Impact of Knowledge-Based HRM Practices on Organizational Performance: Mediating Effect of Intellectual Capital

Kanishka Gupta, Symbiosis International University (Deemed), India

<https://orcid.org/0000-0001-7211-7652>

ABSTRACT

This paper examines the components of intellectual capital (IC) as mediating variables between knowledge-based human resource management (HRM) practices and organizational performance. Therefore, integrating research channels the field of human resource and organization performance. Factor analysis and path analysis have been performed to test the research model, and finally, parallel mediation effects of the mediators have been examined. Outcomes of the study showed that HRM practices lead to the creation of intellectual capital, and the relationship between HRM and performance is positively mediated by components of IC in context of Indian service sector. Additionally, in comparison, amongst the mediators, organizational capital is found to be the most contributing component followed by human and relational capital. The findings of this research will assist the HR managers and organizations in the composition and positioning of HRM practices and IC.

KEYWORDS

India, Intellectual Capital, Knowledge-Based HRM Practices, Parallel Mediation, Performance, Service Sector

INTRODUCTION

In the 21st century, organizations are facing various fluctuations, instability, competitiveness and rapid shifts in the market (Obeidat *et al.*, 2016). Today knowledge-based resources have been increasingly recognized as valuable competitive tools and are contributing in greater Organizational Performance (OP). Strengthening OP is the most important aspect for any organization. It majorly depends on its valuable Human Resource Management (HRM) as it is the individuals who design and support the entire organizations' system. Also, it depends highly on the Intellectual Capital (IC) which includes the knowledge and expertise that employees possesses, information systems, processes and databases which an organization own, and relations that it maintains with its external stakeholders (Edvinsson and Malone, 1997; Bontis, 2004).

Regardless of the form of industry, knowledge and incorporation of elements of IC in a firm have become the sustenance tactic for long term existence (Hsu and Sabherwal, 2011). In any organisation, the intellectual operations that take place are very human-centric. Employees have the ability to work

DOI: 10.4018/IJKM.290026

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dynamically and to suggest innovative way out to the difficult market challenges. The successful implementation of HRM practices hold a significant position throughout this process. For the present study, knowledge has been considered as “that knowledge which is related to company’s customers, products and services, operational procedures, competitors and job associates” (Pradhan *et al.*, 2017). In addition, accumulation, growth and utilisation of knowledge creates a base for any intellectual capital, as IC requires a certain level of knowledge creation. In knowledge-intensive sectors, such as services, value is added primarily from the intangible assets rendered by employees in the form of innovations and expertise. Therefore, in this dynamic and knowledge-intensive time, successful knowledge-based HRM (KHRM) practices will promote the accumulation of IC.

Indian service sector companies are knowledge-driven and are directly engaged in knowledge formation, growth, retention and distribution, and therefore, contribute the highest in the country’s economic growth by creating a learning environment (Gupta and Raman, 2020). The distinctive skills and competitive value of India built by knowledge-based services makes it the world’ innovative emerging market. The service sector in India, funded by many government policies, has the ability to open a multi-trillion dollar market that can establish cooperative development for all nations (Deloitte, 2018). However, the Indian service sector is facing major challenges because of Covid-19 outbreak and otherwise, due to increasingly changing business environment. This growing competition has pushed many service companies to identify ways to retain existing consumers and attract new consumers. Firms to stay competitive must focus on improved product or services, consumer engagement, and firms’ performance which can be achieved by incorporating adequate HRM practices.

HRM performs a vital part in promoting the contribution of employees in a world of growing challenges (Pfeffer, 1994). Researchers also identified that HRM is getting recognized as human capital and probable asset for gaining strategic advantage (Wright and Snell, 1991; Schuler and Jackson, 2005). Thus, in the phase of developing, generating and recreating IC, the HRM practices of acquiring, selecting, recruiting and optimizing desirable individuals is gaining importance. Over the past few decades researchers have investigated the relation between KHRM and OP, and IC and OP. Earlier research work in this field have focused on the effectiveness of specific HR practices and recently, HR research has begun to examine a more systematic method by concentrating on the efficiency of various HR practices together (MacDuffie, 1995; Youndt *et al.*, 1996). After extensive review of literature, the studies have identified two types of associations, i.e., “strong HRM indicates higher degree of IC” (Davis, 2006; Minbaeva, 2013) and “higher degree of IC increases OP” (Hitt *et al.*, 2001; Kamath, 2017; Gupta *et al.*, 2020). However, it is still uncertain if “greater HRM facilitates the accumulation of IC which then leads to better OP”. Therefore, the objective of this paper is to examine the components of IC as mediating variables between knowledge-based HRM practices and OP, thus, integrating research channels in the field of HR and OP. The present research clearly aims to address the below mentioned research questions:

RQ1: Is emphasizing on knowledge-based HRM practices beneficial for organization’s intellectual capital?

RQ2: Is emphasizing on knowledge-based HRM practices beneficial for organization’s performance?

RQ3: Do components of intellectual capital have an effect on organizational performance?

RQ4: Whether components of intellectual capital mediates the association between knowledge-based HRM practices and performance of the organization?

