

The Role of Knowledge Management, Human Capital, and Innovative Strategy toward the Higher Education Institution's Performance in Indonesia

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Abstract

This study examines the role of knowledge management, human capital, and innovative strategy on the organizational performance of a higher education institution in Indonesia. More specifically, the research focused on the investigation of the internal tacit knowledge based-resources that was conducted using the survey on 289 lectures in State University of Medan, one of the leading teacher education university in Indonesia. The findings of the research show that knowledge management, human capital and innovative strategy directly influenced the performance of the university. Summary of findings are discussed. Further implications and future research directions are also put forward.

Keywords: Knowledge Management, Human Capital, Innovative Strategy, Organizational Performance, Higher Education

1. INTRODUCTION

The current issue on the efforts to gain the successfulness of an organizational performance's has been much narrowed on how to maximize the capability of human resources, instead of utilizing and exploring other tangible resources for an organization to boost the expected outcomes. Many studies and reviews have underlined the existence of employees is beyond as the valuable resources (Laursen and Foss, 2012; Kong and Thomson, 2009; Kang and Snel, 2009; Ashton, 2005; Camuffo and Comacchio, 2005; Baron and Krepps, 1999). More importantly, Kong and Thomson (2009), Kang and Snell (2009), Barney (2001) and Barney et al. (2001) highlighted that the level of knowledge of employees bring into the organization determines the organizational success and failure. Thus, maximizing the effective knowledge management is significantly critical in providing the competitive advantage for an organization to deal with the challenges on the current knowledge-intensive businesses in the contemporary economy era.

The effective practice of knowledge management also provides a significant impact on the innovation process. In the context towards facing the global competition which surrounded by uncertainty situations, depending on the innovation as a strategy allows an organization to improve its flexibility, competitive position and performance, as well as to satisfy the evolving market requirements (Alshekaili and Boerhanoeddin, 2011; Santos-Rodrigues et al., 2010). Therefore, the deployment of individuals with high-capability is essential in developing the value-creation of an organization. Several authors indicate that the existence of individuals as the human capital of an organization influence the desired level of the innovativeness towards the achievement of organizational performance (see for example Laursen and Foss, 2012; Goh, 2004; Baron and Krepps, 1999). More specifically, Garcia and Calantone (2002), and Edvinsson and Malone (1997) further implied that the more human capital in an organization, the more innovative competence required towards achieving the expected organizational performance. In sum, the authors underlined the positive correlations among these constructs.

This paper highlights the Knowledge Based View (KBV) by Wang et al. (2009), an extension of Resource Based View (RBV) by Barney (1991) distinguishing knowledge from information in determining the influence of Knowledge Management (KM) towards Human Capital (HC), Innovation Strategy (IS) and Organizational Performance (OP) in one of leading State University in Indonesia. This perspective also underlines the process of knowledge creation incorporating tacit knowledge as the booster that subsequently accommodates explicit knowledge as the end point (Mbalati, 2012; Nonaka, 1991). Various research have expanded the importance of having a well-managed of knowledge based-resources in the organization (see for example Slavkovis and Babic, 2013; Halawi et al., 2005; Beveren, 2002; Alavi and Leidner, 2001; Spender and Grant, 1996). According to these authors, organizations must focus to employ KM by encouraging the organizational's HC towards the creation of IS in order to achieve a competitive advantage in the current knowledge era.

A more depth investigation on a knowledge-based organization in one of the Indonesia's teacher education institutions which employing highly-educated individuals provides a more fruitful insight in understanding the links among KM, HC, IS, and OP unified from the KBV concept by focusing the internal knowledge related-sources. The remaining of this paper is structured as follows. The next section conceptualizes

the relationship among KM, HC, IS and OP under the KBV perspective. The discussion is continued by describing the research design and methodology on this research followed by the discussion on the data analysis. The final section remarks conclusion and implication of the research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. *The Knowledge Based View and its relationship with Knowledge Management, Human Capital, Innovation Strategy and Organizational Performance*

Recent research in the area of knowledge-based resources have promulgated the strategic position of organization knowledge related-sources in the making of a sustained competitive advantage as well as the performance (Mbhalati, 2012). Foss (1996) and Grant (1996) pointed out that knowledge is embedded and carried through multiple entities from explicit forms (organizational culture and identity, policies, routines, documents, systems) to the tacit one (highly skilled employees). Due to the fact that knowledge-based resources are difficult to imitate and socially complex, the existence of diversitiness on knowledge capacities and skills within an organization determines the effectiveness on the achievement of competitive advantage and performance.

