

The Impact of Intellectual Capital on Jordanian Telecommunication Companies' Business Performance

Dr. Abdel-Aziz Ahmad Sharabati^a, Prof. Dr. Abdul-Naser Ibrahim Nour^b
and Nasser Sajid Shamari^c,

^aBusiness Management Department, Business College – Middle East University, P.O.Box:
143980 Amman 11814 Jordan. E-mail: APharmaArts@Gmail.Com

^bDean of Business College – Middle East University, Amman – Jordan. E-mail:
naser1966@yahoo.com

^cNasser Sajid Shamari, Business College – Middle East University, Amman – Jordan. E-mail:
nassertwitter@live.com

Abstract: The purpose of the study is to investigate the influence of Intellectual Capital (IC) on Jordanian Telecommunication Companies' (JTC) Business Performance (BP). The study surveyed the managers at JTC companies. Practical data were used in the empirical analysis collected from 84 managers out of about 500 managers, by means of a questionnaire. Statistical techniques such as descriptive statistics, t-test, ANOVA test, correlation and multiple regressions were employed. To confirm the suitability of data collection instrument, a Kolmogorov-Smirnov (K-S) test, Cronbach's Alpha and factor analysis were used. The results showed a positive significant effect of IC on JTCs' BP. The results also indicated that RC is positively and significantly affect JTCs' BP, while SC and IC do not significantly affect JTCs' BP. The Empirical results also indicated that there are strong inter-relationships and interactions among the three components of IC. The use of a single industry study design limits its generalisability to other industries, so extending the analyses to other industries represent future research opportunities. IC should be taken into serious consideration when formulating the companies' strategy. Finally, it is also recommend currying out researches that compare results with other organizations and industries under similar assessment and measurement.

Key Words: Intellectual Capital (IC), Human Capital (HC), Structural Capital (SC), Relational Capital (RC), Jordanian Tel-communication Companies (JTC), Business Performance (BP).

1. INTRODUCTION

Although the growing contribution of intellectual capital (IC) to economic growth and development is widely recognized, there are still difficulties experienced by governments, corporate sector, small and medium-sized enterprises, and finally intellectual property right holders in valuating and managing IC (Maevski 2003). Roos and Roos (1997) defined IC as the sum of the hidden assets of the organization not fully captured on the balance sheet, and thus included both what is in the heads of organizational members, and what is left in the organization when they leave. Skandia (1998) described IC as the difference between the organization's market value and its book value. Bontis's questionnaire (1998) described IC as the difference between what an organization's market value is and the cost of replacing its assets. Zambon (2002) described IC as the knowledge that can be converted into profits. Moreover, Stewart (2003) defined IC as the sum of everything, everybody in an organization knows that gives it a competitive edge. Lev (2007) stated IC is the non-physical sources of value, generated by innovation, unique organizational designs, or human resource practices.

Herman (2010) defined IC as the key competences of employees, comprising individual knowledge and skills. Gabriela et. al. (2012) described IC as stocks and flows of knowledge available in an organization. Finally, IC can be described as its intangible asset; knowledge that can be used to create value; it is an important for each and every organization to be able to survive and continue its activity, and human capital is the core of IC.

Different schools and scholars classified IC in different ways. Skandia (1995) classified IC into HC and SC. SC is divided into organizational capital and customer capital. Organizational capital in turn is divided into innovation capital and process capital. Sveiby (1997) divided IC into three parts: Internal structure, external structure and individual competence, and Bontis (2001) also classified IC into three components. HC: the tacit knowledge embedded in the minds of the employees. SC: The organizational routines of the business. RC: The knowledge embedded in the relationships established with the outside environment. Moreover, Stewart (2003) divided IC into HC, SC, and customer capital. Finally, Castro and Verde (2012) stated: There are four sets of IC indicators (HC, OC, RC and technological capital). Finally, most of the scholars divided IC into three elements, but used different names for each component: Human capital (individual competences), structural (organizational or internal) capital and relational (customer or external) capital.

Hunter et. al. (2005) stated that the purpose of IC measurement is to maximize organization performance. Liu (2011) said: Measuring IC can help to formulate business strategies and allocate business resources. Kasiewicz and Rogowski (2010) mentioned: There are three interrelated groups of arguments supporting the measurement of IC: The growing importance of IC as a determinant of company growth: only IC ensures lasting competitive advantage on the market: and IC is a constant and an inexhaustible source of innovations. Alizadeh (2012) pronounced: IC management helps the organizations to identify their capabilities, maintain and reconstruct them over time. Purgailis and Zaksa (2012) added: The IC identification and assessment can serve as the organization's internal management support tool. Vashishtha et. al. (2012) stated: Management of IC cannot be possible without measuring it. Finally Manzari et. al. (2012) specified: Every organization should select its appropriate IC definition and its indicators to measure it. Finally, Tajdari and Tehrani (2012) announced: IC has become more important in today's knowledge driven economies.

In the globalization era, the telecommunication industry is the most developing industry, the development of this industry is based mainly on innovation, which is a most important part of IC. IC depends mostly on people's education, experience, and skills. Karami and Vafaei (2012) pronounced: IC development becomes a major driver for competitive advantage not only for business, but also for universities and other service industries. Therefore, the current study aims at measuring the effect of IC elements on the Jordanian telecommunication industry.

