



Personnel Review

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Article information:

To cite this document:

Jeevan Jyoti, Asha Rani, "High performance work system and organisational performance: role of knowledge management", Personnel Review, <https://doi.org/10.1108/PR-10-2015-0262>

Permanent link to this document:

<https://doi.org/10.1108/PR-10-2015-0262>

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High performance work system and organisational performance: role of knowledge management

Abstract

Purpose: The primary purpose of this study is to explore the high performance work system through ability, motivation and opportunity (AMO) model (Jiang et al. 2013) and its impact on organisational performance. Further, the mediating role of knowledge management between high performance work system and organisational performance has also been evaluated.

Design/methodology/approach: Questionnaire technique has been used to collect the data from managers (N=58) and employees (N=246) working in Telecommunication organisations in Jammu and Kashmir (North India). Data collected have been validated using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Hypotheses have been tested through structural equation modeling (SEM) with the help of AMOS and SmartPLS3 softwares. Further, theoretical, managerial and socio-economic implications have also been discussed.

Findings/ Results: The study indicates that high performance work system positively affect organisational performance. Further knowledge management act as mediator between high performance work system and organisational performance.

Limitation/Future Research: The study has been conducted only in the private telecommunication sector (Airtel, Aircel, Tata indicom, Idea, Reliance, Vodafone). Further, the study being limited to telecommunication sector can be extended in other sectors also.

Practical Implications: In order to create superior work system, management should focus on ability enhancing initiatives such as extensive job training, computer-based training, etc. on regular basis. Employees should be rewarded extrinsically as well as intrinsically to keep them motivated to achieve higher levels of performance. Further, management should empower the employees through

decentralisation of authority, participative decision making, etc. Besides this, management should also instil the knowledge culture in the organisation in order to enhance the knowledge capability of the employees.

Originality/value: This study contributes to the literature by identifying the black-box using knowledge management to understand the high performance work system and organisational performance relationship in telecommunication sector.

Key Words: High performance work system, AMO Model, knowledge management, organisational performance

Paper type- Research paper

Introduction

Globalisation has encouraged business houses and the top thinkers to act globally in order to gain competitive advantage. Further, organisations have to cope up with tough competition and new technology (Zhang and Morris, 2014; Hassan et al., 2013; Khasawneh and Alzawahreh, 2012; Messersmith et al., 2011), which force management to seek new ways of organising work and employment (Guest, 2011). In this context Huselid (1995) viewed that high performance work system can help to solve these problems with the help of high performance human resource practices. The high performance work system manage its valuable and talented employees in such a way that helps to generate sustainable competitive advantage for the organisation (Way, 2002). It is considered as a set of inter-related human resource practices (Carvalho and Chambel, 2015; Posthuma et al., 2013), which includes comprehensive recruitment and selection, incentive-based compensation, performance management, extensive employee involvement and training (Huselid, 1995). These practices enhance the employees' knowledge, skills and abilities (KSAs), increase their motivation and also empower them to use their knowledge, skill and abilities for organisational advantage (Combs et al. 2006). In other words, high performance work system influence employees' skill, attitude and behaviour, which

can be advantageous in knowledge creation and development within the firm. On the same line, high performance work system help employees to create new knowledge and motivate them with learning abilities in order to boost the productivity and efficiency of an organisation. Zacharatos et al. (2005) argued that high performance work systems focus on empowering employees through increased information flow and the decentralisation of decision making and are allied with increased employee efficiency. High performance work system are also known as high performance work practices (Mihail and Kloutsiniotis, 2016). High performance work practices are different from traditional human resource practices as the later focus on achieving goals of the organisation through hard work of employees (Arthur, 1994) but, high performance work system includes the nature and degree of human resource management 'fit' (Boxall and Purcell, 2008; Wood, 1999) and bundling of human resource practices (Mihail and Kloutsiniotis, 2016; Macduffie, 1995). Further, Boxall and Purcell (2003) viewed that high performance work practices are a combination of key practices such as more rigorous selection and better training systems to enhance ability levels, more comprehensive incentives (i.e. employee bonuses and internal career ladders) to increase motivation and participative structures (self-managing teams and quality circles) that improve opportunity to contribute. In addition, Jiang et al. (2013) advocated that high performance work system enhances the employees' knowledge, skills and abilities, motivation and opportunity that develops higher commitment (Gong et al. 2009), lower turnover (Jensen et al., 2013), higher productivity and quality (MacDuffie, 1995), better service performance (Chuang and Liao, 2010), enhanced safety performance (Zacharatos et al. 2005) and better financial performance (Huselid, 1995).

Further, earlier research has proved the relationship between human resource practices and organisational performance (Absar et al., 2010; Batt, 2002; Huselid, 1995) and it is considered a vital contributor to organisational success. MacDuffie (1995) empirically proved bundled high performance human resource practices affect business performance more than individual human resource practices.

However, various researchers have stressed the need to evaluate the missing link between high

performance work system and organisational outcomes (Jiang et al., 2013; Messersmith et al., 2011; Becker and Huselid, 2006). Exploration of various data bases like Emerald, EBSCO, Elsevier, Sage, Springer, JSTOR, Taylor and Francis, Wiley-Blackwell revealed that lack of research regarding the role of knowledge management between high performance work system and organisational performance relationship. Only two studies have been conducted in this context. One study has evaluated the role of knowledge creation capability in between human resource practices and firm performance (Collins et al., 2006). Another study has assessed the role of knowledge management in between human resource practices and innovation performance (Jing-Wen et al., 2008). So, there is need to evaluate in detail the role of knowledge management between high performance work system and organisational performance.

Besides this, it has been found that most of the studies on high performance human resource practices have been conducted in the developed countries (Muduli, 2015; Posthuma, et al., 2013). In Indian context, though Muduli (2015) viewed that human resource management research has primarily focused on traditional human resource management rather than innovative human resource practices but there are studies that have focussed high performance work system and job involvement (Huang et al., 2016); bundled high performance human resource practices and intention to leave (Jyoti et al. 2015); high performance work system and organisational performance (Muduli et al. 2015); strategic human resource management and its outcome (Muduli, 2012); human resource strategy and innovation (Cooke and Saini, 2010); human resource flexibility and firm level outcomes (Ketkar and Sett, 2009); and innovative human resource management and corporate performance (Som, 2008). There is lack of studies regarding impact of high performance work system (with focus on AMO model as recommended by Jiang et al., 2013) on organisational performance in Indian context. In order to fill this gap, the present study has undertaken to find out the linkage between high performance work system (AMO Model) and organisational performance. Further, the missing link in the form of

knowledge management will also be evaluated between high performance work system and organisational performance.

Need of the study

The telecommunication sector has been recognised as an important tool for economic development of a nation. During the past few years, the Indian telecommunication sector has registered a tremendous growth. After China, India has the largest telephone network in the world (Kurtinaitiene and Gaizutis, 2008). A series of development measures by the Government as well as the growth in wireless technology and dynamic involvement of private sector have played a key role in the exponential growth of telecommunication sector in the country. Though the number of telephone subscribers are increasing many fold every year in India (Muduli et al., 2012) but it has also been observed that the telecommunication organisations have to face many challenges like market saturation, introduction of new services, economic recession, which forces to cut the cost and improve competence. To cope up with these challenges telecommunication organisations make efforts to adopt innovative practices that facilitate to maintain a high-performance level in the form of superior quality, better efficiency and amplified relationship with customers and co-workers and for this it requires skilled and knowledgeable employees. These skilled and knowledgeable employees indulge in continuous learning, share new innovative ideas among employees and management. High performance work system help employees to learn and innovate, which in turn affects overall organisational performance. In this context, it becomes necessary to study nature and kind of high performance work system being practised in IT sector and their impact on organisational performance.

