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THE IMPACT OF HUMAN RESOURCE STRATEGY TO KNOWLEDGE PROCESS IN THE MALAYSIAN ELECTRICAL AND ELECTRONICS FIRMS

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ABSTRACT

The purpose of this paper is to identify the impact of human resource (HR) strategy to knowledge process in the Malaysian electrical and electronics firms. Due to the importance of electrical electronics firms to Malaysian economy, the objectives investigate the impact of human resource strategy, knowledge process in this sector. This paper conducted a quantitative approach using, a questionnaire with five points Likert scale. The respondents of this study consists of 287 managers from electrical and electronics firms across Malaysian states including Kuala Lumpur, Selangor, Penang, Johor, Kedah, and Melaka, Sabah, Sarawak. The list from the Federation of Malaysian Manufacturers (FMM) indicated that most of firms were located in these states. Statistical package for social science was used to generate the descriptive statistics besides the Partial least squares structural equation modelling (PLS SEM) as the statistical instrument to examine the measurement model and structural model. Results confirmed that, human resource strategy is significant to knowledge process (acquisition, conversion, application, protection) in the Malaysian electrical and electronics firms. Based on the results, the HR strategy adopted by a firm has a significant effect and can be a strong predictor of the knowledge. Some guidelines are suggested for top management and decision makers in electrical and electronics firms on how to encourage the application of human resource strategy

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that enhances the level of knowledge and skills, besides developing appropriate behaviour. Eventually, management and decision makers would identify the necessary steps on how to encourage and generate knowledge in their organizations.

Keywords: human resource strategy, knowledge economy, electrical and electronics firms, knowledge process

INTRODUCTION

In the era of the 'knowledge economy', knowledge is the main dominant that enables an organization to prosper and attain its results, especially when technology is deployed for higher goals (Yan Ma & Lu Sun, 2010). Firms need to develop the knowledge they currently possess together with new knowledge in order to successfully compete in global markets (Gold, Malhotra, & Segars, 2001). Large and small firms alike must deploy knowledge as a part of the knowledge economy. For instance, firms in developed countries use knowledge management to leverage their market positions and achieve competitiveness. As more countries are engaging in and becoming part of the knowledge economy, firms should focus on the sharing of knowledge and the use of new techniques for generating information and facilitating the flow of this knowledge so that it can be distributed to gain efficiency and flexibility (Cantner et al., 2009). Knowledge is widely used by organizations to develop employees' skills, enhance business processes (Edvardson, 2006). In a later discussion, Edvardson (2008) highlighted the influence of HR strategy on the knowledge process by arguing that some organizational strategies, such as HR strategy, have an effect on the knowledge process because they can develop attitudes and behaviour of the employees towards knowledge that help in the recording and storage of knowledge. Also, such strategies would help in sharing knowledge through the use of an information technology infrastructure for retrieving and reuse.

HUMAN RESOURCE STRATEGY

HR strategy deals with inventing methods for managing employees that could lead to accomplishment of organizational goals (Fomburn et al, 1982). HR strategy aims monitoring the improvement, and execution of HRM programmes. Such programmes considered as the foundation that helps organizations in displaying the management of employees, besides achieving the required objectives. HR strategy displays a part in setting the organizational long planning (Armstrong & Taylor, 2006). Different topologies of HR strategy have been mentioned in research. For example (Miles & Snow, 1984), suggests accumulator strategy, facilitator strategy, and utilizer strategy. On the other hand, Dowling and Schuler (1990) recommend facilitation strategy, accumulation strategy and utilization strategy. Miles and Snow (1984), and Dowling and Schuler, (1990) argued that, facilitation emphasis on finding new goods or new market opportunities that could be achieved by hiring creative employees who possess

the skills of collaboration. Accumulation strategy focuses on hiring talent employees. The accumulation strategy tends to hire from inside the organization, and focuses more on training and development as well as offering distinctive kinds of rewards. Finally, utilization strategy focuses only on steady markets, without much change within the firm in terms of structure or technology. Firms implementing a utilization strategy evaluate performances on an individual basis; they offer little compensation to their employees and often provide weak job security. According to Wang and Shyu (2008), in terms of strategy practices the facilitation strategy lies somewhere between the utilization and accumulation strategies. Finally, utilization strategy focuses only on steady markets, steady structure and technology.