2. LITERATURE REVIEW

In this section the authors will briefly discuss the most recent previous literatures, and then they will take only a snapshot from each study due to limited space. The section will focus on interrelationships among IC components, and the impact of IC components on organizations' BP.

Sundac and Krmpotic (2009) concluded: Only the synergy of HC, SC and RC can result in strong IC that becomes the source of the company's competitive advantage and value added. Sharabati et. al. (2010) concluded: there is a strong relationships and interactions among IC components. Kamukama et. al. (2010) revealed: the magnitude effect of HC on performance depends on SC or RC. Ling (2011) stated: The value of IC components can mostly be actualized only in terms of their dynamic interrelationships and conjoint interaction. Taleghani

et. al. (2011) showed: There are significant relationships between dimensions of the three ICs (HC, SC and RC) with productivity of Guilan Province. Ning et. al. (2011) showed: There are positive relationships among IC components.

Lee et. al. (2011) proved: IC has a significantly positive impact upon the performance of an organization. Khalique et. al. (2011) showed: IC has positive relationship with organizational performance. Uadiale and Uwuigbe (2011) indicated: IC has a positive and significant relationship with the performance of business organizations in Nigeria. Carrington and Tayles (2011) indicated: IC measurement is associated with performance. Rahim et. al. (2011) indicated: IC has significant and positive relationship with firm's performance. Apriliani (2011) showed: There is a significant influence between the IC with Financial Performance. Molodchik and Bykova (2011) showed: A company's IC influences favorably the organizational performance. Ahmadi et. al. (2011) confirmed: A positive relationship between IC and organization's performance. Hsiung and Wang (2012) said: IC components (SC, HC and RC) are not individually related to the company's value creation, and they have mutual contribution, advancement, and growth. Mehdi and Reza (2012) indicated: There is a significant relationship between IC and economic growth. Jafari (2012) showed: There is a significant relationship between IC and financial performance.

Zulmiati (2012) proved: Not all of IC components have significant effect on performance. Saeedi et. al. (2012a) concluded: IC components, RC and HC were having more powerful effect on performance than other variables. Naveed and Malik (2012) deduced: IC has unique and competitive characteristics which considerably affect firm's performance. Gilaninia and Matak (2012) indicated: There is relationship between the dimensions of IC (HC, RC, and SC) and enterprises' performance. Molodchik et. al. (2012) found: A positive effect of IC on company performance. Gorji et. al. (2012) indicated: The IC components affect organizations' performance. Mehdivand et. al. (2012) showed: HC and RC have direct and indirect effect on Nano-Businesses performance, while SC has only indirect effect on it, through entrepreneurial orientation. Djilali et. al. (2012) found: The three types of IC together are associated with increase business performance of Algerian firms. Agoston and Dima (2012) concluded: Organizational IC directly and positive related to the competitiveness level and the overall performance. Chang and Lee (2012) indicated: A significantly interactive influence of IC upon the organizational performance of Taiwan-listed info-electronics companies. Sharabati (2013) indicated: A positive significant relationship between HC and organizations' BP, HC can clearly explain productivity and profitability more than market valuation. Saeedi et. al. (2012b) concluded: RC has the highest effect among IC components on organizations' performance. Sharabati et. al. (2010) concluded: RC was the most important IC component that affects BP.

Finally, Wibowo (2012) concluded: There is a positive association between the value added of IC and financial performance in Indonesia banking companies. Dadashinasab et. al. (2012) proved: Firms' IC had a positive impact on financial performance. Rahman (2012) confirmed: Greater IC efficiency leads to better financial performance. Ahmadi et. al. (2012) showed: There is a positive relationship between IC management and financial turnover of the organizations. Zehri et. al. (2012) revealed: A positive and significant association between the components of IC and economic factors and financial performance. Besharati et. al. (2012) indicated: There is a significant relationship between IC and financial performance of corporations. Fathi et. al. (2013) showed: There is significant positive relationship between IC and financial performance.

From the literature reviews above, it can be concluded that IC is the most important organizational asset for all organizations, whether private or public, profitable or non-profitable organizations. Also it can be concluded that all organizations what ever their business, they should measure, evaluate, manage and develop their IC to be able to sustain

long term survival. Therefore, the current study will explore the impact of IC on Jordanian telecommunication companies' BP to provide decision makers with comments related for IC management for further BP development.

3. STUDY OBJECTIVES AND PURPOSE

The purpose of this study is to investigate the impact of IC on the JTCs' BP. The main objective of this research is to provide sound recommendations about performance measurement within IC context by identifying and defining the main attributes of quality and productivity of IC.

4. STUDY IMPORTANCE AND SCOPE

This study presents the problem at an organizational level, as it is the level of implementing strategies and management. The current study might be considered as initiative that presents the effect of IC on JTCs' BP. This research is also an important one, in terms of the analysis of the situation of IC in JTCs, as well as in determining some of the relevant IC indicators used by those companies. The content of this study may be beneficial not only to JTCs, but also it may be important to academic studies related to the reporting and decision making concerning IC.

5. PROBLEM STATEMENT

Measuring and managing IC is a worldwide problem; actually it is not limited to organization, industry or country. Sharabati et. al. (2010) stated: The concept of IC is not well known to most managers in Jordan. Vashishtha et. al. (2012) said: Management of IC cannot be possible without measuring it. Finally Manzari et. al. (2012) specified: Every organization should select its appropriate IC definition and its indicators to measure it. Therefore, the purpose of this research is to investigate the impact of IC elements on JTCs' BP.

