Journal of Positive School Psychology
2022, Vol. 6, No. 5, 9166–9173

Intellectual Capital and Organizational Performance from the Perspective of Airliners

Adnan M. Rawashdeh

The University of Jordan /Aqaba Campus-Business faculty- business department
adnanrawa@yahoo.com

Abstract

In today's competitive environment, organizations all over the world have paid extra attention to intangible assets as a great source of organizational performance and competitive advantage. The purpose of this research was to examine the relationship between intellectual capital components (human capital, structural capital, and relational capital) and organizational performance. Data were collected from 294 employees working in Jordanian airlines companies. Data was analyzed through descriptive statistical methods with mean, standard deviation, percentage, Pearson correlation coefficient, T-test and regression performed by SPSS. The results of the analysis showed that intellectual capital components (human capital, structural capital, and relational capital) had a positive effect on organizational performance. The output of this research will benefit Jordanian scholars, professional, policy makers, and decision makers as well.

Keywords— intellectual capital, organizational performance, private airlines companies, Jordan.

INTRODUCTION

In today's knowledge economy era, organizations have gradually shifted their focus from tangible assets to intangible assets [17]. Intangible assets such as, intellectual capital, knowledge management, and learning have been assured as a significant contributors to competitive advantage [24], [1],[2]. The increasing value of intangible assets has raised the interest of many scholars in the past recent years. The study of intellectual capital has been growing rapidly as a valuable strategic resource that can produce superior performance [1]. According to [32] intellectual capital is known as the knowledge of employees that is used by firms for value generation. Most prior researchers agreed that intellectual capital is consisted of three major elements namely, human capital, relational capital and structural capital, e.g. [6], [30]. Some past scholars stressed that these elements play an indispensable role in creating and sustaining organizational performance [15], [27], [3].

Organizational performance is generally known as the capability of firms to achieve their member's demands and their own demands for success [1], [23].Firms always press to develop new ways that discover opportunities across the world through the best use of their available assets [7]. To attain this objective, firms should understand that intangible assets are more valuable than tangible assets in creating and sustaining positive performance. Intellectual capital for example is assured as intangible asset that can provide firms with sustainable performance [6].

After assessing some past research studies, e.g. [5], [30], [32] we found that most of them were carried out in western countries. In eastern countries like Jordan it is still at the beginning stage. Jordan is known as one of the emerged economic countries and has large potential of structural capital efficiency, relational capital efficiency, as well as human capital efficiency and therefore investigating intellectual capital performance will be very productive. The output of this research will benefit Jordanian

scholars, professional, policy makers, and decision makers as well.

Theoretical background and hypotheses

Intellectual capital

The term intellectual capital was initially used by economist, John Kenneth, and has raised the interest of scholars and professional in the past recent years [6]. Intellectual capital can be defined as the knowledge and knowing capabilities which contribute positive performance to the organization in the industry[19]. Past studies have provided the concept of intellectual capital in different frameworks. Most of these frameworks have included the following components of intellectual capital, human capital, customer capital, structural capital, business capital, social capital, technological capital and spiritual capital, e.g.[14],[20],[4],[8]. Intellectual capital elements is recognized as a great source of interest for an organization's productivity[18]. Besides, they can lead to positive organizational performance [22],[29],[33]. Therefore, firms are expected to consider the concept of intellectual capital and discover the elements of their intellectual capital effectively. On the bases of the above discussion this study will adopt the following elements of intellectual capital, human capital, social capital and structural capital in accordance with the study of [30].

1) Human Capital

Human capital is recognized as the most essential element of intellectual capital and is highlighted as the heart of it[6]. It includes skills, knowledge, experience, capabilities, and competencies of employees. [11] argued that the human capital is very important for firms because their performance depend largely on the capabilities of employees. Therefore, it is recommended that firms need to constantly invest in their human capital so as to maintain positive performance.

Human capital is assured as the most important asset within the organization[20]. It is stilled in employees' blood and cannot be possessed by the firm [29]. Further, Human capital is recognized as the intelligence of the firm personnel, or the sum of individuals experience, qualities and capabilities that influence market changes and customer needs [4]. Therefore, individuals' development in the firm is a key engine to support human capital and add value to the firm [30]. Firms should carefully evaluate, and recognize their human capital as a significant part of intellectual capital because of its ability to stimulate performance and competitiveness [15]. Human capital is measured as the individuals' skills, knowledge, and competences [22].