Mbhalati (2012) and Martin de Castro et al. (2007) further stressed out that the concept of KBV has now become more effective to apprehend the joint of tacit and explicit knowledge as the key ingredient to the productivity of knowledge-based organisations in this modern era. In a more detail, according to Wang et al. (2009), the KBV reflects the tacit knowledge as a strategic resource that is ceaseless and perpetually more beneficial in comparison to the traditional economic productive factors which are depreciative (e.g. various physical assets) in generating a more sustained outcomes.

On the other hand, while the business environment has dramatically changed, the implication of RBV that treats knowledge as a generic resource, rather than having special characteristics, creates the critics over the investigation on the relationship between various knowledged based-resources on organizational performances in the current dynamic era (Mbhalati, 2012). Further, Curado and Bontis (2006) argued that the RBV perspective has been widely applied to explain differences in performance between and amongst firms that depends on the valuable resources they possess. Consequently, this research offers an updated-insight generated from the KBV as the extension of RBV perspective that is viewed from an empirical analysis on a particular knowledge based-resources organization.

Nickerson and Zenger (2004), Hansen et al. (1999), Grant (1996) and Spender (1996) posited that knowledge lies within the human brain and the effective KM is necessary to utilize knowledge embodied in different human capital in a organization. Ruggles (1998) and Scarbrough (2003) further defined KM as an approach to adding or creating value by more actively leveraging the know-how and experience possessed by a human capital individually. Other studies also indicated that KM plays an important part in managing and transferring knowledge among heterogenous human capital exist in an organization (see for example Slavkovis and Babic, 2013; Alshekaili and Boerhanoeddin, 2011; Santos-Rodrigues et al., 2010, Jing-Wen and Yong-Hui., 2008; Sarin and McDermott, 2003; Scarbrough, 2003). These authors also implied that effective KM provides a powerful tool for HC further translating and transforming their knowledge into various innovative products and services, and consequently leads to favorable organizational performance.

2.2. *Hypotheses Development*

Figure 1.1 shows the research model that is conceptualized the relationship among KM, HC, IS and OP. The further examination seeks to analyze the following formulated hypotheses linking KM (X_1), HC (X_2), IS (X_3) and OP (X_4) in various associations based on the KBV as previously discussed.

- H1 : KM directly influences HC.
- H2 : KM directly influences IS.
- H3 : KM directly influences OP.
- H4 : HC directly influences IS.
- H5 : HC directly influences OP.
- H6 : IS directly influences OP.

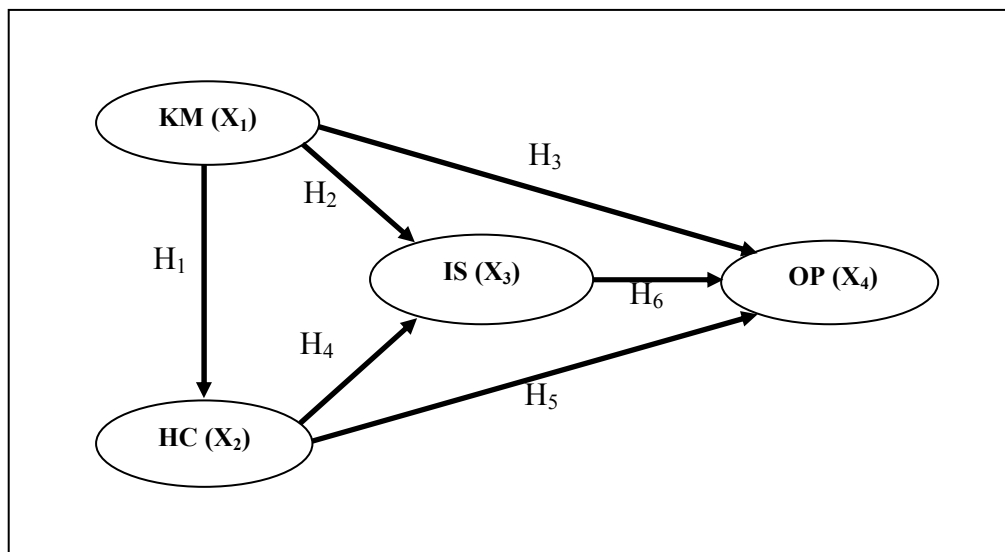


Figure 1. Research Model

3. RESEARCH METHODOLOGY

3.1. Sample, Data Collection and, Data Analysis

The study surveyed the total of 289 lecturers in State University of Medan, Indonesia. The sample size of this study was obtained using the stratified random sampling method which involving numerous academic positions held by those surveyed knowledge-actors. The samples selection also considered the proportional stratification criteria which are based on gender and managerial positions.