5.1. Problem Elements:

The study problem can be perceived by having detailed and scientific answers to the following questions:

The main question:

1. Is there a direct significant impact of IC on JTCs' BP?

The main question can be divided into three questions according to IC elements as follows:

- 1.1. Is there a direct significant impact of the HC element on JTCs' BP?
- 1.2. Is there a direct significant impact of the SC element on JTCs' BP?
- 1.3. Is there a direct significant impact of the RC element on JTCs' BP?

6. STUDY HYPOTHESIS

Based on the above-mentioned problem statement and its elements, and according to the study model, the following hypotheses can be developed:

H0: IC variables do not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

The main hypothesis can be divided into three hypotheses according to the IC elements (variables) as follows:

H0.1: HC variable does not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

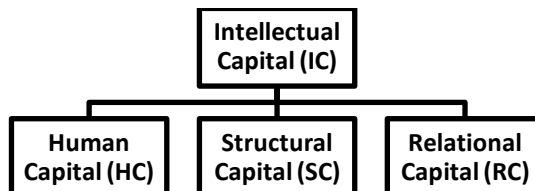
H0.2: SC Variable does not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

H0.3: RC variable does not have a direct significant impact on JTCs' BP, at $\alpha=0.05$.

6. STUDY MODEL

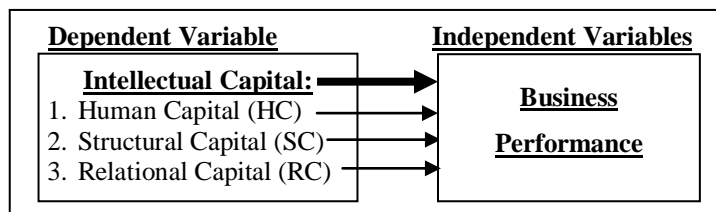
This study uses the most widely used classification model that is fundamentally based on both Sharabati's, Stewart's and Bontis's classification as shown in figure (1): HC, SC and RC.

Figure (1): Study Basic Model



The current research studies the effect of IC variables on JTCs' BP as shown in the study model figure (2).

Figure (2): Study Model



7. STUDY METHODS AND PROCEDURES

In order to empirically validate the study's model, a survey method was conducted in line with earlier studies. The data were collected from managers at JTCs. The collected data verified through the SPSS 20 focusing on the correlation among IC elements and their relationships with JTCs' BP. The current study is considered as a casual study, because it aimed at investigating the cause/effect relationship between IC elements and JTCs' BP. It started with literature review to develop the currently used measurement model and explore the IC profile of JTCs. Then, a panel of judges was conducted to finalize the items to be included in the questionnaire. Finally, the survey was conducted, and the results were compared with previous researches.

7.1. Population, Sample and Unit of Analysis:

Empirical data collected from 84 managers out of about 500 managers working at JTCs, the entire population was targeted to explore the topic of IC, thus negating any need for sampling. The survey unit of analysis was composed of all managers at JTCs.

7.2 The Questionnaire:

Initial items to measure various constructs were developed depending on prior researches. With the help of experts the questionnaire was designed and developed in contrast with hypotheses and research model. Then the questionnaire was validated through expert interviews and a panel of judges.

7.3. Study Variables:

Independent variables (IC): Through literature review, the researchers have identified three important independent variables of IC that contribute to JTCs' BP: HC, SC and RC. Each was tested by 12 questions. Dependent variable of the study is related to JTCs' BP. BP was measured through the following 10 indicators (as shown in analysis). All variables were measured by five-point Likert-type scale to tap into the individual's perceptions, ranging from value 1 (strongly disagree) to value 5 (strongly agree) used throughout the questionnaire.

8. DATA COLLECTION AND ANALYSIS

Questionnaires were delivered to 150 out of 500 managers. The researchers gathered only 89 questionnaires only 84 questionnaires were suitable for further analysis, representing 16.8% of the total unit of analysis.

8.1. Kolmogorov-Smirnov Z Test for Normal Distribution:

All dependent and independent variables were tested for normality. If the significance level was more than 5 percent, normality was assumed (Bollen et. al. 2005, Sharabati et. al. 2010). Table (1) shows that all the independent and dependent variables are normally distributed, except IC where the significant level is less than 5%.

Table (1): Normality Test: One-Sample Kolmogorov-Smirnov (Z) Test

| Variables | (K-S)Z | Sig. |
|-----------|--------|-------|
| HC | 0.898 | 0.395 |
| SC | 1.050 | 0.220 |
| RC | 0.752 | 0.624 |
| IC | 1.476 | 0.026 |
| BP | 0.938 | 0.342 |

8.2. Reliability Test (Cronbach's Alpha):

If Alpha Coefficients were above 0.80, they were considered high, and if they were above 0.75, they were accepted, while if they were below 0.60, then results indicated weak internal inconsistency (Bollen et. al. 2005), while Sharabati et. al. (2010) stated that Alpha coefficients above 0.7 are accepted. As shown in table (2), the results of Cronbach's alpha were registered acceptable; however, Cronbach's Alpha results were between 0.912 and 0.959. The above result also matches with Bin Ismail (2005) and Moslehi et. al. (2006)

Table (2): Research Cronbach's Alpha

| Variables | Research |
|-----------|----------|
| HC | 0.912 |
| SC | 0.939 |
| RC | 0.898 |
| IC | 0.959 |
| BP | 0.924 |

8.3. Validity:

Two methods were used to confirm content validity: First, multiple sources of data (literatures and panel of judges) were used to develop and refine the model and measures. Then,

Pearson’s Principal Component factor analysis was carried out for all items included in the questionnaire. According to Bin Ismail (2005), Bollen et. al. (2005) and Sharabati et. al. (2010) factor loading value below 0.4 should be removed. Table (3) shows that all variables and variable items were valid, since their factor loading values were more than 0.4.

