

## **INFLUENCE OF HUMAN CAPITAL AND ORGANIZATIONAL CAPITAL ON THE ORGANIZATIONAL INNOVATION**

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### **ABSTRACT**

*The aim of this study is to search for any relationship among human capital, organizational capital and organizational innovation. To do so, a survey study was conducted, and 322 people from 241 companies completed the prepared questionnaire. Data collected was evaluated using AMOS software for structural equation modeling. It is found that human capital has a direct influence on the success in organizational innovation, and organizational capital further increase the strength of this relationship.*

**Keywords:** Human Capital, Organizational Capital, Organizational Innovation, SEM (Structural Equation Modeling).

### **1. INTRODUCTION**

The vital role of organizational innovation in the success of companies has been well recognized both in the business and academic environments recently. It has been marked as one of the most important and sustainable sources of competitive advantages for business and proven to have a positive effect on financial performance [1]. Human capital which is the combination of knowledge, abilities and skills residing within the individuals is the adjuvant factor for innovation process. However, without appropriate organizational systems and structures, human capital may come short on enhancing organizational innovation.

The aim of this study is to find out, whether the human capital and organizational capital has an influence on organizational innovation. To our knowledge, this relation has only been studied in one article [2] before, and the study settings were different from our study.

To accomplish this aim, a questionnaire has been prepared as a result of an extensive literature review. The respondents were asked to evaluate the degree of agreement with 20 statements on a five-point Likert scale. 322 usable returns have been received. Structural equation modelling (SEM) was used to test the relationships within the model.

### **2. LITERATURE REVIEW**

Ashraf and Khan [3] define organizational innovation as putting of new ideas and procedures in effect. It has “a tendency to increase company performance by reducing administrative and transaction costs, improving work-place satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as noncodified external knowledge) or reducing costs of supplies.” [1].

At the organizational level; if the leader collaborates with employees, uses inspirational motivation and intellectual stimulation and if the employees’ individual creativity level is high then it positively affects the organizational innovation. Teamwork, for example, brings employees with various skills, knowledge, and backgrounds together, where, in turn, a significant knowledge diversity results in

more innovative approaches [4]. At this point, the intellectual assets of the employees, and how the management utilizes those assets need to be focused on.

Human capital is the core asset of an organization including know-hows, capacities, knowledge, skills, experience, competences, attitudes, commitment, individual personal characteristics and creativity those reside within employees [5, 6]. In contemporary business life, a firm's survival depends on its employees' innovative capability, and human capital causes the transformation of knowledge into innovative products or services and promotes such an innovative capability [7].

Organizational capital, on the other hand, can be defined as "everything that gets left behind at the office when employees go home" [8]. Unlike human capital, it belongs to the organization as a whole and it can be reproduced and shared. [9] and [10] state that organizational capital includes hardware, software, databases, organizational structure, patents, trademarks, copyrights, designs, corporate culture, corporate values, management processes, networks and expert teams.

### 3. METHODOLOGY

The general purpose of this study is to gain a deeper understanding of the relation between human capital, organizational capital and organizational innovation. To do so, after an extensive literature review, it was decided to derive questions as listed below:

Human Capital Survey Questions [11]

- Our employees are highly skilled. (A1)
- Our employees are widely considered the best in our industry. (A2)
- Our employees are creative and bright. (A3)
- Our employees are experts in their particular jobs and functions. (A4)
- Our employees develop new ideas and knowledge. (A5)

Organizational Capital Questions [12]

- Our organization uses white paper, case studies, patents as a way to store knowledge. (B1)
- Much of our organization's knowledge is contained in manuals, and databases. (B2)
- Our organization has an enterprise information portal having easy access to various information sources. (B3)
- Our organization's culture (stories, rituals) contains valuable ideas and ways of doing certain business. (B4)
- Our organization embeds much of its knowledge and information in structures, systems and processes. (B5)

Organizational Innovation Questions [13]

- Our organization has clear social networks that support innovative capabilities. (C1)
- Our organization has reward scheme based on the value of innovation. (C2)
- Our organization business results focus should be based on customers and understanding changing demand. (C3)
- Our organization has established mechanisms that harness the innovativeness of key individuals and teams to create value. (C4)
- Our organization combines the knowledge with results to build a new products and/or services on a yearly basis. (C5)
- Our organization brings new products and/or services on a yearly basis. (C6)
- Our organization culture supports transfer of best practices that leads to new developments. (C7)
- Our organization has all the facilities that enhance team work. (C8)
- Our organization has the ability of speeding up creative ideas. (C9)
- Our organization would develop new ideas from capturing achievements and failures. (C10)

The respondents were asked to use a five-point Likert scale (i.e. 1=strongly disagree to 5= strongly agree) to answer these questions, and the data collected was used to test 4 hypotheses:

H1: Human capital has a significant effect on organizational innovation.

H2: Human capital has a significant effect on organizational capital.

H3: Organizational capital has a significant effect on organizational innovation.

H4: The impact of human capital on organizational innovation increases with a mediating role of organizational capital.

The questionnaire was sent to hundreds of graduate students via email, shared on several social networks and online groups, and filled in one-to-one interviews. Also, it has been and sent to the human resource departments of 121 firms.