Theoretical Framework And Hypotheses Development

Theoretical Framework

Figure 1 represents the conceptual model and accordingly the hypotheses have been framed. The model shows that the relationship between high performance work system and organisational

performance. Further, depicts the relationship between high performance work system and knowledge management, knowledge management and organisational performance.

Insert Figure 1 here

Hypotheses Development

High Performance work system and organisational performance

High performance work practices refer to bundle of human resource (HR) practices which enhance the organisational performance by increasing employees' ability, motivation and opportunity to contribute (AMO) (Rabl et al. 2014). Implementation of a specified set of work practices i.e. high performance work system is beneficial for all types of organisations in terms of higher performance (Boxall and Purcell, 2003). On the same lines, high performance work system fosters sound organisational environment whereby, employees feel contented and are willing to put extra efforts to achieve the organisational goals in order to boost the organisational performance (Kellner et al. 2016). In other words, high performance work system enhances the worth, individuality and inimitability of employees' knowledge and skill, which in turn generates competitive advantage and better performance (Zhang et al., 2014), namely financial performance (Huselid, 1995), employee performance (Xiaomei et al. 2013) and operational performance (Kintana et al. 2006). Further, Hassan et al. (2013) revealed that high performance work system including training, appraisal and empowerment play a crucial role in enhancing the employee loyalty and financial performance. Use of AMO model (ability, motivation and opportunity) in high performance work system will boost employees' performance (Boxall and Purcell, 2003) by implementing sound incentives system (Huang et al., 2016). It reduces the employee turnover and increases productivity, which in turn having a positive effect on corporate financial performance (Zhang and Morris, 2014). For instance, high performance work system increases the employees' knowledge and skill level through ability based initiatives. It motivates them through regular performance feedback, incentives and rewards. Further, participation in decision-making process gives them the opportunity to extend innovative ideas that

facilitate to improve the competitive position of the organisation, achieve higher profit, increase sales volume, market share as well as increase organisations' reputation. Similarly, Kintana et al. (2006) recognised that high performance work system enhances employee knowledge, skill and empower the committed workforce, which enhances the operational performance of the organisation. Various researchers have revealed that positive impact of skill, motivation and opportunity enhancing human resource practices on organisational performance vis-a-vis, sales growth, profitability, employee turnover, level of satisfaction, service quality and overall performance (Obeidat et al. 2016; Gong et al. 2009; Akhtar et al. 2008; Guerrero and Barraud- Didier, 2004). Further, similar results have been found in business/manufacturing sectors (Katou and Budhwar, 2006, Liao 2005) as well as in services also (Muduli, 2015). For instance, Skill-enhancing human resource practices like extensive training helps in enhancing the performance of the employees (Birdi et al. 2008) that improves organisational performance. Similarly, competency development practices improve the efficiency of existing employees and which in turn enhances performance of the organisation (Pare and Tremblay, 2000). Further, motivation-enhancing human resource practices e.g. performance management helps in directing and sustaining employees to work effectively and efficiently as per organisational needs to enhance the organisational performance (Armstrong and Baron, 1998). Performance-based compensation ensures that the company can attract and retain the high quality employees by providing them the feeling that the valuable employees are fairly rewarded, and which in turn improves the performance of the organisation (Obeidat et al. 2016; Delaney and Huselid, 1996). Lastly, opportunity-enhancing human resource practices such as empowerment boosts employees' motivation at work through delegation of authority in an organisation where a competent or confidential decision can be made (Gurbuz, 2009) to improve the organisational performance. Hence, we hypothesise that:

Hypothesis 1: High performance work system positively affects organisational performance.

High performance work system and Knowledge management

Knowledge is one of the most important sources for the organisation to achieve the sustainable competitive advantage (Hasani and Sheikhesmaeili, 2016). Knowledge can be referred to as the information, facts and concepts, which are generally inherent in practices, norms, processes, documents and experiences of employees for better job performance (Kim and Lee, 2010). Authors have studied knowledge from multiple perspectives e.g. tacit, implicit and explicit knowledge (Grover and Froese, 2016; Cavusgil et al., 2003; Nonaka, 1994). Tacit knowledge is that knowledge which is within (latent) the minds of the employees. It is in the form of intuitions and insight. It is also known as unstructured knowledge. While explicit knowledge is in written or spoken form. It can be expressed through words, sentences and formulas. It is in the form of data, manual, computer programs, audio and videotapes, patents and like (Natarajan and Bagwan, 2016). It can be formalised in rules and procedures (Loebbecke et al. 2016). Further, tacit knowledge can be converted into explicit knowledge (Hamoud et al. 2016) through brainstorming, interactions, encouraging knowledge sharing and recording the outcome of such activities. Knowledge management includes optimum management of available tacit and explicit knowledge for organisational effectiveness. It is the process that records the whole data for an organisation and assists in decision making (Al-Busaidi et al., 2010) for the success of organisation (Jimenez-Jimenez and Sanz-Valle, 2013). Knowledge management endeavors to optimally use the knowledge within organisation for better results (Davenport and Prusak, 2000). Knowledge management as a multi-dimensional construct (Bousa and Venkitchalam, 2013; Pinho et al., 2012; Jyoti et al. 2011; Armstrong, 2006) comprising knowledge creation, acquisition, capturing, sharing, utilisation, conversion, approach and protection.

High performance work system focus on ability enhancing practices (training and skill development), motivation enhancing practices (high pay, career development and information sharing) and opportunity enhancing practices (employee involvement and teamwork) (Appelbaum et al., 2000), which help in knowledge acquisition, sharing and memorising. Jimenez-Jimenez and Sanz-Valle (2013) argued that human resource management practices are an important weapon in knowledge

creation and development within the firm. In other words, human resource management practices play a vital role in assisting employees' absorption, transfer, sharing and creation of knowledge within firms (Chen and Huang, 2009). On the same line, Jimenez-Jimenez and Sanz-Valle (2013) revealed that the individual human resource practice does not affect all the knowledge management processes, however, when they are adopted as a bundled or system, they foster knowledge acquisition, sharing, interpretation and storing. Ability-enhancing practices provide internal and external training opportunities to the employees to develop and nurture their required knowledge (Jaw and Liu, 2003). Such training programs motivate the employees to share their know-how and experience, acquire new knowledge and utilise what they learn subsequently in the job (Chen and Huang, 2009). In addition, competency development encompasses all activities carried out by an organisation and its employees to maintain and enhance the employees' knowledge, skill and attitude in technical, behavioural and conceptual areas (Pare and Tremblay, 2007). Job rotation and job enrichment adds to employees' experiential knowledge. Similarly, performance appraisal process motivates the employees to learn more about their job to meet the objectives in projected time. It also motivates them to share their problems with others and solve these in new ways, which lead to acquire and share the knowledge at work place (Chen and Huang, 2009). The new generated knowledge is memorised explicitly through use of technology. In the same way, if the compensation or reward system is related to creativity, problem solving and risk taking, it will help in knowledge diffusion and sharing (Argote et al., 2003). Lastly, opportunity-enhancing practices like empowerment also encourage the employees to discover and use the available knowledge in the organisation (Hasani and Sheikhesmaeili, 2016) for better results. Participative management involves employee in decision making process that enhances their vision and knowledge (Sanchez et al. 2015), which they use in other discourses to meet organisational goals. Thus, high performance work system motivates the employees to acquire, share and apply knowledge within the organisation.