Table (3): Factors Loading for Dependent and Independent Variables

| IC Variables | Factor 1 | Extraction |
|--------------|----------|------------|
| HC | 0.880 | 0.775 |
| SC | 0.871 | 0.759 |
| RC | 0.845 | 0.714 |
| IC | 0.988 | 0.976 |
| BP | 0.699 | 0.488 |

8.4. Study Variables Analysis

Dependent and Independent Variables: Table (4) shows that the average means of the respondents’ perception about the implementation of IC variables were ranging from 3.437 to 23.838, with standard deviation that ranges from (0.0.743 to 0.871). Such results indicate that there is an agreement on that: JTCs have medium implementation of IC variables. The overall result indicates that there is a significant implementation of the IC variables in JTCs, where the total average mean was 3.585 and ($t=7.768 < 1.645$). The table also shows that the average means of the respondents’ perception about the role of BP indicators was 3.682, with standard deviation (0.750). Such results indicate that there is an agreement on the role of BP indicators. The result indicates that there is a significant role of performance indicators, where ($t=8.335 > 1.645$).

Table (4): Mean, Standard Deviation and One-Sample T-Test Results for All Variables.

| Variables | Mean | Std. deviation | T value | T tabulated |
|-----------|-------|----------------|---------|-------------|
| HC | 3.838 | 0.743 | 10.334 | 1.645 |
| SC | 3.437 | 0.871 | 4.595 | 1.645 |
| RC | 3.479 | 0.747 | 5.880 | 1.645 |
| IC | 3.585 | 0.690 | 7.768 | 1.645 |
| BP | 3.682 | 0.750 | 8.335 | 1.645 |

8.5. Relationships between the Study Variables:

Before testing the hypotheses, Pearson correlation (r) was carried out to test the correlation among the responses of IC variables, then between them and performance indicators.

Table (5): Pearson’s Correlation (r) Among Independent Variables, and with Dependent Variable

| Variable | HC | SC | RC | IC | BP |
|----------|---------|---------|---------|---------|----|
| HC | | | | | |
| SC | 0.726** | | | | |
| RC | 0.619** | 0.605** | | | |
| IC | 0.888** | 0.900** | 0.838** | | |
| BP | 0.507** | 0.463** | 0.559** | 0.579** | |

**Correlation is significant at 0.01 levels (2-tailed)

Pearson correlation matrix table (5) shows that the relationships among the IC variables are strong, where r ranges from 0.605 to 0.726. The matrix also showed that the relationship between IC variables and JTCs' BP is strong, where r ranges from 0.463 to 0.559. For total IC r reaches 0.579, which indicates a very strong relationship between IC and JTCs' BP.

8.6. Hypotheses Testing

To test hypotheses, a multiple regression analysis was used to analyze the relationship between the IC variables and JTCs' BP. Regression analysis is robust against non-normality, therefore, applicable in the case at hand. The coefficient of determination (R^2) indicates the goodness and fitness of the model.

H0: IC variables do not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

Table (6): Results of Multiple Regressions Analysis: Regressing IC Variables against Performance

| Variable | r | R ² | F- Value | Sig. |
|--------------|-------|----------------|----------|-------|
| IC Variables | 0.598 | 0.357 | 14.815 | 0.000 |

The results of the multiple regression analysis that regress the three variables of the IC are shown on table (6) above. The three variables together explained 35.7 percent of the variance, where ($R^2 = 0.357$, $F=14.815$, $Sig.=0.000$), therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that the IC variables affect the JTCs' BP, at $\alpha = 0.05$. The following table shows the significant effect of each variable within the IC.

The conclusion of table (7) shows that the RC variable has the highest effect on JTCs' BP, where ($Beta=0.378$, $sig.=0.002$). Thus, it indicates that the RC variable is the most significant and positively and directly regresses to the JTCs' BP, followed by HC variable, where ($Beta=0.217$ $sig.=0.119$), while SC variable has the lowest effect on JTCs' BP, where ($Beta=0.076$ $sig.=0.575$).

Table (7): Un-standardized and Standardized Coefficients of Multiple Regression Model for IC Variables

| IC Variables | Un-standardized Coefficients | | Standardized Coefficients | t-value | p |
|--------------|------------------------------|------------|---------------------------|---------|--------|
| | B | Std. Error | Beta | | |
| (Constant) | 1.292 | 0.375 | | 3.442 | 0.001* |
| HC | 0.219 | 0.139 | 0.217 | 1.575 | 0.119 |
| SC | 0.066 | 0.117 | 0.076 | 0.562 | 0.575 |
| RC | 0.380 | 0.120 | 0.378 | 3.174 | 0.002* |

*Calculate is less than 0.05

The relationship between the dependent and independent variables derived by this model can thus be expressed as:

$$IC = 1.292 + 0.219 (HC) + 0.066 (SC) + 0.380 (RC).$$

H0.1: HC variable does not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

From table (7), it is concluded that there is a no significant effect of the HC variable on the JTCs' BP, where ($Beta=0.217$, $sig.=0.119$). Since ($t=1.575$, $p > 0.05$), the null hypothesis is accepted, which indicates that the HC variable does not have significant effect on JTCs' BP, at $\alpha = 0.05$.