KNOWLEDGE PROCESS

Knowledge management benefits organizations in terms of the sharing and distribution of knowledge. Knowledge processes are important foundations of organizational performance as they contribute to managing knowledge. To leverage organizational position, firms should leverage their abilities to gain and manage their new knowledge which can be used to develop organizational success (Lee & Lee, 2007). Knowledge management processes have been discussed widely in the literature, identifying the required tools for organizational success. Research has identified the link between knowledge management processes and capabilities and organizational performance (Hansen, Nohria, & Terney, 1999; Gold et al., 2001). Different types of knowledge processes have been identified in prior research for instance, Gold et al. (2001) identify: acquisition, conversion, application, and protection. Acquisition is the primary process of knowledge, when firms start seeking knowledge from inside or outside firm through the knowledge suppliers or institutions (Jimenez-Jimenez & Sanz-Valle, 2012). Conversion is the process by which knowledge is updated for being used inside an organization (Gold et al., 2001). There are different types of knowledge conversion processes, which facilitate the flow of knowledge such as integration (Grant, 1996) or distribution of knowledge (Davenport, De Long, & Beers, 1998). The application process is the real usage of knowledge and putting it into practice (Gold et al., 2001). Protection is the use of knowledge within the organization and protecting it from the illegal use outside the organization (Davenport & Klahr, 1998).

THEORETICAL FRAMEWORK

HR Strategy and Knowledge Acquisition

Hansen et al. (1999) affirmed that two types of strategies support the sharing and management of knowledge within organizations. These strategies are characterized as (1) the personalization strategy and (2) the codification strategy. The personalization strategy considers knowledge that is located in human minds. This strategy helps in distributing knowledge through face-to-face or direct communication between employees. On the other hand, codification is

knowledge that is stored in databases for individuals to use in the organization; it is accessible to all members and it is easy to retrieve. The authors also argued that the personalization strategy provides a problem-solving solution to organizations, while codification helps the organization to deploy knowledge.

H1: There is a relationship between HR strategy and knowledge acquisition

HR Strategy and Knowledge Conversion

Edvardson (2008) highlighted the influence of HR strategy on knowledge by arguing that some organizational strategies, such as HR strategy, can have an effect on knowledge. Currie and Kerrin (2003) stated that sharing of knowledge could be effected among employees or different divisions of organizations if common methods of hiring and selecting employees are implemented. On the other hand, a culture of gratitude for others' perceptions would definitely enhance the level of knowledge sharing, while the usage of a creative career would enhance knowledge sharing and build respect for others' views. However, Hansen et al. (1999) claim that personalization focuses on staff who are more creative and those who are problem solvers to analyse and spread knowledge. Personalization helps in creating a culture of sharing and experimenting among staff.

H2: There is a relationship between HR strategy and knowledge conversion

HR Strategy and Knowledge Application

Organizations focus on knowledge sharing and exchange to enhance employees' skills and abilities. Consequently, employees are important elements in this process. Their behaviour will determine the achievement or breakdown of knowledge application (Bollinger & Smith, 2001). Tacit forms of knowledge are spread across employees through direct communication among them. Such knowledge helps in solving organizational difficulties (Clegg & Clarke, 1999). The storage and retrieval of knowledge is important and enhances an organization's response to available knowledge stored. Afterwards, knowledge will be distributed and shared which can lead to enhancement of competencies (Davenport & Klahr 1998). Therefore, Scarbrough (2003) emphasized that organizations should consciously select employees who could share knowledge to contribute towards organizational outcomes.

H3: There is a positive relationship between HR strategy and knowledge application

HR Strategy and Knowledge Protection

Nonaka, Toyama, and Konno (2000) highlighted the role of knowledge by arguing that knowledge is the most valuable possession of an organization because of its tacit and explicit character.

