International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 08 | August - 2022 Impact Factor: 7.185 ISSN: 2582-3930

HUMAN RESOURCE MANAGEMENT PRACTICES AND KNOWLEDGE MANAGEMENT – A STUDY WITH STRUCTURAL EQUATION MODELLING TECHNIQUE

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ABSTRACT

Human resources and knowledge management are considered to be one of the most important factors within organizations that help them to achieve a competitive advantage. However, organizations should take care of the human factor and increase and take advantage of the knowledge within them. The purpose of this research is to investigate the relationship between human resources management practices and knowledge management process. The study is survey research method as a structured questionnaire is used for data collection. The sample for the study is HR managers and IT employees working in the select organizations in the study. A theoretical model was proposed and tested using structural equation modeling (SEM). The results of the SEM analysis indicated that human resources practices (recruitment methods, team work , training and development, performance appraisals, and reward systems) have a significant influence on Knowledge management process.

Keywords: *Human resource practices, knowledge management process, SEM Modeling, IT*

INTRODUCTION

Organizations operate in an environment characterized by uncertainty, instability and change that provoke the appearance of various challenges **(Bimpitsos & Petridou, 2012).** Such environment includes many factors as increased globalization, rapid technological change, and the growing need for qualified employees and improved performance **(Vanhala & Stavrou, 2013**). This forces organizations to try and exploit the resources at its disposal in order to achieve a competitive advantage (**Savaneviciene & Stakeviciute, 2011).** Human resources are considered critical factors contributing to an organization's success **(Dominguez, 2011**). According to Othman (2009) using human resources in a strategic manner is required to overcome the different challenges organizations face.

. Therefore, effectively managing these resources is of importance to all organization (**Juhdi etal**., **2011**). Managing the human resources of an organization requires the use of different practices (**Ortega-Parra& Sastre-Castillo, 2013**) that play a significant role in helping organizations create and sustain the performance they desire (**Fong et al., 2011**) as they influence the attitudes and behaviours of employees **(Lew, 2011).**The purpose of this research is to investigate the relationship between human resources management practices with knowledge management process, on. To achieve this purpose, the first sections discuss the theoretical background, research methodology, research model, and hypotheses. Data analysis, discussion results and conclusions, limitations and future work will be discussed in the final sections.

THEORETICAL BACKGROUND OF THE STUDY

Human resource management practices

According to **Opatha (2010**), the efficient and effective utilization of human resources (HR) to achieve goals of an organisation can be defined as human resource management (HRM).The efficient and effective deployment of HR requires bundles of HRM practices.HRM practices are the actual HR programs, processes and techniques that actually get implemented in the organisation or business unit (**Gerhart et al., 2000; Huselid and Becker, 2000).** Innovative organisations continuously seek to manage their HR effectively to create and market new products and services (**Gupta and Singhal, 1993).** The human capital (resource) and the rate of innovation are interdependent and complimentary to each other (**GII, 2010**).Organizational innovation is „concerned with deliberately designing and implementing incremental or radical changes to an organisation"s products/services or processes" (**Hislop, 2005** as in **De Winne and Sels, 2010**).Studies like **Kossek (1987), Wolfe (1995),** and **Gooderham et al. (1999)** suggest that the innovative capacity or capacity to adopt innovative practices in an organisation is determined by the HRM practices of the organisation. Organisations where innovation resides exclusively among R & D engineers are often boring, bureaucratic places to work and rarely sustain growth and profit. Like oxygen in atmosphere, the innovation as a process must pervade every single part of the organization"s value chain. According to **Maital and Seshadri (2013),** it should drive behaviour throughout the organisation, for example: from R & D to the assembly line, through the customer service centre and down to the warehouse and etc. Their views really increase the scope and depth of HRM practices in organizations.

Recruitment methods

According to the **Burack (1985**) recruitment sources are closely linked to the organizational activities as performance of employees, employee turnover, employee satisfaction, employee wishes and the commitment of the organization (**Burack, 1980**). These recruitment and selection process should be done at each and every sector for fulfilling their organizational goals (**Nartey, 2012)**

Leopold (2002) defined recruiting as a "positive process of generating a pool of candidates by reaching the „right" audience, suitable to fill the vacancy", he further stated that once these candidates are identified, the process of selecting appropriate employees for employment can begin through the means of collecting, measuring, and evaluating information about candidates" qualifications for specified vacant positions.