H0.2: SC Variable does not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

From table (7), it is concluded that there is no significant effect of the SC variable on the JTCs' BP, where (Beta=0.076, sig.=0.575). Since ($t=0.562$, $p > 0.05$), the null hypothesis is accepted, which indicates that the SC variable does not affect the JTCs' BP, at $\alpha = 0.05$.

H0.3: RC variable does not have a direct significant impact on JTCs' BP, at $\alpha = 0.05$.

From table (7), it is concluded that there is a positive direct significant effect of the RC variable on the JTCs' BP, where (Beta=0.378, sig.=0.002). Since ($t=3.174$, $p < 0.05$), the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that the RC variable affects the JTCs' BP, at $\alpha = 0.05$.

9. DATA RESULTS DISCUSSIONS

9.1. Dependent and Independent Variables Results Discussion:

The overall result indicated that there is significant implementation of the IC variables in JTCs. Results also indicated that the JTCs implement IC element, It is clear that the respondents are aware of the role of IC components in JTCs' BP. The current study results are matching with many previous studies such as Sundac and Krmpotic (2009), Kamukama et. al. (2010), Lee et. al. (2011), Zulmiati (2012) and Fathi et. al. (2013). The result also showed that there is a significant role of BP indicators. It seems that respondents are in agreement on the role of BP indicators. Evidence appears to suggest an improvement in JTCs' BP. Therefore, the JTCs are directed and strongly leaning toward performance improvement, and the respondents are aware of the role of business performance indicators.

9.2. Hypothesis Analysis Results Discussion:

The results indicated that the IC variables affect the JTCs' BP, at $\alpha = 0.05$. Moreover, results concluded that the RC variable affect the JTCs' BP, at $\alpha = 0.05$. However, the results also showed that the HC and SC variable do not affect the JTCs' BP, at $\alpha = 0.05$. Meanwhile, the results proved that the RC variable was having the highest effect among IC components on JTCs' BP, followed by HC variable; while SC variable has the lowest effect on JTCs' BP. Results are matching with many previous studies, Sharabati et. al. (2010) and Saeedi et. al. (2012b) concluded that RC was the most important variable,

9.3. Relationships between IC Variables and JTCs' BP:

Pearson correlation matrix table showed that the relationships among the IC variables are strong, and the correlation between HC and SC is strong; and between HC and RC is strong. Moreover, the correlation between SC and RC is also strong. The results also showed that the relationship between IC variables and JTCs' BP is strong, and very strong relationship between IC and JTCs' BP. The results are going in line with previous studies such as Sundac and Krmpotic (2009), Kamukama et. al. (2010), Ling (2011), Taleghani et. al. (2011), ning et. al. (2011) Hisiung and Wang (2012), and Dijili et. al. (2012).

10. STUDY CONCLUSION

Findings of the study supported the theory that IC has the potential to become the new source of wealth in telecommunication organizations, and that IC has a direct and positive effect on JTCs' BP. In conclusion, it seems that JTCs are within the average when compared with the world-class organizations, in terms of the presence of the three variables of IC. Although respondents believe that RC affect JTCs' BP, however respondents do not believe that HC and SC affect JTCs' BP. Pearson correlation results showed that there is a strong and significant

correlation among HC, SC and RC and they are strongly related to JTCs' BP. This means that any activity done to improve the level of any IC component will have a significant effect on other components of IC and JTCs' BP. It seems that the respondents moderately agree when expressing their opinion regarding JTCs' BP improvement indicators. This indicates that the JTCs are forward-looking organization.

11. STUDY RECOMMENDATIONS

11.1. Recommendations for MEU and Jordanian Universities:

Based on the research findings, effective management will leverage IC, and then improve performance. In the light of research results, the following recommendations can be suggested: The research results can help managers establish distinctive strategic positions. Building competitive strategies for managing IC is important, therefore, telecommunication organizations should adopt an IC strategy. Furthermore, the current management system at telecommunication organizations ought to be seriously re-evaluated. They must be managed by policies, systems and programs not by individuals. Moreover, the optimal procedure for telecommunication organizations is to focus on all three components of IC in order to increase organizations' BP, since they enhance each other. The elements of IC need to be integrated with the present recruitment criteria, promotion criteria, reward and recognition criteria, performance management criteria, leadership development programs, and organizational development programs. Defining the role of IC in telecommunication organizations in a formal way. It can be done by designing a map for IC in each organization. Managers should design systems and set up appropriate programs for monitoring and managing IC and related databases. Finally, identifying key people in each department as IC champion. Managers at telecommunication organizations would be responsible for preparing a plan for managing IC and linking it to the organization's strategic goals.