With view to answer these research question, this study highlights the KHRM’s direct relation and via mediation of IC with OP in context of Indian service sector. The outcomes of this research will assist the HR managers and organizations in the composition and positioning of HRM practices and IC. The remainder of the paper is as follows: the subsequent section discusses the existing literature in the field of HRM, IC and performance and develops hypotheses simultaneously. The third section deals with the research methods used for analysis. The fourth part presents with the results of the

analysis and finally, the paper concludes with stating the implications, limitations and future scope of research.

REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

In conformity with the norms of knowledge-based theory, companies are able to build, incorporate and use knowledge to enhance the overall structure (Kogut and Zander, 2003). Knowledge is thus a vital resource that guarantees the success and survival of businesses in a dynamic and uncertain world (Zack *et al.*, 2009). As per resource-based view, companies can gain upper edge in the market by obtaining and retaining significant resources that are scarce, difficult to replicate and unique; and clearly human capital is one of the basis for this competitive edge (Barney, 1991). The theory of human capital concentrates on the effect of difference in employee expertise on performance and therefore, blend with the resource-based view of human resource as an origin for value creation (Becker, 1964). The gap between firms' market value and book value is recognized as IC (Edvinsson and Malone, 1997), and the importance of HRM practices are well established (Pfeffer, 1994; Becker and Gerhart, 1996; Paul and Anantharaman, 2003). Dynamic and unstable challenges that the world is facing than ever before and service companies are working hard to achieve profitable edge over costs and are adopting HRM practices to move on to more advanced channels (Sparrow *et al.*, 1994). Delery and Doty (1996) described HRM practices as "a set of internally consistent policies and practices designed and implemented to ensure that a firm's human capital contribute to the achievement of its business objectives". HRM practices by and large consists of recruitment and selection, training and development, career planning, employee participation and performance appraisal. Intellectual capital is expressed as "group of knowledge assets by which the organisation is characterised and its main usage is to help improvement of the organizational competitive situation by increasing value for its key beneficiaries" (Marr and Schiuma, 2001). IC mainly constitute of three components, namely, Human Capital (HC), Organizational Capital (OC) and Relational Capital (RC) (Stewart, 1997; Youndt and Snell, 2004). HC is key component of IC, which represents what an individual carries into value-adding activities that requires technical knowledge, social intelligence, employee engagement and managerial abilities (Halim, 2010). OC includes every organizational strategic dimension that promotes the employees' productivity to generate value for the company and its stakeholders (Bontis, 1999). RC includes the sharing of knowledge and other information between a business and its stakeholders, thus promoting collaboration and engagement that enables the business to find ways to address multiple aspects (Cousins *et al.*, 2006).

HRM Practices and Organizational Performance

Seeing that companies often experience dramatic shifts in the corporate world, knowledge is seen as a powerful weapon to maintain competitive advantage and OP (Shahzad *et al.*, 2016). The importance of Human Resources (HR) has grown as a predominant source for gaining competitive edge and increasing performance of the company. Researchers today identify HR as both a tangible and intangible asset, with an ability to promote continued OP. The widely known perspective establishes that some HRM practices are stronger than others, and these practices should thus be recognised and embraced by organizations (Pfeffer, 1994). A significant amount of work has been done where, the effect of HRM practices on OP has been studied, and its result found positive relation between the two (Delery and Doty, 1996; Chand, 2010; Naz *et al.*, 2016; Suksod and Cruthaka, 2020).

Organizations uses various forms of evaluation techniques, such as behavioral checklist, 360 degree feedback and rating scales to motivate the employees with different pay and benefits (Patwary and Omar, 2016). In order to boost confidence, engagement and level of motivation, several other forms of HRM practices are adopted (Alsam *et al.*, 2016; Muqadas *et al.*, 2017). The businesses also promote the high-performance job programs in which personnel has ample knowledge about the organizations' product or services, clients, and workplace culture, and therefore, quality HR

successfully ease the relations with the customers (Azam *et al.*, 2019). Consequently, OP is gained by efficient HR. Different companies are reported to be using different types of HRM practices, based on their business size, work complexity, and intended market (Obeidat *et al.*, 2016). The positive and significant association between single or interlinked sets of HRM practices and OP has been conceptually and empirically tested by various researchers (Yang and Lin, 2009; Chan and Mak, 2012; El-Ghalayini, 2017; Otoo, 2019). A number of studies in developing nations have found, that HR is the main driver in enhancing employees' efficiency and OP (AlDosiry *et al.*, 2016; Muqadas *et al.*, 2017; Glaister *et al.*, 2018). Taking into consideration the aforementioned claims based on previous studies, the present research has formulated the following hypothesis:

Hypothesis 1: Knowledge-based HRM practices positively effects performance of the organization.

HRM Practices and Intellectual Capital

Core HRM practices such as recruitment and selection, training and development, employees' participation, performance appraisal etc. are key components in increasing the effectiveness of the firm (Budhwar *et al.*, 2019). Classical HRM practices are supposed to be reshaped by inducing knowledge creation and information exchange, thereby encouraging personnel to convey innovative decisions as a function of KHRM (Minbaeva, 2013). KHRM practices are planned to optimise flow of knowledge i.e., creation, integration, adaptation and distribution of knowledge (Donate and de Pablo, 2015). This concept claims that KHRM practices improve the IC base of an organization. IC studies are directed to recognize appropriate tools that help organizations to build greater IC. Previous studies identified HRM practices as one of such tools. A belief regarding this is that organizations should actively develop IC through adequate HRM practices (Youndt and Snell, 2004).

