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Training As A Moderator In The Relationship Between Employees Collaboration, Top Management Support And IT Support With Knowledge Management In Malaysian Public Organization

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Abstract

Knowledge management refers to the ability of organizations to create and transfer knowledge in the pursuit of achieving a sustainable competitive advantage. However, only few studies investigate the standing of public organizations in this area. The objective of this study is to capture the knowledge management aspect towards achieving the vision of becoming a knowledge driven organization. The study employs self administered questionnaires to 131 employees of a public organization in Malaysia. The result suggests significant relationship between management supports, employees collaboration and IT support in building a knowledge management organization. In addition, training which is also included as a moderator in this study provides an interesting suggestion to the managers especially those in public organizations. The paper concludes with a call for various entities to incorporate principles of learning organization in enhancing their competitiveness.

INTRODUCTION

Organizations focus on knowledge management in order to remain relevant in the industry. The transition from production based to knowledge based economy indicates the changing role of knowledge. Similarly, the focus on knowledge has also evolved from the philosophical perspectives to sciences and IT and to business and management.

Previous studies have acknowledged the importance of knowledge management in achieving sustainable competitive advantage. Most studies focused on private firms (Syed Omar Sharifuddin Syed-Ikhsan & Rowland,2004; Pee & Kankanhali, 2015) using objective measures to identify their performance. Public sector, on the hand, is complex since its performance is not measured according to the financial returns but more on the achievement of their mission. As objective performance measurement is less available (Kim 2005), other methods to achieve their mission must be identified. Pee & Kankanhalli (2005) suggest the use of other dimensions of operational efficiency, customers' orientation and service quality. These public organizations

must incorporate knowledge management activities as it can enhance its effectiveness. This is especially true as there is an array of services offered to satisfy customer's needs. It shares knowledge across various units, departments and customers. As such most have incorporated the need to be a knowledge driven organization. As recommended by Syed Omar Sharifudddin & Rowland (2004) , *all employees in public sector should be responsible in managing various knowledge in the organizations.* However, there is less empirical evidence in the public sector on knowledge management drives although it is believed to enhance its effectiveness.

McAdam & Reid (2000) made a comparison between the private and public sector perceptions and use of knowledge management. They conclude that the knowledge management is just a philosophy among public sector employees. Previous studies on knowledge management in public organizations have focused on social capital, Information technology (IT), non IT variables such as rewards, help support, training, and structure as knowledge management enablers (Amayah, 2013; Dawes, Cresswell &Pardo,2009; Pee et. al, 2015; Saba, Rowley & Dellbridge, 2012). Meanwhile, Azmawarni Abd Rahman, Ng, Sambasivan & Wong (2013) used knowledge management as a moderator in the relationship between training and performance. They argued that training work in tandem with the other variables to achieve organizational effectiveness. In other study by Bontis & Serenko (2007), human capital is identified as the moderator in employees' capabilities. Their finding suggests human capabilities depend on training program. Therefore, this study intends to highlight the role of training in the relationship between knowledge management enablers namely employees' collaboration, top management support and IT support with knowledge management practices.

The objectives of this study are as follows:

1. To determine the relationship between employees collaboration and knowledge management.
2. To determine the relationship between top management support and knowledge management.
3. To investigate the relationship between IT support and knowledge management.
4. To investigate training as the moderator on employees collaboration, management support ,IT support and knowledge management.

The paper is organized as follows. After a brief introduction on the issue and objective of this paper, a section on review of literature will be presented. Then, it is followed by research method and data analysis. Finally, the paper ends with discussion and conclusion.

LITERATURE REVIEW

KNOWLEDGE MANAGEMENT

The term knowledge has gone through various developments for the past several years. Its role in the changing society evolves as it incorporates the science, technology and innovations. Thus the term knowledge economy, knowledge society and knowledge management indicates the focus moves from the knowledge itself to the use of knowledge (Jensen, 2012). According to Bounfour (2003), knowledge management refers to development of procedures, infrastructures and equipment in the firm which allows knowledge creating, sharing and use of information. Meanwhile, Lakshman (2007) define knowledge management as organizational capability where members can benefit, invent, capture, share and use the collection of knowledge to enhance firms performance. Both definition mentions the process of interaction among individuals in organization in which the current knowledge is enhanced for organization to remain competitive. Hence, a holistic view of knowledge management incorporates the process of creating, sharing, protecting and discarding knowledge and referred to as knowledge management capabilities.

