

The Impact of Integration Between Intellectual Capital and Social Capital in Achieving the Competitive Advantage for the Public Industrial Jordanian Joint Stock Companies

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Abstract

The developed world today Witnesses dynamic transformations and many rapid changes in the structure of companies and organizations that are formed during the enormous economic growth and the technological acceleration. These changes and transformations did not occur as a result of technological developments and new technologies, but due to the increase attention towards two important resources which are: the intellectual capital and the social capital. Recent studies in those areas have confirmed that any corporation or pioneer company, in order to ensure its growth and survival and not to collapse or decay, should take advantage of these resources to gain access and be competitive, not only at the local level, but worldwide also. Based on the foregoing, this research worked on studying the fact of integration between the intellectual capital and the social capital in achieving the competitive advantage for Jordanian industrial companies from the standpoint of corporate managers. The most important results of the research were the consideration of both, the intellectual and social capital, as the most important axis of companies survival, and without those capitals even simple companies cannot survive, for this, they must maintain those capitals with quality, this can be done by providing a good work environment and studying the work barriers and finding the best solutions for them, through the study of the properties of each of the social capital and the intellectual capital to reach the global competitiveness. the most important recommendations of this research is to urge the industrial companies to pay the necessary attention to the intellectual and social capitals, through social polarization and development in order to achieve the competitive advantage as for they are considered the real capital of the company.

Keywords: Intellectual Capital, Social Capital, Competitive Advantage

Introduction

It became difficult nowadays to ignore the great rapid changes in corporations' work environment and their effect on changing the organizational structure of corporations, in line with the economic growth and the accelerated spread of modern technologies usage in corporates' activities and operations. This explains the increased interest of corporations in adapting technology, and developing their workers to make them qualified in dealing with the emerging developments and building relations with clients, guaranteeing their loyalty. Hence, guaranteeing the corporation survival and permanence under the changes of the competition model which depends on innovation and creativity more than anything else.

From here, the concept of intellectual capital has been emerged to create the integration for modern corporations' managements that seek for development and coping with the changes of the modern corporation's work model. This to be reached through focusing on the qualified human resources, intangible intellectual assets, focusing on innovation and creativity, moreover, building strong relationships with clients by fulfilling their desires and needs. At the same time, modern organizations didn't neglect the role of society in evaluating the organization operations and their participation in the social development and bearing the social responsibility as a form of emphasizing social relation between the organization and the society.

Many intellectuals consider the intellectual capital and the social capital as the real representatives of companies' ability to compete and succeed. For this resource is considered one of the basic concepts in human resources management. Besides, it's being a psychological, titular and moral resource that cares about the social organization advantages, fulfilling the required familiarity, cooperation and effective coordination of the resources requested to be invested in the best possible way, and building trust among the company's members. Thus, this research will try to demonstrate the importance of integration between the intellectual capital and the social capital in achieving the competitive advantage for the public Jordanian joint stock companies.

Research objectives

The objectives of this research can be defined as follows:

1. Highlighting the concept of intellectual capital and social capital in public industrial Jordanian joint stock companies.
2. Studying the possible impact between the intellectual capital and achieving the competitive advantage in the

public industrial Jordanian joint stock companies.

3. Demonstrating the impact of integration between the intellectual capital and social capital in achieving the competitive advantage in the public industrial Jordanian joint stock companies.

Research importance

The research importance comes from connecting between the intellectual capital and the social capital inside industrial companies. It shows the importance of the aforementioned two concepts as being the most important parameters of coherence between the organization strategic planning and the need of possessing intangible intellectual assets based on the existence of the qualified human element, a suitable environment for innovation and creativity, and the company's ability to build strong ties with its current and potential clients. On the other hand, the interest in social capital is considered as the identical reflection of companies' concern about social responsibility which becomes the major strategic goal of modern organizations. The importance of this work is also shown by the attention given to the Jordanian industrial companies which are considered as the pillars of Jordanian economy. Moreover, this research links between the companies' competitive ability; which is one of the management success parameters for production and offering products in a competitive way, and the intellectual assets that the company has and its contributions toward the social responsibility.

Research problem

The research problem can be presented through the following inquiries:

1. What is the level of interest in the components of intellectual capital in the public industrial Jordanian joint stock companies?
2. What is the level of interest in the social capital in the public industrial Jordanian joint stock companies?
3. Is there an impact of the components of intellectual capital in achieving the competitive advantage in the public industrial Jordanian joint stock companies?
4. Is there an impact of the social capital in achieving the competitive advantage in the public industrial Jordanian joint stock companies?
5. Is there an Impact of integration between intellectual capital and social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies?

Research hypotheses

Based on the research problem, the research hypotheses manifest in the following:

The first main hypothesis H01: There is no effect of statistical significance for the components of intellectual capital (human capital, structural capital, relational capital) in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The sub-branches of this hypothesis are:

The first sub-hypothesis H01-1: There is no effect of statistical significance for the human capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The second sub-hypothesis H01-2: There is no effect of statistical significance for the structural capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The third sub-hypothesis H01-3: There is no effect of statistical significance for the relational capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The second main hypothesis H02: There is no effect of statistical significance for the social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The third main hypothesis H03: There is no effect of the integration between the intellectual capital components and the social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

Research methodology

This research is based on the descriptive analytical method, where researchers collected the needed data from the following sources:

1. **Primary sources:** includes a questionnaire that has been prepared and distributed among a group of industrial joint stock companies' presidents and vice presidents who have a long experience in management. Then, all data has been collected and analyzed using the Statistical Package for the Social Sciences (SPSS) to test the veracity of the research hypotheses.
2. **Secondary sources:** Where books, academic theses, scientific researches, reports, newspapers and journals' articles have been referred to in order to build the research theoretical framework and to realize its goals.

Research population and sample

The research population includes all senior and middle category managers in the public industrial Jordanian joint stock companies registered in Amman stock market, (63) companies till 2016, the study sample was made of 54 industrial companies, randomly chosen.