Human Capital

Researchers identify HC as the central asset of a business (Kang *et al.*, 2007) which includes, employees' expertise, abilities, knowledge, skills, experience, and personal attributes i.e., basically a bank of knowledge and useful information of a firm. HC acts as a source of corporate wealth and organizations' most effective tool in retaining its strategic edge. Hence, it is no longer a matter of option to exploit HC; it is a matter of survival (Bontis and Fitz-enz, 2002). HRM activities are regarded as HC investments (Lepak and Snell, 2002). Recruitment and selection, training and development, performance appraisal, compensation, employee engagement and health and safety are the main HRM practises that affect HC (Bontis and Fitz-enz, 2002; Rutherford *et al.*, 2003; Geiger and Cashen, 2007; Yang and Lin, 2009). These approaches help companies retain and strengthen HC. HRM practices enhance employees' retention by promoting workforces' managerial commitment (Holton and Yamkovenko, 2008). Implementing these practices eliminate organizational costs of replacement and re-training (Bélanger *et al.*, 2018). Based on previous results, the study assumes that HRM practices are positively associated with HC and therefore, the following hypothesis is proposed:

Hypothesis 2: Knowledge-based HRM practices positively effects Human Capital.

Organizational Capital

OC comprises of innovation, advancement, knowledge management, systems and other processes. Basically, collection of intangibles defined as "social or collective knowledge" (Bueno *et al.*, 2006) that establishes and maintain the organizations' effective and smooth functioning (Roos and Roos, 1997; Sánchez-Cañizares *et al.*, 2007). Productive HRM practices promote the implementation of knowledge systems, IT structures, cultural change strategies (Holton and Yamkovenko, 2008) and thus are linked to potential of businesses to obtain, store and record knowledge (Youndt and Snell,

2004). In the context of self-service technology, online services and HRM practices depend on OC to provide HRM services to employees (Maatman *et al.*, 2010; Meijerink and Bondarouk, 2013). As per Kianto *et al.* (2017), based on Spanish companies, KHRM practices can significantly strengthen OC. In order to induce improved results from HR practices, OC is crucial, leading to improved corporate culture, the generation of new products and efficient employee actions (Barrena-Martinez *et al.*, 2019). These theoretical and empirical evidences, led to development of the following hypothesis:

Hypothesis 3: Knowledge-based HRM practices positively effects Organizational Capital.

Relational Capital

RC also referred to as social capital, offers accessibility to important assets. The third component of IC that produces value by maintaining relations with both internal and external stakeholders (Hitt *et al.*, 2001). RC is an intangible that seeks to create, maintain, and endure beneficial relations with any entity, person or group which, in turn, influences the market value of an organization (Welbourne, 2008; Tumwine *et al.*, 2012). Therefore, to succeed and stay profitable, it is important for businesses to identify their priorities with that of their stakeholders. Kang *et al.*, (2007) asserted that HR tend to improve efficiency of an organization by inspecting and utilizing knowledge through enhancing the value embedded in relations. Earlier studies have shown that companies can nurture relations and extend cognition between personnel by possibly the best-designed interdepartmental meetings and group projects. Additionally, literature has shown that collective HRM practices can enhance group cohesion and growth which ultimately leads to creation of RC (Mäkelä and Brewster, 2009; Donate *et al.*, 2016). Thereby, HRM practices aim to build associations between employees by giving them appropriate incentives, increasing their confidence, and improving their ability to analyse and generate knowledge. Hence, the present study formulate the following hypothesis:

Hypothesis 4: Knowledge-based HRM practices positively effects Relational Capital.

Intellectual Capital and Organizational Performance

Most conceptions regarding the role of IC indicate that it is considered as company's most valuable source for gaining competitive edge and is treated as the key strategic asset for increasing OP (Marr, 2005). Numerous researchers state that IC and its components have a positive impact on performance of an organization (Bontis, 1999; Ghosh and Mondal, 2009; Sharabati *et al.*, 2010; Gigante, 2013; Kamath, 2017; Gupta *et al.*, 2020). Studies indicate that IC boost OP by minimizing costs, growing consumer value and developing new products or services. Research in the field of IC and OP is majorly divided into two types i.e., the effect of IC as a whole, and effect of each of its component on OP has been studied. Ling and Jaw (2006) reported that HC has a positive influence on performance of the firm. Similarly, Malaysian financial institutions were examined by Ting and Lean (2009) and author stated that HC is the most crucial factor of IC that contributes positively toward the performance. Firms who recognise employees actually improve their market value and yields higher shareholder returns (Ghosh and Maji, 2015; Rashid *et al.*, 2018).