To analyze the data, and test these hypotheses, Structural Equation Modelling (SEM) was used. Ullman [14] defines SEM as a set of statistical techniques which enables us to relate one or more dependent or independent variables, being continuous or discrete. It is a combination of factor analysis and regression or path analysis [15].

#### 4. RESULTS AND DISCUSSION

The hypothesized structural models were tested by using AMOS software. The tests were conducted in two stages. To be able to conclude whether the models are acceptable, the goodness of the fit statistics were checked in each stage against acceptable limits. Values within the acceptable limits indicated a good fit to the data.

In the first stage, only the relation between human capital and organizational capital was tested. It needed to be significant to be able to continue with the second step which is testing the mediating relation in H4. The standardized regression weight between HC and OI was 0.765. It meant that the relation was significant ( $p > 0.1$ ). This finding supported H1 meaning that human capital has a direct and significant impact on organizational innovation.

Then the mediating relation in H4 was tested together with H2 and H3. The model and the results are summarized in Figure 1. With the 0.083 regression weight, the results showed us that this relation was not significant ( $p < 0.1$ ) anymore as it expected to support H4. The regression weight between HC-OC was 0.738; OC-OI was 0.920 in the second model which were positive and highly significant ( $p > 0.1$ ). These results led us to accept H2, H3, and H4. It indicates that human capital has a significant effect on organizational capital, and organizational capital has a significant effect on organizational innovation. Also, the impact of human capital on organizational innovation increases with a mediating role of organizational capital. So there is a “full mediation” in the model.

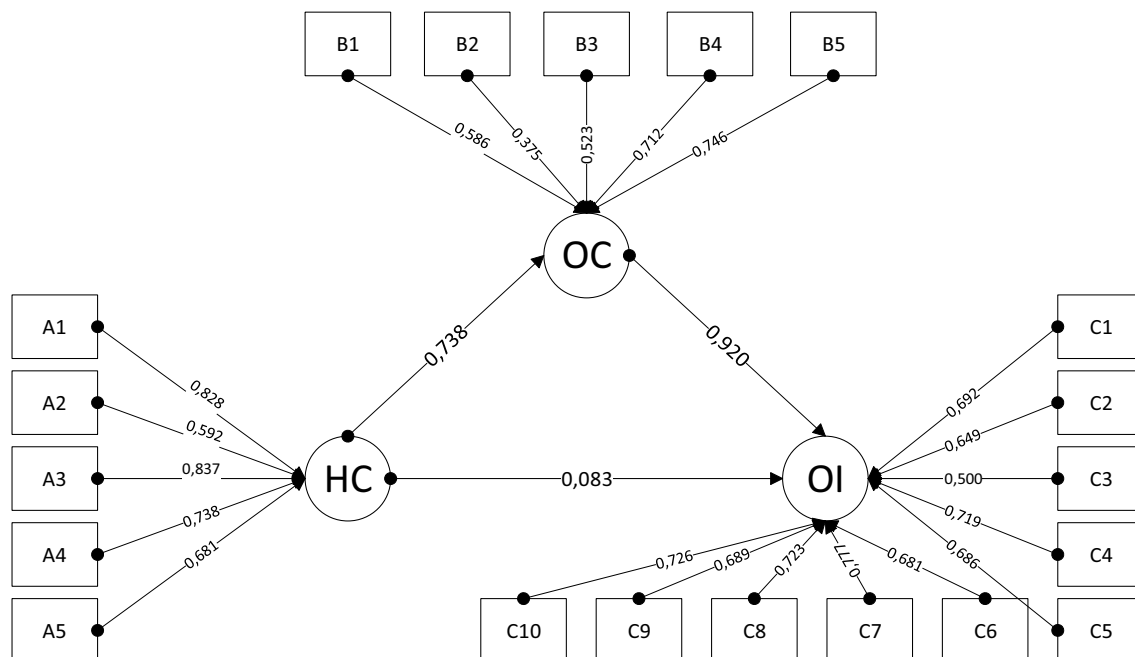


Figure 1. The structural relationship between HC and OI with mediation of OC

Together with these main findings, it was also found that “employees’ creativity and brightness”, and “the skills of the employees” are the most important factors in human capital. However, there is not a significant difference among the regression weights. So their effects on human capital are very close.

For the organizational capital, the employees think that the most important factors are organizational culture; systems and processes (>0.7). Then at the second level (>0.5), there are patents and accessible information portals.

Like the human capital items, there is not a significant difference among the organizational innovation items. However, the most important factors are supportive organizational culture for innovation, learning from the failures, support for teamwork and having mechanisms to improve its employees’ creativeness and innovation capabilities.

## 5. CONCLUSION

This study revealed that human capital directly affects organizational innovation in a positive way. Any improvement in a firm’s employees’ performance, their loyalty, commitment, know-how, educational background, experience, skills, etc. will result in a higher level of organizational innovation. The impact of human capital on organizational innovation increases with a mediating role of organizational capital. It means that, to be better in organizational innovation, firms need to hire the most appropriate work force, and support them intensely with good organizational capital practices.

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