2) Structural Capital

Structural capital can be described as a collection of data, publications, technologies, inventions, strategies, culture, structure and system, a sum of policies and practices that the firm performs routinely [17]. It's also recognized as the collection of firm competences that influence both the process and the generation of innovative capital [12]. Another meaning of structural capital is the ability of firm to meet its customers' needs [3]. [8] argue that a fit firm structure, jointly with competent individuals provided that effective and quality service that will produce high level of performance.

Structural capital is accompanied with all those actions and programs that are needed for firm survival [1]. Structural capital enables firm to retain human capital [4]. Indeed, structural capital serves as an enabler for human capital as a set offers the required atmosphere for employees to develop their human capital and knowledge [6]. [28] stressed that structural capital is the knowledge that is generated and controlled by a firm. Structural capital differs from human capital as it can be owned by the organization, which enable the firm to develop it effectively in order to create positive performance [7].

3) Relational Capital

Relational capital/capital employed can be described as an organization connection with its external stakeholders in research and development [18]. It refers also to the value gained through cooperation and relation alliance between firms and the external environment members [20]. [27] added that relational capital may avail both the firm and its stakeholders. Furthermore, relational capital is

considered to be very essential for firms, due to its ability to generate value through combining internal intellectual capabilities with external parties [29]. As a result generating and sustain relational capital is important for firms survival [33]. Relational Capital involves cooperation and coordination between the firm and its external environment members (e.g. customers, suppliers, shareholders) as well as any one related to the firm [12].

Development of Hypotheses

Nowadays most organizations depend largely on intangible and scarce resources to gain superior performance and competitiveness [1]. Intellectual capital as intangible resources can determine the current and future success and performance of organizations [18]. [20] found that organizational performance can be attained through shaping intellectual capital in the form of technical skills, experience, and strategic competences. Meanwhile, Intellectual capital depicts strategic resources that may lead to sustainable positive performance to the organizations. Human capital has become the most valuable resource for superior performance in today's turbulent changing environment [26]. Organizations need knowledgeable employees with good skills, expertise, and competencies to make excellent decisions [11]. Human capital is assured as the most valuable facet of intellectual capital, and organization that has perceived its significance and developed its individuals tend to achieve positive performance [6].

Regarding structural capital, firms who have poor policies and procedures to exploit their resources effectively, will end up in a way or another short of their performance objectives. On the contrary, firms who offer good structural support to their resources through stimulating commitment, engaging first line managers, and improving innovation culture, will be capable to create positive performance [9]. Further, structural capital drives firm value generation practices that provide a huge impact to its performance. On the other hand, firms considering strategic relationships usually emphasize the cooperation with their parties [13]. Relational capital support may help employees in building strong relationship with each other, bringing new ideas to the firm and achieving tasks effectively, which in turn lead to positive performance [30]. Building relational capital with external members will enable firm employees to learn from those members experiences, which in turn help them to develop effective ways to achieve their tasks successfully [21].

In an investigation of the relationship between Knowledge sharing, intellectual capital and firm performance in China,[30] found that Human, structural and relational capital, enhance both operational and financial performance of firms. Another study conducted by [11] to examine the relationship between six elements of intellectual capital such as human capital, structural capital, customer capital, social capital, technological capital and spiritual capital with organizational performance in Malaysia, the results showed that intellectual capital has significant influence on the organizational performance in Malaysian. [6] have investigated the impact of intellectual capital (External capital, internal capital, Human capita) on financial capital of the Indian software sector, the findings revealed significant relationships between intellectual capital components and financial performance. In their study in Pakistan [26] "titled the impact of intellectual capital on the performance of Universities" found, positive correlation between the three components of intellectual capita (Human Capital Structural Capital, Relational Capital) and firm performance. In Jordan [21] revealed a positive effect of intellectual capital (Human, structural and relational capital) on organizational performance. On the basis of these studies, the following hypotheses were developed to investigate the relationship between intellectual capital factors (Human Capital Structural Capital and Relational Capital) and organizational performance in Jordanian Private Airlines.

H1: Human capital positively affect organizational performance

H2: Customer structural positively affect performance

H3: Relational capital positively affect organizational performance.

