

# Human Capital, HRM Practices and Organizational Performance in Pakistani Construction Organizations: The Mediating Role of Innovation

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## Abstract

Human capital and human resource management practices play a vital role in success of any organization. When employees feel satisfy with human resource policies of an organization they give their best to increase the organizational performance. Construction industry provides job opportunities to large number of people in all over the world. In Pakistan, construction industry is making progress with rapid rate. To investigate the importance of human resources in organizational performance, a research was carried out to check the influence of human capital and human resource management practices on organizational performance with the mediating role of innovation in construction industry of Pakistan. The data for this study was collected from the 315 employees from construction companies of Pakistan through structured questionnaires using simple random sampling. Data analysis technique like structural equation modeling was applied using SPSS AMOS. The findings indicated that human capital and human resource management practices are positively associated with organizational performance. Also, innovation mediates the relationship between independent variables (human capital & HRM practices) and organizational performance in construction industry of Pakistan.

**Keywords:** Human resource management, Organizational performance, Innovation, Construction industry

## INTRODUCTION

In this dynamic and competitive environment, organizations are in need of investing and supporting their human capital to remain and sustain in competitive advantage. Now-a-days, organizations are facing aggressive and productive environment. The success of these organizations is heavily depending on their capacity and ability to adapt their structures able to face the competition and maintain positive relations with their surroundings. This is especially for the construction organizations where worker's cost and productivity are the main elements of gross profit.

Buller and McEvoy (2012) stated that in these days human capital is considered as critical success factors for every organizations' development and for running smooth business. HRM is related to the managing organization's workers includes training and development, planning, performance measurement career development, staffing, compensation and benefits, leaving the organizations. So, HRM in construction organizations is a complex and manifold activity that concerns with the application of ideas.

However, its significance in the construction environment is still undefined. On the one hand, many literatures and studies have identified HRM as a major factor towards organizational performance (Barczak & Wilemon, 1992; Tampoe & Thurloway, 1993). Investment in HRM improves the quality of human capital, results the high productivity that in turn high profitability. This study aims to evaluate the role of HRM in construction organizations in the economy of Pakistan with the linkage of innovation. The role of human capital on organizational performance is not clear. Thus, the efforts of the study are used to investigate the impact of human capital of organizational performance with the mediating effect of innovation.

### OBJECTIVES

1. To investigate the association between HRM practices and organizational performance.
2. To identify the dimensions of human capital and their magnitude on the organizational performance.
3. To analyze the mediating impact of innovation on human capital and HRM practices to organizational performance.

### LITERATURE REVIEW

#### HRM practices and organizational performance

In the competitive and knowledge based economy, HR practices are supposed to be the most important resource. Now-a-days, it has become more crucial for organizational success (Moyeen & Huq, 2001; Werther & Davis, 1996). In today's competitive world, success of the organizations depends on the techniques management are utilizing the capabilities, competencies and skills of their human resources (Absar & Mahmood, 2011).

The impact of HRM practices on firm level has become important element. Many studies have analyzed and expressed a significant association between firm's performance and HRM practices like factors included in the HRM practices and performance of firms as turnover of employees, productivity, quality in sales, earning profits, market value and return on investment. (Lau & May, 1998; Harel & Tzafir, 1999; Youndtet al., 1996; Khatri, 2000). Beer et al. (1984) suggested that there are some variables like employees' commitment, competence, cost effectiveness and congruence and cost effectiveness which performed their roles as intermediary variables. The new development of high innovation, communication, technology and information have proposed many construction organizations to effectively look for new thoughts, ideas for products or services, doing experiments for innovation, and bringing creative solutions for the purpose of bringing the betterment in the performance or quality of products, services, systems, and technology which are known as organizational innovation.

#### Human capital attributes and organizational performance

Researchers from different contexts found the significance of human capital for desired performance and outcomes like development, job creation, innovation, and economic development (Frese, 2000; Autio, 2005). Human capital attributes, such as skills of workers, training, trust, knowledge, education and have long been taken as critical success factors in organizational performance (Florin et al., 2003). A particular area for analysis, getting

growing attention now-a-days by many practitioners and analysts, is the importance of human capital and its impact on organizational performance (Moyeen & Huq, 2001). Ishikawa and Ryan (2002) suggested that it is the human capital that can enhance the firm performance. Moreover, academics and researchers observed that attributes of human capital play larger role in the firm performance by implementing some specific activities which are required for the knowledge creation in the working environment (Honig, 2001; Bosma et al., 2004).