Therefore, such knowledge should be protected for the benefit of organization. Suffering the loss of knowledge from inside an organization can create difficulties, especially if core employees leave the organization. Other competing firms may be able to duplicate the firm's actions (Boxall, 1998). Therefore, protection processes are important to protect knowledge from outside users (Barney, 1991). Some components of technology infrastructure act as a protection to knowledge, while the behaviour of employees should also protect knowledge (Porter-Liebskind, 1996; Hansen et al., 1999).

H4: There is a positive relationship between HR strategy and knowledge protection

METHODOLOGY

This paper proposes a theoretical framework that examines the impact of human resource strategy to knowledge process in the Malaysian electrical and electronics firms. The paper conducted a quantitative approach using a questionnaire. Variables were measured based on prior studies using Likert's 5 points scale from 1 (strongly disagree) to 5 (strongly agree). Respondents have to disagree or agree with statements either negatively or positively. The first part contains general demographic information about the survey participants. The second part contains 12 questions to measure HR strategy adopted from Huang, (2001). The third part contains 26 questions to measure knowledge process (acquisition, conversion, application, protection). Questions were adopted from Gold et al. (2001), and Smith (2006).

Manufacturing firms in different Malaysian states were approached personally, including Kuala Lumpur, Selangor, Penang, Johor, Kedah, and Melaka, Sabah and Sarawak. The list from the Federation of Malaysian Manufacturers (FMM) indicated that most of the firms were located in these states. The FMM Directory was used for the study because it classifies the industries based on international standards and provides contact numbers, email addresses and names for each firm listed. The sample for this study includes electronics and electrical firms in Malaysia, either local or foreign. Based on the federation of Malaysian manufacturers directory 2013 (FMM) there are 287 electrical and electronics firms across Malaysia.

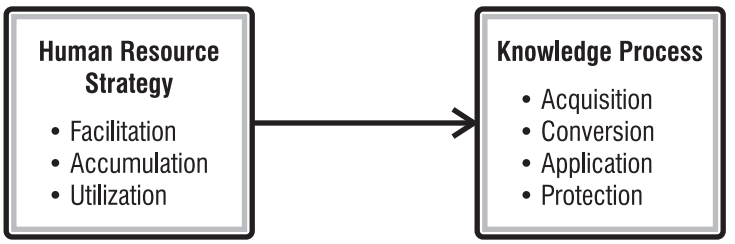

Figure 1 The relationship between HR strategy and knowledge process

RESULTS

In this paper, the Statistical Package for Social Science SPSS 22.0 was used to analyze the descriptive statistics such as mean, standard deviation of constructs and the demographic characteristics of respondents and organizations besides Smart PLS 3.0 Structural equation modelling technique was employed in this research to examine the research model (the inner model and the outer model). Mean scores for human resource strategy (utilization, facilitation and accumulation) were 3.67, 3.65, and 3.61, respectively. Regarding knowledge process, the mean scores of the sub-variables (acquisition, conversion, application and protection) were 3.89, 3.75, 3.90, and 3.80, respectively.

Table 1 Descriptive statistics of constructs

Construct	Mean	Standard deviation
Utilization	3.67	.54
Facilitation	3.65	.56
Accumulation	3.61	.61
Knowledge	3.89	.59
acquisition	3.75	.56
Knowledge	3.90	.57
conversion	3.80	.61
Knowledge application		
Knowledge protection		

VALIDITY AND RELIABILITY

Composite reliability (CR) of constructs reveals the following: Accumulation 0.846, Facilitation 0.84, Acquisition 0.922 Application 0.926, Conversion 0.888, Protection 0.91, and Utilization 0.832. The composite reliability of all constructs represents a satisfactory internal consistency, since CR is greater than 0.7. Table 2 shows item loadings, composite reliability and average variance extracted of construct. On the other hand, Average variance extracted (AVE) of the measurement model displays the following: Accumulation 0.647, Facilitation 0.515, Utilization 0.555, Acquisition 0.662, Application 0.642, Conversion 0.573, and Protection 0.592. All constructs expressed an adequate AVE score for measuring the convergent validity of the measurement model.

