

Effect of Organizational Learning on the Hard Skills, Soft Skills and Innovation of Employees: Evidence from Information Technology Industries

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Abstract: This study aims to measure the influence of organizational learning on the improvement of hard skills, soft skills and teacher innovation capability in Indonesia. Hard skills and soft skills as mediated variables. Data collection was carried out by simple random sampling via electronic to a population of information technology industries. The returned and valid questionnaire results were 223 samples. Data processing using SEM method with SmartPLS 3.0 software. The results of this study are organizational learning has a positive and significant effect on employee innovation capability, both directly and through mediating hard skills and soft skills.

Keywords: *Hard skills, education 4.0, organizational learning, soft skills, teacher innovation capability*

INTRODUCTION

In the current industrial 4.0 era, marked by increasingly fierce competition, sustainability remains an important concern and issue. Teacher innovation capability is a driver of business sustainability. This performance depends on the knowledge culture that is embedded in the organization. Knowledge consisting of tacit and hard skills. Many researchers discuss teacher innovation capability, which concludes that innovation is influenced by leadership (Samsir, 2018; Schuckert et al, 2018; Villaluz & Hechanova, 2019), employee involvement climate (Naqshbandi, Tabche & Choudhary, 2019) knowledge sharing (Kim & Shim, 2018)

knowledge search (Wang, Chen & Chang, 2019) collaborative culture (Yang, Nguyen & Le, 2018) and knowledge process (Imran et al, 2018). This study aims to examine the effect of hard skills and soft skills on teacher innovation capability of employees in corporate educational institutions in the context of welcoming industrial revolution 4.0. Previous researchers have proven the positive and significant effect of hard skills and soft skills on teacher innovation capability (Ganguly et al, 2019; Aulawi, 2018; Rumanti et al, 2018 & 2019; Torres & Liang, 2016; Li et al, 2019). More specifically, many researchers conclude that soft skills have a positive and significant effect on teacher innovation capability (Perez-Luno et al, 2018), all of which are within the scope of business organizations. However, there are researchers who say that formal & informal learning affects the teacher innovation capability of employees in the company (Lecat, Beausaert, & Raemdonck, 2018).

Hard skills are one type of knowledge that is easily documented and shaped (Choi & Lee, 2003; Sousa & Rocha, 2019; Borrego et al, 2019; Wokcik et al, 2019; Cifariello, Ferragina & Ponza, 2019; Che et al, 2018; Tang et al, 2016; Bashir & Farooq, 2019; Attia & Salama, 2018), are easy to articulate (Haamann & Basten, 2018) and are usually knowledge inherent in the Company (Afsar, Masood & Umrani, 2019). In addition, hard skills can be created, written and transferred between the Company's activity units (Lombardi,

2019). Transfer of hard skills between employees is more easily driven by a mechanism and a conducive Company culture. Hard skills can be described in general terms and are also based on the specific context in which these skills are used. Rainsbury et al. (2002) defines hard skills, skills related to technical aspects to perform multiple tasks in a job. Therefore, hard skills are basically cognitive and influenced by intellectual quotient (IQ) (Muhammad et al, 2019; Kenayathulla, Ahmad & Idris, 2019; Tsotsotso et al, 2017; Fan, Wei & Zhang, 2017). Contextually, several researchers use the concept of hard skills in particular state management. Azim et al. (2010) generally refer to hard skills in the context of project management as processes, procedures, tools, and techniques (Gale et al, 2017; Laker & Powell, 2011)

Knowledge is classified into two types including: soft skills and hard skills (Polanyi, 1966). The definition of soft skills is knowledge that still exists in human minds and is very personal (Chen et al, 2018; Holford, 2018; Khoshoror & Gilaninia, 2018; Zebal, Ferdous & Chambers, 2019; Agyemang & Boateng, 2019; Perez-Fuillerat et al, 2018), it is difficult to define and divide naturally (Deranek, McLeod & Schmidt, 2017; Wang & Liu, 2019; Asher & Popper, 2019) so that the transformation requires personal interaction (Lee, 2019). These soft skills are rooted in a person's actions and experiences, including idealism, values, and emotions (Boske & Osanloo, 2015; Kawamura, 2016; Hartley, 2018). Good organizational learning will be more resilient to crises (Starbuck, 2017). Dimensions such as desire, discipline, decision making, and parity are presented as important elements of organizational learning (Wetzel & Tint, 2019; Urban & Gaffurini, 2018). Organizational learning is also an important performance indicator for evaluating overall organizational performance (Qi & Chau, 2018) which is able to help build the necessary knowledge resources and maintain company growth and sustainability.

METHOD

The method used in this study is a quantitative method. Data collection was carried out by

distributing a questionnaire to 223 respondents of employees. The population in this study were employees of IT Industries whose numbers have not been identified with certainty. The questionnaire was distributed electronically using simple random sampling technique. 223 respondents.