### Human capital, innovation and performance

Today, competitive environment is getting dynamic, stiff and tougher by local and global competition, limited organizational resources and due to the technological change. So it is necessary for the organizations to adopt innovative ideas to be in competitive advantage (Holmqvist, 2004). Previous literatures include a limited number of studies examined the relationship between the human capital and performance but not explains the value of innovation (Camisón & Villar-López, 2014).

Innovation is considered as a major factor for economic growth in developing countries (Lee & Kang, 2007; Robson et al., 2009; Crespi & Zuniga, 2011). It becomes critical to understand role of innovation at the firm level. Many Studies highlighted the importance of human capital among other factors as a driving force for innovation in context of performance (Dakhli & De Clercq, 2004). The author of this study wants to put some efforts on determining the need of human capital for introducing innovations in the organizations because it has been observed that it helped in creating new knowledge. (Smith et al., 2005).

Hence, human capital when adopting the innovative ideas, products and processes is now becoming the main factor for organizational performance and productivity.

### Hypotheses

**H1:** HRM practices are positively related to the organizational performance.

**H2:** Human capital is positively associated with organizational performance.

**H3:** Innovation mediates the relationship of HRM practices and organizational performance.

**H4:** Innovation mediates the relationship of Human capital and organizational performance.

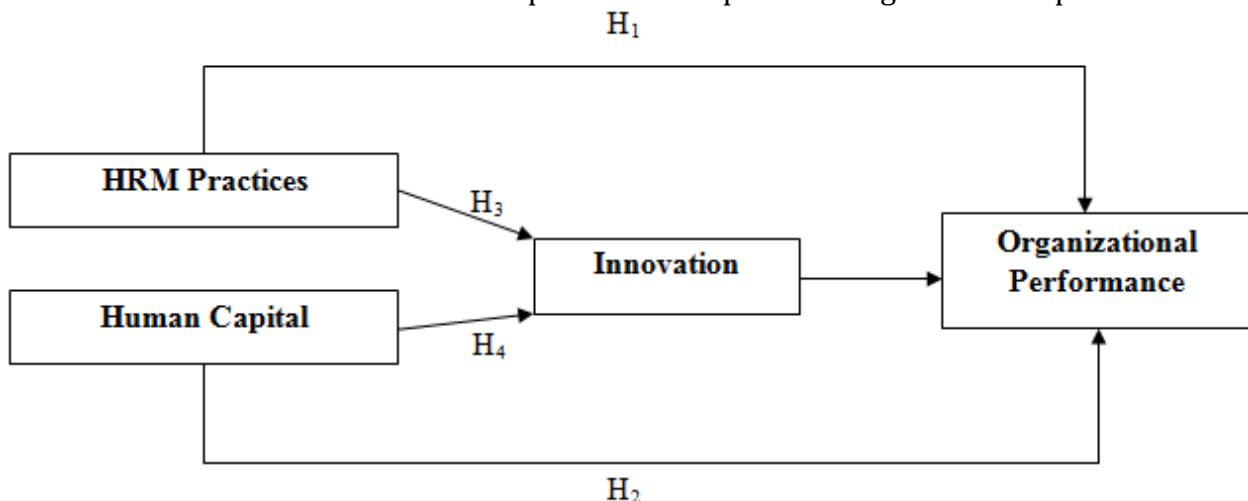


Figure 1: Research Model

### METHODOLOGY

The study was conducted to explore the relationship among HRM practices, human capital, innovation and organizational performance. A pre-structured questionnaire was used to collect

data to analyze the association among these variables. The data collected for this research was based on individual level. Concerning the survey, a questionnaire was developed with the aim of measuring HRM practices, Human capital, innovation and organizational performance. It is observed that for the data collection, survey is considered an easier approach (Yu & Egri, 2005). The number of questionnaires distributed among the employees of construction industry were 470 of Pakistan using a simple random sampling technique. Out of 470 employees, 315 completed questionnaires were returned. For the analysis of data Software like SPSS using AMOS was used.