Cloete (2007) stated that recruitment is all about making sure the qualified people are available to meet the job needs of the government. Ineffective recruitment prevents any chance for effective candidate selection because when recruitment falls short, selection must proceed with a pool of poorly qualified candidates. He further opined that the task of recruitment is to generate a sufficient pool of applicants to ensure that there are enough people available with necessary skills and requirements to fill positions

Training and Development

According **to Henry Ongori (2011), Jennifer Chishamiso Nzonzo**, training and development has become an issue of strategic importance. Although many scholars have conducted research on training and development practices in organizations in both developing and developed economies, it is worth mentioning that most of the research has concentrated on the benefits of training in general. There is however, limited focus on evaluation of training and development practices in organizations.

According to **Haslinda ABDULLAH (2009**), the challenges faced by employers and organizations in the effective management of HR T&D varied from concerns about the lack of intellectual HR professionals to coping with the demand for knowledge-workers and fostering learning and development in the workplace. The core and focal challenge is the lack of intellectual HRD professionals in manufacturing firms, and this suggests that employers viewed HR T&D as a function secondary to HRM and perhaps considered it as being of lesser importance. This implication could lead to the ineffective implementation of HR T&D activities and increase ambiguity and failure in effectively managing HR T&D as a whole.

Cheng and Ho (2001) discuss the importance of training and its impact on job performance: While employee performance is one of the crucial measures emphasized by the top management, employees are more concerned about their own productivity and are increasingly aware of the accelerated obsolescence of knowledge and skills in their turbulent environment. As the literature suggests, by effectively training and developing employees, they will become more aligned for career growth— career potential enhances personal motivation.

Performance appraisal

Will Artley (2001) discussed that all high performance organizations are interested in developing effective performance measurement and performance mgt. systems since it is only through such system that they can remain high performing. So to attain and maintain the needed level of performance, the performance mgt. systems are needed in the organizations.

Rajeev.V (2008) in his article on Performance management focused on establishing goals for all levels in the center, creating KPIs, delivering role-appropriate scorecards with KPI scores and providing a framework for personal development. A fundamental element of performance management is identifying the right KPIs to focus on for different levels in the center that are also aligned with enterprise goals. The key is to start with an extensive set of predefined KPIs, along with the ability for businesses to create their own general or line-of-business-specific versions. These powerful solutions are impacting businesses across industries and around the globe in measurable ways.

Liliane. M and Peter .M (2010) exclaimed that the performance and competitiveness of different companies can be attainted through implementation of perfectly defined performance measurement indicators and framework that are able to measure the performance function by analysing the use of certain performance indicators in management of maintenance. They discovered that the maximum respondents have very less decisions and changes in processes triggered by performance measurement.

Sayantani G, Niladri .D (2013) studied the impact of performance reward systems mainly Performance Related Pay, the role of resources in influencing educational outcomes and the reliability of existing methods of assessing educational performance. They reported the findings which identify the methods of PMS in Indian and international education sector by introducing a new model in performance management system. This model uses three forms to collect information regarding the particular faculty from various sources that

are the particular faculty, students and Head of the Department. All this information will be send to the Management for analysis and feedback. Major benefit is transparency.

Neeti and Santosh .C (2015) studied that employees have good knowledge of performance appraisal and have a positive attitude towards it as their promotion is purely based on performance appraisal and the ratings help to fix increments. During the course of study suggestions came from the employees for the need of counseling. Performance appraisal should be made more transparent and rationale.

Reward systems

Reward systems are not just bonus plans and stock options. They include both of these incentives ;but can also include awards and other types of recognition, promotions, reassignment, or other non-monetary bonuses too. Rewards prove to be as a tool to increase performance and change behaviors in dissatisfies employees. Employees are the assets of the firm and they are the hands and brains through which the whole organizational process comes to life. Therefore, a fair reward system could build job satisfaction and productive behavior in an employee. In Reward systems there are following conceptual framework exist.

Knowledge management process

According to **Alavi and Leidner (2001**) the recent growing interest in knowledge management and knowledge management systems is seen to have been boosted by the transition into the information age and the theories of knowledge as the primary source of economic rent. Consistent with such growing interest, a class of information systems, referred to as knowledge management systems (KMS) recently have been promoted by Information System (IS) researchers **(Alavi & Leidner, 2001**). Such a class IS has "evolved from the need to enable systematic organizational learning and memory by facilitating the coding and sharing knowledge across organizational entities that previously may have had little occasion for interacting" (**Alavi & Leidner, 1998, p.2).** With the aim at achieving and increasing the effectiveness and efficiency of knowledge management practices KMS have been adopted and utilized by many organizations. Knowledge can be defined as the information, facts, and concepts that usually reside in practices, norms, processes, documents, and the expertise and experience of individuals, which are required for performing tasks (**Kim & Lee, 2010**). Therefore, researchers have come to the agreement that managing knowledge is vital to the success of organizations(**Jimenez-Jimenez & Sanz-Valle, 2013**), even though it is not an easy task (**Edwards, 2011**).