Organizational Capital (such as updated information systems and processes, culture, and structures) influences OP positively and significantly. The stronger and latest the systems (OC) the faster the innovations in an organization (Subramaniam & Youndt, 2005). OC is perceived as the key determinant of OP in small businesses (Tovstiga and Tulugurova, 2007). In context of Taiwan, Huang and Wu (2010) stated that OC enhances the knowledge productivity of firms and therefore, must be invested in. In comparison to HC, OC is owned by an organization and therefore, can be shared, reused and exchanged inside the organization (Mention and Bontis, 2013). OC is presumed to be the aspect that enables IC to be assessed and established within the organization (Sharma and Dharni, 2017). The relationship between a business and its stakeholder (relational capital) allow the

company to identify and easily satisfy the needs of its clients (Bozbura, 2004). De Pablos (2003) also pointed out that RC is highly necessary for the recognition of HC and OC. Likewise, Joshi *et al.*, (2013) claimed that the development and management of RC is critical to effective organizations. In order to ensure sustainable business operation, an organisation must spend a significant sum of capital to find the appropriate partners, sustain and strengthen the relations and establish a suitable integration of the activities with all stakeholders (Nawaz, 2019; Gupta and Raman, 2020). Considering the evidence from previous studies, the following hypotheses are proposed:

Hypothesis 5: Human Capital positively effects performance of the organization.

Hypothesis 6: Organizational Capital positively effects performance of the organization.

Hypothesis 7: Relational Capital positively effects performance of the organization.

HRM Practices, Intellectual Capital and Organizational Performance

Firms should develop and maintain their IC capabilities in order to optimise value generation (Peng, 2011). Various researchers have indicated that HRM practices such as HR planning, recruiting, selecting, training and development are significantly associated with performance and productivity (Delery and Doty, 1996; Chan and Mak, 2012; Teo *et al.*, 2014; AlDosiry *et al.*, 2016; Chen *et al.*, 2020). However, contrary result stating that the association is not as powerful as predicted (Bhattacharya *et al.*, 2005; Al-Zahrani and Almazari, 2014; Della Torre, 2019). Consequently, researchers have tried to figure out potential relationships between HRM practices, IC and OP. According to Youndt and Snell (2004), mediating role of components of IC (human and relational capital) in HRM-OP relation provides with an overview of how to manage HR investments that boosts HC and RC that, in turn, enhance performance. Similarly, Yang and Lin (2009) stated that firms with limited resources must invest in IC alongside essential HRM practices, as then HRM appears to be an important facilitator for organizations to accomplish its objectives. However, the role of IC as a mediator is in the nascent stage.

To summarise, the study conclude that, in order to enhance OP, it is necessary to provide successful knowledge-based HRM practices by maximizing HC, OC and RC, strengthening and combining each component as a cohesive structure. Therefore, the study hypothesize:

Hypothesis 8: Intellectual Capital mediates the association between KHRM practices and performance of the organization.

RESEARCH GAP

The main purpose of the study is to examine how HRM practices contribute directly and via mediation of intellectual capital in the creation of firms' performance. As of now, there are very few studies globally and no study in context of India that have explored the method of mediation of IC in the relation between KHRM practices and OP. This study has laid out a research model (refer Figure 1) to address this gap and explores the direct influence of KHRM on the performance and indirectly through components of IC i.e., human, organizational and relational capital. The service sector in India has flourished tremendously over the last few years. This sector is evolving faster than agricultural and manufacturing sectors, and includes a large variety of operations, like trade, tourism, transport and communications, banking, real estate and many others. The sector emphasis has turned to address the necessity of providing superlative services through a set of high-cost and high-quality job techniques. Recently, however, it has been witnessed that Indian service sector changed direction as new industries seeped in at slowest rate in last two years, wrecking hopes of a sustainable economic development, thus, a question that come into light is "how can the sustainable growth of service sector be maintained?" and one possible aspect that can greatly help is the HR. The existence of competent

Figure 1. Research model

employees is important for achieving success in the service sector. The current globalisation process have mani-folded the value of HRM. Taking into consideration these arguments, the present study aim to explore the KHRM practices, IC and performance.

METHOD

For exploring said relationship, service sector has been targeted. Service sector is one of the largest sector in India contributing about 55.3 percent to total India's gross value added in 2019-2020.

Research boundaries:

- **Objective boundaries:** Intellectual Capital as a mediator between KHRM practices and OP has been studied using three components namely, human capital, organizational capital and relational capital.
- **Territorial boundaries:** The employees working in service sector companies of Delhi and nearby region.
- **Time boundaries:** The data was collected during a period of 3 months (February, 2020 to April, 2020).

Measurement Scales

The research model has been analysed using structural equation modeling i.e., factor analysis and path analysis to test the proposed hypotheses. Established scales from the existing literature were used to develop a questionnaire. Few statements were revised to make the language and communication easy in Indian context. These statements were measured on a five-point Likert scale where, 1 was strongly disagree and 5 was strongly agree. The measurement scale and their sources are exhibited in Table 1.

Table 1. Measurement scales used in the questionnaire

Variables	No. of statements	Sources
Knowledge-based HRM practices	8	Lepak and Snell, 2002
Human Capital	4	Bontis (1998); Yang and Lin (2009)
Organizational Capital	4	Kianto, Hurmelinna-Laukkanen, and Ritala (2010)
Relational Capital	5	Kianto, Hurmelinna-Laukkanen, and Ritala (2010)
Organizational Performance	5	Gupta and Govindarajan (1984); Govindarajan (1988)

Sources: Authors' Compilation

Data Collection and Descriptive Statistics

Quantitative technique has been followed for analysing the research model, which is done through survey method. This research technique enables the data collection from large number of respondents with fairly low expenditure. The sampling unit for the present study is individual employees. For pre-testing the research instrument, a sample of 40 respondents was selected and confirmation on questionnaire being valid and reliable were drawn. In order to ascertain the appropriate sample size Crochran's Equation has been used, where, to calculate the sample size for large population i.e., when population is not definite, the minimum required sample size must be 384 respondents (Crochran, 1963).