Knowledge management capabilities are achieved through s a synergistic effort of four main activities (Bhatt 2001) namely:

i) Capturing knowledge through knowledge repositories, document systems, public forums and social network systems.
ii) Sharing knowledge which is achieved through discussion, mentoring, brainstorming
iii) Applying the knowledge where the existing knowledge is used for improvement of services and
iv) Creating knowledge through the activities of socialization, externalization, combination and internalization (Nonaka & Takeuchi,1995)

To be successful, firms require leaders who can capture these activities in creating organizations' intellectual capital (Ichijo & Nonaka, pg 3). Most leaders acquire knowledge through the cross functional and cross regional

social relationship. However, to practice knowledge management is not an easy task. It seldom occurs voluntarily. The organizational setting, the enforcement and the cooperation from every member is important.

EMPLOYEES COLLABORATION

A knowledgeable teamwork is able to raise productivity if the knowledge is shared among different people. Studies suggest that strong social capital is achieved through high knowledge flows among the employees (Pee & Rowland, 2015). Furthermore, managers require active commitment from all employees regardless their position as knowledge is created through a dynamic interaction among participants in organization. The collaboration shared by employees that improve knowledge sharing leads into cumulative knowledge.

In addition, having knowledgeable employees will be a source of firm's competitive advantage as knowledge is difficult to imitate (Osterloh,pg 162). The importance of employees' collaboration is clearly discussed by Nonaka & Takeuchi's SECI model. It requires a tremendous effort to convert the knowledge from tacit to explicit and tacit again.

As employees in public sector normally has a low level of identification with the organization (Williem & Buelens, 2007), it is vital for management to ensure that knowledge is shared and transferred before they leave the organization. Further, in a public sector organizations, collaborations is seen as important especially for service integration (Pardo,Cresswell,Thompson & Zhang, 2006). Thus, Dess & Sauerwald (2014) propose creating friendship and professional ties between talented individuals. These activities allow combination of tacit and explicit knowledge that improve the understanding among the different departments. This leads into work efficiencies.

TOP MANAGEMENT SUPPORT

Role of leaders in public organization is vital as they operate in the context of continuous change; currently leaders role is transformed from institutional entrepreneurs to creative leaders (Vanebo &Murdock pg 155). Leaders in organizations require highly skillful employees as competitiveness and competence are interrelated concept in the knowledge economy. Therefore, top management as leaders enhance the intellectual capabilities through various related activities. From development of firms mission statement until elaborating the specific directions, it require managers to continuously create and share knowledge with the organizational members. Hence, top management support is critical to ensure workflow runs smoothly. The architecture of organizational design, the motivation and the development of activities are instrumental to encourage exchange of knowledge.

These strategies and infrastructure originates from the top management. Therefore, managers must create an environment that promotes sharing of knowledge among organizational members (Keng- Boon, Weng-Chong, Lin, & Pei- Lee,2012). Previous studies discover the important role of top management as champions in organizations. Davenport, Long & Beers (1998) pointed that management support is one of the factors that lead into project success. Similarly, Ying-Jung, Yeh, Quae Lai & Chin-Tsang (2006) also suggest leader as a catalyst in building knowledge management especially in developing a suitable corporate structure.

INFORMATION TECHNOLOGY (IT) SUPPORT

Information technology (IT) contributed to establishment of knowledge management initiatives as it allows knowledge to be shared and created. According to Davenport (pg 97), "*IT has perhaps the single most important intervention in managing knowledge"*. Although it helps in converting data, it does not warranty its application. So to assume that all technologies can enhance knowledge is quite risky. Several forms of knowledge is difficult to transfer and share. Therefore it requires an appropriate social system (Bhatt, 2001). He recommends a social system that consists of personal expert, social relations and technology to create a fit with the application.

Nevertheless, human capital is leverage with technology (Dess & Sauerwald, 2014).The use of social network systems helps in knowledge flows from and between organizations. The emergences of E-teams that solve complex organizations issues indicate the benefits of IT in enhancing collaboration and knowledge sharing. Further study by Yichen, Yichuan & LeeAnn (2015) discovers a significant relationship between cross functional collaboration and technology commercialization. Moreover, collaboration works well when technology assists in sharing information among members (Qureshi, Briggd & Hlupic ,2006).

However, not all technology facilitates learning and transference of technology. A proper selection of technology is required to assist in management effort to develop a knowledge driven organization. Properly used, the technological tools was suggested to enhance work activities that encouraged knowledge sharing (Lamourex,2006). Hence, technology compatibility is vital to ensure the transfer of knowledge from one party to other moves smoothly (SarinaMuhamad Noor, Rushami Zien Yusoff & Fariza Hahim, 2010).

TRAINING

Training is incorporated in the human resource planning once an employee reports duty. A proper training can increase knowledge sharing and creation. Moreover, training and development is one of the dominant quality management practices and was found to be strongly associated with knowledge sharing. (Keng-Boon et al ,2012). It supports knowledge management activities through its accrued benefits (Pee & Kankanhalli, 2015).