11.2. Recommendations for Academics and Future Research:

The researchers recommend the following for future research in the effect of IC on organizations' BP: This study was directed towards telecommunication industry. Further empirical work is needed to test the degree to which the findings can be generalized to other industries. This study was also conducted in Jordan. Generalizing results of Jordanian setting to other countries is questionable. Further empirical researches involving data collection over diverse countries are needed. Although most variables used in this research have high measurement reliability and validity, some variables may have room for further instrument refinement. More co-ordination and co-operation between academic institutions and organizations especially between the basic and the secondary research are recommended.

REFERENCES

- Agoston, S., and Dima, A.M. (2012). Modeling Intellectual Capital Using Analytic Hierarchy Process (AHP). *Proceedings of the 4th European Conference on Intellectual Capital*, Arcada University of Applied Sciences, Helsinki, Finland, 23-24 April 2012, pp. 1-9.
- Ahmadi, A.A., Ahmadi, A., and Shakeri, S. (2011). The Survey of Relationship between Intellectual Capital(IC) and Organizational Performance (OP) within the National Iranian South Oil Company. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 3, No. 5, pp. 369-380.

- Ahmadi, S.A., Daraei, M.R., and Moghani, A. (2012). Investigation of Intellectual Capital Management Effect on Financial Turnover of the Organization: The Case of Sadid Industrial Group in 2012. *IJRMEC*, Vol. 2, Issue 12, pp. 32-49.
- Alizadeh, E. (2012). Identification, Measurement and Management of Intellectual Capital is a Vital Important Issue for the Survival of Organization in the Field of Competition. *Life Science Journal*, 9(4), pp. 761-765.
- Apriliani, R. (2011). Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Perbankan Syariah Di Indonesia. *Master Thesis*. Ekonomi/Akuntansi, Universitas Diponegoro.
- Besharati, E., Kamali, S., Mazhari, R.H., and Mahdavi, S. (2012). An Investigation of Relationship between Intellectual Capital and Innovation Capital with Financial Performance and Value of Companies Accepted in Tehran Stock Exchange. *Journal of Basic and Applied Scientific Research*, 2(2), pp. 1241-1245.
- Bin Ismail, M. (2005). The Influence of Intellectual Capital on the Performance of Telekom Malaysia (Telco). *Unpublished Doctoral Dissertation*, October 2005. Business & Advanced Technology Centre. University of Technology Malaysia. Available at: www.eprints.utm.my/1352/1.
- Bollen, L., Vergauwen, P. and Schnieders, S. (2005). Linking Intellectual Capital and Intellectual Property to Company Performance. *Management Decision*, Vol. 43 No. 9, 2005, pp. 1161-1185.
- Bontis, N. (2001). *Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field*. McMaster University. Institute for Intellectual.
- Bontis, N. Questionnaire (1998). *Intellectual Capital Questionnaire (on-line)*. Institute for Intellectual Capital Research Inc. Hamilton, Ontario, Canada. www.Bontis.com. www.Bontis.com/ic.
- Carrington, D. and Tayles, M. (2011). The Mediating Effects of Sense-Making and Measurement on the Intellectual Capital and Performance Linkage. *Proceedings of the 3rd European Conference on Intellectual Capital*, 18-19 April 2011. University of Nicosia, Cyprus, pp. 20.
- Castro, G.M., and Verde, M.D. (2012). Assessing Knowledge Assets in Technology-Intensive Firms: Proposing a Model of Intellectual Capital. *Journal of CENTRUM Cathedra*, Vol. 5, Issue 1, pp. 43-59.
- Chang, C.M. and Lee, Y.J. (2012). Verification of the Influences of Intellectual Capital upon Organizational Performance of Taiwan-listed Info-Electronics Companies with Capital Structure as the Moderator. *The Journal of International Management Studies*, Vol. 7, No. 1, April, pp. 80-92.
- Dadashinasab, M., Sofian, S., Asgari, M., and Abbasi, M. (2012). The Effect of Intellectual Capital on Performance: A Study among Iranian Automotive Industry. *Journal of Basic and Applied Scientific Research*, 2(11), pp. 11353-11360.
- Djilali, B., Sarra, B., and Faycal, M. (2012). Managing Intellectual Capital to Confront the Challenges of Globalization. *Mediterranean Journal of Social Sciences*, Vol. 3 (6) March 2012, pp. 179-187.
- Fathi, S., Farahmand, S., and Khorasani, M. (2013). Impact of Intellectual Capital on Financial Performance. *International Journal of Academic Research in Economics and Management Sciences*, Vol. 2, No. 1, pp. 6-17.