Target group

The target group includes the board of directors, CEOs and the directors of main departments in the industrial companies. (270) questionnaires have been distributed. (5) Questionnaires in each company. (253) questionnaires have been returned. Among which (12) questionnaires were not subject to analysis due to being incomplete. Hence, the number of returned questionnaires that are valid for analysis are (241) questionnaires. This equals (89.3%) of the distributed questionnaires.

Statistical analysis tools

The Statistical Package for the Social Science (SPSS) has been used to analyze data and to test the hypotheses. The following statistical tools have been used:

1. Arithmetic average, standard deviations, repetitions and percentages.
2. Cronbach's Alpha coefficient to test the consistency of the study tool.
3. Pearson correlation coefficient and Variance Inflation Factor (VIF) to measure the strength of the linear relationship between the independent variables.
4. Simple & Multiple Linear Regression analysis to test the hypotheses of impact.
5. Hierarchical Regression analysis to measure the role of integration.

Previous studies

The study of (Muhammad & Muhammad, 2017) entitled analyzing the added value of intellectual assets using VAIC coefficient over a sample of industrial sector companies.

The sustainable competitive advantage of organizations is considered one of the requirements of value creation. That is based on possessing the unique resources that accomplish the highest flows to invest the intellectual capital, if they received the enough care, measure and were used in the correct way. For this, new technologies have been emerged, enabling the organizations to measure their intellectual and material assets and evaluate their performance accordingly. This research focuses on measuring the added value of the intellectual assets using the Value Added Intellectual Coefficient (VAIC). Besides, assuming a set of hypotheses about the differences between the companies of the research sample that have been chosen from the industrial sector companies which exchange their stocks in Iraq stock exchange market and offer different products; medicines, clothes, food products, engineering and textiles. Several results were reached that can be summarized in the reduction of the human capital coefficient value and the invested financial unit therein by those companies, whereas the structural financial capital has remarkably increased compared to the value of spending and the added value reached through it.

The study of (Abd Aldaem, 2016) entitled "The role of organizational symmetry in the development of social capital".

This research aims to identify analyzing the role of organizational symmetry in the development of social capital in the health department of Al-Karkh. To achieve the research goals, a developed questionnaire has been used to collect data and has been distributed among the research sample unit. A unit of (50) members has been chosen, the statistical pack has been used to make the statistical analysis of this research using the tools of simple regression analysis, standard deviations and Pearson correlation coefficient. The research reached a collection of conclusions among which; there is no correlation between the symmetry dimensions and the social capital dimensions. According to the research results, the issue of Organizational symmetry is not being cared about well in the health ministry/ Baghdad, Al-Karkh health department, which is the core of the study, due to the broadness of the social capital and its resources. Moreover, the research recommendations highlighted how important it is for the organizations managements to care about spreading the knowledge of organizational symmetry among their members to elevate their organizational level and to have a positive impact to reserve the social capital.

The study of (Hamad, 2015) entitled: "The Social Capital, development approach"

This research tries to approach the concept of social capital, its importance, dimensions and its characteristics, focusing on its role in the economic, social and political development process. This role is revealed through the ability to show the effectiveness of development successes. On the economic level of development, the social capital takes a part in increasing and growing the production. On the social level of development, it participates in solving several social issues through collaboration and exchanging information and experiences. On the political level of development, it is considered as the association and the relation that connects the members with the civil community, especially after reliability. The social capital has its importance

as a tool through which a group's members collaborate together transparently on one hand, and with the society as a whole on the other hand.

The study of (Al-Kwaz, 2013) entitled "The problem of adapting the principles and concepts of accounting for measurements and disclosing the intellectual capital with proposed solutions, applied study".

The research aims to study the problem that blocks the process of adapting the principles and concepts of accounting for measurements and disclosing the assets of intellectual capital in a mechanism that suits this type of assets. To achieve the research goal, a main hypothesis have been assumed "the problem that blocks the process of adapting the principles and concepts of accounting, concerning choosing the right mechanism for measurement and disclosing the intellectual capital, doesn't provide the suitable objective information that helps the economic units to confront the challenges that the modern businesses environment witnesses. The most common among those challenges are strong competition and achieving the main success factors represented in creating the added value and supporting the competitive advantages and raising its market value". In the end, the research proposed a number of recommendations in the light of the results that were reached.

The study of (Al-Izawi, 2013) entitled "The Impact of Intellectual Capital Dimensions on the Creative Behavior of Employees, Survey Study in the Directorate of Mosul Municipality"

The study showed that today's organizations cannot work away from the intellectual factor which is considered one of the most important resources that organizations have to reach by it the top of competitive advantage. In order for an organization to reach its goals in development and survival, it should improve and develop its human and intellectual resources to be creative in its offered services. Therefore, this study focuses on testing the correlation of the intellectual capital dimensions and its impact on the workers innovative behavior to improve the quality of the employees' life, as for their life has barriers that hold providing this service which depends to a great level on the human element and its efficiency and creativity in achieving those services.

The results of this research proved the correctness of its hypotheses; there is a correlation between its variables. It also presents some important recommendations to the organization on which the research was built.

The study of (Levy, Felicia, 2009) entitled "A simulated Approach to Valuing Knowledge Capital".

This study emerged from the fact that: valuing the intellectual capital is difficult to be measured. Reaching this fact depends on that intangible asset cannot be valued unless after being sold.

Based on the aforementioned, it is assured that all organizations differ in valuing the intellectual capital. From the above mentioned facts, this study aimed to develop a simulation model that works on gathering information related to the intellectual capital assets. To build this model, the pricing choice was used and considered as a financial model that can measure the intellectual capital built on the pricing choice which enables buyers to learn the buying processes that are totally based on the intellectual capital which include the human, structural and relational resources.

The Study of (Shao – Chi et al., 2008) entitled "The Effect of Knowledge Capital on the Value Creation of International Strategic Alliances".