### POPULATION

The population for present study is the employees of construction industry of Pakistan. The sample technique for this study is simple random sampling technique.

### Scale

For human capital, the questionnaire items have three dimensions: training, trust and education. These items of the human capital were taken from previous literature on human capital (Delaney & Huselid, 1996). HRM practices consisted of 8 Items adopted from Huselid (1995), the endogenous construct or dependent variable "organizational performance" consisted of 5 items. These items of dependent variable were adopted from Schuler and Jackson (2005). The questionnaire items of "innovation" consisted of 10 items derived from Lin (2001). 5 point likert scale has been used for this study to obtain the responses from participants in all scales. 1 (Strongly Disagree) to 5 (Strongly Agree).

### Descriptive Statistics

Table 1 shows the gender, age, education distribution of the current study. The total of 315 questionnaires was received out of which 200 were males and 115 were females. The percentage of males of total respondents was 63.5 percent while the female percentage was only 36.5 percent. According to the age distribution, the respondents ranging from 20 to 30 were 75 (23.8%), from 31 to 40 respondents were 135 (42.9%), from 41 to 50 they were 70 (22.2%) and from 51 to 60 the total respondents were 35 (11.1%).

The respondents having education of bachelor were 25 and its percentage was 7.9%. The master degree holder respondents were 50.8% which is the greater number of this study. The respondents participated in the answering questionnaires having MS/M Phil degrees were 38.1%. In the last the respondents who had PhD degrees were 10 and its percentage was 3.2 of total respondents.

**Table 1: Demographic Information (N=315)**

<i>Variables</i>	<i>Frequency</i>	<i>Percentage %</i>
<b><i>Gender</i></b>		
Male	200	63.5
Female	115	36.5
<b><i>Education Level</i></b>		
Bachelors	25	7.9
Masters	160	50.8
MS/MPHIL	120	38.1
PhD	10	3.2
<b><i>Age Group</i></b>		
21-30	75	23.8

31-40	135	42.9
41-50	70	22.2
51-60	35	11.1

### Reliability

For testing the reliability of questionnaire for this study Cronbach’s alpha test was utilized. The value of cronbach’s alpha is greater than .07 which is considered as the acceptable value for internal consistency.

**Table 2: Cronbach's Alpha**

<i>Variables</i>	<i>Items</i>	<i>Cronbach's α</i>
HRM Practices	8	0.843
Human Capital	5	0.720
Innovation	10	0.732
Organizational Performance	5	0.854

The cronbach’s alpha of human capital, HRM practices, innovation and organizational performance is 0.720, 0.843, 0.732 and 0.854 respectively, showed good scale reliability.

### Correlations

The means and standard deviations and correlations of independent, dependent and mediating variables are presented in Table 3. Human capital has significant positive correlation with organizational performance ( $r = 0.693$ ,  $p < 0.01$ ), HRM practices ( $r = 0.784$ ,  $p < 0.01$ ). Innovation also has significant positive relationship with organizational performance ( $r = 0.743$ ,  $p < 0.01$ ) which also justifies claim of the study and provides confidence for testing Hypothesis. It is worth mentioning that the HRM practices and innovation are highly correlated with organizational performance, whereas Human capital was although positively correlated but having weak relationship than HRM practices and innovation.

**Table 3: Correlations**

<b>Variables</b>	<b>Mean</b>	<b>STD</b>	<b>ORG</b>	<b>HRM</b>	<b>HC</b>	<b>INN</b>
Org Performance	3.68	0.94	1.000			
HRM Practices	3.59	0.65	.784**	1.000		
Human Capital	3.93	0.67	.693*	.775**	1.000	
Innovation	3.47	0.73	.743**	.676**	.710**	1.000

**ORG=organizational performance, HRM= HRM practices, HC=human capital, INN= innovation**  
**\*\*.** Correlation is significant at the 0.01 level (2-tailed).

### Confirmatory Factor Analysis (CFA)

The main aim of current study is to investigate the findings of previous researchers and support our hypothesis. In order to analyze the given hypothesis, CFA and then hypothesis testing has been conducted (Hair et al., 2014). The initial value of these 28 items through CFA indicated a poor fit model because these values of factor loading were beyond the recommended levels.