- Gabriela, H.M., Dorinela, N., and Alexandra, I. (2012). Learning Organization: The Importance of Innovation and Adaptation. *"Ovidius" University Annals, Economic Sciences Series*, Vol. XII, Special Issue 2, pp. 145-150.
- Gilaninia, S., and Matak, A.A. (2012). Examination of Relationship between Intellectual Capital and the Small Business Enterprises Performance in Guilan Province. *Journal of Basic and Applied Scientific Research*, 2(3)2291-2297.
- Gorji, M., Siadat, S.A. and Kazemi, A. (2012). Realization Level of Intellectual Capital in Isfahan Steel Company. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 4, No. 4, pp. 329-337.
- Herman, A. (2010). Intellectual Capital and Its Measurements. *Economics & Business Administration Journal*, Vol. II, pp. 7-16.
- Hsiung, H.H., and Wang, J.L. (2012). Value Creation Potential of Intellectual Capital in the Digital Content Industry. *Investment Management and Financial Innovations*, Vol. 9, Issue 2, pp. 81-90.
- Hunter, L., Webster, E. and Wyatt, A. (2005). Measuring Intangible Capital: A Review of Current Practice. *Working Paper No. 16/04*, March 2005. Published by Intellectual Property Research Institute of Australia at: The University of Melbourne Australia, University of Glasgow, and University of Adelaide.
- Jafari, E. (2012). Sources of Intellectual Capital and Investigating the Effects of Intellectual Capital on Firm's Market Value and Financial Performance in Iran (an ARDL Approach). *European Journal of Experimental Biology*, 2 (3), pp. 702-707.
- Kamukama, N., Ahiauzu, A. and Ntayi, J.M. (2010). Intellectual Capital and Performance: Testing Interaction Effects. *Journal of Intellectual Capital*, Vol. 11 No. 4, pp. 554-574.
- Karami, S., and Vafaei, A. (2012). Australian Universities and Intellectual Capital Reporting: Case Study of the Group of Eight. *Proceedings of the 9th International Conference on Intellectual Capital, Knowledge Management & Organisational Learning*. The Universidad Del Rosario and the Universidad Jorge Tadeo Lozano Bogotá, Colombia, 18-19 October 2012, pp. 120-127.
- Kasiewicz, S., and Rogowski, W. (2010). Measuring A Company's IC. *Economics & Business Administration Journal*, pp. 76-82.
- Khalique, M., Shaari, J.A., Isa, A.H. and Ageel, A. (2011). Relationship of Intellectual Capital with The Organizational Performance of Pharmaceutical Companies in Pakistan. *Australian Journal of Basic and Applied Sciences*, 5(12), pp. 1964-1969.
- Lee, Y.J., Wang, G.L. and Chang, L.Y. (2011). The Influence of Intellectual Capital and Marketing Innovation Strategies upon Marketing Performance: Taking Taiwan-listed Life Insurance Firms as an Example. *African Journal of Business Management*, Vol. 5(22), pp. 9240-9248.
- Lev, B. (2007). *Intangible Management, Measurement and Reporting*. Washington D.C. Brookings Institution Press. www.brookings.edu/press.
- Ling, Y.H. (2011). The Influence of Intellectual Capital on Organizational Performance in two Contexts. *Proceedings of the 8th International Conference on Intellectual Capital, Knowledge Management & Organisational Learning*. The Institute for Knowledge and Innovation, Southeast Asia (IKI-SEA) of Bangkok University, Bangkok, Thailand, 27-28 October 2011, pp. 34.

- Liu, C.C. (2011). Developing Measures of Intellectual Capital for the Venture Capital Industry in Taiwan. *Managing Global Transitions, International Research Journal*, Vol. 9, No. 1, pp. 81-100.
- Maevski, A. (2003). UNECE high Level Task Force on Valuation and Capitalization of Intellectual Capital Assets. Intellectual Assets: Valuation and Capitalization. *United Nation Economic Commission for Europe (UNECE) Series: Investment Promotion*, pp. 1-11.
- Manzari, M., Kazemi, M., Nazemi, S. and Pooya, A. (2012). Intellectual Capital: Concepts, Components and Indicators: A literature Review. *Management Science Letters*, 2 (2012), pp. 2255–2270.
- Mehdi, S., and Reza, M. (2012). Sources of Intellectual Capital and Investigating the Effects of Intellectual Capital on Economic Growth in Iran. *Advances in Environmental Biology*, 6(8): 2397-2402.
- Mehdivand, M., Zali, M.R., Madhoshi, M., and Kordnaeij, A. (2012). Intellectual Capital and Nano-Businesses Performance: The Moderating Role of Entrepreneurial Orientation. *European Journal of Economics, Finance and Administrative Sciences*, Issue 52.
- Molodchik, M., and Bykova, A. (2011). Applying the VAIC™ Model to Russian Industrial Enterprises. *Proceedings of the 3rd European Conference on Intellectual Capital*, University of Nicosia, Cyprus 18-19 April 2011, pp. 34-35.
- Molodchik, M.A., Shakina, E.A., and Bykova, A.A. (2012). Intellectual Capital Transformation Evaluating Model. *Journal of Intellectual Capital*, Vol. 13 Iss: 4.
- Moslehi, A., Mohagharl, A., Badiei, K., and Lucas, C. (2006). Introducing a Toolbox for IC Measurement in the Iran Insurance Industry. Tehran University. *The Electronic Journal of Knowledge Management*, Volume 4 Issue 2, 2006, pp. 169-180.
- Naveed, M., and Malik, R.K. (2012). A Metaphoric Based Perspective on Intellectual Capital and Firm Performance. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 3, No. 10, pp. 880-897.
- Ning, Y.T., Chen, C.H., Yen, L.S. and Lun, T.C. (2011). Knowledge Creation and Intellectual Capital on Securities Investment Services. *African Journal of Business Management*, Vol. 5(3), pp. 924-933.
- Purgailis, M., and Zaksa, K. (2012). The Student Loyalty as a Part of Higher Education Organization's Intellectual Capital. *New Challenges of Economic and Business Development*, May 10 - 12, 2012, Riga, University of Latvia, pp. 506-515.
- Rahim, A., Atan, R., and Kamaluddin, A. (2011). Intellectual Capital Efficiency, Innovation Capital and Firm's Performance in Malaysian Technology. *Proceedings of the 8th International Conference on Intellectual Capital, Knowledge Management & Organizational Learning*, 27-28 October 2011. Bangkok, Thailand. The Institute for Knowledge and Innovation, Southeast Asia (IKI-SEA) of Bangkok University, pp. 81.
- Rahman, S. (2012). The Role of Intellectual Capital in Determining Differences between Stock Market and Financial Performance. *International Research Journal of Finance and Economics*, Issue 89, pp. 46-77.
- Roos, G. and Roos, J. (1997). Measuring your Company's Intellectual Performance. *International Journal of Strategic Management. Long Range Planning*, Vol. 30, No. 3, 1997, pp. 413-426.