This study aims to demonstrate the effect of intellectual capital on the value creation of international strategic alliances. A field study was made over a number of American companies. The study resulted in; companies that have high level of intellectual capital gain more gains.

It also showed that one of the dynamic effects of the intellectual capital is that the lower the environmental changes are the weaker the need for tangible changes or new information was. The opposite is true, if the environmental changes were big or fast. Companies' performance may differ depending on their responsive level toward the environmental changes, through understanding the environmental effects in the right time, which makes them more capable of using the external information. The study concluded the importance of educating and deepening workers experience individually, In order to participate in the different alliances with time passing in the way that helps to build an intellectual base that can replace other experiences.

Theoretical Framework

The Intellectual Capital:

The rapid technological development caused radical changes in the international economic growth rates. Due to the great developments in communications and computers, knowledge gained an increasing great importance, to the level that equals or exceeds the monetary capital and the other materialistic elements. It also became an important element to achieve the organization's competitive advantage. The intellectual capital also plays a strategic role in an organization, represented in increasing its value. This role requires an effective management for this unique element (the intellectual capital). (Edvinsson and Malone, 1998:21) represent a great metaphorical illustrative example about the concept and importance of intellectual capital. This example is to imagine the organization as a living being, like a tree. The organization's plans, seasonal and annual reports, and documents can be seen as the tree's trunk, branches and leaves. The wise investor looks at the tree ability to provide him with ripe fruit. Judging the tree capability and effectiveness based on what is shown above the ground level, represented in the tree trunk, branches and leaves, is an incorrect judgment and is an essential mistake. As there

is an important part of this tree hidden under the ground (the tree's roots). We cannot judge the health and vividness of this tree in the future without checking its roots and the surrounding circumstances. The roots might be infected or rotten, this will affect its productivity in the future even if it looks healthy at the moment. The intellectual capital is like the roots of this tree. To guarantee the organization's future performance it is important to focus on the reality and the future of the organization's intellectual capital with its different elements. As for it is an essential parameter for valuing the current and future organization.

Judging the organization's intellectual capital and understanding its essential resources need to focus basically on the organization's revenues power and its current and future performance.

For this, the intellectual capital is considered as "a transformation for knowledge into something of innovative value". (Al-Izzawi, 2013) sees that the intellectual capital as the great talents and abilities that the organization's workers have, which can be used as an effective "competitive" weapon in the creative development process that depends on innovation, which in its role is considered as the organization's essential tool for survival and continuity in the rapid changeable work environment. On the other hand, some see the intellectual capital as the real priceless intangible fortune. Because it is a mental potential ability that workers of the organization's human capital have. It is also considered as the most powerful competitive weapon as for all the knowledge and creativity emerge from it, by which the organization can face all the changes that occur in a complicated environment. Yusuf defined it as the mental ability and the level of knowledge and information that are possessed by a specific group of the organization's working power which has high mental and intellectual talents and experiences for analysis, and generates ideas to achieve creativity and innovation to create value and present its special products, moreover; achieving the competitive excellence in the market.

After showing the previous definitions, researchers see that the intellectual capital is the creative abilities and talents that the organization's workers have which can be as the companies' weapon used to reach the competitive Entrepreneurship not only locally but globally as well.

The difference between the materialistic and intellectual capitals

(Yusuf, 2005) explained that there are different titles for the intellectual capital that have been used in literature recently, like the intellectual capital and the intangible capital...etc. All these titles are equivalents to the materialistic capital. This means that the intellectual assets set against the materialistic assets. We can differentiate between the two through the following table:

A comparison between the materialistic capital and the intellectual capital

Description	The materialistic capital	The intellectual capital
The essential characteristic	Tangible	unmaterialistic - ethereal - intangible
Location	Inside the enterprise internal environment	Inside the enterprise workers' minds
Typical representation	Machines, equipment, buildings	Members of experiences and knowledge
Value	Reduced by depreciation	Increased by innovation
Fortune creation style	Materialistic use	Through concentration, attention and vast imagination
Used for	Physical work	Intellectual work
Operational reality	Stops when problems occur	sparks when problems occur
Time	It has a production cycle with a decline in energy	It doesn't have a specific life time, with an increased creativity

The question now is, what are the components of this valuable resource for companies and how the points of view differ in its structure?

The components of the intellectual capital

The accounting and managerial points of view differs according to the types of the intellectual capital components. This relies on their educational qualifications be it about accounting or management. (stewart, 1997, P201) pointed that the intellectual capital consists of: the workers who present knowledge, innovation and solutions for the clients' problems which in its role make the company get more gains. The second component is the work system which means the organizational structure and all the rules and principles that the company depends on for its internal behaviour toward all the workers or its behaviour with the clients in the external environment that surrounds the company. The final component is the clients which are considered the important source of information and knowledge, which is used in developing the company's productivity.

Whereas (Bernadette, 1999) sees that the intellectual capital has three connected components, they are:

The first component: the human capital; which is always represented by the talents and the knowledge that

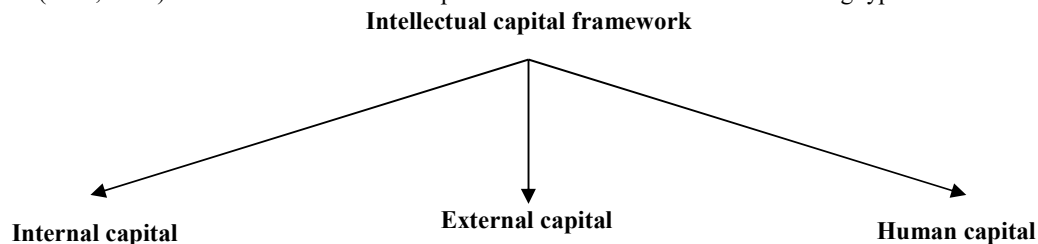
the company's workers have. This component is considered as the most problematic one regarding the measurement process for those specialised in accounting as for it doesn't fit the current and past cost models.

