

# THE IMPACT OF HR STRATEGY ON KNOWLEDGE CAPABILITY IN THE MALAYSIAN ELECTRICAL AND ELECTRONICS FIRMS

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## ABSTRACT

This paper identified the impact of the human resource (HR) strategy on knowledge capability in the Malaysian electrical and electronics firms. Due to the importance of electrical electronics firms to the Malaysian economy, the objectives investigate the impact of human resource strategy on knowledge capability in this sector. A quantitative approach using a questionnaire as the research tool was adopted using a 5-point Likert scale. The respondents of this study consist of 287 managers from electrical and electronic firms across Malaysian states including Kuala Lumpur, Selangor, Penang, Johor, Kedah, and Melaka. The list from the Federation of Malaysian Manufacturers (FMM) indicated that most of the 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. The results confirmed that human resource strategy (facilitation, accumulation, utilization, etc.) is significant to knowledge capability (T-shaped skills, IT support, learning culture, centralized structure, etc.) 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. 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 capability in their organizations.

**Keywords:** human resource strategy, knowledge capability, electrical and electronics firms

## INTRODUCTION

Individuals and technology are considered to be important factors for successful knowledge application (Mehta, 2008). 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). Knowledge capabilities or infrastructures such as IT systems and applications help organizations to store, filter and apply knowledge (Gold, Malhotra, & Segars, 2001), with the help of individuals who are dedicated to spread the values of knowledge and take the responsibility of offering training and monitoring knowledge management (KM) duties (Davenport & Prusak, 1998). Employee's behaviour is important in protecting knowledge, as some components of technology infrastructure act as a protection to knowledge (Hansen, Nohria, & Terney, 1999). Therefore, KM infrastructure requires assistance from HR; for instance, HR can help to create an environment of using knowledge through IT applications to ease the process of sharing (Mehta, 2008).

### HR Strategy

HR strategy has played a significant role in the improvement in research related to industries through the utilization of high-performance work practices and performance in these industries. The contribution brought about by the involvement of certain practices that enhance employee outcomes such as strict methods of selecting employees, new ways of training methods to sharpen skills, broad incentives, for instance, to enhance their self-esteem and involvement. For productivity purposes, a combination of involvement of the above-mentioned methods should be implemented by firms because organizations succeed and gain better market positions through the use of humans and good business procedures (Appelbaum, Bailey, & Berg, 2000; Boxall, 1996). Thus, the primary role of HR strategy is to train and prepare, develop, motivate, and compensate employees and to spread knowledge among them based on the strategy of the firm (Evans, 2003). HR strategy has been viewed from different perspectives in the literature. For instance, some experts in the field such as Wright and Macmahon (1992) defined HR strategy as "the pattern of planned resource deployments and activities intended to enable the organization to achieve its goals". The definition looked at strategy from the management perspective where it meant to utilize HR methods, and rules to enhance employee behaviour to achieve organizational strategy (Schuler & Jackson, 2005). Armstrong and Long (1994) also linked HR strategy to organizational outcomes, claiming that it should be considered as

a strategic partner for the entire organization because it contributes to future plans as well as improving employee behaviour and work-related matters. HR strategy is intended to find ways of managing people to reach organizational objectives (Fombrun, Tichy, & Devanna, 1982).

### **Knowledge Capability**

The talent of distribution knowledge can be referred as knowledge capability; in this, the role of the humans is vital, as are also the suppliers and distributors of knowledge (Ju, Li, & Lee, 2006). Additionally, Gold et al. (2001) highlighted the importance of knowledge capability by arguing that capabilities are important for successful knowledge management because they consist of information technology, organization structure, and organizational culture. Lee and Choi (2003) suggested that knowledge capabilities can be regarded as knowledge management infrastructure because such infrastructure is an important tool of knowledge success. Information technology plays a significant factor in knowledge capability because it enables the sharing and distributing knowledge through the codification strategy of knowledge management. Information technology is an enabler of knowledge (Raven & Praser, 1996). IT support is a tool that accelerates knowledge easily and can then enhance it within organizations. The utilization of IT infrastructure facilitates the transfer of knowledge and the sharing of such knowledge (Davenport & Prusak, 1998; Yang, Tu, & Yang, 2009). Culture is considered to be one of the most important elements in developing knowledge because of the role it plays in facilitating knowledge within organizations (Davenport & Klahr, 1998). Interaction among employees is important, as it is vital for the creation of new ideas in organizations. Employees need to participate in discussions and other types of interactional communication that will help develop a culture of sharing and learning to enhance knowledge within their firms (O'Dell & Grayson, 1998). Organizational structure minimizes the human factor in sharing information; it can enhance the technical aspects of an organization to emphasis on sharing information (Gold et al., 2001). Furthermore, it concerns the distribution of responsibilities and duties and the way methods are carried out (Nahm, Vonderembse, & Koufteros, 2003). T-shaped skills are very valuable to organizations because of their ability to generate and combine different types of knowledge that will result in the development of a new knowledge that will make possible the discovery of new areas of knowledge (Madhavan & Grover, 1998).