The questionnaire was flowed via Google Forms (email and social networking sites) to 700 respondents using convenience sampling (online survey) method. Out of 700 questionnaire, 407 have been used for further analysis making a response rate of 58.14 percent. The frequency distribution of respondent's profile is presented in Table 2. More than half of the respondents were males i.e., 54.29 percent and 45.70 percent were females. Most of the respondents i.e., 53.56 percent belonged to middle level management followed by top level management (39.80 percent of total respondents), and 6.63 percent to lower level management. Almost half of respondents were graduates (49.87 percent) and 34.15 percent had 5-10 years of experience.

Common Method Bias

Before examining the validity and reliability, it is important to check for any biases. In order to check the common method bias, Harman's single factor test has been applied. To estimate the bias, Exploratory Factor Analysis (EFA) has been conducted, where if one common factor reports total variance more than 50 percent, then common method bias is present in the dataset (Harman, 1976). The results of the test indicate that the total variance explained by one factor is 36.862 percent (less than threshold limit) calculated using extraction method- Principal Component Analysis (PCA). Additionally, Confirmatory Factor Analysis (CFA) has also been performed to confirm for absence of biasness. CFA offers model fit and reveals differences (shown by Δ) between single factor and multi-factor model (Craighead *et al.*, 2011). As displayed in Table 3 the model fit indices are higher in multi-factor model than single factor model. Furthermore, the data is free of bias if the index difference i.e., Δ is greater than 0.001 (Byrne, 2013). Therefore, conclusion for no biasness existing in the dataset were drawn.

RESULTS

The data collected has been validated using the validity and reliability techniques. EFA has been performed using SPSS 26 followed by CFA and path analysis in AMOS 22 and finally parallel mediation effects of the mediators have been examined using PROCESS in SPSS 26.

Table 2. Demographic profiles of respondents (n=407)

Variable	Items	Frequency	Percentage
Gender	Male	221	54.29
	Female	186	45.70
Qualification	Graduation	203	49.87
	Post-Graduation	148	36.36
	Doctorate	3	0.74
	Any other	53	13.02
Managerial Position	Top level management	162	39.80
	Middle level management	218	53.56
	Lower level management	27	6.63
Total experience	Less than 5 years	63	15.48
	5-10 years	139	34.15
	10-20 years	128	31.44
	More than 20 years	77	18.92

Source: Author's Calculations

Table 3. Harman's single factor test

Measures	Multi- factor	Single factor	Change (Δ)
CMIN	461.591	2788.955	2327.364
DF	289	299	10
CMIN/DF	1.597	9.328	7.731
GFI	0.920	0.545	0.375
AGFI	0.903	0.465	0.438
NFI	0.932	0.588	0.344
CFI	0.973	0.614	0.359
TLI	0.970	0.580	0.390
IFI	0.973	0.615	0.358
RMR	0.028	0.097	-0.069
RMSEA	0.038	0.143	-0.105

Source: Author's Calculations

Exploratory Factor Analysis and Reliability

To determine the suitability of the data for factor analysis, the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity have been conducted. KMO value of all 26 items is 0.930 and KMO value for each construct has also been calculated (refer Table 4), all the values were above the criterion limit of 0.70 (Kaiser and Rice, 1974). Bartlett's test result reveal that χ^2 value (6615.877) is significant at 0.05 significance level, which leads to rejection of null hypothesis which indicates that correlation matrix is significantly different from an identity matrix. Therefore, KMO and Bartlett's test verified that the data is suitable and sufficient to move forward. Further, the reliability of the measurement

Table 4. Validity and reliability of constructs

Constructs	No. of Items	Indicators	Factor Loadings	VIF	KMO	Cronbach Alpha	Composite Reliability	AVE
Knowledge-based HRM practices	8	KHRM1	0.848	2.381	0.953	0.952	0.953	0.716
		KHRM2	0.848	3.455				
		KHRM3	0.840	3.906				
		KHRM4	0.837	4.572				
		KHRM5	0.835	3.029				
		KHRM6	0.829	3.702				
		KHRM7	0.802	3.322				
		KHRM8	0.745	3.650				
Human Capital	4	HC1	0.800	1.831	0.800	0.817	0.885	0.662
		HC2	0.788	1.863				
		HC3	0.785	1.802				
		HC4	0.752	1.797				
Organizational Capital	4	OC1	0.771	1.814	0.765	0.811	0.818	0.530
		OC2	0.748	1.797				
		OC3	0.710	2.033				
		OC4	0.669	2.321				
Relational Capital	5	RC1	0.838	2.544	0.857	0.852	0.864	0.567
		RC2	0.821	2.602				
		RC3	0.817	3.008				
		RC4	0.675	1.819				
		RC5	0.645	1.454				
Organizational Performance	5	OP1	0.770	2.499	0.847	0.860	0.863	0.564
		OP2	0.768	2.616				
		OP3	0.747	2.921				
		OP4	0.707	2.036				
		OP5	0.659	1.422				

Source: Author's Calculations

scales has been tested using Cronbach's Alpha. It measures the internal consistency, that is, how closely associated a set of indicators are as a group (Cronbach, 1951). The overall alpha value was noted as 0.923, which is above the acceptable limit of 0.70 (Nunnally, 1978).