- Saeedi, N., Alipour, A., Mirzapour, S.A., and Chaboki, M.M. (2012a). Ranking the Intellectual Capital Components Using Fuzzy TOPSIS Technique (Case Study: An Iranian Company). *Journal of Basic and Applied Scientific Research*, 2(10), pp. 10360-10368.
- Saeedi, N., Masouleh, S.A., Koochaksaraei, H.M., Mousavian, S.I. (2012b). Studying the Role of Applying Knowledge Management on Iran's Carpet Industry Compatibility. *Journal of Basic and Applied Scientific Research*, 2(12), pp.12665-12669,
- Sharabati, A., Jawad, S., and Bontis, N. (2010). Intellectual Capital and Business Performance in the Pharmaceutical Sector of Jordan, *Management Decision*, Vol. 48, No. 1, pp. 105-131.
- Sharabati, A.A. (2013). The Relationship between Human Capital and Jordanian Pharmaceutical Organizations' Business Performance. *International Journal of Academic Research in Business and Social Sciences*, January 2013, Vol. 3, No. 1, pp. 260-279.
- Skandia (1995). *The Power of Intellectual Capital. Renewal Development & Intellectual Capital Supplement to Skandia's, Interim Report 1995* (on-line). www.Skandia.com.
- Skandia (1998). *'IC the Future'– Innovative Enterprising, Human Capital in Transformation: Intellectual Capital Prototype Report 1998* (on-line). www.Skandia.com.
- Stewart, T.A. (2003). *Intellectual Capital: the New Wealth of Organizations*. London. Nicholas Brealey Publishing.
- Sundac, D., and Krmptic, I.F. (2009). Measurement and Management of Intellectual Capital. *Tourism and Hospitality Management*, Vol. 15, No. 2, pp. 279-290.
- Sveiby, K. (1997): *Measuring Intangible Assets*, (on-line). www.Sveiby.com and www.sveibytoolkit.com.
- Tajdari, A. and Tehrani, N.G. (2012). Measuring Human Centered-Asset as the Main Element of Intellectual Capital in a Consulting Firm. *Proceedings of the 9th International Conference on Intellectual Capital, Knowledge Management & Organisational Learning*. The Universidad Del Rosario and the Universidad Jorge Tadeo Lozano Bogotá, Colombia, 18-19 October 2012, pp. 254-264.
- Taleghani, M., Shirsavar, H.A., Gashti, G.B. (2011). Determine of the Relationship between Dimensions of Intellectual Capital and Productivity of Education Organization of Guilan Province. *Australian Journal of Basic and Applied Sciences*, 5(8), pp. 1456-1460.
- Tayles, M., Webste, M., Sugden, D. and Bramley, A. (2005). Accounting "Gets Real" in Dealing with Virtual Manufacturing. *Journal of Intellectual Capital*, Vol. 6 No. 3, 2005, pp. 322-338.
- Uadiale, O.M. andUwugbe, U. (2011). Intellectual Capital and Business Performance: Evidence from Nigeria. *Interdisciplinary Journal of Research in Business*, Vol. 1, Issue 10, pp.49- 56.
- Vashishtha, S.D. Vashishtha, S. and Sharma, P. (2012). Towards Assessing True Worth of Intellectual Capital. *International Journal of Social Science & Interdisciplinary Research*, Vol.1 Issue 8, pp. 1-7.
- Wang, G.L. (2012). A Study of How the Organizational Culture of International Tourist Hotels Affects Organizational Performance: Using Intellectual Capital as the Mediating Variable. *The Journal of Global Business Management*, Vol. 8, No. 1, pp. 189-201.
- Wibowo, E. (2012). Analisis Value Added Sebagai Indikator Intellectual Capital Dan Konsekuensinya Terhadap Kinerja Perbankan. *Master Thesis*. Fakultas Ekonomika Dan Bisnis Universitas Diponegoro, Semarang. Ekonomi/Akuntansi. Universitas Diponegoro.

- Zambon, S. (2002). Accounting, Intangible and Intellectual Capital: an Overview of the Issues and some Considerations. *Working Paper No. 4*, April 2002. University of Ferrara.
- Zehri, C., AbdelBaki, A., and Bouabdellah, N. (2012). How Intellectual Capital Affects a Firm's Performance? *Australian Journal of Business and Management Research*, Vol.2, No.08, pp.24-31.
- Zulmiati, R. (2012). Pengaruh Intellectual Capital Terhadap Kinerja Perusahaan (Studi Pada Perusahaan Consumer Goods Industry yang Terdaftar di Bursa Efek Indonesia Tahun 2005-2010). *Master Thesis*. Ekonomika dan Bisnis/Akuntansi. Universitas Diponegoro.