## **THEORETICAL FRAMEWORK**

### **Human Resource Strategy and IT Support**

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 helps in distributing knowledge through direct communication between employees. On the other hand, codification is the 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. IT systems and applications help organizations to store, filter and apply knowledge (Gold et al., 2001), though with the help of individuals who are dedicated to spreading the values of knowledge and take responsibility for offering training and monitoring KM duties (Davenport & Prusak, 1998). Results are in line with Mehta (2008) who claimed that IT infrastructure requires the assistance of HR, for instance, to create the environment of using knowledge through IT applications and to ease the process of sharing.

H1: *There is a positive relationship between human resource strategy and IT support.*

### **Human Resource Strategy and Learning Culture**

Martins and Terblanche (2003) argued that the key elements of a learning culture are a climate of trust and openness in an environment where constant learning and experimentation are highly valued, appreciated and supported. Cultures that explicitly favour knowledge sharing and knowledge integration encourage debate and dialogue in facilitating contributions from individuals at multiple levels of the organisation (Davenport & Prusak, 1998). Interaction among employees is important as it is essential for enabling the creation of new ideas in organizations. Therefore, employees need to have opportunities to participate in discussions and different types of communication to develop the culture of sharing and learning to enhance knowledge within their firms (O'Dell & Grayson, 1998).

H2: *There is a positive relationship between human resource strategy and learning culture.*

### **Human Resource Strategy and Centralized Structure**

The organizational structure aims to minimize the human factor and to enhance the technical aspects of an organization, and it focuses on the sharing of information and simplicity (Gold et al., 2001). Wang and Ahmed (2003) argued that organizational structure is an important element in organizations because it concerns decisions and internal processes. Furthermore, it concerns the allocation of responsibilities and tasks and the way methods and processes are carried out (Nahm et al., 2003).

H3: *There is a positive relationship between human resource strategy and a centralized structure.*

## Human Resource Strategy and T-shaped Skills

Leonard-Barton (1995) described T-shaped skills as “matching the vertical type of T and the horizontal type of T”; that is, skills that are both broad and deep. Employees who possess T-shaped skills are very valuable to organizations because of their ability to generate and combine different types of knowledge that will result in the creation of new knowledge that will make possible the discovery of new areas of knowledge. Such employees also have the skill to come up with different types of knowledge and can recognize which area of the organization a particular type of knowledge is suited to. In this way, expertise would be enhanced in different sections of the organization (Madhavan & Grover, 1998).

H4: There is a positive relationship between human resource strategy and T-shaped skills.

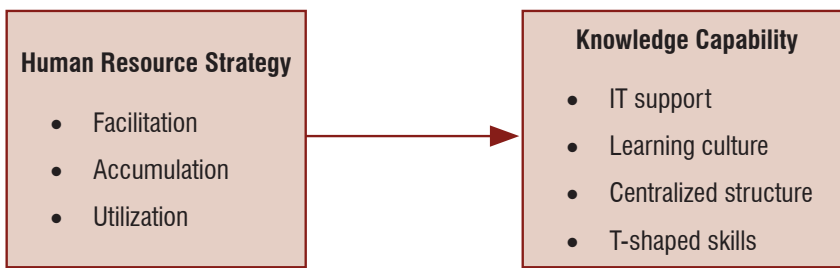


Figure 1 Research framework

## METHODOLOGY

The study conducted quantitative research using a questionnaire. Variables were measured based on prior studies using Likert’s 5-point scale. Respondents have to disagree or agree with statements either negatively or positively. The questionnaire consists of three parts. The first part contains general demographic information about the survey participants. The second part contains 13 items to measure HR strategy adopted from Huang (2001, using the same 5-point Likert scale. The third part consists of 15 items to measure knowledge capability (T-shaped skills, learning culture, organizational structure and IT support) adopted from Lee and Choi (2003), and Lee and Lee (2007), using the same 5-point Likert scale. The researcher visited the manufacturing firms in person in different Malaysian states, including Kuala Lumpur, Selangor, Penang, Johor, Kedah, 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.

## Analysis

In this paper, the Statistical Package for Social Science SPSS 22.0 was used to analyze the descriptive statistics such as mean, the standard deviation of constructs and the demographic characteristics of respondents and organizations, besides Smart PLS 3.0 Structural equation modelling to examine the measurement model and the structural model. Mean scores for human resource strategy (utilization, facilitation and accumulation) were 3.67, 3.65 and 3.61, respectively. Regarding, knowledge capability (T-shaped skills, IT support, learning culture and centralized structure) shows mean scores of 3.84, 3.87, 3.78 and 3.15 respectively.