Table 2 Validity and reliability

Construct	Item	Loadings	CR	AVE
Accumulation	ACCMHR1	0.791	0.846	0.647
	ACCUMHR2	0.797		
	ACCUMHR3	0.824		
Facilitation	FACHR2	0.759	0.84	0.515
	FACIHR3	0.645		
	FACIHR5	0.606		
	FACIHR6	0.777		
	FACILHR4	0.782		
Acquisition	KNAC1	0.813	0.922	0.662
	KNAC2	0.856		
	KNAC3	0.838		
	KNAC4	0.806		
	KNAC5	0.76		
	KNAC6	0.807		
Application	KNAP1	0.806	0.926	0.642
	KNAP2	0.781		
	KNAP3	0.857		
	KNAP4	0.858		
	KNAP5	0.842		
	KNAP6	0.73		
	KNAP7	0.722		
Conversion	KNCO1	0.736	0.888	0.573
	KNCO2	0.793		
	KNCO3	0.826		
	KNCO4	0.779		
	KNCO5	0.793		
	KNCO6	0.589		
Protection	KNPR1	0.809	0.91	0.592
	KNPR2	0.806		
	KNPR3	0.785		
	KNPR4	0.852		
	KNPR5	0.644		
	KNPR6	0.777		
	KNPR7	0.692		
Utilization	UTHR2	0.781	0.832	0.555
	UTIHR1	0.769		
	UTIHR3	0.653		
	UTIHR4	0.768		

With regard to hypothesis, H1 (HR Strategy -> Acquisition), the results show HR strategy is positively related to knowledge acquisition, (β = 0.681, SR = 0.092, TV = 7.362). The hypothesis H1 is supported. H2 (HR Strategy -> conversion), the results show that HR strategy is positively related to knowledge conversion, (β = 0.634, SR = 0.092, TV = 6.92). The hypothesis H2 is supported. H3 (HR Strategy -> application), the results show that HR strategy is positively related to application (β = 0.687, SR = 0.093, TV = 7.402). The hypothesis H3 is supported. H4 (HR Strategy -> Protection) results show that HR strategy is positively related to knowledge protection (β = 0.648, SR = 0.088, TV = 7.362). The hypothesis H4 is supported.

Table 3 Hypothesis testing

Hypothesis		Std beta	Std error	*T*-value	Result
H1	HR Strategy -> Acquisition	0.681	0.092	7.362**	**Supported**
H2	HR Strategy -> Conversion	0.634	0.092	6.92**	**Supported**
H3	HR Strategy -> application	0.687	0.093	7.40.2**	**Supported**
H4	HR Strategy -> Protection	0.648	0.088	7.362**	**Supported**

Note: Significance level: *t*-value > 2.33** ($p<0.01$); *t*-value > 1.65* ($p<0.05$)

DISCUSSION AND CONCLUSION

The objective of this study was to identify the impact of HR strategy to knowledge process in Malaysian electrical and electronics firms. Based on the results, the HR strategy adopted by a firm has a significant effect and can be a strong predictor of the knowledge process. The direct relationships show that HR strategy has a significant impact on knowledge process (acquisition, conversion, application, protection). Hence, this paper adds to the body of knowledge by making a significant contribution to the area of HR strategy and knowledge process. The knowledge process model consists of acquisition, conversion, application, and protection. A notable outcome would be met, as the HR strategy will help enhance the level of knowledge and skills, besides developing appropriate behaviour among employees in Malaysian electrical and electronics firms.

Managers in electrical and electronics manufacturing firms should develop HR strategies that consist of (facilitation, accumulation and utilization) which are compatible with knowledge process to develop the electrical and electronics firms.

One of the limitations is the level of caution among Malaysian managers regarding surveys, especially online surveys and postal surveys, and the response was slow for this study. However, face-to-face interview also faced many delays and challenges, partly because of the wariness of managers in dealing with surveys in general and also because the potential respondents are busy people. Second, the study was limited to electrical and electronics manufacturing firms; future research could investigate the situation in other sectors of Malaysian manufacturing.

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