**Table 4: Model Fitness Ratio of CFA**

<i>CMIN</i>	<i>CMIN/DF</i>	<i>GFI</i>	<i>NFI</i>	<i>CFI</i>	<i>RMSEA</i>
Model A	1.782	.732	.764	.768	.068

In the analysis, the modification indices showed ways to improve the fit. After deleting the items and modification indices the CFA expressed that a model is good fit. The values of CMIN/DF, NFI, IFI, TLI, CFI and RMSEA also improved that showed is table 5.

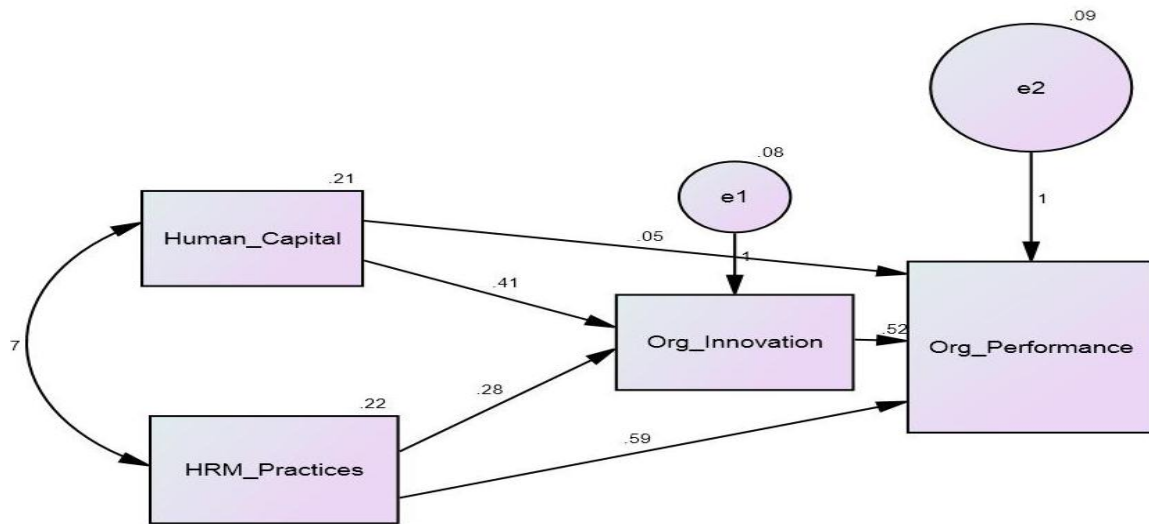
**Table 5: Overall Measurement Model**

<i>Fit Indices</i>	<i>Initial</i>	<i>Final</i>
CMIN/DF	1.782	2.032
CMIN	789.04	149.582
IFI	.779	.928
GFI	.732	.918
CFI	.768	.932
NFI	.764	.932
RMSEA	.068	.048

The  $\chi^2$  value is 2.032 which are considered as the reasonable value for model fit and below the cutoff value of 5.0. RMSEA's value in the above table shows that it is 0.048 which is below from 0.05. Furthermore, CFA also presented that the model is good fitted. Findings confirmed that the model is good with the standards of the statistically fitness of model.

### **Structural equation modeling**

Figure 2 represents that hypothesis were tested through SEM. From the analysis of the data, it was found that HRM practices ( $\beta = 0.618$ ,  $p < 0.01$ ) was positively related to organizational performance. So results expressed that there is significant positive linkage among the performance of the organizations and practices of HRM. Thus, H1 was supported. Human capital ( $\beta = 0.214$ ,  $p < 0.01$ ) was also positively associated with organizational performance. So, the current study supports the hypothesis 2. Next, the author analyzed the role of innovation as a mediating effect with the rest of variables which are under study in this research. In this study bootstrapping technique was used for testing the mediating impact of innovation on the HRM practices, human capital and on the performance of organization and the results also indicated that innovation mediates the connection among the performance of the organization and practices of HRM. HRM practices effect organizational performance significantly both directly ( $\beta = 0.61$ ,  $p < 0.01$ ) and indirectly ( $\beta = 0.49$ ,  $p < 0.01$ ) and ( $\beta = 0.38$ ,  $p < 0.01$ ). It predicted the partial mediation of innovation with HRM practices and organizational performance. In the final hypothesis 4, we predicted that innovation (the mediating variable) partially mediated the association between human capital and organizational performance. Human capital effects organizational performance significantly both directly ( $\beta = .21$ ,  $p\text{-value} < 0.01$ ) and indirectly ( $\beta = .13$ ,  $p\text{-value} < 0.01$ ) and ( $\beta = 0.38$ ,  $p < 0.01$ )., So it is proved that H3 is also accepted and partial mediation is found between these two variables. Hence, current study supports these hypothesis and partial mediation of innovation was found between the independent and dependent variables.