Hypothesis 2: High performance work system positively affects knowledge management.

Knowledge management and organisational performance

Knowledge management has become widely recognised as an important tool for the organisations' success or failure (Vidovic, 2010). It can be seen as a strategy to manage organisational knowledge assets that help in management decision making, enhance competitiveness and increase capacity for creativity and innovation (Nowack et al., 2008). It relates to the knowledge acquisition, knowledge sharing and organisational memory. Knowledge acquisition refers to acquisition of new knowledge internally and externally; while knowledge sharing refers to transfer/share of the acquired knowledge; and organisational memory relates to store knowledge for future use either in the form of designing organisational system or in the form of rules, procedures, etc. In other words, knowledge management is an important process to improve organisational performance and reinforcing competitive advantage (Castro, 2015; Lee and choi, 2003). Organisations, which learn more efficiently, have better long-term performance than their competitors (Inkpen and Crossan, 1995). Furthermore, enhancing the individual knowledge within an organisation in order to develop a continuous organisational learning that can lead to better performance (Alshawi, 2015). The process of knowledge management i.e. knowledge acquisition, knowledge distribution, knowledge interpretation and organisational memory, pave way for enhanced organisational performance (Lee and choi, 2003) by solving the business problems and exploring the future growth opportunities (Alenezi et al., 2015). Many authors such as Babazadeh and Farahani (2015); Lee et al. (2014); Gholami et al. (2013); Armstrong (2006) have revealed that knowledge management is positively related to organisational performance in varied sectors. Jyoti et al. (2011) empirically proved that knowledge management affects innovative performance. Jyoti et al. (2015) also revealed that knowledge management generates competitive advantage with the help knowledge acquisition, approach and protection.

Additionally, McKeen et al. (2006) found that Knowledge management practices improve subjective performance, which enhances financial performance. Tajali et al. (2014) found that knowledge management is positively related with employee performance. Gold et al. (2001) revealed that

effective knowledge management enhances corporate operational performance. Sharfard et al. (2013) found that the four components of knowledge management i.e. knowledge acquisition, knowledge distribution, knowledge interpretation and organisation memory help in generating competitive advantage. For instance, firms, which gather knowledge, disseminate the knowledge acquired and respond appropriately to that knowledge, are expected to build a competitive advantage. Further, Yusuf (2008) viewed that knowledge is a valuable resource to enhance performance in the turbulent business environment and organisational knowledge is considered as a prime asset for gaining competitive advantage. In simple terms, we can say that it is significant contributor to the success and survival of any organisation in highly competitive business environment, which leads to organisational performance.

Hypothesis 3: Knowledge management positively affects organisational performance.

High performance work system, Knowledge management and organisational performance

As discussed above, high performance work system is related to knowledge management (H2), which in turn is associated with organisational performance (H3). This theoretical proposal is mainly consistent for mediation model. In support, best human resource management practices develop the fundamental elements for knowledge management success (Scarbrough and Carter, 2000), which improve the organisational performance (Ahmadi, 2015). Many organisations are adopting modern human resource practices that facilitate knowledge management programmes to enhance their competitiveness. Human resource management practices play a crucial role in promoting employees' understanding, transfer, exchange and establishment of knowledge (Al-bahussin and El-garaihy, 2013). Knowledge management programmes improve business processes in terms of cost effectiveness, greater revenues that enhance competitive performance (Chua and Lam, 2005). Further, strategic human resource practices such as performance management, recruitment and selection, employee interaction and career development help in enhancing knowledge sharing within a company (Currie and Kerrin, 2003), that facilitate to improve the productivity (Raymond et al. 2016).

Commitment-based human resource systems facilitate the exchange and combination of ideas and knowledge among employees (Smith, et al. 2005) in order to achieve the organisational goals (Fore et al. 2016). Rousseau (1995) revealed that commitment-based human resource practices increase employees' motivation to acquire the firm specific knowledge required to support their company's strategy. In other words, human resource practices motivate the employees to develop creative and innovative ideas (Scarborough, 2003) that fostering the sustainable competitive advantages (Gareth and Cicmil, 2016). For example, extensive training programmes are vital for employees to promote the knowledge process in the organisation for better performance. Such training programmes motivate the employees to share their experience, generate new knowledge and utilise the gained knowledge that enable business growth (Moorman and Miner, 1998). Nonaka and Takeuchi (1995) stated that diverse training programmes encourage employees to learn new knowledge and expertise, broaden their insight, and equip them with innovative minds and skills in order to foster the organisational growth. Additionally training helps the employees to share their knowledge through formal interaction within team or work units that facilitates to promote the organisational performance. In this context, implementation of higher level of training advances the growth of employees' requisite skills and their potential to learn towards the employees are able to generate new understandings and new ideas (Tan and Nasurdin, 2010) that are useful for innovative performance (Inkinen et al., 2015). In the same way, performance management emphasises improvement, learning and development to achieve the organisational goals. Further, appraisal process provides the employees continuous feedback about their competencies and knowledge acquired, which subsequently improve the various performance attributes of the organisation (Lopez-Cabrales et al., 2009). Besides this, Foss et al. (2009) emphasised that autonomy increases employee intrinsic motivation to share knowledge in order to promote the organisational performance. Performance-based compensation motivates the employees to take the challenging work and utilise the knowledge effectively that enhances business performance. Further, team-based reward system motivate the employees to share the knowledge with each other which

create a feeling of co-operation, ownership and commitment (Bartol and Srivastava, 2002) in order to boost the performance (Rezaei et al., 2016). On the same line, Delaney and Huselid (1996) viewed that team-based compensation designed to increase knowledge sharing and commitment to the organisation which affects the performance. In addition to this, empowering employees through participation in decision-making motivate them to bring new ideas and exchange knowledge with each other (Chen and Huang, 2009), which in turn, increases the organisational performance. Lastly, competency development enables the organisation to retain productive employees by enhancing their knowledge, skill and ability to take up future challenging roles (Agarwal and Ferratt, 1999). Hence, high performance work system leverages the knowledge in terms of acquisition, sharing and utilisation for better organisational performance.

Hypothesis 4: Knowledge management mediates the relationship between high performance work system and organisational performance.

Research Methodology

Data Collection

Questionnaire technique has been used to collect the data from managers and employees of six private telecommunication organisations (Airtel, Aircel, Tata-indicom, Idea, Reliance, Vodafone) operating in Jammu and Kashmir (J&K) (North India). All the managers (60) and middle level employees (851) of selected telecommunication organisations have been contacted to generate the research information. Out of 911 questionnaires only 58 managers and 246 employees responded back. The managers' sample consisted of 84% males. Age-wise 58% are in 30-40 years of age group. According to marital status of the respondents 78% are married. Also 60% are professional qualification and about 51% have 5-10 years of work experience. Lastly, majority of respondents (59%) belonged to income groups i.e. Rs. 40,000-60,000. The employees' sample consisted of 79% males. About 67% are between 20-30 years of age. Majority of respondents are married and post graduates (52%) and about 67% have 1-5

years of work experience. Majority of respondents belonged to two income groups that is below Rs. 20,000 (41%) and between Rs 20,000-Rs 40,000(41%) and rest belonged to above Rs. 40,000 (18%).