The second component: relational capital; includes what the company gains in terms of value, that comes from the services quality presented by those who make the preparations or the customers and their loyalty. This capital is complete in any part of the company's external environment and participates in creating its added value.

The third and last component: structural capital; represented in a set of subsystems that may represent a different form of the intellectual capital, like the industrial and operational processes in addition to all the intellectual properties that it processes.

From the aforementioned we realize that the human capital is part of the intellectual capital and doesn't mean the intellectual capital as a whole, as for some researchers (Mcgreger, tweed and pech) see the intellectual capital and the human capital as the same. But, the human capital is represented through the members who have talents and experiences that play a role in building the company's fortune. Some even considered it as an intangible element always expressed through the knowledge that the company's workers have and their creative talents which might exceed in their value the actual materialistic values of the company (Mcgreger et al., 2004). Whereas the intellectual capital is considered as the intellectual and knowledge assets that generate fortune, it is represented through the employees' talents, experiences and creativity which are the source of innovation, in addition to the company's infrastructure (buildings and devices), its information systems, the company's culture and management and its relation with clients (Edvinsson, 2002).

(Xera, 2001) sees that the intellectual capital framework is made of the following types:



The intellectual capital framework according to (Xera,2001)

1) The internal capital includes the following:

(patent of invention – copyright – brands – carrying assets – management philosophy – the organization's culture – operational processes – information systems – internet system – financial relations – technological operations).

2) The external capital includes the following:

(Compensations – market share – client satisfaction – companies' names – distribution channels – licensing – preference contracts – franchising deals – quality standards).

3) The human capital includes the following:

(knowledge – education – qualifications – employees' membership in social committees - career development – initiative, innovation and the ability to face changes – trainings – equitability in traditions, experience and religion – possession and subsidize issues – cultural activity – unity – the number of workers – gratefulness to workers – offers for employees – a guidance plan for workers – workers' earnings plan – workers' benefit – workers' share – workers' share in plans and choices – workers' experience average – educational level – the added value from each element – the added value for each worker).

After we defined the concept of intellectual capital, its importance and its components, we will now define the other resource that has the same importance as the first resource, it is the social capital.

Social Capital

(Fukuyama, 2000,p3) sees that the social capital can be simply defined as the informal set of particular values or parameters, concurrent among members who are considered the port of cooperation, whereas Loury sees it as the social relationships that occur naturally among members, and promote or help to acquire the valuable talents and characteristics in the market. It is the immaterial asset that preserves cooperation in the society. The international bank (Mialan, 2006) sees that the social capital is the process of establishing networks and norms that stabilize the interactive relations in the society and their quality, also establishing a group of establishments that gets attracted to preserve these networks and norms.

On the other hand, we found that (Hafiz and others, 2012, P186) referred to the social capital as being the group of members who reached a level beyond the materialistic assets, or those who go beyond their own ego and depend on morals, ethics, honor and virtue to realize facts, Moreover; building partnerships that support the establishment of social structures to reach the highest levels of cooperation and excellent performance on the personal level, group level and the entire social level.

Researchers see the social capital: as a competitive advantage connected with the pioneer social organizations. It is polarized by the company's internal networks, norms and the social trust which facilitate the process of coordination and cooperation in order to achieve the mutual benefit to be the pioneer organization on the local and global level.

Social capital characteristics

Include the following:

1. Long term assets, through which other resources can be invested.
2. Can be used for different purposes.
3. Can be a substitute or a complementary for other capital types.
4. Needs continuous development to keep active without extinction.
5. Some of the social capital assets are public property; not a private property for those who benefit from them. Like the clear air and clean streets.
6. The social capital doesn't lie in members rather than in the relations with others. No one has it as a private property.

Social capital dimensions

The social capital dimensions have pioneer characteristics which prove that the social capital has three basic dimensions, they are:

First: Structural dimension

This dimension is made of network structures and the impersonal objective (official) structure of the relationship between the members and groups. Besides, it also includes issues about what can be reached and how, and what are the possible work opportunities, forming networks of density and quality inside the organization or outside, to enable the responsible personalities to reach coherence in the future and with the unexpected environmental changes. In other words, it is the dimension that covers the process of forming correlations among members that lead to a relative asymmetry in desires and knowledge through participation in the relational network, who are in the first place able to create and spread knowledge. The features of this dimension:

1. The strong relations among members are characterized by the continuous emotional intensity, intimacy and the high level of interactivity.
2. Social relationships have a strong base through the intensity of interaction, due to using qualified effective communication channels.

Second: The Cognitive Dimension

This dimension is formed through the community's cultural participation and openness toward the generated and preserved significances, also the mutual narratives, the developed language and symbols, additionally; the general coherence between the dominant leadership and management which in its role is considered as a response to those cultural and geographical factors which form the community's cognitive dimension. When this dimension exists in high quality, the social capital also exists in high quality, as for a group member expects from others to have the same level of realization that provide the possibility of sharing, cooperation and exchanging experiences. The result might be totally the opposite if the group doesn't have the same level of realization with a low level of agreement, having the feeling of injustice followed by mockery sometimes, being doubtful and uncertain, and being depressed or even aggressive. All these are the attributes of disassembled communities.

Third: The Relational Dimension

It is made of the special (informal) relations, related to the group members themselves. It is considered as the source of social capital. It cannot be defined precisely through the cultural and historical assets, rather than through the mutual respect, friendship, trust, mutual relations, norms and the participation in commitments and expectations in a way that differs from the cognitive dimension which depends on culture.

After we define the intellectual capital and the social capital, we will clarify now the impact of those two resources on achieving the companies' competitive advantage.