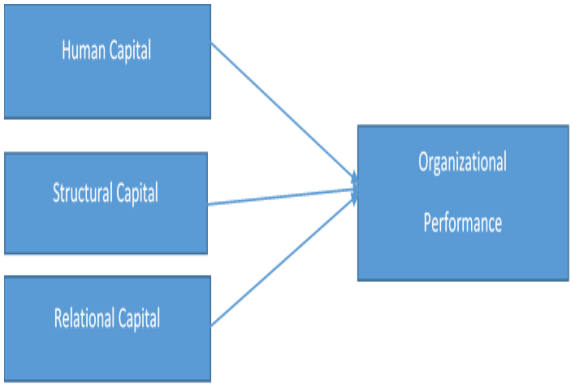

Fig. 1. Theoretical Framework

Methodology

Primary data was the main source of data collection. Self-structured questionnaire was adopted to collect data from the research sample. All measurement questions were obtained from past studies scales to ensure reliability and content validity of latent variables. The intellectual capital factors (Human Capital, Structural Capital and Relational Capital) were measured with 15 items taken from [26], [30],[11],[6] while the organizational performance (customer satisfaction, , innovation, employee satisfaction, and organizational commitment) was measured with 12 items adopted from [16],[11],[29],[27]. The population of the present research involves all employees working at the twelfth private airlines companies located in the capital Amman, Jordan, which counts of more than 2100 employees according to their human resource departments. Convenience sampling technique was used in this study. Participants were informed to rate their answers based on 5-point Likert Scale where 5 indicated strong agreement and 1 indicated strong disagreement. A total of 400 questionnaires were distributed, 318 questionnaires were collected, out of which 294 were found to be useable for further analysis with the response rate of 73 percent. Data was analyzed through descriptive statistical methods with mean, standard deviation, percentage, Pearson correlation coefficient, T-test and regression performed by SPSS. Cronbach's Alpha was used to test the internal consistency of the instrument. The dependent variable for this study is the organizational performance, while, there are three independent variables that relate to the dependent variable. These variables include human capital, structural capital, and relational capital.

Regarding the respondents profile, the majority were male (n 203, 69%), female were (n91, 31%). As for the age, less than 25 years (n 28, 9.5 %), 25 and less than 30 years (n 54, 18.4%),30 and less than 35 years (n62, 21.1 %), %), 35 and less than 40 years(n 87, 29.6 %) and above 40 years (n63, 21.4 %). For education, the majority of respondents were holding diploma and less (n 112, 38.1%), undergraduates (n 160,54.4%), and (n22, 7.5%)graduates. The respondents experience was also varied; 38 (13%) were less than 5 years' experience, 5 and less than 10 years of experience 95(32.3%), 10 and less than 15 years of experience were 98(33.3%) ,while 63 (21.4%) were above 15 years.

Table 1. Scale determine the relative importance of the mean

The level of the effect	**The Mean**
Low	2.33 and less
Medium	2.34 - 3.67
High	3.68 - 5

These categories were derived according to the following equation: Interval length = (highest weight -lowest weight)/ (three levels) = (5-1)/3 = 1.33

Table 2.Means and standard deviations for survey Items

No	**Domains**	**Mean**	**St. deviation**	**Degree of agree**
1	Human Capital	4.022	.773	High
2	Structural Capital	3.975	.839	High
3	Relational Capital	3.894	.863	High
	Intellectual capital components	3.963	.825	High
4	Organizational Performance	3.818	.853	High

Table3.The correlation between survey items

	Human Capital	**Structural Capital**	**Relational Capital**	**Employee performance**
Human Capital	1	0.644**	0.680**	0.625**
Structural Capital		1	0.663**	0.587**
Relational Capital			1	0.608**
organizational Performance				1

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4. Multiple linear regression analysis to test the relationship between Green HRM practices and environmental Performance

Variable	**β**	**T**	**Sig (t)**
human capital	0.346	4.36	0.0002
Structural capital	0.352	4.14	0.000
Relational capital	0.360	4.00	0.0004