Perceptual Gap of Managers and Employees

Perceptual gap has been identified on the basis of managers and employees' perception towards high performance work system, knowledge management and organisational performance. Independent t-test has been used to check the significance of difference in the mean score of two sets of respondents. The study found that there exist no significance difference in the perception of managers and employees regarding high performance work system ($t=0.406$, $p > 0.05$), knowledge management ($t=0.546$, $p > 0.05$), and organisational performance ($t=1.350$, $p > 0.05$)

Measures

Five point Likert scale that ranged from 5 (strongly agree) to 1 (strongly disagree) has been used for the sake of uniformity. The scale items were improvised for better understanding.

High performance work system: 15 item scale (Jensen et al., 2013) has been used to measure the high performance work system. The language of this scale was little bit changed e.g. the item "I receive the training I need to do my job" has been written as "Need based training is provided to the employees" (the same has been given in the Appendix 1).

Knowledge management: Knowledge management scale comprised 24 items. Three items of knowledge acquisition have been taken from Jyoti et al. (2011) and 6 are self generated. Five items for measuring knowledge sharing have been adapted from knowledge distribution scale by Lopez et al. (2005). The term Knowledge distribution and knowledge sharing are used for the same context. Some authors have used the term knowledge sharing (Gholami et al., 2013; Fong et al., 2011) and others have used knowledge distribution (Obeidat et al., 2014; Jimenez-Jimenez and Sanz-Valle, 2013). Four items of Knowledge approach have been adapted from Jyoti et al. (2011) and 6 are self generated. Some of the items of knowledge acquisition and Knowledge approach have been self generated as

scale with 3 items or less than three can cause problem of model identification (Hair et al., 2010) (Appendix 2).

Organisational performance: Organisational performance is dependent on the skill, knowledge and experience of the employees to achieve efficiency, effectiveness, innovation, satisfaction of the employees and customers, quality of products or services and ability to maintain a unique human pool (Absar et al., 2010). It has been measured in the literature from financial and non-financial (employee and operational performance) aspects. The financial perspectives has been used by majority of the researchers (Liao and Wu, 2009; Lopez et al., 2005; Venkatraman and Ramanujam, 1986), which includes competitive position, profitability, sales growth, market share, organisations' reputation. Similarly non-financial perspectives like employee performance (Fuentes et al. 2007) include items pertaining to employee satisfaction, employee turnover, level of absenteeism and employee participation. Finally operational performance (Wright et al., 2003; Delaney and Huselid 1996; Venkatraman and Ramananjum, 1986) includes number of customer complaints, service quality and customer satisfaction. So, we have taken both aspects to measure the organisational performance. Financial perspective includes financial performance whereas non-financial perspective includes employee and operational performance.

Venkatraman and Ramanujam's (1986) scale has been used to measure financial performance and operational performance. Further, Fuentes et al.'s (2007) scale has been used to measure employee performance (Cited in Jyoti and Sharma, 2012) (Appendix 3).

Exploratory Factor Analysis (EFA)

High performance work system scale has not been validated in Indian context, so for factor identification EFA has been applied. The test of appropriateness of a factor analysis has been verified through Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, where value greater than 0.50 is acceptable (Hair et al., 2010), which indicates its relevance for further analysis. The statement with factor loading less than 0.50 were deleted (Hair et al., 2010). Initially, high performance work system

construct consisted of 15 items. 12 items have been retained after EFA that converged under three factors (ability, motivation and opportunity). Further, knowledge management scale comprised 24 items that got reduced to 20 items and converged under three factors (i.e. knowledge acquisition, knowledge sharing and knowledge approach). All items of organisational performance have been retained after EFA and converged under three factors (financial performance, employee performance and operational performance). The KMO values of all the scales are above 0.70 and total variance explained by all the constructs is above sixty per cent (Hair et al., 2010).

Results

Two-stage procedure, namely, the measurement model (confirmatory factor analysis i.e. CFA) and the structural model (structural equation modelling i.e. SEM and partial least square i.e. PLS) have been applied. In the first stage, we tested the construct reliability and validity of the study variables by using CFA, and in the second stage, we evaluated the hypothesised relationships with the help of SEM (Anderson and Gerbing 1988; Jyoti et al. 2015) and PLS (Leguina, 2015).

Reliability and Validity

Before using the inferential analysis, we assessed the validity and reliability of the construct with the help of CFA. Second order factor models have been designed for all the scales. Fit indices of all the second order models are within the prescribed limit (Table 1) i.e. GFI, CFI are greater than 0.90 and RMR, RMSEA is less than 0.05 and 0.08 respectively (Hair et al., 2010). Standardised regression weights (>0.50) and average variance extracted (>0.70) established the convergent validity (Table 1). Further, discriminant validity has also been proved by comparing the variance extracted with squared correlations amongst different constructs (Hair et al. 2010). The average variance extracted for all the constructs is higher than the squared correlation thereby proving discriminant validity (Table 2). Reliability of the constructs has been checked through Cronbach's alpha and composite reliability. Alpha values equal to or greater than 0.70 indicate good reliability (Hair et al. 2010). In the present

study alpha and composite reliability values for all constructs are greater than 0.70 (Table 1). Thus, the Cronbach's alpha and composite construct reliability indicate that the scales are quite reliable.

Hypotheses Testing

Structural equation modeling (with Maximum Likelihood) through AMOS software (version 17) has been used for analysing employees' data (N = 246). It is considered as one of the important technique for testing the hypothesised relations. It refers to the relationship of one or more independent variables with one or more dependent variables (Hair et al., 2010).

PLS software (SmartPLS3) has been used in case of managers (N=58), due to small sample size, to find the SEM results. SmartPLS3 is a software application that permit the user to perform path modeling with partial least squares method (Ringle et al., 2005), which does not assume for normalcy of data and large sample size.

Impact of High Performance Work System on Organisational Performance

There is a significant impact of high performance work system on organisational performance, which has been proved through both data sets i.e. employees and managers (employees data: $SRW = 0.753$, $p < .001$; manager data: $\beta = 0.636$, $p < .001$) (Figure 2). Hence, hypothesis 1 stands accepted, which is supported by the previous studies such as Zhang and Morris (2014) as high performance work system enhances the employees' knowledge, skill and abilities in order to promote the organisational performance. The rationale of the high performance work system–performance linkage is that high performance work system promotes the value, uniqueness and inimitability of employees' knowledge and skill (Wright et al., 2003), which in turn generates competitive advantage and better performance. Zhang and Morris (2014) have also revealed that AMO theory focused on developing employees' ability to perform, enhancing employees' motivation to perform and creating opportunities for employees to make contributions to broader organisational performance.

Further, we have also checked the dimension-wise impact of high performance work system on organisational performance and found that ability is highly influencing the organisational performance

(employees' data: $SRW=0.511$, $p<.001$; managers' data: $\beta=0.643$, $p<.001$) followed by motivation (employees' data: $SRW=0.308$, $p<.001$; managers' data: $\beta=0.555$, $p<.001$) and opportunity (employees' data: $SRW=0.110$, $p<.001$; managers' data: $\beta=0.503$, $p<.001$).