For the purpose of data collection, a questionnaire was developed as the main instrument of this study and distributed to all samples. All of questioned-items within the instruments were constructed relevant to research objectives, research questions, and literature review references. The research questionnaires consist of number of Likert-scaled queries accommodating four major constructs within this study: KM, HC, IS and OP.

A pilot test on the instruments was conducted on the non-surveyed samples consisting of 42 lecturers prior testing the research hypotheses. The validity and reliability testings on the research instrument show a satisfaction result on all measured-items. A confirmatory factor analysis was performed to complement the construct validity testing on all items in the instrument which further resulting an overall above of .70 across the constructs as shown on Table 3.1. Subsequently, Table 3.1 also summarizes the Goodness of Fit (GFI) indexes based on the relevant measures consisted of Chi squares, Comparative Fit Index (CFI), Goodness Fit Index (GFI), and Normed Fit Index (NFI) in justifying the positive associations among KM, HC, IS and OP. Hair et al. (2010) indicated that an acceptable fit obtained when chi-squares exceeded 1 and should be less than 5, as well as the GFI, CFI and NFI > .90 respectively. The results indicated that there were no significant correlations of error terms and showing confirmatory factor analysis of convergent and discriminant validity among the factors.

Table 1. Confirmatory Factor Analysis

Variable	Mean	SD	Item	Alpha
Knowledge Management	107,11	7,44	26	0,9105
Human Capital	106,89	7,74	26	0,9253
Innovation Strategy	115,59	9,14	36	0,9779
Organizational Performance	99,96	8,52	26	0,8220
Model Fit Indexes	X ² = 4,27; CFI = 1,00; NFI = 0,98; GFI = 1,00			

To test the hypotheses, this study used a path analysis method. According to Asher (1983), the path analysis approach is suitable to determine the magnitude and significance of the causal relationship between the observed variables (see Figure 1. Research Model). The author also underline that the path analysis is more powerful to measure the causal relationship using the mediating variable(s) in a single model without segregating several regression testings. The testing result will estimate the structure of the main path from the independent variable(s) to a dependent variable. The main path will be indicated from a standardized regression coefficient, demonstrating whether there is a direct effect or indirect effect occurred within the research model.

4. DISCUSSION AND ANALYSIS

The path model using LISREL was conducted to generate the significance levels across path coefficients and path model. Figure 2 and Table 2 show the path coefficients for path models including their significance. The path coefficients (for two-tailed tests) are significant at $p < .01$ and $p < .05$ respectively. Thus, these results show the support for all research hypotheses, as shown in Table 2.