R2 = 0.886 Adjusted R2 = 0.842 F-value = 89.96(0.000) $\alpha = 0.784$

Results and Discussion

The values of Cronbach's Alpha show consistency as they ranged from 0.746-0.882 > 0.50 (Wu, 2005). The reliability of all constructs of the instrument is above 70%, and the total reliability is above 90% > 0.60 (Hair et al., 1998). Thus, it can be concluded that the instrument used in this study was consistent and reliable. Table 2 reports the means, standard deviations, and the application degree of the study variables. The results of descriptive statistics indicated general agreement of the respondents to intellectual capital dimensions. The total implementation of intellectual capital is 3.963, which is considered as a high level. The mean values ranged from highest 4.022 with Sd(.773) for human capital to lowest 3.894 with Sd(.863) for relational capital, and 3.818, with Sd (0.853) for organizational performance. The mean score and standard deviation reflected conformity of respondents' perception about these items. To test the study hypotheses Pearson's correlation coefficient and multiple linear regression analysis were used. Table 3 indicates that there was a positive correlation between organizational performance and the three components of intellectual capital, as the strongest correlation is with human capital (p= 0.625), while the weakest correlation is with structural capital (p=0.587). To test the correlation among intellectual capital components, also Table 3 indicates a significant correlation with each other, as the strongest correlation is between "human capital" and "relational capital " (p= 0.680), while the weakest correlation is between "human capital" and "structural capital" (p=0.644). These correlations can be considered as positively strong since all of the Pearson's correlation coefficient values are above (p= 0.50). Furthermore, Table 4 shows the results of multiple linear regression analysis to test the relationship of intellectual capital components (human capital, structural capital, and relational capital) collectively with organizational performance in Jordanian private airline companies. The correlation coefficient (0.784) suggests a high positive relationship with organizational performance. The F-value (89.96) indicates that there was a relationship with organizational performance as the value of the significance level (0.000) related to F value was less than 0.05, suggesting the presence of the relationship. To test hypothesis 1, The T value of 4.36 indicates that there was a significant relationship of human capital with organizational performance as the value of the significance level (0.002) related to T value was less than 0.05 suggesting the presence of the relationship. To test hypothesis 2, The T value is 4.14, which indicates that there was a significant relationship of structural capital with

organizational performance as the value of the significance level (0.000) related to T value was less than 0.05 suggesting the presence of the relationship. To test hypothesis 3, The T value is (4.00), which implies that there was a significant relationship of relational capital with organizational performance as the value of the significance level (0.004) related to T value was less than 0.05 suggesting the presence of the relationship. In conclusion, the three developed hypotheses in this study are supported, as the findings of the statistical analysis indicated a positive association of intellectual capital components collectively and individually with organizational performance. The above mentioned results are in congruence with other scholars , e.g., [30], [11],[6],[26].[21]results.

Human capital indicated positive relationship with organizational performance. The premise behind this may be because of human capital is a set of intangible resources e.g. experience, skills, and knowledge that are proved as a good predictors of organizational performance. De facto, if human capital possesses excellent quality, the firm can create and sustain high level of performance. Contrariwise, if human capital is of poor quality, the firm will fail short of its performance goals. This opinion is supported by empirical evidence, for example [6] found that human quality influenced firm performance. Structural capital on the other hand showed positive relationship with organizational performance. This means that companies have paid extra attention to their infrastructure and processes that help human capital to perform effectively, which in turn lead to positive performance. In fact, structural capital acts as an enabler for human capital within the firm [11]. [13] assured that investment in structural capital drives firm value generation practices that provide a huge impact to its performance. The positive relationship between relational capital and organizational performance, implies that firms have a strong relations with their external parties. [27] referred that building a good relationships with stakeholders can provide organizations with multiple opportunities that help them to increase their performance. Further, maintaining an effective connections with external environment members may produce company's reputation and customers' brand loyalty, thereby affecting the company's performance [12]. In a nutshell, Intellectual capital components can be improved and better exploited by practicing managerial activities and strategies that will provide value through the firms' members, which may influence organizational performance. Thus, firms across the world are paying extra efforts in developing not only their tangible resources but also their intangible resources as well.

Conclusion

The purpose of the current work was to examine the relationship between intellectual capital components (human capital, structural capital, and relational capital) and organizational performance. A theoretical framework was proposed and empirical testing was achieved employing a sample of 294 participants from Jordanian private airlines companies. The research results show a positive relationship between intellectual capital components (human capital, structural capital, and relational capital) and organizational performance. Moreover, this research contributed to the present literature by highlighting the role of intellectual capital in improving organizational performance in aviation industry in a developing country context, Jordan.

Limitations , Future Research and Recommendations

The present study has some limitations as follows, firstly, it includes only three intellectual capital component. Therefore, we recommend that future work is to examine more intellectual capital components in the same industry or other industries in Jordan. Secondly, the convenience sampling process was used in this study which is subject to some bias. So, future research may use other types of sampling processes such as simple random selection, where the bias is not possible. Also, this study examine the direct effect of intellectual capital components on organizational performance. So,

future work may examine the indirect effect between those variables by employing a mediator variable. Finally, this study was conducted in Jordan therefore, the results cannot be generalized across other countries.

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