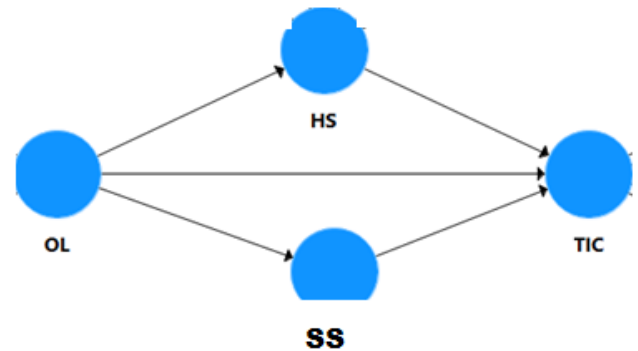


Fig 1. Research Model

- H1: Organizational learning has a direct effect on teacher innovation capability
- H2: Organizational learning has a direct effect on hard skills
- H3: Organizational learning has a direct effect on soft skills
- H4: Hard skills have a direct effect on teacher innovation capability
- H5: Soft skills have a direct effect on teacher innovation capability
- H6: Organizational learning has an indirect effect on innovation capability through mediating hard skills
- H7: Organizational learning has an indirect effect on innovation capability through mediating soft skills

RESULTS AND DISCUSSION

The testing phase of the measurement model includes testing for convergent validity, discriminant validity and composite reliability. The results of the PLS analysis can be used to test the research hypothesis if all indicators in the PLS model have met the requirements of convergent validity, discriminant validity and reliability tests. Convergent validity tests are carried out by looking at the loading factor value of each indicator on the construct. In most references, a factor weight of 0.5 or more is considered to have sufficiently strong

validation to explain latent constructs (Chin, 1998; Hair et al, 2010; Ghozali, 2014). In this study, the minimum limit for the accepted loading factor is 0.5, provided that the AVE value of each construct is > 0.5 (Ghozali, 2014).

Based on the estimation results of the PLS model in the image above, all indicators have a loading factor value above 0.5 so that the model has met the convergent validity requirements. Apart from

looking at the loading factor value of each indicator, convergent validity was also assessed from the AVE value of each construct. The AVE value for each construct of this study was above 0.5. So the convergent validity of this research model has met the requirements. The value of loadings, cronbach's alpha, composite reliability and AVE for each complete construct can be seen in table1 below:

Table 2. Items Loadings, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE)

Variables	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
<i>Organizational Learning</i> (OL)	OL1	0.850	0.897	0.924	0.710
	OL2	0.880			
	OL3	0.882			
	OL4	0.819			
	OL5	0.778			
Hard Skills (HS)	HS1	0.643	0.844	0.884	0.562
	HS2	0.713			
	HS3	0.762			
	HS4	0.821			
	HS5	0.792			
	HS6	0.753			
<i>Soft Skills</i> (SS)	SS1	0.811	0.861	0.905	0.705
	SS2	0.855			
	SS3	0.816			
	SS4	0.877			
<i>Teacher Innovation Capability</i> (TIC)	TIC1	0.806	0.878	0.911	0.673
	TIC 2	0.830			
	TIC 3	0.833			
	TIC 4	0.794			
	TIC 5	0.837			

Discriminant validity is done to ensure that each concept of each latent variable is different from other latent variables. The model has good discriminant validity if the AVE square value of each exogenous construct (the value on the diagonal) exceeds the correlation between this

construct and other constructs (values below the diagonal) (Ghozali, 2014). The results of discriminant validity testing using the AVE square value, namely by looking at the Fornell-Larcker Criterion Value are obtained as follows:

Table 2. Discriminant Validity

Variables	HS	OL	SS	TIC
HS	0.749			
OL	0.711	0.843		
SS	0.710	0.748	0.840	
TIC	0.736	0.806	0.720	0.820

The results of the discriminant validity test in Table 3 above show that all constructs have a square root value of AVE above the correlation value with other latent constructs (through Fornell-Larcker criteria) so that it can be concluded that the model has met discriminant validity. Construct reliability can be assessed from the Cronbach's alpha value and the composite reliability of each construct. The recommended composite reliability and cronbach's alpha value is more than 0.7. (Ghozali, 2014) The results of the reliability test in Table 2 above show that all constructs have a composite reliability value and Cronbach's alpha is greater than 0.7 (> 0.7). In conclusion, all constructs have met the required reliability.

Hypothesis test

Hypothesis testing in PLS is also known as the inner model test. This test includes a significance test for direct and indirect effects as well as a measurement of the magnitude of the influence of exogenous variables on endogenous variables. To determine the effect of tacit and hard skills sharing on organizational learning and teacher innovation capability, a direct effect test is needed. The direct effect test was carried out using the t-statistical test in the partial least squared (PLS) analysis model using the SmartPLS 3.0 software. With the bootstrapping technique, the R Square value and significance test values are obtained as shown in the table below:

Table 3. Nilai R Square

	R Square	R Square Adjusted
HS	0.506	0.505
SS	0.559	0.559
TIC	0.712	0.711

Table 4. Hypotheses Testing

Hypotheses	Relationship	Beta	SE	T Statistics	P-Values	Decision
H1	OL ->TIC	0.496	0.043	11.000	0.000	Supported
H2	OL ->HS	0.711	0.040	30.326	0.000	Supported
H3	OL ->SS	0.748	0.037	36.593	0.000	Supported
H4	HS ->TIC	0.274	0.035	6.486	0.000	Supported
H5	SS ->TIC	0.155	0.047	3.777	0.000	Supported
H6	OL->HS ->TIC	0.195	0.029	6.680	0.000	Supported
H7	OL ->SS ->TIC	0.116	0.026	3.684	0.000	Supported

Based on Table 4 above, the R SquareHS value is 0.506 which means that the hard skills (HS) variable can be explained by the organizational learning (OL) variable of 50.6%, while the remaining 49.4% is explained by other variables not discussed in this study. The R SquareSS value is 0.559 which means that the soft skills (SS) variable can be explained by the organizational learning (OL) variable of 55.9%, while the remaining 44.1% is explained by other variables not discussed in this study. Meanwhile, the R value of Squareteacher innovation capability (TIC) was 0.712, which means that the teacher innovation

capability variable was able to explain organizational learning variables, hard skills and soft skills by 71.2%, while the remaining 28.8% was explained by other variables not discussed in this study. Table 5 displays the T Statistics and P-Values which show the influence between the research variables that have been mentioned.

Discussion

Based on the research results, it can be concluded that organizational learning has a positive and significant effect on teacher innovation capability. Either directly or through mediation of hard skills

and soft skills. This means that the more positive the Company's organizational learning, the more individual teacher innovation capabilities of employees in the Company's educational institutions will also increase, and the employee's innovation capabilities will increase with the mediation of their hard skills and soft skills. This finding is in line with previous research on business organizations, namely Purwanto (2019), Sopa (2020), Purwanto et al (2020), Perez-Luno et al (2018), Terhorst et al (2018), Boadu et al (2018), Che et al (2019).

The results of this study also concluded that hard skills and soft skills had a positive and significant effect on employee innovation capabilities. This means that the better the hard skills and soft skills mastered by an employee, the better the innovation capabilities of employees in the Company's educational institutions. This is in line with the conclusions of Purwanto et al (2020)'s research on business organizations. This suggests that the rarest and most valuable resources in the digital era are not ordinary and mediocre employees, but employees who can create new ideas and innovations (Xu, David & Kim, 2018). Employees who play a key role in producing and reusing their knowledge and intellectual property through education and teaching (Al-Kurdi, El-Haddadeh & Eldabi, 2018).

Employee training in every part of the Company is a necessity with a level of intensity, content and context that is tailored to the key performance indicators of each employee. In essence, the team learning behavior created within the Company will be a driver of employee innovation (Santoso et al (2019), Santoso et al (2020), Pramono et al (2020), Prameswari et al (2020), Sihite et al (2020), Widmann & Mulder, 2018). The process of improving skills to build teacher innovation capability of corporate education institutions should not only be limited to the company's internal processes. However, the Company's management needs to expand the process of building this innovation through efforts to absorb, articulate, utilize and manage knowledge sourced from the Company's external partners such as parents, government, society, and other educational institutions. Company management can

activate learning from others when assigning employees to attend training, seminars, workshops, visits to other companies, meeting with Company committees and other strategic partners because of external knowledge, such as those from trainers, coaches, parents of students, the government, community, and other educational institutions support the power of teacher innovation capability of the company's educational institutions. In addition, commitment to learning and a seriousness to be involved in managing the learning environment are things that need to be considered. Because corporate educational institutions can become organizational learning when all members of the Company's educational institutions feel that they enjoy this learning process. Learning process is a corporate culture that encourages innovation (Purwanto, Santoso & Purwanto, 2019). The key factors for organizational learning are trust, open communication, high involvement, the presence of industrial challenges, and a creative work atmosphere. The task of the Company's management is to facilitate the fulfillment of these key factors

CONCLUSION

In order to improve teacher innovation capability, companies need to create organizational learning as a positive environment that spurs the competence and engagement of individual employees at corporate educational institutions. Companies also need to provide autonomy and breadth to share knowledge with employees. Therefore, knowledge management will actually run effectively in the Company's educational institutions if the individual performance of each employee is in good condition (Manaf et al, 2017). Researchers continue to learn about knowledge as an important company resource. It can be said that skills are good hard. skills and soft skills can significantly improve the Company's performance. Organizational learning converts individual knowledge into corporate knowledge. Based on the conclusions of this study, the management of corporate educational institutions needs to build maximum involvement of all employees to continuously improve their hard skills and soft skills. This study has several limitations. First, this study analyzes the effect of organizational

learning, and mediation of hard skills, soft skills, on teacher innovation capability of employees. Because there may be several other variables that affect teacher innovation capability, the author highly recommends finding, exploring and analyzing it. Second, this research is conducted within the Company's educational institutions and may not be generalizable to other institutions and industries. Therefore it is highly recommended that further research on this topic be carried out in other industries.

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