

# Intellectual Capital and Organizational Performance on Commercial Banks of Nepal

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**Abstract**—This study examined the relationship between intellectual capital and organizational performance on major commercial banks of Nepal in the year 2017. The data collected through questionnaire from 186 respondents has been used for descriptive and inferential analysis of the study. The overall findings reveal that intellectual capital variables have strong impact on organizational performance with different demographic factors as mediating variables. Improved intellectual capital determinants cause better organizational performance guiding organizations to attain its mission and vision.

**Keywords:** Knowledge-based environment, Human resources, and inferential analysis.

## 1. INTRODUCTION

The rapid growth of knowledge economy in the last two decades has changed management styles and organizational performance rising the "new economy", one principally driven by information and knowledge, is attributed to the increased prominence of intellectual capital (IC) acquired by human resources of the organizations. The conception and circulation of knowledge as human, structural, and relational intellectual capital have become increasingly important factors in competitiveness.

Throughout the past years, researchers have examined the link between human resource (HR) activities and organizational-level performance that simply looked at the performance impacts of individual HR practices such as staffing, training, and compensation in isolation. Contemporary HR studies pay more attention on the performance impacts of systems of various HR activities. By introducing intellectual capital as a mediating construct, it helps to state on how HR systems drive organizational performance. Worldwide including Asia, there lies the fact that every company-through the knowledge based economy wanting to compete must look for inimitable, rare, non-substitutable resources than traditional ones like materials, technology, tools and other traditional resources. These unique resources are the humans in the organization that run the entire human, structural, and relational intellectual capital.

In Nepalese context, there still lies a bitter truth that organizations are still profit oriented and less attention is given to human resources and their talents to manage human, structural, and relational resources. The significance of human resources is not well realized and most of the resource investments are on infrastructure management, insurance and backup/security of the infrastructure, leaving not much resource for human resources trainings and career development for intellectual capacity enhancement.

This study tries to answer the research objectives of the paper as to identifying the major determinants of intellectual capital of Nepalese Commercial Banks, to examining whether intellectual capital is affected by the moderating variables affecting the organizational performance, and to measuring the relationship between determinants of intellectual capital and organizational performance in general.

The article traces the organizations of all types accessing what factors are causing intellectual capital to be acquired. Similarly, stakeholders can be benefitted with major intellects adopted by the organization in order to fulfill organization's obligations towards them as required. However, only few and handful researches have been done on intellectual capital in Nepalese organizations- all types of organizations. To future researchers, this study can provide baseline information on intellectual capital and employee intellects. Likewise, it could be beneficial to the management of commercial banks to know about the determinants that cause intellectual capital to be gained to enhance the employee job performance and thus make human resource strategies accordingly. In addition, customers can know how the commercial banks are adopting intellects to keep their changing preferences addressed through relational intellects.

## 2. LITERATURE REVIEW

Kianto, Andreeva, and Pavlov (2013), Ferreira and Martinez (2011), and Tastan, and Davoudi (2015), made a study on employee job performance behaviors indicating that the banks with higher IC had increased employees' behavioral outcome

revealing competitive financial revenues as a key managerial mechanism for firms in the knowledge economy. Similarly, Sharabati, Jawad, and Bontis (2010) and Bramhandkar, Erickson, and Applebee (2007) on IC and business performance in the pharmaceutical sector offered valuable insights with the expected outcome that intellectual variables are the major determinants of IC. In 2006, Chu *et al.*, made an analysis to find IC's relevance to the value creation process and the empirical findings demonstrated the considerable relevance of it to the value creation process for institute. Yang and Lin (2009) and Evans, Brown, and Baker (2015) measured the IC mediating the relationship between HRM and organizational performance from perspective of a healthcare where the result confirmed the mediation role of IC in explaining the effect of HRM practices on organizational performance.

Fallahi and Baharestan (2014) identified the effect of human resources management and IC on the organizational performance revealing that human resources management influences IC and therefore IC influences organizational performance significantly based on objective-based theory. In (2012), Anne and Laure made a study where a first set of studies revealed the positive relationship between the VAIC<sup>TM</sup> and employees' performance and second stream measured both IC and performance and the findings confirmed the central role of human capital. Chan (2009), Fadaei, Taleghani, and Noghebari (2013), Apiti, Ugwoke, and Chiekezie (2017), and Khan and Raushan (2017) conducted a similar study which concluded that in achieving business competitive advantage, companies must create a culture that emphasizes IC importance, by develop valuation system and approach for IC reporting that will be accepted globally.

Miller, *et al.* (1999) made a study on high technology firm and an institution of higher education where the findings and conclusion revealed the usefulness of human and customer capital indicators over structural capital indicators. Shehzad *et al.* (2014) and Khozani and Alvar (2016) made studies of universities where the result showed that there was relationship between social and IC and staff performance and also between IC indices and staff performance. Fincham, and Roslender (2003) conducted a study on IC accounting that proved that the 'management fashion' is determined by IC's social mechanism.