The social and intellectual capitals, the competitive advantage and its pioneer impact

Many economists, intellectuals and international economic entities differ in defining an accurate and precise definition for competitiveness. The American Council for Competitive Policy defines it as: "the government ability to produce products and services that compete in the international market and at the same time guarantee a good life style on the long term" (Tariq, 2002). The European Council Chamber in Barcelona defines it as: "The ability of the continuous enhancement of people's life style, providing a high level of employment and social cohesion. It also covers a wide range and related to the economic policy". Whereas OCDE defines it as "it is the range in which the government produces competitive products and services in the international market according to the free market conditions, and at the same time, it increases its members' income on the long term"

(OCDE, 2004, p5). (Macmillan and Tampo, 2000, 88) confirm that companies seek notability in their business environment through processing the competitive advantage and maintaining it. The competitive advantage is defined as the tool that enables the company to win in the competition with others. (Mohsen and Al-Najjar, 2004, 52) explained that the competitive advantage aims to build a system with a unique or distinguished attribute that enables it to beat its competitors through the customer value in an efficient permanent way that can be maintained continuously and be presented in a way that exceeds the competitors. (Sulaiman, 2004, 74) sees that the competitive advantage can be achieved when the company is able to accomplish its activities in a lower cost and better efficiency than its competitors, through the best use of its resources or through using its creativity to accomplish its activities in a way that guarantees a greater value to the customer than its competitors. (Mustafa, 2006, 416) confirms that the competitive advantage is represented through the company's distinction with a unique position that enables it to present a distinguished product in a successful and more profitable way. From this, researchers concluded that the competitive advantage is considered as a pioneer tool that companies must have to reach the international entrepreneurship. This cannot be reached without having the social and intellectual capitals; also, companies should depend on integrated pioneer dimensions for the intellectual and social capitals. These dimensions are as follows (Al-Taweel and Ismael, 2010, P14):

- **Cost dimension:** each company should focus on the cost dimension to make its production and marketing costs lower than its competitors.
- **Quality dimension:** A company should obtain the expected value that copes with its mission. This requires the company to investigate its customers' desires about quality and try to achieve it.
- **Flexibility dimension:** the dimension of flexibility is considered the base of achieving the company's competitive advantage through the quick adaptation with the changes that might hit the products core in a way that fulfills the customers' needs.
- **Delivery dimension:** the dimension of delivery is considered as the main base of competitiveness among companies; through focusing on reducing the production time and the speed in designing new products and deliver them to customers in the shortest time possible.

The practical framework

Demographic variables description

Table (1) Target group Specifications regarding the demographic variables

Variable	Category	Repetition	%
Qualification	Diploma	21	8.7
	Bachelor	163	67.6
	Master	52	21.6
	PhD	5	2.1
Major	Accounting	72	29.9
	Business management	89	36.9
	Economy	51	21.2
	Finances	19	7.9
	Others	10	4.1
Experience	Less than 5 years	14	5.8
	5 – 10 years	71	29.5
	11 – 15 years	93	38.6
	16 – 20 years	51	21.2
	20 years and more	12	5.0
Total		241	100

From the table we see that the highest rate of responsive people were those of bachelor degree (67.6%), this shows that the Jordanian industrial companies' managers have a sufficient knowledge about the merits of the matter which proves the responses honesty. Moreover, the highest rate of those who responded were of business management major (36.9%), this is another indication that those responsive ones have a theoretical and practical knowledge about the intellectual and social capitals. This has been proven by the rate of experience, where the category of (11 – 15) scored the first place with a percentage of (38.6%).

Testing the analysis tool stability

Cronbach's alpha coefficient has been calculated and the results were as the following:

Table (2) Cronbach's alpha coefficient values

No.	Domain	Clauses	Cronbach's alpha coefficient value
1	Social capital	12	0.808
2	Human capital	6	0.772
3	Structural capital	6	0.712
4	Relational capital	6	0.811
5	Intellectual capital	18	0.827
6	Competitive advantage	11	0.865
Total		41	0.899

From table (2) we see that Cronbach's alpha coefficient values for the research tool's clauses fluctuate between (0.712 – 0.865). The coefficient value for all clauses was (0.899). With this, all values were more than (0.60) which proves the coherence among all the research clauses and the reliability of the research tool to carry out the statistical analysis.

Analyzing the study tool questions

This part of the research presents a description of the research variables and the questionnaire clauses. The clauses' arithmetic average and standard deviations have been calculated, in order to judge the level of agreement and determine the relative importance of each clause. The results were as the following:

First: Social Capital

Table (3) the arithmetic average, standard deviations and relative importance of the social capital clauses

No.	Clause	arithmetic average	Standard deviation	Relative weight	Relative importance
1	The company carries out several procedures and ways to apply the social collaboration	4.17	0.86	83.32	High
2	The company encourages the workers to respect the dominant social norms and customs	3.92	0.94	78.34	High
3	The company's workers participate in social events held in the local community	4.13	0.79	82.66	High
4	The company takes part in its workers' family events and occasions	3.61	0.77	72.20	Medium
5	The company provide charity funds to help families in need	3.58	0.75	71.62	Medium
6	The company participates in limiting unemployment through training the new gradutors and unemployed people, and habilitate them for the market	3.60	0.78	72.03	Medium
7	The company supports the local sport and intellectual clubs and charitable organizations	3.62	0.80	72.45	Medium
8	Coworkers are open to each other, they advise and help one another	3.96	0.95	79.17	High
9	Fulfilling the coworkers needs is one of the workers priorities	4.06	0.71	81.16	High
10	There is a mutual trust among the management, workers and team works which increases the effectiveness of workers and management decisions	3.79	0.82	75.77	High
11	The company encourages the workers to communicate in order to reach a mutual realization	4.05	0.73	81.08	High
12	The workers support and help the company's management away from a material motive	4.01	0.88	80.17	High
Social Capital		3.87	0.46	77.50	High

From table (3) we see that the social capital was of high relative importance. The arithmetic average was (3.87), the standard deviation (0.46). The arithmetic averages fluctuated between (3.58 – 4.17). The clause of (The company carries out several procedures and ways to apply the social collaboration) had a value of (4.17) with a high relative importance. This indicates that the industrial companies have increased their care about the social collaboration and the ways to achieve it, which in its role participates in building the company's social capital. Whereas the clause of (The company provides charity funds to help families in need) had a value of (3.58) with a medium relative importance. This indicates that the industrial companies are carrying out actual and tangible procedures prove that the company is fulfilling its responsibility toward the society. The medium relative importance of this clause is due to the financial difficulties that the companies face during the economic

recession.