Knowledge Acqisition

Hamel (1991) define acquisition of new specialized knowledge as: "the motivation to establish inter-organizational collaboration" Knowledge acquisition is a process of knowledge management, which consists in acquiring knowledge from various resources, like documents, reports, the internet, and experts. This process is considered important, given the limitations of the enterprise to self-generate all the knowledge that implies its rational and efficient use.

Knowledge acquisition centers its attention on the search for tools to identify, select, and use external knowledge to benefit the organization. Knowledge representation is an important area of intelligence, emphasizing on the selection of an adequate structure to represent a component of knowledge within a specific context; with such, knowledge from the real world can be used in problem solving and in reasoning.

Knowledge distribution

The ability to distribute and share knowledge is critical for the use and leverage of knowledge resources which are considered important resources to most organizations (**Geiger & Schrevogg, 2012).** Knowledge distribution refers to the process of sharing acquired knowledge from one person or unit to another within an organization (**Michailova & Gupta, 2005; Jimenez-Jimenez & Sanz-Valle, 2013**). According to researchers such as **Cyr &Choo (2010)** many factors affect the process of sharing knowledge in an organization which include the culture of the organization, the attitudes and values of individuals towards knowledge sharing and the nature of the technology used to share knowledge. Indeed, organizational culture has been defined as the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization (**Al Azmi et al., 2012; Alkalha et al.,2012; Obeidat et al. 2012; Shannak, Obeidat, & Masa'deh, 2012**).

Knowledge interpretation

Once knowledge is acquired, interpretation of that knowledge is needed in order for employees to better understand it (**Jimenez-Jimenez & Sanz-Valle, 2013).** Knowledge interpretation is defined as "the process through which organizations make sense of new information that they have acquired and disseminated"

(**Flores et al., 2012, p. 643**). Organizations seeking to interpret information should utilize both human and electronic means of communication (**Škerlavaj et al., 2010)**. According to **Huber (1991**), knowledge interpretation is affected by various constructs including; cognitive maps (existing knowledge background), media richness (methods used to communicate knowledge), information overload, and unlearning (discarding of useless
information) (**Jashapara, 2011**).

HYPOTHESES OF THE STUDY

H01: There is no significant relationship between Human resource practices and Knowledge management practices

H1a: There is a significant relationship between Recruitment &Selection and Knowledge management practices

H1b: There is a significant relationship between Compensation &Reward and Knowledge management practices

H1c: There is a significant relationship between Performance appraisal and Knowledge management practices

H1d: There is a significant relationship Team work and Knowledge management practices

H1e: There is a significant relationship between Performance appraisal and Knowledge manage**ment practices**

H1f: There is a significant relationship between Training and development and Knowledge management practices

Limitations and Future Work

1. IT firms were only used as a sample population to collect the data of this study this might have some generalizability problems.
2. More qualitative techniques are recommended to be used to get more accurate data and results to achieve the goals and objectives of this study rather than quantitative data

RESEARCH METHODOLOGY

In order to test the hypotheses and achieve the objectives of this research, structured questionnaire was used as a collection data method. This questionnaire is composed of 18 questions that represent all the variables of this research. A random sample was selected with 120 questionnaires that were distributed to the firms. Sample includes HR managers and IT employees of IT sector

Statistical tools

SEM is Structural equation modeling and divided into two sub-models: a measurement model and a structural model. While the measurement model defines relationships between the observed and unobserved variables, the structural model identifies relationships among the unobserved/latent variables by specifying which latent variables directly or indirectly influence changes in other latent variables in the model (**Byrne, 2001**). Furthermore, the structural equation modeling process consists of two components: validating the measurement model and fitting the structural model. While the former is accomplished through confirmatory factor analysis, the latter is accomplished by path analysis with latent variables **(Kline, 2005).**

Table 1 Measurement model fit

Model	x2	df	p	x2/df	IFI	TLI	CFI	RMSEA
Initial estimation	1019.53	355	0.000	2.670	0.874	0.872	0.856	0.055
Final model	846.332	306	0.000	2.657	0.921	0.913	0.912	0.051

Table 1 demonstrates different types of goodness of fit indices in assessing this study initial specified model. It displays that the research constructs fits the data according to the absolute, incremental, and parsimonious model fit measures, comprising chi-square per degree of freedom ratio (x^2/df), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA).

Furthermore, the researchers examined the standardized regression weights for the research's indicators and found that some indicators had a low loading towards the latent variables. Moreover, since both items did

not meet the minimum recommended value of factor loadings of 0.50 (**Newkirk & Lederer, 2006)**, and because the initial fit indices were fit the sample data, then they were removed and excluded from further analysis. Therefore, the measurement model was modified and showed a better fit to the data (as shown in Table 1).