**Table 1** Descriptive statistics

Construct	Mean	Standard deviation
Utilization	3.67	.54
Facilitation	3.65	.56
Accumulation	3.61	.61
T-shaped skills	3.84	.56
IT support	3.87	.67
Learning culture	3.78	.63
Centralized structure	3.15	.72

## Validity and Reliability

Average variance extracted (AVE) of the measurement model displays the following: Accumulation 0.647, Structure 0.559, Centralized Structure 0.559, Facilitation 0.515, IT Support 0.729, Learning culture 0.638, T-shaped skills 0.6, and Utilization 0.555. All constructs expressed an AVE that is considered an adequate score for measuring the convergent validity of the measurement model.

Composite reliability (CR) of constructs reveals the following: Accumulation 0.846, Structure 0.83, Facilitation 0.84, IT Support 0.931, Learning culture 0.898, T-shaped skills 0.882, and Utilization 0.832. The composite reliability of the constructs represents a satisfactory internal consistency since CR is greater than 0.7. Also, average variance extracted AVE of the measurement model displays the following: Accumulation 0.647, Structure 0.559, Centralized Structure 0.559, Facilitation 0.515, IT support 0.729, Learning culture 0.638, T-shaped skills 0.6, and Utilization 0.555. All constructs expressed an adequate AVE score for measuring the convergent validity of the measurement model. Table 2 shows item loadings, composite reliability and average variance extracted of constructs.

**Table 2** Validity and reliability

<b>Construct</b>	<b>Item</b>	<b>Loadings</b>	<b>CR</b>	<b>AVE</b>
Accumulation	ACCMHR1	0.791	0.846	0.647
	ACCUMHR2	0.797		
	ACCUMHR3	0.824		
Structure	CTST1	0.864	0.83	0.559
	CTST2	0.888		
	CTST3	0.566		
	CTST4	0.619		
Facilitation	FACHR2	0.759	0.84	0.515
	FACIHR3	0.645		
	FACIHR5	0.606		
	FACIHR6	0.777		
	FACILHR4	0.782		
IT support	ITSP1	0.874	0.931	0.729
	ITSP2	0.901		
	ITSP3	0.9		
	ITSP4	0.79		
	ITSP5	0.797		
Learning culture	LECU1	0.852	0.898	0.638
	LECU2	0.789		
	LECU3	0.806		
	LECU4	0.78		
	LECU5	0.764		
T-shaped skills	TSSK1	0.778	0.882	0.6
	TSSK2	0.791		
	TSSK3	0.816		
	TSSK4	0.729		
	TSSK5	0.757		
Utilization	UTHR2	0.781	0.832	0.555
	UTIHR1	0.769		
	UTIHR3	0.653		
	UTIHR4	0.768		

With regard to the hypothesis 1, H1 (HR Strategy -> IT support), the results display HR strategy is positively related to IT support ( $\beta = 0.588$ ,  $SR = 0.093$ ,  $TV = 6.35$ ), the hypothesis is supported. Hypothesis 2 (HR Strategy -> Learning culture), the results reveal a positive relationship between HR strategy and learning culture ( $\beta = 0.71$ ,  $SR = 0.08$ ,  $TV = 8.917$ ),

as such the hypothesis is supported. Hypothesis 3 (HR Strategy -> Centralized structure), the results show HR strategy is positively related to centralized structure ( $\beta = 0.32$ , SR = 0.083, TV = 3.832), the hypothesis is supported. Hypothesis 4 (HR Strategy -> T shaped skills), the results confirm the positive relationship between HR strategy and T-shaped skills ( $\beta = 0.565$ , SR = 0.084, TV = 6.759), the hypothesis is supported.

**Table 3** Hypothesis testing

	<b>Hypothesis</b>	<b>Std. beta</b>	<b>Std. error</b>	<b>T-value</b>	<b>Result</b>
H1	HR Strategy -> IT support	0.588	0.093	6.35**	<b>Supported</b>
H2	HR Strategy -> Learning culture	0.71	0.08	8.917**	<b>Supported</b>
H3	HR Strategy -> Centralized structure	0.32	0.083	3.832**	<b>Supported</b>
H4	HR Strategy -> T shaped skills	0.565	0.084	6.759**	<b>Supported</b>

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

## DISCUSSION AND CONCLUSION

The objective of this paper was to identify the impact of the HR strategy on knowledge capability in Malaysian electrical and electronics firms. The study adds to the body of knowledge by making a significant contribution to the area of HR strategy and knowledge capability. Knowledge capability model consists of IT support, learning culture, T-shaped skills and a centralized structure. The direct relationship shows that HR strategy has a significant impact on knowledge capability, which in return positively affects 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 capability to develop the electrical and electronics sector.

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, the 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 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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