**Table 6: Decision of Hypotheses**

<i>Hypothesis</i>	<i>Independent Variable</i>	<i>Mediating Variable</i>	<i>Dependent Variable</i>	<i>Regression Coefficient</i>	<i>Decision</i>
H1	HRM Practices	-	Organizational Performance	0.618	Accepted
H2	Human Capital	-	Organizational Performance	0.214	Accepted
H3	HRM Practices	Innovation	Organizational Performance	0.618 0.497	Accepted
H4	Human Capital	Innovation	Organizational Performance	0.214 0.138	Accepted

### DISCUSSION

In today’s dynamic environment, human capital and HRM practices both are very vital for the success of every organization. Human capital has the ability to bring innovation and renewal of strategies in the organization. The skills, knowledge and competencies possessed by the employees help the organizations in creating innovative goods and services due to which the complete productivity and performance of the organization is enhanced.

The findings of this research present that there is positive relationship between the human capital and Organizational performance. There has also been found positive and significant relationship between the HRM practices and performance.

These findings are in agreement with the other researcher results like (Youndtet al., 1996; Carmeli&Tishler, 2004; Hsu, 2008; Colombo &Grilli, 2009; Marimuthuet al., 2009; Choudhury, 2010). The results of this research is also consistent with a research in which the findings were found that having the capability of human capital the organization is able to create entrepreneurship behavior and improve the organizational performance (Barney, 2001).

The findings of this research also similar with the results of another research, in which the authors presented that with human capital the employees can obtain the skills of entrepreneur like expertise in managing resources strategically, develop creativity and agility (Alvarez & Barney, 2002). These results are also in consistent with another research in which the findings

are that there is positive relationship between human capital indicators and organizational performance (Seleim, Ashour&Bontis, 2007; Maditiniset al., 2011).

### **CONCLUSION**

The main aim of this study was to investigate the relationship between the human capital, HRM practices and organizational performance and also to analyze the mediating role of innovation in their relationship in the construction industry in Pakistan. Both human capital and HRM practices are the success factors for bringing increment in the performance of the organization.

The findings of the research presented that human capital, HRM practices, innovation and organizational performances are positively connected with each other. The organizational performance can be enhanced with creating an environment in the organization in which human capital of employees is improved and HRM practices are well implemented in construction organizations in Pakistan. The proposed structural model expressed that there will be improvement in the performance of the overall organization by implementing good training programs, effective performance appraisal system and with effective and efficient compensation system and with human capital.

The questionnaires sent to the employees of the construction sector organizations were 470 out of which 300 questionnaires were returned. The medium of sending questionnaires were emails. The emails addresses were taken from the management after introducing the purpose of the study and the importance of the research for the construction organizations. The response rate of the study was 63 percent which is considered as reasonable.

The construction organizations need to be effective and efficient in implementation of developing human capital and applying best policies of HRM practices in order to gain maximum benefits and increase the performance of the organization.

### **RECOMMENDATIONS**

The main contributions of this study to the construction organizations are that the management should critically think about HRM practices and they should develop their employees by transferring the skills of entrepreneurship, knowledge and competencies in order to make them creative and innovative. These creative and innovative ideas will improve the performance of the organizations and ultimately the organizations will gain higher success rates.

There were many difficulties and obstacles due to the previous work done on this topic and the hesitance of the employees in these construction organizations to fill the questionnaires. There was also lack of research culture in the academics.

1. The first limitation of the study was that the sample used in this research was too small, it is suggested that in the future there should be large sample size taken to conduct research on this topic.
2. Another limitation is that the number of females working in construction organizations is also so short due to which it becomes very hard to generalize the findings of this research.
3. The third limitation is that the factors taken in HRM practices are only three, therefore, the future research should be based on some new variables too in order to broader the concept.



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