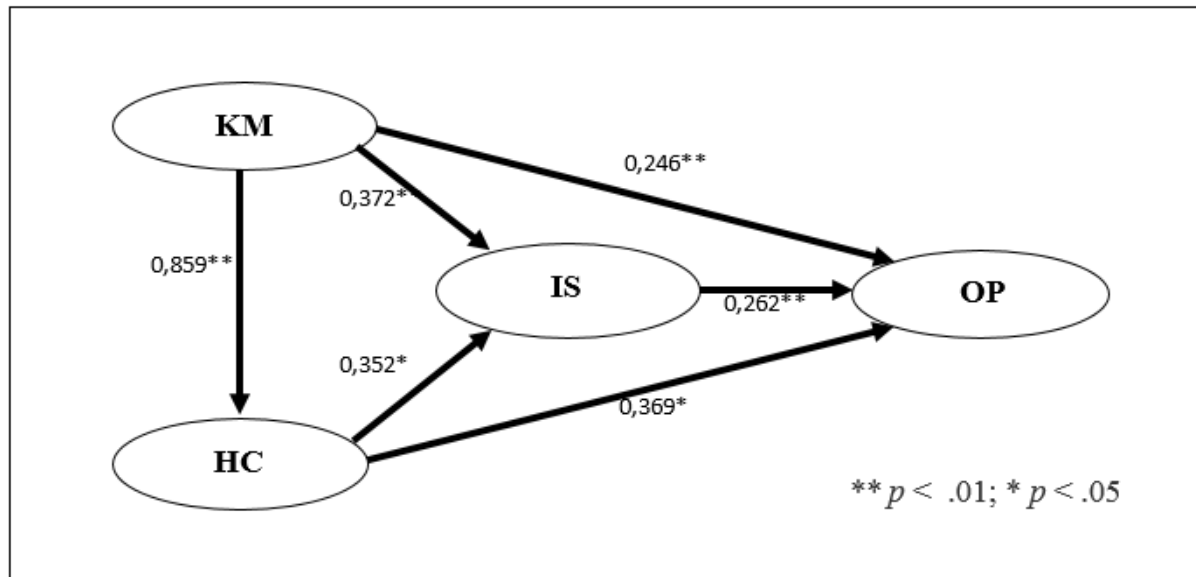


Figure 2. Path Analysis Results

The support for all research hypotheses signified knowledge management, human capital and innovative strategy as the valuable resources that play important roles in maximizing the performance of organization. The results also emphasized the importance of having the effective knowledge management that can further enable every human capital in the organization to establish and implement innovative strategy towards the achievement of set organizational performance. In addition, the findings established the significant role of human capital as the agent of change to improve the organizational performance.

Table 2. Path Analysis Testing Results

Sub-Structure 1	Direct Effect	Estimate	$R^2 = 0,738$
	KM → HC (H1)	0,859**	
Sub-Structure 2	Direct Effect		$R^2 = 0,487$
	KM → IS (H2)	0,372*	
	HC → IS (H4)	0,352*	
	Indirect Effect		
	KM → SI	0,131*	
	Total Effect		
	KM → SI	0,503*	
	HC → SI	0,332**	
Sub-Structure 3	Direct Effect		$R^2 = 0,639$
	KM → OP (H3)	0,246**	
	HC → OP (H5)	0,369*	
	IS → OP (H6)	0,262*	
	Indirect Effect		
	KM → OP	0,493**	
	HC → OP	0,092**	
	Total Effect		
	KM → OP	0,739*	
	HC → OP	0,461*	
IS → OP	0,262**		

** $p < .01$; * $p < .05$

5. CONCLUSION AND IMPLICATION

This study empirically tests the direct effect among KM, HC, IS and OP. The findings suggested that the effective knowledge management play an important role in development and empowerment the existing human capital of an organization. Several authors (see for example: Slavkovis and Babic, 2013; Alshekaili and Boerhannoeddin, 2011; Santos-Rodrigues et al., 2010 and, Jing-Wen and Yong-Hui, 2008) indicated that the effective implementation of KM encourages HC to achieve the expected OP. In another path testing result, the productivity of HC stimulates the IS that further creating more innovative academic products and services. Consequently, an effective IS implemented by high-competence HC results the maximum outcome of OP continuously.

An effective implementation of KM within a higher education institution is further strategically beneficial towards the human resources development. An effective run of KM in the university encourages and motivates the academic staffs to learn and adapt new things. Yet, the outcome will beyond to increase their professional-awareness in responding dynamic challenges but more to emerge updated and new ideas to be further implemented in their academic environment. The additional analysis which testing the mediating effect of HC in the relationship between KM and OP supports the contribution of human resources in supporting the KM as an importance knowledge based-resource towards the achievement of university's goals.

In general, the findings of this research support the KBV perspective underlining the the pivotal role of integrative tacit knowledge (KM, HC and IS) in the achievement of OP. With regards in managing knowledge based-resources in the particular knowledge-institution, the findings of this research emphasize the need for a well-planning KM prior implementing in various university daily-routined activities. The implementation of KM must be formed into an established strategic planning which is able to be further creating an updated learning environment that can also be a competitive advantage of the university. Thus, encouraging the KM into account can further create a more updated university culture that empowering the knowledge which residing in individuals as the key ingredient in the innovation process.

Future research can expand the scope of analysis by modifying the investigation of the relationships among KM, HC, IS and OP that is not limited to the analysis of the direct relationships in-between two different constructs. It is also recommended strongly to expand the scope of analysis by incorporating two or more institutions for a more robust implication.

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