Insert Figure 2 here

Impact of high performance work system on knowledge management

The impact of high performance work system on knowledge management is significant (employees' data: $SRW=0.767$, $p<.001$; managers' data: $\beta=0.689$, $p<.001$) (Figure 3), which provides support for second hypothesis. Ability component of high performance work system enhance employees' capability to learn and create new knowledge as suggested by Jimenez-Jimenez and Sanz-Valle (2013) that training leads to better knowledge management. Kim (1998) indicated that human resource practices motivate employees to assimilate new information. Moreover, teamwork encourages the employees to share their ideas and knowledge with each-other (Lei et al., 1999). Empowerment also encourages employees to enhance the learning capabilities among employees in the organisations (Lopez et al., 2005). Lopez et al. (2005) suggested that in organisation proper employees' training helps in knowledge generation and transfer. Besides this, feedback regarding employees' competencies and knowledge acquired, also improves the attributes of an organisation (Lopez-Cabrales et al., 2009). Monavvarian and Khamda (2010) put forth that high performance human resource practices are helpful in knowledge generation through the sharing of ideas, opinions, and experience.

Further, we have also assessed the dimension-wise impact of high performance work system i.e. ability, motivation and opportunity on knowledge management. Among the three dimensions, ability is highly influencing the knowledge management (employees' data: $SRW=0.574$, $p<.001$; managers' data: $\beta=0.678$, $p<.001$) followed by motivation (employees' data: $SRW=0.405$, $p<.001$; managers' data: $\beta=0.508$, $p<.001$) and opportunity (employees' data: $SRW=0.272$, $p<.001$; managers' data: $\beta=0.631$, $p<.001$).

Insert Figure 3 here

Impact of Knowledge Management on Organisational Performance

Knowledge management significantly influences organisational performance (employees' data: SRW=0.768, $p < 0.001$; managers' data: $\beta = 0.769$, $p < .001$) (Figure 4). So, the third hypothesis stands accepted. It supports the findings of previous study that the knowledge management improves the organisational performance (Alshawi, 2015) by enhancing organisational members' capabilities. Jyoti et al. (2015) also stated that knowledge management enables information and knowledge to grow, flow and create value in an organisation. Similarly Omerzel (2010) also put forth that firms, which implement knowledge management efficiently are more likely to have higher growth and profitability.

Further, the dimension-wise impact of knowledge management on organisational performance, namely, knowledge acquisition, knowledge sharing and knowledge approach and found that knowledge approach is the most significant predictor of organisational performance (employees' data: SRW=0.584, $p < .001$; managers' data: $\beta = 0.709$, $p < .001$) followed by knowledge acquisition (employees' data: SRW=0.236, $p < .001$; managers' data: $\beta = 0.650$, $p < .001$) and knowledge sharing (employees' data set: SRW=0.259, $p < .001$; managers' data: $\beta = 0.599$, $p < .001$).

Insert Figure 4 here

Role of Knowledge Management between High Performance work system and organisational Performance

In the present study, we have knowledge management as a mediator between high performance work system and organisational performance. In order to test the mediation effect, we have followed the recommendations of Hayes (2013). This approach is more powerful than the stepwise procedure of Baron and Kenny (1986) because it more directly addresses mediation (Bahli and Rivard, 2013). Hayes (2013) stated that mediation effect exists when indirect effect is significant and bias corrected

confidence interval does not contain zero value. Therefore we estimated indirect effect with 1000 bootstrap at 95% confidence interval through structural educational modeling in AMOS. The results revealed that high performance work system significantly affects knowledge management ($SRW_a=0.81^{***}$) (Figure 3) and knowledge management significantly affects organisational performance ($SRW_b=0.76^{**}$) (Figure 4). The indirect effect after bootstrap of 1000 sample is significant ($SRW a*b=0.62$). Further, the bias corrected confidence interval for upper bound and lower bound is above zero (Table 3). The fulfilment of these two condition proves that there exists mediation effect of knowledge management. The indirect effect has also been checked through Sobel Test (sobel statistics = 2.09, $p < 0.05$), which also revealed significant indirect effect.

Further, mediation of knowledge management has been tested on managers' data set too. The results of PLS model revealed significant effect of high performance work system on knowledge management ($\beta_a=0.68^{***}$) (Figure 3) and knowledge management on organisational performance ($\beta_b =0.76^{***}$) (Figure 4). The indirect effect after bootstrap of 1000 sample is significant ($SRW a*b=0.52$) (Figure 5, Table 4). Further, sobel statistic (6.47) is also significant, which provided support for indirect impact of high performance work system on organisational performance.

Further, we have also checked the dimension-wise mediation of knowledge management between high performance work systems and organisational performance relationship. The results revealed that the indirect effect of all dimensions of knowledge management, namely, knowledge acquisition (employees' data: $SRW a*b=0.42^{***}$, sobel statistics=2.46; managers' data: $\beta a*b=0.25^{***}$, sobel statistics=2.81), knowledge sharing (employees' data: $SRW a*b=0.38^{***}$, sobel statistics=2.32; managers' data: $\beta a*b=0.20^{***}$, sobel statistics=2.00) and knowledge approach (employees' data: $SRW a*b=0.44^{***}$, sobel statistics=3.13; managers' data: $\beta a*b=0.31^{***}$, sobel statistics=3.61) mediate between high performance work system and organisational performance. Thus hypothesis 4 is accepted. The detailed results are shown in table 3 and 4

Insert Figure 5 here

Discussion

This study contributes to the literature by identifying the black-box using knowledge management to understand impact of high performance work system and organisational performance relationship in telecommunication sector. The statistical results of this study indicated that high performance work systems positively affect organisational performance. A major stream of empirical research in the field of strategic human resource management has focused on examining the performance effects associated with a set of human resource practices, known as high performance work system. High performance work system emphasises skill development, decentralisation of decision-making and effective use of knowledge, skills and abilities enhance the organisational performance (Khasawneh and Alzawareh, 2012).

Further, this study also found that the dimension of high performance work system i.e. ability is the strongly predictor of organisational performance. For instance, extensive employee training programmes help to improve the efficiency of employees in order to make better business environment. Beside this, the management also arranges certain specialised technical courses for enhancing capabilities and skills of their employees.

Additionally, the study revealed that high performance work system positively influences knowledge management. High performance work system encourage employees to create new ideas, develop and share understanding with one-another and apply changes in organisational operations. Moreover, the study revealed that dimension-wise impact of high performance work system on knowledge management and found that out of three dimensions, ability is most strongly predictor of knowledge management. For instance ability enhancing human resource practices such as training plays a vital role in maintaining and developing individual capability and learning-oriented organisational culture (Chen and Huang, 2009). In other words ongoing training programmes boost organizational learning capability, and also encourage the employees to acquire and generate and share new knowledge with each-other (Jerez-Gomez et al., 2005). They also indicated that multi-skill training is better than

specific training to enhance the learning capability of the employees. Besides this, job rotation provides the opportunity to the employees in the advancement of their skills and knowledge (Mohan and Gomathi, 2015).