After confirming for suitability and reliability of the data, EFA has been carried out. EFA has been employed using PCA and Varimax rotation. Five factors, consisting of 26 items, were extracted based on eigenvalues being above 1. These five factors explain approximately 68 percent of the total variance. In addition, the Variance Inflation Factor (VIF) for each item has been calculated to verify the multicollinearity among variables. The VIF score below 10 is considered suitable. The findings show that the maximum VIF value is 4.572 and that no multicollinearity concern exists in the model (refer Table 4).

Confirmatory Factor Analysis

CFA has been used to determine the dimensionality and adequacy of the measurement model. It has been applied on all five factors namely, knowledge-based HRM practices, human capital, organizational capital, relational capital, and organizational performance.

Convergent Validity means how many distinct methods for assessing a factor produce a common outcome, i.e., it tests whether or not the items found in a construct are related (John and Benet-Martinez, 2000). Two criteria have been checked for establishing the convergent validity: first, the extracted factor loadings should be greater than 0.5; second, the composite reliability and Average Variance Explained must be higher than 0.7 and 0.5 respectively (Nunnally, 1994; Kline, 1998; Hair *et al.*, 2012). Table 4 presents that each factor loading is above 0.5 and significant. Also, convergent validity is confirmed as the composite reliability (range from 0.818 to 0.953) and AVE (ranges from 0.530 to 0.716) values are above the threshold limit.

Discriminant Validity depicts that the correlation between the constructs is not very strong and each construct is unique. The discriminant validity has been confirmed using a comparison of shared variance between factors method. As per the method, the diagonal values (bold) i.e., the square root of AVE must be greater than the non-diagonal values (correlation between constructs) (Fornell and Larcker, 1981). As depicted in Table 5, the diagonal values are greater than the non-diagonal values, and hence, assuring the discriminant validity of the model.

Overall Model Fit

Model fit indices of the measurement model are tabulated in Table 6. Three major model fit indices, namely, Parsimonious fit, Absolute fit, and Incremental fit have been checked. CMIN/DF, i.e., chi-square statistics/ degree of freedom, determines parsimonious fit. CMIN/DF's result value is 1.597 which is within the threshold limit and thus, the model is appropriate. Absolute fit indices are measured using GFI, AGFI, RMSEA and SRMR. GFI and AGFI represents the goodness-of-fit and RMSEA and SRMR depicts the badness-of-fit. All the indices values are above the criterion limit and therefore, the model is acceptable using absolute fit indices. Incremental fit indices are analyzed through CFI, NFI, TLI and IFI and all the values are above the cut-off limits. Hence, the model is acceptable using incremental fit indices. Overall the model is a good fit and suitable for further analysis (Boomsma, 2000; McDonald and Ho, 2002; Hair *et al.*, 2006; Schreiber, 2008).

Path Analysis

After confirming the validity, reliability and model fit, the structural model was tested using AMOS 22.0. The structural model has been evaluated using the beta coefficients, critical ratio, p-value and R² (refer Table 7 and Figure 2). With a view to test the hypotheses a series of steps have been followed. First, direct effect of KHRM on OP has been investigated. Second, the direct effects of KHRM on

Table 5. Discriminant validity

Constructs	KHRM	RC	OP	HC	OC
KHRM	0.846				
RC	0.441***	0.753			
OP	0.522***	0.451***	0.751		
HC	0.202***	0.302***	0.261***	0.814	
OC	0.492***	0.457***	0.650***	0.242***	0.728

Note: KHRM- Knowledge-based HRM practices, RC- Relational Capital, OP- Organizational Performance, HC- Human Capital, OC- Organizational Capital; * (p < 0.05)

Source: Author's Calculations

Table 6. Model fit indices

Measures	Estimate	Threshold Limit	Interpretation
CMIN	461.591	-	-
DF	289	-	-
CMIN/DF	1.597	Between 1 and 3	Excellent
Goodness of Fit Index (GFI)	0.920	>0.90	Excellent
Adjusted Goodness of Fit Index (AGFI)	0.903	>0.80	Excellent
Normed Fit Index (NFI)	0.932	>0.90	Excellent
Incremental Fit Index (IFI)	0.973	>0.90	Excellent
Comparative Fit Index (CFI)	0.973	>0.90	Excellent
Tucker Lewis Index (TLI)	0.970	>0.90	Excellent
Standardized Root Mean Square Residual (SRMR)	0.028	<0.08	Excellent
Root Mean Square Error of Approximation (RMSEA)	0.038	<0.06	Excellent