Assessment on training is done to measure its effectiveness. Methods used ranges from the basic understanding of job to change of behavior (Mello, 2013). Many public organizations incorporated training as part of their activities. However, the types of training and the extent it will contribute to enhance job performance is seldom assessed. As literatures (Goh, 2002; Goetsch& Davis,2000) indicate that training can contribute to knowledge sharing, it should strengthen the relationship among managerial efforts, the infrastructure and the employees collaborations to ensure better knowledge sharing. Moreover, when knowledge application interacts with training, it improves effectiveness as the skills acquired are enhanced through the training programs. According to Syed Omar Sharifudddin & Rowland (2004), organization that improves its sharing culture can simultaneously enhance the members' knowhow and eventually lead into increase in knowledge transfer. Thus, the procedures in conducting the training are important. Azmawati Abd Rahim, Imm Ng, Sambasivam & Wong (2013) suggest that managers devise training modules upon needs of employees and provide a proper environment so that knowledge can be applied.

RESEARCH METHOD

This study is a cross-sectional study on organizational infrastructures that contribute to knowledge management. The following sections will discuss the sample size, instrument and data analysis techniques.

This study was conducted in a public organization in Malaysia. This organization aims to become a knowledge driven organization and spelled it in one of its thrust. There are several branches throughout Malaysia. However, in this study, five branches in Perlis, Kedah, Penang, Kelantan and Terengganu have participated. Data were collected using self-administered questionnaires. There were 25 items used to measure knowledge management, employee collaboration, top management support, employee training and information technology (IT support). The items were adapted from Carpenter & Fredrickson, (2001); Gold, Malhotra & Segars, (2001) and Lee & Choi (2003).

For reliability coefficients, the value is above 0.80 and the mean value for all variables is above the mid-point and standard deviation value is between 0.46 to 0.56. Table 1.0 below presents the reliability coefficients, mean value and standard deviation value for variables in this study.

TABLE 1.0
RELIABILITY COEFFICIENTS, MEAN VALUE AND STANDARD DEVIATION FOR VARIABLES

Variables	No of items	Cronbach Alpha	Mean	Std Deviation
Employee Collaboration	5	0.84	4.16	0.46
Top Management Support	5	0.88	4.09	0.56
Employee Trainning	5	0.84	4.12	0.46
Information Technology (IT) Support	5	0.86	4.17	0.51
Knowledge Management	5	0.87	3.99	0.52

Notes:All items used 5 likert scale (with 1= strongly disagree and 5= strongly agree

RESULTS AND DISCUSSIONS

Data were analyzed using SPSS version 19.0. Majority of respondents is female (57.3%) . Most respondents are from Kedah (32.8%). The highest percentage of education level is STPM or Diploma holders (49%). Only 22.9% of the employees have working experience less than five years, others (32.8%) has experience between six to 10 years, and 32.9% has more than 10 years' experience. For details, please refer to Table 2.0.

TABLE 2.0
DEMOGRAPHICS OF RESPONDENTS

Characteristic	Frequency (n=131)	Percentage (Total = 100%)
Gender:		
Male	56	42.7
Female	75	57.3
Age:		
21-30	32	24.4
31- 40	43	32.8
41 – 50	27	20.6
51 and above	29	22.1
Education:		
PMR/SRP	3	2.2`
SPM	45	34.4
STPM/Diploma	49	37.4
Bachelor degree	34	26.0
Marital Status		
Single	25	19.1
Married	103	78.6
Others	3	2.3
Working Experience:		
Less than five year	30	22.9
6 – 10 years	50	38.2
More than 11 years	51	38.9
Branches		
Perlis	13	9.9
Kedah	43	32.8
Penang	35	26.5
Kelantan	6	4.6
Terengganu	16	12.2

In order to determine the significant relationship among the variables, a Pearson Correlation test was conducted. Table 3.0 shows the correlation between these variables. All variables show a positive significant correlation with one another.

TABLE 3.0
INTER-CORRELATION OF THE VARIABLES IN THIS STUDY

	1	2	3	4	5
1. Employee Collaboration	1				
2. Top Management Support	.503**	1			
3. Employee Training	.537**	.582**	1		
4. IT Support	.515**	.520**	.638**	1	
5. Knowledge Management	.596**	.689**	.719**	.600**	1

**p<0.01

Most organizations facilitate dialogue as part of sharing knowledge. Several studies also found significant relationship between collaboration and knowledge management. The result on employees collaboration and knowledge management found support in previous studies. Lee & Choi (2000) for example has discovered a significant relationship between collaboration and knowledge creation. Similarly, Keng-Boon et.al (2010) indicates that teamwork also has a positive association with knowledge sharing. On top of that, McAdam & Reid (2000) discover that organizational members are responsible for the learning part. Hence, managers can develop a culture of collaborations through work activities and inter-group assignment is important for better firm performance. In a recent study by Lin (2015), knowledge creation partially mediates between cross-functional collaboration and technology commercialization. Since it strengthens this relationship, it shows that collaboration plays a significant role in knowledge management process.