Further, the study also found that there is a positive relationship between knowledge management and organisational performance, which can be attributed to enrich knowledge and better understanding of business through various components of knowledge management, which is in line with earlier research by Al-bahussin and El-garaihy (2013). Knowledge management manages the organisational knowledge assets, to boost competitiveness and to enhance capacity for creativity and innovative performance (Nowack et al., 2008). In addition, the organisations with employees having ability to learn quickly to attain a higher planned potential that facilitate the path towards competitive advantage and boost long-term performance (Noruzy et al., 2013). Beside this, dimension-wise impact of knowledge management on organisational performance has been explored, which reveals that out of three dimensions of knowledge management, knowledge approach is most significant predictor of organisational performance. The reason behind is that in IT sector specialist are required to maintain databases, which help in the formation of new knowledge to perform special tasks efficiently, which is in line with Jyoti et al. (2015).

Finally, this study also found that the relationship between high performance work system and organisational performance is mediated by knowledge management as high performance work system are helpful in knowledge generation through the sharing of ideas, opinions, and experience (Monavvarian and Khamda, 2010) for better organisational performance. The different dimensions of knowledge management such as knowledge acquisition, knowledge sharing and knowledge approach act as a mediating variable between high performance work system and organisational performance. Tan and Nasurdin (2011) argued that when organisations implement higher level of training, fast flow of information and knowledge, it increases organisational learning and new ideas generation, which helps to improve the performance of the organisations. In other words, high performance work system

improves the organisational performance by enhancing the employees' capability, skills, knowledge and flexibility. High performance work system provides a clear understanding about the company's aims and goals, which ensure right direction for knowledge related processes e.g. knowledge acquisition, sharing and approach that in turn to enhance the organisational performance. Thus, high performance work system through ability, motivation and opportunity help employees in enhancing their competencies, knowledge as well as skills, which enable them to find out new ideas and ways of performing their job that lead to better organisational performance.

Theoretical contribution

The study has fourfold contribution. First, this research has added to the existing knowledge domain of high performance work system. The scale of high performance work system has been validated in Indian context, which has added to its generalisability (as recommended by Tsang and Kwan, 1999). Second, the study helped to identify the "black box" using knowledge management to understand high performance work system and organisational performance relationship. Knowledge management has been empirically proved as mediator between high performance work system and organisational performance. Third, this study evaluated the dimension-wise impact of high performance work system (AMO) on knowledge management and organisational performance, which has not been evaluated earlier. Besides this, the study also assessed the dimension-wise impact of knowledge management on organisational performance, which revealed that out of three dimensions of knowledge management, knowledge approach affects organisational performance the most. This finding can help future researchers in their research a lot. Fourth, the present study checked dimension-wise mediating effect of knowledge management vis-a-vis knowledge acquisition, knowledge sharing and knowledge approach, between high performance work system and organisational performance also and results revealed the indirect effect is highest with knowledge approach as mediator. To conclude, we can say that if organisations want to reap the best fruits of high performance work system, it must implement

sound knowledge management process, which can yield better financial, operational and employee performance.

Practical implications

Our empirical findings provide several important managerial implications. Managers should provide job training relating to job instruction, computer-based training, etc. to the employees on regular basis and need to be implemented more effectively in order to cope up with technological developments and new innovations in telecommunication sector. It will enhance employees' performance through reduced customer complaints, which in turn will improve the organisational performance. This will also help the employees to update and increase their knowledge about latest advancements and enhance their technical competence to cope up with the extant challenges and get themselves prepared for further promotions. Enhanced competences increase the thinking horizon and vision of the employees and enhance their ability to think out of box to generate and disseminate more new ideas, which consequently improve the organisational performance.

Further, management should formulate attractive incentive packages in order to motivate the employees to engage in knowledge management initiatives. Such an incentive system should also encourage employees to suggest ideas for organisational development. Besides, organisations should also make provisions of award for best suggestions to encourage valuable suggestions from the employees and also keep loyalty rewards for employees, who are in organisation for long time period. Such awards or rewards can increase employees' confidence, which ultimately would motivate them to be more concerned for their organisations. This will further motivate the employees towards continuous improvement, which in turn will improve the organisational performance. Managers should also counsel employees about solve their work related issues to enhance their performance. Besides this, high performance work system should be based on flexible human resource practices such as work from home or flexi-time in order to keep the employees motivated.

Knowledge acquisition is an important part of knowledge management. Hence, it is suggested that organisations should organise informal meetings, brainstorming sessions and invite suggestions from its employees as well as the experts from the allied industries such as software industries, information technology (IT), etc. to generate innovative ideas and information for the core and supplementary services related to IT organisations.

Knowledge approach is a vital component of knowledge management. Management should update the stakeholders about what is happening in the organisation through information technology based knowledge management approach. It is also suggested that telecommunication organisations should stress on prompt and quick availability of databases. There should be continuous upgradation of client database, so that new plans and schemes are passed on to the customers quickly, which can strengthen customer relation management process. Additionally, the organisation should use latest technology (e.g. intranet, e-bulletin boards) for knowledge sharing among the employees. Virtual platforms should be created for exchange of ideas. Knowledge can also be disseminated through such platforms e.g. video conference, blogs, e-alerts, etc. which will help to enhance operation performance of the organisation.

Additionally, management should inform the employees not to share information with their peers in other organisation in order to protect the valuable information from inappropriate use. It should also organise meetings periodically to communicate to the employees the latest strategies and plans so that work is done in logical sequence to promote the goodwill of the organisation.

Finally, the organisation should identify the needs of their customers and provide services accordingly. The organisation should make efforts to conduct customer surveys from time-to-time to identify and reduce customer complaints, which can result in benchmarked service quality of the company.

Socio-economic Implications

Implementation of high performance work system emphasises creation of skilled workforce and up-keeping its motivation through better pay and incentives, which improves the living standard, in

particular of the employees and society in general. Further, extensive training helps to generate more skilled and productive workforce, which in turn forms the basis for faster economic growth and better living standards. Empowered employees are confident and can make their own ways to grow in the society and handle personal as well as professional problems easily. Besides this, talented employees should be groomed to utilise their capabilities for innovation, effectiveness, which can do wonders for the organisation and economy as a whole. In addition to this, knowledge management improves operational performance that increases productivity, which in turn increases Gross Domestic Production level as well as the economy of the country. Lastly, enhanced financial and non-financial performance will yield benefits for the organisation as well as the society

Limitations and Future research

Several limitations of this study must be acknowledged. First, the study is conducted only in the private telecommunication sector (Airtel, Aircel, Tata indicom, Idea, Reliance and Vodafone) in J&K (North India). For future research it is suggested to examine the high performance work system in public sectors too. Besides this, comparison between public and private sectors can also be examined. Further, the study being limited to telecommunication sector, can be extended in other sectors such as insurance, banking, healthcare, education, etc in order to generalise the findings of this study. Second, lack of personal contact with the employees of telecommunication as the authority did not allow us to explain the purpose of study in detail to the respondents, which can cause non sampling error. Third, the study is cross-sectional in nature and need to be extended to include longitudinal data in future. Fourth, the present study considers only one mediator variable i.e. knowledge management. In future, more mediating variables e.g. innovation, organisational culture and organisational commitment that foster organisational performance need to be examined. Lastly, besides the three dimensions of knowledge management i.e. knowledge acquisition, knowledge sharing and knowledge approach, other dimensions such as knowledge leverage, knowledge accumulation, etc. can also be considered in future research.

