity in these companies (3.52), Which means there is a modest level of organizational creativity in the cases of those companies.

Lack of access organizational innovation to high levels may be due to organizational frustration. Jordan companies as a part of Middle Eastern companies restrict the effective transfer and management of IC through bureaucratic structures, power, and inadequate concern for IC (Nazari et al., 2011). Thus, it seems necessary the (JIPSLC) encourages human resources with proactive attitude to reach organizational innovation aim. Organizational innovation has impact on business performance or output dimensions with regard to productivity, lead times, quality and flexibility (Womack et al., 1990; Hammer & Champy, 1993; Goldman et al., 1995).

The study showed based on the result of stepwise multiple linear regression the presence of the effect of the investment in attracting IC and creating IC, as well as developing IC in organizational innovation, While it did not show a statistically significant direct impact in retaining IC and customer satisfaction. Therefore highlights the importance for the senior management of these companies more attention in investment elements of intellectual capital so that moving the senior management of these companies to raise the level of interest and desires of workers at work and outstanding adopt them, and provide a variety of training programs to refinement innovation. As well as providing material and moral incentives that encourage organizational innovation, and enhance the loyalty of employees in the organization and raise the chances of merger workers, as well as interesting and communicate more with customers, in other words, the importance and the need to create a supportive environment for intellectual capital (El-Bannany, 2008; Nazari, 2011; Rehman, 2011).

It is clear that, today's globalized setting; a successful company will have to manage its IC to innovate quickly and efficiently. In the area relating to retaining IC the (JIPSLC) have to give greatest concern for investment in information technology and investment in R&D that influence the IC (Diez, 2010). As well, Nazari (2011) suggested that companies need to emphasize the development of an open climate to permit tacit knowledge sharing and informally to encourage organizational innovation through knowledge sharing, as well as the need to promote frequent inter action among employees to enhance the innovation of team based knowledge and the sharing of tacit knowledge.

Kok (2007) argued that effective management of the organization's IC can indicate problem areas and determine gaps that need to be addressed. The processes of attracting intellectual capital must be followed by the creating

and developing of intellectual capital. As well as the constant pursuit to retaining the intellectual capital as one of the company's assets and non-compromising it, and the adoption of suggestions for customers and their opinions, and taken into account in the design of products and regard it as a strategic approach to the company's success and survival (Mafragy & Salh, 2003). The easier way to highlight the innovative abilities, and attention to employees ideas and suggestions, as well as encourage the development of these proposals and to maintain the continuity of flow, and the introduction of advanced technology, would increase the number of customers in (JIPSLC) and thus improve its competitive position.

In spite of contributions of this study, it is necessary to point out its main limitation, which advice taking this finding with care. This implies that, this finding may not be generalized in industrial or geographically without caution.

8. Future Research

Further research is needed in order to analyze other aspects of organizational innovations, and in a wider frame work and in specific industrial sectors. Also, further research is needed to analyze other aspects of intellectual capital investment and their influence on service innovations. That is consistent with Delgado-Verde, Castro and Lopez (2011) suggested, this systemic way may be very useful for both academics and practitioners interested in using an "intellectual capital—based view of innovation"

Finally, it is perhaps the case that we lack a sound of theoretical and empirical frame work on the role of intellectual capital in developing countries. Therefore, there is great social and economical value to obtain a better understanding of intellectual capital and its impact on organization performance.

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