Source: Author's Calculations

Table 7. Results

Hypothesis	Hypothesis relationship	Estimates	Standard Error	Critical Ratio	p-value	Results
H ₁	OP← KHRM	0.164	0.028	5.857	***	Supported
H ₂	HC← KHRM	0.421	0.035	12.023	***	Supported
H ₃	OC← KHRM	0.449	0.034	12.971	***	Supported
H ₄	RC← KHRM	0.368	0.034	10.871	***	Supported
H ₅	OP← HC	0.340	0.027	12.499	***	Supported
H ₆	OP← OC	0.077	0.028	2.750	***	Supported
H ₇	OP← RC	0.737	0.027	26.812	**	Supported

Note: ** (p < 0.05), *** (p<0.01)

Source: Author's Calculations

components of IC i.e., HC, OC and RC have been examined. Then the direct effects of HC, OC and RC on OP have been tested. The bootstrap resampling procedure of 5000 resample has been used (Ringle *et al.*, 2005) to assess the significance of direct paths. Lastly, the effects of KHRM on OP, by way of mediation of HC, OC and RC have been examined. The overall model explains 58.68 percent of variance in organizational performance.

The outcome indicates (refer Figure 2) that KHRM impacts OP ($\beta = 0.164$, $p < 0.05$) positively and significantly. Also, KHRM has a positive and significant impact with all the mediators i.e., HC ($\beta = 0.421$, $p < 0.05$), OC ($\beta = 0.449$, $p < 0.05$) and RC ($\beta = 0.368$, $p < 0.05$), indicating that H₁, H₂, H₃, and H₄ are supported. Moreover, each mediator has a positive and significant relation with organizational performance i.e., HC ($\beta = 0.340$, $p < 0.05$), OC ($\beta = 0.737$, $p < 0.05$) and RC ($\beta = 0.077$, $p < 0.05$), indicating that H₅, H₆ and H₇ are supported. As there exists a significant relationship between KHRM and OP, KHRM and mediators, and mediators and OP, therefore, this supports the presence of components of intellectual capital's mediation effects on KHRM and OP.

Figure 2. Structural model- results

Test of Mediation

The key objective of the study has been to test the mediating role of components of IC in the relationship between HRM practices and organizational performance. Preacher and Hayes' (2008) methodology has been used to assess the mediation effects because of its technological supremacy. The results obtained from the PROCESS model (Hayes and Preacher, 2013) indicates that impact of KHRM practices on OP is channeled through HC, OC and RC. Table 8 presents the findings of the total effect, direct effect and indirect effects with 95 percent bias-corrected bootstrapped Confidence Interval (CI) of KHRM on OP. For HC, OC and RC, H_8 is supported by β and CI values of indirect effect ($\beta = 0.143$, 95% CI= 0.2486, 0.0433), ($\beta = 0.331$, 95% CI= 0.2151, 0.4538) and ($\beta = 0.029$, 95% CI= 0.0013, 0.0575). Hence, KHRM is important for increasing OP. Additionally, HC, OC and RC partially mediate the relationship between KHRM and OP.

DISCUSSION AND CONCLUSION

The present study investigates the direct impact of KHRM on OP and mediating effect of components of IC in the relation between KHRM and OP. The hypotheses were tested using PROCESS-SPSS approach. Outcomes of the study showed that KHRM leads to the creation of intellectual capital, and the relationship between KHRM and OP is mediated by components of IC i.e., HC, OC, and RC in

Table 8. Test of mediation effect

Effect	Estimate	Standard Error	Lower Limit	Upper Limit
Total effect	0.338	0.0248	0.2894	0.3867
Direct effect	0.164	0.0239	0.0748	0.1685
<i>Indirect effects</i>				
KHRM → HC → OP	0.143	0.0508	0.2486	0.0433
KHRM → OC → OP	0.331	0.0607	0.2151	0.4538
KHRM → RC → OP	0.029	0.0143	0.0013	0.0575

Source: Author's Calculation

context of Indian service sector. The results are in line with Youndt and Snell, 2004; Kang *et al.*, 2007; Lopez-Cabrales *et al.*, 2009; Yang and Lin, 2009; Al-Zahrani and Almazari, 2014; Kianto *et al.*, 2017.

HR manager's must emphasis on employees' training and development activities, internal promotions, tutoring and mentoring, developmental feedbacks, involvement in decision-making process, and potential to learn in order to attain greater level of human, organizational and relational capital. Practically, the organizations, in order to retain its skilled and competent capital should select and recruit skilful employees with expertise in the required field, and then help them develop difficult, special and unique competencies, offer proper and timely incentives and lastly provide them with healthy and safe working environment.

Results of this study contributes in number of ways to the existing literature. First, the analysis empirically supports the mediating role of IC between KHRM and OP, thus, presents researchers and academicians with another perspective to investigate the impact of HRM practices. Second, present work has shown that successful implementation of knowledge-based HRM practices is significantly pivotal for service sector performance. Proper recognition to employees' performance, participation, potential, performance appraisal and compensation/rewards will lead to increased performance of the organization. Finally, the effect of KHRM is partially mediated by components of IC. Interestingly, KHRM directly effects OP or might indirectly effect via components of IC. These conclusions propose creating an alternate framework for the association between KHRM and performance, where the IC integrates components like human, organizational and relational capital and promotes exploratory and competitive practices to improve the performance of the organization.