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Biographies

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Figure 1 Theoretical framework

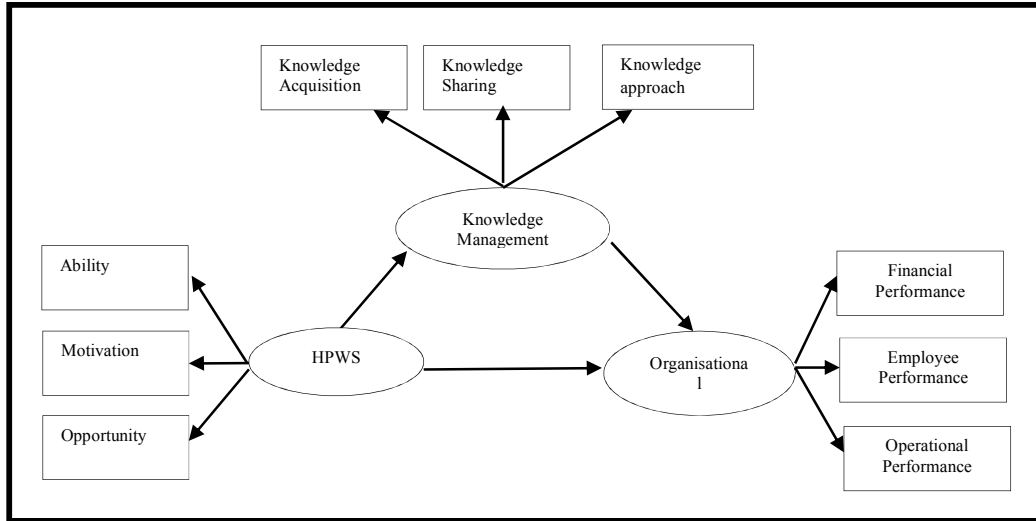
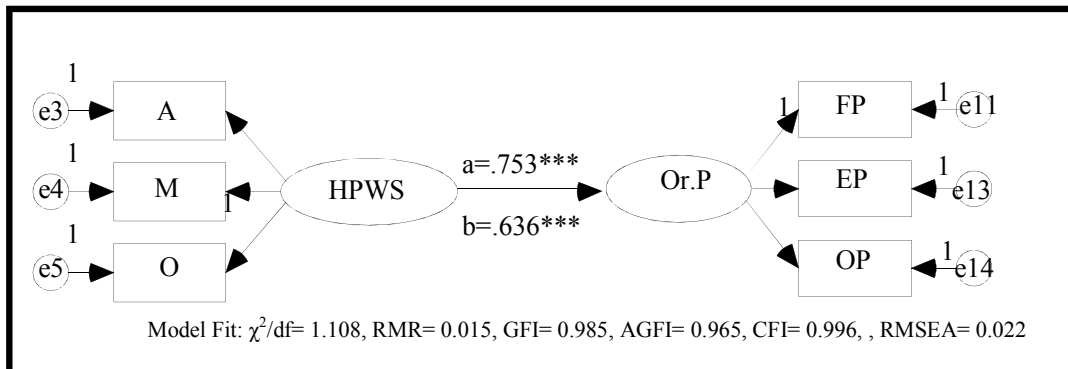
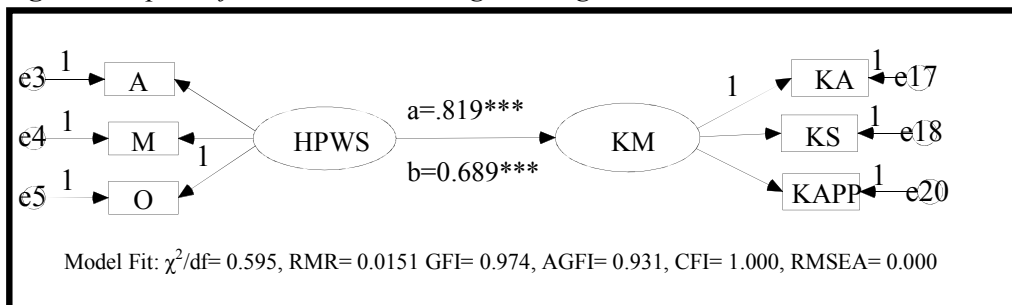


Figure 2 Impact of HPWS on organisational Performance



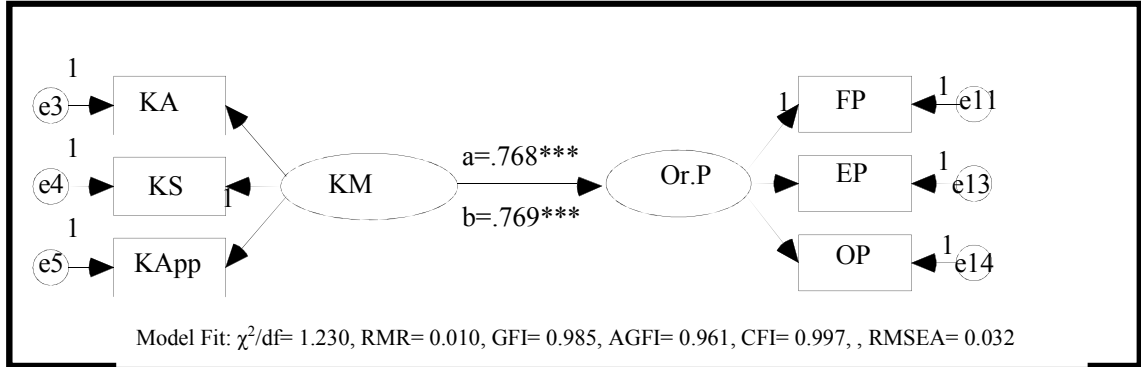
Note:a=Employees' results (SRW); b=Managers' results (β value)

Figure 3 Impact of HPWS on Knowledge Management



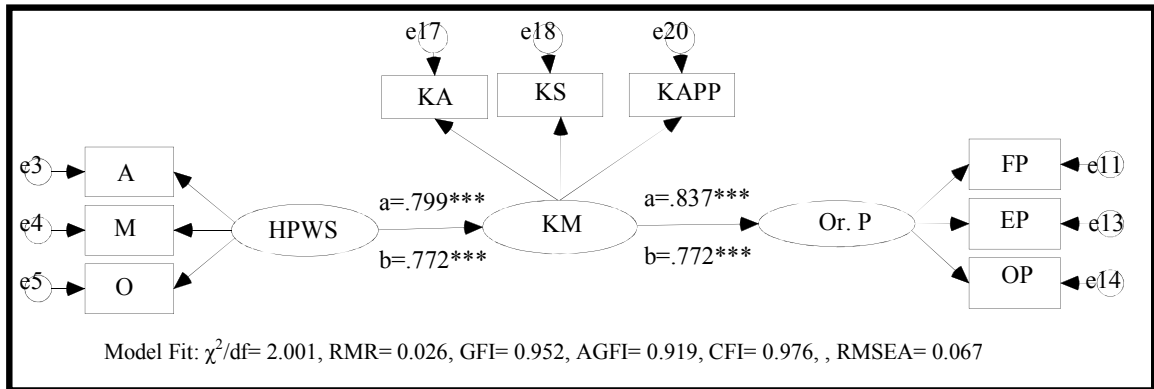
Note:a= Employees' results (SRW); b= Managers' results (β value)

Figure 4 *Impact of KM on organisational Performance*



Note:a= Managers' results (SRW); b= Managers' results (β value)

Figure 5 *Mediation Model*



Note:a= Managers' results (SRW); b= Managers' results (β value)