Second: The Intellectual Capital it includes

1- The Human Capital

Table (4) the arithmetic average, standard deviations and relative importance of the human capital clauses

No.	Clause	arithmetic average	Standard deviation	Relative weight	Relative importance
13	The company tries to attract people of high qualifications, experience and talents	3.90	0.86	78.01	High
14	The company has a suitable work environment that let the workers interact within	3.65	0.85	72.95	Medium
15	Keeping people of qualifications and talents is one of the company's strategies	4.07	0.79	81.49	High
16	Workers exchange information and knowledge inside the company	3.87	0.81	77.43	High
17	There is a specific board specialized in planning training programs that aim to generate the workers talents	3.67	0.79	73.36	High
18	The company considers its workers opinions and ideas to develop its work mechanism	3.63	0.79	72.70	Medium
Human Capital		3.80	0.50	75.99	High

From table (4) we see that the human capital has a high relative importance, with an arithmetic average of (3.80) and a standard deviation of (0.50). The arithmetic averages fluctuated between (3.63 – 4.07). The clause of (Keeping people of qualifications and talents is one of the company's strategies) had a value of (4.17), with a high relative importance. This indicates that industrial companies have a strategic method to achieve their goals by keeping the remarkable qualifications and talents. The clause of (The company considers its workers opinions and ideas to develop its work mechanism) had a value of (3.63) with a medium relative importance. This indicates that industrial companies' managements give a chance to their workers to participate in taking decisions and respect their participation. The medium relative importance of this clause might be due to the existence of many companies' managements that don't consider the opinions of their workers effectively.

2- Structural Capital

Table (5) the arithmetic average, standard deviations and relative importance of the structural capital clauses

No.	Clause	arithmetic average	Standard deviation	Relative weight	Relative importance
19	The company is concerned about creating an organizational structure conforms with the company's goals and it modifies it constantly	3.69	0.86	73.78	High
20	The company has an effective information system enables it to cope with internal and external developments	4.07	0.85	81.41	High
21	Work procedures and policies are being changed to cope with the increasing operations efficiency and the products value	3.93	0.89	78.59	High
22	The company's promotions and earn-ups encourage the workers' productivity and creativity	3.61	0.82	72.12	Medium
23	The company cares about the modern methods of management and accounting to reduce the company's total costs	3.79	0.84	75.77	High
24	The company cares about all what is new in the world of business and industry to guarantee its operations' continuous enhancement	3.88	0.88	77.59	High
Structural Capital		3.83	0.50	76.54	High

From table (5) we see that the structural capital has a high relative importance with an arithmetic average of (3.83) and a standard deviation of (0.50). The arithmetic averages fluctuated between (3.61 – 4.07). The clause of (The company has an effective information system enables it to cope with internal and external developments) had a value of (4.07) with a high relative importance. This indicates that in order to build the structural capital, companies focus their attention on adapting modern technics and information technologies that provide information in the right time. The clause of (The company's promotions and earn-ups encourage the workers' productivity and creativity) had a value of (3.61) with a medium relative importance. This indicates that there are

several promotions and earn-ups plans in companies but they don't win the employees satisfaction nor encourage their productivity or creativity.

3. Relational capital

Table (6) the arithmetic average, standard deviations and relative importance of the relational capital clauses

No.	Clause	arithmetic average	Standard deviation	Relative weight	Relative importance
25	There is a specialized board to manage relations with current and potential clients	3.68	2.07	73.61	High
26	The company persists on providing products in a short specific time	4.08	0.79	81.58	High
27	The company makes a continuous fact-finding reports to explore the workers needs and desires	3.66	0.83	73.20	High
28	The company tries to have different products to satisfy the biggest number of its clients	4.10	0.85	81.91	High
29	The company trains its workers how to deal with clients and win their satisfaction	3.90	0.89	78.01	High
30	The company cares about the clients suggestions and complains about the products or workers	3.63	0.86	72.53	Medium
relational Capital		3.84	0.57	76.80	High

From table (6) we see that the relational capital has a high relative importance with an arithmetic average of (3.84) and a standard deviation of (0.57). The arithmetic averages fluctuated between (3.63 – 4.10). The clause of (The company tries to have different products to satisfy the biggest number of its clients) had a value of (4.10) with a high relative importance. This indicates that industrial companies care about clients and fulfilling their needs and different desires. The clause of (The company cares about the clients suggestions and complains about the products or workers) had a value of (3.63) with a medium relative importance. This indicates that industrial companies cares about the clients' suggestions and complains, but this level of attention is not identical in all companies.

Third: The competitive advantage

Table (7) the arithmetic average, standard deviations and relative importance of the competitive advantage clauses

No.	Clause	arithmetic average	Standard deviation	Relative weight	Relative importance
31	The company cares about the products' high quality through the continuous enhancement	4.06	0.76	81.24	High
32	The company controls quality through a specialized board	4.02	0.82	80.50	High
33	The company focuses on producing products of high quality	3.97	0.90	79.42	High
34	The company uses production processes of low cost, plus maintaining good quality	4.11	0.75	82.24	High
35	The company adapts technological methods that lowers costs and increases performance accuracy	4.10	0.80	82.16	High
36	The company tries to be efficient through using its resources in the best way	3.98	0.91	79.67	High
37	The company has the ability to change from one strategy to another to face the possible changes	3.95	0.91	79.09	High
38	The company uses flexible strategies to face the environmental changes	3.88	0.98	77.51	High
39	The company reduces the production and preparation time which reduces the time of presenting the service	3.69	0.91	73.86	High
40	The company cares about the after sales services which enhances the competitive advantage	3.89	0.93	77.76	High
41	The company tries to be unique in its product through applying the competitive differentiation strategy	3.85	0.95	77.10	High
Competitive Advantage		3.96	0.58	79.14	High

From table (7) we see that the competitive advantage has a high relative importance with an arithmetic average of (3.96) and standard deviation of (0.58). The arithmetic averages fluctuated between (3.69 – 4.11). The clause of (The company uses production processes of low cost, plus maintaining good quality) had a value of

(4.11) with a high relative importance. This indicates that the industrial companies achieve the competitive advantage through cost and quality. The clause of (The company reduces the production and preparation time which reduces the time of presenting the service) had a value of (3.69) with a high relative importance. This indicates that the industrial companies care about being flexible and fast in production, which reflects the operational processes efficiency.