Additionally, in comparison, amongst the mediators, OC is found to be the most contributing component followed by HC and RC. The reason for this may be that OC combines HC and RC into leveraging firms' ability in production and delivering systems which ultimately satisfy the needs and wants of the consumers and hence, increases the performance. Therefore, developing and maintaining sound infrastructure, systems and processes is crucial for Indian service sector companies. Also, attention must be paid to human and relational capital as they positively and significantly contributes towards the performance of the firm. To sum up, the mediating role of IC in KHRM-OP relation offers a more comprehensive overview to both the managers and researchers on how to prioritise HR investments that develop HC, OC and RC, which, in turn increases performance. Rather than just spending in HR with the expectation that gradually it will have impact on the performance.

IMPLICATIONS, LIMITATIONS AND FUTURE SCOPE OF RESEARCH

Theoretical and Practical Implications

Filling a critically imperative gap of studies lacking focus on the mediating role of IC in the relationship between KHRM and OP, the present study has multiple implications. First, in order to enhance firms' performance, managers must implement adequate HRM practices within the organizations. Furthermore, the mediating role of HC, OC, and RC in the KHRM-OP relation indicates that it is important to impart appropriate knowledge, training, and expertise within employees so that they feel motivated and become highly skilled at their jobs. Also, it is vital that organizations provide employees with relevant databases, easily accessible systems and information and make a collaborative and understanding relation with the external stakeholders.

Second, organizations start with recruitment and selection process where, the HR manager must identify well-trained, skilled, and immensely motivated candidates. In addition, educational and training programs must be organized for existing staff so that problems can be identified, disorders can be fixed, and expertise of the employees can be improved. Other practices that help ensure that employees are highly motivated is done through developmental feedback, regular learning, compensation/rewards, internal promotions, performance appraisal and socialization programs. All these practices must be emphasized by the top management in order to improve performance of the

organization. Third, “IC is knowledge that can be converted into value” (Edvinsson and Sullivan, 1996). The top management must aim to enhance IC value, as it will ultimately assist in the improved organizational performance. Lastly, this study showed that the presence of a mediators (components of IC) in the model, shifts its impact of KHRM and becomes more powerful. Researchers are advised not to underestimate its importance in the literature for the Indian service sector, especially when dealing with the HRM practices and performance of the organization.

Limitations and Future Scope

Despite the contributions that this research makes, there are few limitations which can be overcome by future studies. First, this research treats HRM practices as a whole, instead of discussing individual HRM activities. Therefore, which particular practices is more relevant than the other for the development of IC and performance is not examined. Hence, future study may investigate the individual HRM practices and understand which practices contribute the most. Second, the study is limited to Indian service sector companies only and the findings can only be relevant for this sector, thus, exploring the model in different sector will be interesting. Third, the present study has used cross-sectional data, future study may be conducted using longitudinal data so that time effect can also be tested. At last, cross-country analysis will also contribute in this field and further increase the validity of the proposed model.

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APPENDIX

Questionnaire

Knowledge-Based HRM Practices

- KHRM1- Employees perform jobs that have a high degree of job security.
- KHRM2- Employees participate in the decision-making process.
- KHRM3- Selection process focuses on selecting the best all-around candidate.
- KHRM4- Training activities strive to develop firm-specific skills/knowledge.
- KHRM5- Organization emphasizes on tutoring and mentoring activities.
- KHRM6- Performance appraisals include developmental feedback.
- KHRM7- Performance appraisals emphasizes on employee learning.
- KHRM8- Compensation/rewards provide incentives for new ideas.

Organizational Performance

- OP1- Our organization's return on asset (%) has improved considered to previous years.
- OP2- Our organization's reputation in the eyes of consumers has improved.
- OP3- Our organization's Productivity has improved in comparison to previous years.
- OP4- Our organization's Value-added per employee has improved in comparison to previous years.
- OP5- Our organization has greater risk-taking capacity than our competitors.

Human Capital

- HC1- Our employees are highly skilled at their jobs.
- HC2- Our employees are highly motivated in their work.
- HC3- Our employees have a high level of expertise.
- HC4- Our employees are good at cooperative problem-solving.

Organizational Capital

- OC1- Our company has efficient and relevant information systems to support business operations.
- OC2- Our company has tools and facilities to support cooperation between employees.
- OC3- Our company has a great deal of useful knowledge in documents and databases.
- OC4- In our organization, existing documents and solutions are easily accessible.

Relational Capital

- RC1- Our company and its external stakeholders - such as customers, suppliers and partners - understand each other well.
- RC2- Our company and its external stakeholders frequently collaborate to solve problems.
- RC3- Cooperation between our company and its external stakeholders runs smoothly.
- RC4- Our customer relationships are typically long.
- RC5- Our company's services bring added value to our customers.

Kanishka Gupta is an Assistant Professor at Symbiosis Centre for Management Studies, Noida. She has been awarded her Ph.D. in the field of Intellectual Capital from Amity University, Noida. She has taught as Guest faculty at University of Delhi. She has earned a gold medal for her exceptional academic performance during her Master's at Amity University, Noida. She obtained her bachelors with distinction from University of Delhi. Her areas of interest are corporate accounting and financial accounting. She has her research work published in esteemed journals indexed in Web of Science, Scopus and ABDC.