Measurement Model

Once modifying the final measurement model for all constructs, the next phase is to evaluate them for unidimensionality, reliability, and validity. Indeed, the outcomes of the measurement model are presented in Table 2, encapsulates the standardized factor loadings, measures of reliabilities and validity for the final measurement model.

Reliability

Reliability analysis is related to the assessment of the degree of consistency between multiple measurements of a variable, and could be measured by Cronbach alpha coefficient and composite reliability (**Hair et al., 1998)**

Table 2 Properties of the final measurement model

Constructs and indicators	Std loading	Sts err	Square multiple correlation	Error variance	Croanbach alpha	Composite reliability	AVE
Recruitment &selection							
RS1	**0.820**	**0.113**	**0.644**	**0.062**			
RS2	**0.872**	**0.124**	**0.645**	**0.065**			
RS3	**0.852**	**0.120**	**0.697**	**0.653**			
Compensation &Reward							
CR1	**0.882**	**0.107**	**0.578**	**0.071**			
CR2	**0.882**	**0.110**	**0.593**	**0.065**			

CR3	**0.845**	**0.112**	**0.610**	**0.069**			
Performance appraisal							
PA1	**0.834**	**0.113**	**0.668**	**0.071**			
PA2	**0.885**	**0.110**	**0.627**	**0.065**			
Team work							
TW1	**0.732**	**0.114**	**0.679**	**0.066**			
TW2	**0.744**	**0.113**	**0.703**	**0.062**			
Training &development							
TD1	**0.779**	**0.111**	**0.712**	**0.069**			
TD2	**0.772**	**0.109**	**0.707**	**0.067**			
Knowledge acquisition							
KA1	**0.668**	**0.182**	**0.473**	**0.078**			
KA2	**0.711**	**0.178**	**0.446**	**0.079**			
Knowledge distribution							
KD1	**0.687**	**0.186**	**0.553**	**0.088**			
KD2	**0.761**	**0.182**	**0.543**	**0.087**			
Knowledge interpretation							
KI1	**0.866**	**0.177**	**0.652**	**0.070**			
KI2	**0.873**	**0.167**	**0.721**	**0.073**			

Table 3 indicates that all Cronbach alpha values for the eight constructs exceeded the recommended value of 0.60 **(Bagozzi & Yi, 1988**) demonstrating that the instrument is reliable. Also, as shown in Table 2, composite reliability values ranged from 0.92 to 0.95, and were

all greater than the recommended value of more than 0.60 **(Bagozzi & Yi, 1988)** or greater than 0.70 as suggested by Holmes-Smith (2001). Consequently, according to the above two tests, all the research constructs in this study are considered reliable.

Table 3 AVE and square of correlations between constructs (cons)

CS	RS	CR	PA	TW	TD	KA	KD	KI
RS	.90							
CR	.55	.92						
PA	.62	.41	.95					
TW	.64	.52	.52	.92				
TD	.56	.61	.61	.41	.49			
KA	.53	.47	.43	.45	.43	.62		
KD	.62	.59	.52	.43	.52	.56	.53	
KI	.63	.52	.51	.57	.53	.54	.51	.59

Structural Model

Following the two-phase SEM technique, the measurement model results were used to test the structural model, including paths representing the proposed associations among research constructs. Furthermore, in order to examine the structural model it is essential to investigate the statistical significance of the standardized regression weights (i.e. t-value) of the research hypotheses (i.e. the path estimations) at 0.05 level (see Table 4);and the coefficient of determination (R^2) for the research endogenous variables as well. Indeed, the coefficient of

determination for HRM practices and KM process were 0.421 and 0.534 respectively, indicates that the model moderately accounts for the variation of the proposed model

Table 4 Summary of the proposed results

Research proposed paths	Coefficient value	t-value	p-value
HRM Practices—KM process	0.763	2.678	0.000

Discussion and conclusion

The relation between HRM and KM does exist and that a knowledge-oriented HR system that includes the practices of job design, team work, Performance appraisal compensation and reward, career development, training, performance appraisal and compensation may enhance all the KM processes of knowledge acquisition, knowledge distribution, knowledge interpretation and organizational memory. In addition, their findings highlight the importance of adopting knowledge-oriented HR practices not in an isolated manner but forming a system of consistent HRM practices.

They added that individual HRM practices do not affect all the KM processes, however, when they are adopted together, as a system, they foster knowledge acquisition, distribution, interpretation and storing. Especially in the IT sector were creativity, innovation and team work is very crucial the Knowledge management process plays a vital role in improving the performance of individuals as well as organization.

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