Moreover, knowledge management is proposed to be a predictor of creativity. Findings on the relationship between top management support and knowledge management is parallel with the previous studies as a proper leadership will benefis organization in achieving its mission. Ho (2009) discovers that strategy and leadership is the most significant relationship among all knowledge management process in performance indices. Senior

management is advised to play a more structured role in an effort to capture tacit knowledge which is available through informal discussion (McAdam & Reid, 2000).

In terms of IT support, there is lacking of evidence to support the finding as previous results are contrary to each other. Lee & Chin (2000) found IT is not related to knowledge management, Chin et al (2008) found that trust and reward are more important than technology support alone to support knowledge management and Syed Omar Sharifuddin & Rowland (2004) also discover insignificant relationship between ICT tools and knowledge transfer and knowledge asset. However, in the same study, Syed Omar Sharifuddin & Rowland (2004) discover that technology allows knowledge sharing and knowledge creating. Similarly, Bhatt (2001) agrees that a proper ecosystem is required to promote the knowledge management in organization. In their study at small businesses, Ruiz-Mercader, Merono-Cerdan & Sabater-Sanchez (2006) found that collaborative IT is significant only in a proper learning environment. Hence, IT is important and useful only with a proper selection of people and structure (Bhatt, 2001))

In terms of training, the finding in this study is different from several previous studies. Syed Omar Sharifuddin & Rowland (2004) found that there is no significant relationship between training with knowledge transfer performance. They suggest that retaining employees is important to control knowledge drain. However, Bontis & Serenko (2007) argue that training and development has an effect on employees' capabilities. Similar to this study, training is found to associate positively with knowledge sharing among managers (Keng-Boon et. al , 2010). As mentioned by Johannessen & Olsen, (2003), training is important in handling tacit as well as explicit knowledge and to improve employees' competencies. If training align with knowledge management strategies in the organizations, it will act as a strategic tools to achieve organizational goals (Mårtensson, 2000).

Next, to achieve the last objective, which is to determine if employee training is a moderator for the model, a moderated regression analysis (MRA) was used. There were several steps involved. The steps are in accordance with the suggestions by Sharma, Durand & Gur-Arie (1981). Data were regressed in three steps. Step 1 involves the predictors of the study (employee collaboration, top management support and IT support). In this step, it was discovered that the adjusted r^2 is 0.587, indicating the predictive power of 58% of employees' collaboration, top management support and IT support is able to explain knowledge management. The Beta value for employees collaboration is 0.25 top management support is 0.435 and IT support of 0.245 which shows a relative important of these variables in explaining knowledge management.

Next, the moderator variable (employee training) is introduced. There is an increase of adjusted r^2, indicating that employees training makes a significant contribution to knowledge management.

Step 3 involves the interactions between the moderator and predictors of the study. There is a slight increase of adjusted r^2 however, there is no significant F change indicating no moderator effect of training on the variables. The result in this study is pertinent to public organization. Although training is perceived important since the public organizations employees are identified as knowledge depositories, (McAdam & Reid, 2000) most employees perceived training as insufficient in developing their skills. This situation is reflected by McAdam & Reid (2000)finding that there is no link between knowledge management and performance measurement. There is also an issue on productive of training on the public sector employees (Wooldrige, 1988).Detail is present in Table 4.0.

TABLE 4.0
MULTIPLE REGRESSION RESULT

Variables	Standardized Beta		
	Step 1	**Step 2**	**Step 3**
	Without Interaction		**With Interaction**
Employee Collaboration (EC)	.251**	.181**	.136**
Top Management Support (TMS)	.435**	.334**	.334**
IT Support (ITS)	.245**	.102	.130
Employee Training (ET)		.363**	.367**
EC X ET			.096
TMS X ET			-.137*
ITS X ET			.058
R^2	.597	.660	.675
Adjusted R^2	.587	.649	.657
R^2 Change	.597	.064	.015
Sig. F Change	.000	.000	.133

**p<0.01, *p<0.05

CONCLUSION

The end result of this study is very interesting. Earlier it was discovered that all variables namely employees collaboration, top management support, IT support and training has a significant relationship with knowledge management. Though several studies indicate that training enhance the value of employees, this study shows that employee training does not modify the relationship between employees collaboration, top management support and IT support with knowledge management. The finding shows training is not a moderator, thus, it does not alter the direction and strength between the predictors and outcome.

The result indicates several important issues. First, knowledge management is a complex process that requires different interpretation in different setting. Most of organizational core competencies is entrenched in organizational culture (Bhatt, 2001) which requires management to see organization in total. Besides, the findings indicate that knowledge management requires a healthy ecosystem in accordance with the views from Barrett et. al, (2004); Syed Omar Sharifuddin & Rowland (2004); and Swee (2002).

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