Safieddine, Jamali, and Noureddine (2008) made a research on good corporate governance (CG) to lead to an inability to attract and retain IC. The results suggested the CG as a major factor for IC attraction for talent retention. Ahmadi, Ahmadi, and Shakeri (2011), and Amani, and Avili (2016) concluded with a remark that efficient information systems and appropriate databases are required in oil refining companies to sustain IC. Kalkan, Bozkurt, and Arman (2014), Hudgins (2014) made a study in insurance companies' and Sayad and Pourmohammadi (2014) in biotechnological production performance and it was revealed that there were

positive relationships between IC, innovation and organizational strategy and firm performance through its human resources in first study and all IC variables in the biotech companies had an impact on the financial performance challenging a dynamic economy in its use. Obeid *et al.* (2017), made a study in manufacturing companies where the findings revealed that the IC is an essential enabler to knowledge sharing and positively mediating the relationship between IC and organizational performance. Gogan *et al.* (2016) undertook a research to investigate the relation between the IC and the organizational performance of drinking water. The results obtained from this study showed that there exists a significant relationship between the IC and organizational performance.

### 3. METHODOLOGY

#### 3.1 Variable Selection

$$Q = f(X_i), \text{ where } i = 1, 2, 3, 4, \dots, 9$$

$$\text{i.e., } Q = f(X_1, X_2, X_3, \dots, X_9)$$

Where,

Q=Organizational Performance

X1 = Learning and Education

X2= Experience and Expertise

X3= Innovation and Creation

X4 = Systems and Programs

X5 = Research and Development

X6 = Intellectual Property Rights

X7= Strategic Alliances, Licensing, and Agreements

X8= Customer and Supplier Relations

X9= Customer Knowledge

The study is based on major two key article papers which are similar to the researcher's study: "Investigating the Effect of HRM and Intellectual Capital on the Organizational Performance: Kermanshah Physical Education Organization as a Case Study" by Fallahi and Baharestan (2014) and "Intellectual Capital and Business Performance in the Pharmaceutical Sector of Jordan" by Sharabati, Jawad, and Bontis (2010). In this study, the proposed conceptual framework is derived from the later paper where the writers have studied the relationship of intellectual capital with human capital, structural capital, and relational capital with organizational performance within the pharmaceutical sector of Jordan. Under human capital, learning and education, experience and expertise, innovation and creation; under structural capital, systems and programs, research and development (R&D), intellectual property rights (IPRs); and under relational capital, strategic alliances, licensing, and agreements, customer relations, and customer knowledge have

been taken as major determinants influencing business performance through human resource.

### 3.2 The Data Source

The instrument that has been used in this research is the structured questionnaire based on qualitative aspect. This study is in the form of cross sectional study. The study was conducted in the mid-month of August, 2017. The population for this survey is the employees working in the 28 commercial banks in Nepal. However, 10 banks as samples are taken out of 28 banks. Approximately, 33 percent of the sample from the population of banks i.e., one government bank, three joint venture banks, and six domestic private banks have been chosen as samples using stratified sampling technique along with non-probability convenience and judgmental sampling method. In this study, both primary and secondary data have been used. The primary data was collected via survey where, out of 200 distributed questionnaire, 20 for each organization randomly where valid responses have been received from 186 respondents. Therefore, the sample size of the study is 186. The secondary data for this research is collected from different sources like course books, internet, online journals, articles, and related research work.

### 3.4 The Data Analysis Methods

The questionnaire consists of various types of questions such as single response questions, ranking scale questionnaire, multiple response questions, and LIKERT scale meeting the objectives. For reliability, a pilot survey has been done to 10 non-sample respondents working in commercial banks to check the results. In order to achieve right answers from the respondents, cross-checking has also been done. Errors generated from non-responses have been minimized as far as possible from such cross checking. The results and findings of the research have also been compared with results and findings of similar research. Cronbach's alpha has been used to test the reliability of the primary data for validation. For data validity, past questionnaires, surveys and their responses have also been referred from reports carried out on similar topics. In order to analyze the collected data, SPSS and Microsoft Excel worksheets have been used.