To compare the study dimensions, we made the following table:

Table (8) the arithmetic average, standard deviations and relative importance of the study sample variables

No.	Clause	arithmic average	Standard deviation	Relative weight	Relative importance
1	Social capital	3.87	0.46	77.50	High
2	Human capital	3.80	0.50	75.99	High
3	Structural capital	3.83	0.50	76.54	High
4	Relational capital	3.84	0.57	76.80	High
5	Intellectual capital	3.82	0.41	76.45	High
6	Competitive advantage	3.96	0.58	79.14	High

From table (8) we notice a relative proximity between the social capital (77.50%) and the intellectual capital (76.45%). This reflects proximity in the study sample members' answers about the high importance of intangible assets in industrial companies. Moreover, it shows that those companies link the process of achieving the strategic goals with building strong relations with the local community, through bearing the social responsibility. They also seek to develop their human assets and preserve them, besides adapting the developed modern management models that generate the workers' creativity and talents which in its role will be reflected on processes efficiency, products quality and fulfilling clients' satisfaction.

The table also showed that the arithmetic average of social capital is (3.87), with a standard deviation of (0.46), whereas the arithmetic average of intellectual capital is (3.82) with a standard deviation of (0.41). The arithmetic averages of intellectual capital components have fluctuated values between (3.80 – 3.84), where the relational capital had the first place with an arithmetic average of (3.84) followed by the structural capital with an arithmetic average of (3.83), the human capital came in the last place with an arithmetic average of (3.80). If we have a look over the relative weight values of all these components, we will see a remarkable proximity in these values, which shows that the industrial companies care about all the intellectual capital components. When it comes to the competitive advantage we see that it scored the highest value with an arithmetic average of (3.96), standard deviation of (0.58), a relative weight of (79.14%) and a high relative importance. This indicates that companies care about their competitive advantage to guarantee their ability to survive and compete.

Testing the research hypotheses

This part of the study tests the research hypotheses; where the first main hypothesis has been tested through the multiple linear regression analysis. The second main hypothesis has been tested through the simple linear regression analysis. The third main hypothesis has been tested through the hierarchical regression analysis. Results were as follows:

The results of the first main hypothesis H01: There is no effect of statistical significance for the components of intellectual capital (human capital, structural capital, relational capital) in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The first main hypothesis has been tested by the multiple linear regression analysis, results were as the following:

Table (9) * the results of testing the effect of all the intellectual capital components on achieving the competitive advantage

Moderator Variable	Model Summary		ANOVA		Coefficient					
	R Correlation coefficient	R2	F	Sig F	Description	B	Standard error	T	Sig t	VIF
Achieving the competitive advantage	0.699	0.489	75.689	0.000	Human capital	0.461	0.063	7.278	0.000	1.388
					Structural capital	0.362	0.065	5.583	0.000	1.429
					Relational capital	0.171	0.052	3.297	0.001	1.196

* The effect is of statistical significance at the value of ($\alpha \leq 0.05$)

Table (9) shows the value of (R = 0.699) indicates the relation between the independent variables and the moderator variables. The impact of independent variables (the intellectual capital components) on the moderator variable (achieving the competitive advantage) is an impact of statistical significance. The value of F is (75.689),

with a significance of (Sig = 0.000) which is less than 0.05. Whereas the value of R2 is (R2 = 0.489), it indicates that (48.9%) of variance in (achieving the competitive advantage) can be explained through the variance in (the intellectual capital components) all together. Based on this, we reject the first main hypothesis and accept its alternative:

“There is an effect of statistical significance for the components of intellectual capital (human capital, structural capital, relational capital) in achieving the competitive advantage for the public industrial Jordanian joint stock companies”.

The results of the first sub-hypothesis H01-1: There is no effect of statistical significance for the human capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The value of regression coefficient for the human capital is (B = 0.461), the value of t is (t = 7.278), with a significance of (Sig = 0.000) and it is less than 0.05, this indicates that there is an incorporeal positive impact of the human capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The results of the second sub-hypothesis H01-2: There is no effect of statistical significance for the structural capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The value of regression coefficient for the structural capital is (B = 0.362), the value of t is (t = 5.583), with a significance of (Sig = 0.000) and it is less than 0.05, this indicates that there is an incorporeal positive impact of the structural capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The results of the third sub-hypothesis H01-3: There is no effect of statistical significance for the relational capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The value of regression coefficient for the relational capital is (B = 0.171), the value of t is (t = 3.97), with a significance of (Sig = 0.001) and it is less than 0.05, this indicates that there is an incorporeal positive impact of the relational capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The results of the second main hypothesis H02: There is no effect of statistical significance for the social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The second main hypothesis has been tested by the simple linear regression analysis, results were as the following:

Table (10) * the results of testing the effect of social capital on achieving the competitive advantage

Moderator Variable	Model Summary		ANOVA		Coefficient				
	R Correlation coefficient	R2	F	Sig *F	Description	B	Standard error	T	Sig *t
Achieving the competitive advantage	0.663	0.439	187.310	0.000	Social capital	0.832	0.061	13.686	0.000

* The effect is of statistical significance at the value of ($\alpha \leq 0.05$)

The results of table (10) show that the value of R is (R = 0.663). This means there is a positive relation between (the social capital) and (achieving the competitive advantage). The value of R2 is (R2 = 0.439), this means that (the social capital) explains (43.9%) of the variance in (achieving the competitive advantage), at the same time, the other variables are still the same. The value of F is (187.310) at a level of trust (Sig = 0.000), this proves that the regression is incorporeal at the value of ($\alpha \leq 0.05$). We can also see from the table that the value of B is (B = 0.832), the value of t is (t = 13.686) at a level of trust (Sig = 0.000), this proves the coefficient immateriality at the value of ($\alpha \leq 0.05$).