TABLE 1

Reliability and validity analysis of high performance work system, knowledge management and organisational performance scales

| Scale | Dimensions | SRW | AVE | C.R | Alpha Value | Model fit indices |
|-------------|--------------------|-------|-------|-------|-------------|--|
| HPWS | | | 0.984 | 0.993 | 0.919 | $\chi^2/df=2.153$, RMR= 0.004, GFI= 0.994, AGFI= 0.961, CFI= 0.996, , RMSEA= 0.072. |
| | Ability | 0.897 | | | | |
| | Motivation | 0.797 | | | | |
| | Opportunity | 0.796 | | | | |
| KM | | | 0.873 | 0.942 | 0.899 | $\chi^2/df=2.772$, RMR=0.006, GFI=0.992, AGFI=0.951, CFI=0.993, RMSEA= 0.088 |
| | KA | 0.790 | | | | |
| | KS | 0.832 | | | | |
| | KApp | 0.730 | | | | |
| Or.P | | | 0.887 | 0.941 | 0.887 | $\chi^2/df=2.165$, RMR=0.034, GFI=0.926, AGFI=0.887, CFI=0.943, RMSEA=0.072 |
| | FP | 0.853 | | | | |
| | EP | 0.909 | | | | |
| | OP | 0.902 | | | | |

Table 2

Discriminant validity and correlation analysis

| Scales | High Performance Work System | Knowledge Management | Organisational Performance |
|-------------------------------------|------------------------------|----------------------|----------------------------|
| High Performance Work System | 0.984 | | |
| Knowledge Management | (0.612) .782** | 0.873 | |
| Organisational Performance | (0.377) .614** | (0.415) .644** | 0.887 |

Note. Values on the diagonal axis represent Average Variance Extracted and values in parenthesis represent squared correlation between the constructs. The values with a asterisk represent correlations values.

Table 3:
Bootstrapping results of Mediation (Employees' Data)

| Relationships | Main effect of independent variable to mediation (a) | Main effect of mediation to dependent variable (b) | Indirect effect (a*b) | LL95%-UL 95% |
|---------------------------------|--|--|-----------------------|--------------|
| HPWS→KM→Or.P | 0.81*** | 0.76** | 0.62*** | 0.52-0.79 |
| Dimension-wise Mediation | | | | |
| HPWS→KA→Or.P | 0.73*** | 0.58*** | 0.42*** | 0.33-0.54 |
| HPWS→KS→Or.P | 0.66*** | 0.57*** | 0.38*** | 0.28-0.48 |
| HPWS→KAPP→Or.P | 0.70*** | 0.63*** | 0.44*** | 0.34-0.54 |

Note: *** $p < 0.001$; ** $p < 0.05$; $N = 1000$ Bootstrapping resample; LL BCA and UL BCA= Lower level and Upper level of the bias corrected and accelerated confidence interval, HPWS=High Performance work System, KM= Knowledge Management, KA=Knowledge Acquisition, KS= Knowledge Sharing, KAPP= Knowledge Approach, Or.P= Organisational Performance

Table 4:
Bootstrapping results of Mediation (Mangers' Data)

| Relationships | Main effect of independent variable to mediation (a) | Main effect of mediation to dependent variable (b) | Indirect effect (a*b) |
|---------------------------------|--|--|-----------------------|
| HPWS→KM→Or.P | 0.68*** | 0.76*** | 0.52*** |
| Dimension-wise Mediation | | | |
| HPWS→KA→Or.P | 0.59*** | 0.42*** | 0.25*** |
| HPWS→KS→Or.P | 0.56*** | 0.36*** | 0.20*** |
| HPWS→KAPP→Or.P | 0.59*** | 0.52*** | 0.31*** |

Note: *** $p < 0.001$; ** $p < 0.05$; $N = 1000$ Bootstrapping resample; HPWS=High Performance work System, KM= Knowledge Management, KA=Knowledge Acquisition, KS= Knowledge Sharing, KAPP= Knowledge Approach, Or.P= Organisational Performance

Appendix 1

| High Performance Work System | |
|------------------------------|--|
| 1 | A rigorous selection process is used to select new recruits. |
| 2 | *Your organisation gives sufficient opportunities for training and development |
| 3 | *New base training is provided to the employees |
| 4 | *Appraisal is directly related to performance at work |
| 5 | I am given meaningful feedback regarding my performance at least once a year. |
| 6 | *The rewards received are related to the performance |
| 7 | I feel my job is secure |
| 8 | Career management is given a high priority in your organisation. (d) |
| 9 | *You have the opportunities you want to be promoted |
| 10 | This department keeps me informed about business issues and about how well it's doing. (d) |
| 11 | There is a clear status difference between management and staff in this department. (d) |
| 12 | *Employees are involved in decision making. |
| 13 | Team working is strongly encouraged in our organisation. |
| 14 | Communication within this department is good |
| 15 | Communication between departments is good. |

*=modified language; d=deleted

Appendix 2:

| Variables | Items |
|--|---|
| KNOWLEDGE ACQUISITION | Your organisation acquires knowledge about policies of government. (d) |
| | Knowledge is distributed throughout the organisation |
| | Your organisation acquires new knowledge about opportunities. |
| | Your organisation acquires knowledge about competitors. |
| | Your organisation acquires new knowledge about customers |
| | Knowledge is filtered by your organisation. (d) |
| | Your organisation acquires new knowledge about products and services |
| | Your organisation generates new knowledge from existig knowledge |
| KNOWLEDGE SHARING | Your organisation acquire knowledge from outside sources. |
| | All employees are informed about the aims of the company. |
| | Meetings are periodically held to inform all the employees about the latest innovations in the organisation. |
| | The organisation has formal mechanisms to guarantee the sharing of the best practices among the different fields of the activity. |
| | There are within the organisation individuals who take part in several teams or divisions and who also act as link between them. |
| KNOWLEDGE APPROACH | There are individuals responsible for collecting, assembling and distributing internally employee's suggestions. |
| | Your organisation uses well developed internet applications |
| | Your organisation has established corporate rules and standards for hardware and operating systems. |
| | IT system enables knowledge formation across the organisation |
| | Your organisation has identified and standardized data to share across systems. |
| | Organisational data is currently shareable across the business units.(d) |
| | There are technical IT specialists (Programmer, analyst and designer) |
| | Your organisation updates customer databases. |
| Your organisation has adequate arrangements (directories, email, etc.) to find or consult expert on a concrete issue at any time.(d) | |
| Employees have access to databases | |
| Your organisation Keeps focus on IT staffing and training | |

Ap
pe
ndi
x
3:

| | |
|-------------------------|--|
| | Your organisation's reputation has increased as compared to last year. |
| EMPLOYEE PERFORMANCE | Employee satisfaction has increased as compared to last year. |
| | Employee turnover has decreased as compared to last year |
| | The level of absenteeism has reduced as compared to last year. |
| | Employee participation in managerial affairs as compared to last year. |
| OPERATIONAL PERFORMANCE | Service quality has improved as compared to last year. |
| | Number of customer complaints has reduced as compared to last year. |
| | Customer satisfaction has increased as compared to last year. |

Appendix 4:

Key terms:

HPWS-High Performance Work System;

KM-knowledge Management;

Or.P-Organisational Performance;

A-Ability;

M-Motivation;

O-Opportunity;

KA-Knowledge Acquisition;

KS- Knowledge Sharing;

KApp-Knowledge Approach;

FP-Financial Performance;

EM-Employee Performance;

OP-Operational Performance.