## 4. RESULTS AND DISCUSSIONS

### 4.1 Descriptive Analysis

Descriptive statistics has been used for analyzing the data. Under descriptive analysis, percentage table has been studied. Based on the result of the SPSS, out of 186 respondents, only 70.4 percent respondents stated that they have idea on the concepts of intellectual capital. Besides, among the three major determinant types of intellectual capital, respondents with 57.49 percent know about human capital, 27 percent know about relational capital and 15.94 know about structural capital

**Table 1: Ranking of IC Determinants on Likelihood to Affect Organizational Performance**

Descriptive Statistics					
Parameters	n	Min	Max	Mean	Std. Deviation
Learning and Education	186	1	9	2.61	1.774
Experience and Expertise	186	1	9	3.64	1.955
Innovation and Creation	186	1	9	4.39	2.242
Systems and Programs	186	1	9	4.50	2.264
Research and Development	186	1	9	4.15	2.203
Intellectual Property Rights	186	1	9	5.74	2.266
Strategic Alliances, Licensing, Agreements	186	1	9	6.82	2.306
Customer Relations	186	1	9	6.47	2.353
Customer Knowledge	186	1	9	6.47	2.344

The ranking of intellectual capital variables is based on its likelihood to influence organizational performance. In the above table, the ranking of the parameters in the scale of 1 to 9 for nine parameters, where, 1 is most likely to affect organizational performance and 9 is least likely to influence organizational performance. In the sample of 186 respondents, learning and education with relatively lower mean of 2.61 is being ranked as highest factor likely to have impact on organizational performance. However, strategic alliances, licensing, and agreements with highest mean of 6.82 are seen less likely to influence organizational performance.

### 4.2 Inferential Analysis

For inferential analysis, independent sample t-tests and one-way ANOVA have been used to measure the effects of moderating variables on independent variables and lastly for hypothesis testing, correlation coefficient has been done.

#### 4.2.1 Independent Sample t-tests

The independent sample t-test has been made with gender and three well defined categories of intellectual capital. From the result based on SPSS, the p-value of learning and education and innovation and creation among all the IC variables is less than the significant level (i.e., p-value < 0.05), which indicates that there is significant relationship between learning and education and gender. The result derived from p-values suggests that gender does have much effect on learning and education and innovation and creation for improving organizational performance.

### 4.2.2 One-way ANOVA

For the computation of one-way ANOVA between age group, work tenure, and educational qualification, the independent intellectual capital variables have been properly analyzed under their respective sub types. In addition to this, the dependent variable has been also been examined as factor being influenced by human capital, structural capital, and relational capital. As a result, only two variables under human capital i.e., experience and expertise and innovation and creation have significant relationship with age group of respondents.

### 4.2.3 Correlation Analysis

In order to test the hypothesis, Pearson's Correlation Coefficient has been analyzed between independent variables and dependent variables. The values of the Pearson Correlation range from -1 to +1. The significant value ( $p=0.05$ ) is taken. The p-value which is less than 0.05 shows the significant relationship between the variables.

**Table 2: Correlation between Intellectual Capital (IC) variables and Organizational Performance**

Hypothesis	Attributes	Null Hypothesis
H01	Learning and Education and Human Capital Leading Organizational Performance	Rejected
H02	Experience and Expertise and Human Capital Leading Organizational Performance	Rejected
H03	Innovation and Creation and Human Capital Leading Organizational Performance	Rejected
H04	Systems and Programs and Structural Capital Leading Organizational Performance	Rejected
H05	Research and Development (R&D) Structural Capital Leading Organizational Performance	Rejected
H06	Intellectual Property Rights (IPRs) Structural Capital Leading Organizational Performance	Rejected
H07	Strategic Alliances, Licensing, and Agreements and Relational Capital Leading Organizational Performance	Rejected
H08	Customer Relations and Relational Capital Leading Organizational Performance	Rejected
H09	Customer Knowledge and Relational Capital Leading Organizational Performance	Rejected

Above table examines the relational analysis between all independent IC variables and organizational performance under human, relational, and structural capital. The results from SPSS indicate the positive relationship between the independent and dependent variables whereas the P-value is known to be less than significance level which is statistically significant. Here,  $P\text{-value} < 0.05$  indicates very strong presumption against null hypothesis. From the output, it is clear that the IC variables have positive impact on organizational performance.

## 5. CONCLUDING REMARKS

The results of this research depicts that Commercial Banks which are concerned about its organizational capital with major intellectual capitals under IC variables that tend to give priority to all the major factors classified under them because these Commercial Banks believe that constructively working on these influencing variables will automatically lead to positive organizational performance. Although different researches and analyses have been carried out on intellectual capital, it is necessary that Commercial Banks should attempt to recognize strategic jobs, measure employees' competency continuously, utilize improvement plans, design and develop a learning and educating system, measure employee' performance in the predetermined time period consciously, develop and implement corrective efforts that improves organization's future performance. In addition, the equal involvement of institutions including Nepal Rastra Bank in the development of intellectual capital must be pursued vigorously so that the competencies of banking sector can further be increased. Strengthening of intellectual capital in the Nepalese banks is a must in the wake of Nepal's commitment to allow foreign banks to operate in Nepalese market from 2010.

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