Based on the aforementioned, we reject the second main hypothesis and accept its replacement which says: “There is an effect of statistical significance for the social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies”.

The third main hypothesis H03: There is no effect of the integration between the intellectual capital components and the social capital in achieving the competitive advantage for the public industrial Jordanian joint stock companies.

The third main hypothesis has been tested through the hierarchical regression analysis. Results were as the following:

Table (11) *the results of hierarchical regression to show the difference in the intellectual capital components' effect in achieving the competitive advantage in the shadow of social capital

Moderator variable	Independent variables	First step			Second step		
		B	t value	Sig t	B	t value	Sig t
Achieving the competitive advantage	Human capital	0.461	7.278	0.000	0.261	4.019	0.000
	Structural capital	0.362	5.583	0.000	0.289	4.787	0.000
	Relational capital	0.171	3.297	0.001	0.110	2.276	0.024
	Social capital				0.471	6.792	0.000
	R2		0.489			0.573	
	Δ R²		0.489			0.084	
	Δ F		75.689			46.136	
	Sig Δ F		0.000			0.000	

* The effect is of statistical significance at the value of ($\alpha \leq 0.05$)

The table above shows the results of hierarchical regression based on two models. The first model's results based on the first step, showed that there is an effect of statistical significance of (all the intellectual capital components) to (achieve the competitive advantage), the value was ($\Delta F = 75.689$) with a significance of ($\text{Sig } \Delta F = 0.000$), it is less than 0.05, also the value of R2 was ($R^2 = 0.489$). This shows that (the intellectual capital components) explains 48.9% of the variance in achieving the competitive advantage.

In the second step, the variable of social capital has been included in the regression model, the value of R2 has increased 8.4%, this percentage is of statistical significance ($\Delta F = 46.136$) the level of significance was ($\text{Sig } \Delta F = 0.000$) less than 0.05. The value of B was ($B = 0.471$) for the social capital with a significance of ($\text{Sig } t = 0.000$). This proves the difference in the incorporeal effect of the intellectual capital components in achieving the competitive advantage according to the difference of social capital. Based on this we conclude the following: "There is an impact of the integration between the intellectual capital and the social capital on achieving the competitive advantage for the public industrial Jordanian joint stock companies"

Conclusions and recommendations

First: conclusions:

Based on the outputs of analyzing the study data and testing its hypotheses, the researchers reached the following conclusions:

1. Social capital is one of the highly important factors for companies' survival and adaptation with the present reality. It focuses on aspects related to social relations, cooperation, morals and traditions among the company's workers in order to reach the organizational entrepreneurship.
2. The intellectual and social capitals are considered the most important pillars to preserve the company's existence, without it even the simplest companies cannot survive today. For this, it is important to preserve this capital through providing a good work environment and studying the work obstacles and try to find solutions. This can be reached through studying the characteristics of social and intellectual capitals to reach the international entrepreneurship.
3. The intellectual capital is represented in the set of knowledge, information, talents and experiences that have an economic value, be it external or internal, and can be used to for developing the company's performance and achieving the economic growth.
4. Through the statistical analysis of the intellectual capital components we found a relative proximity between the three components' importance; the human capital, the structural capital and the relational capital. Besides, a relative superiority for the relational capital compared to the other capitals. This copes with modern strategic approaches in general, which focus on the clients' needs and satisfaction.
5. Through the statistical analysis of the social capital, we found that the most important clauses in the social capital is the one related to the participation of the social capital in having a variety in procedures and approaches that increase the company's social participation in the local community.
6. Through the statistical analysis of the company's ability to achieve the competitive advantage, we found that quality is the most important dimension, due to its impact on reducing costs; as for caring about quality is accompanied with caring about activities that add value to the product and canceling the ones that reduce it, followed by adapting new technologies that increase the company's process flexibility and product delivery speed.
7. Testing the first and second hypotheses, showed that the three components of intellectual capital; human capital, structural capital and relational capital, have an incorporeal effect on achieving the competitive advantage. Also, it showed that there is an incorporeal positive effect for the social capital on achieving the competitive advantage, whereas testing the third main hypothesis revealed the complementary role of the social capital in increasing the impact of intellectual capital components on achieving the competitive advantage.

Second: Recommendations

Based on the research results, the researchers recommend the following:

1. Urge the industrial companies to care about the intellectual and social capitals through attracting and developing them to support the competitive advantage as for they are the real company's capital.
2. Companies that were the core of the study should make use of their intellectual and social capitals represented in the intangible assets and supporting them, besides providing all the requirements and materialistic facilities (machines and equipment), creating suitable environment and offering ear-ups to encourage the company's members to present creative and innovative ideas that have positive impact on the service quality in order to achieve the international entrepreneurship.
3. Creating a specialized board inside the study sample's companies that care about workers issues. Those who have talents, experiences and special performance, besides supporting them and offering them financial facilities to urge them to double their efforts and enhance the services quality in order to reach the international competitiveness.
4. Follow the brainstorming approach to detect the innovative ideas through workshops that include all workers and managers from different managerial levels to solve all the problems and obstacles that prevent the company from reaching the international competitive advantage.
5. The importance of setting a strategic development plan to develop the workers intellectual creativity to reach the level of companies that enjoy a pioneer competitive advantage.
6. Jordanian industrial companies should apply a continuous evaluation process on their intellectual and social capitals to guarantee the fact that focusing on attracting talents and developing the managerial and operative processes will not prevent them from fulfilling their responsibility toward the society and developing its members besides, their effective social participation.

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