
THE RELATIONSHIP BETWEEN NEW LEARNING ORGANIZATION ON HUMAN CAPITAL READINESS OF SMEs IN INDUSTRY 4.0

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ABSTRACT

KEYWORDS

Human Capital Readiness, New Learning Organizations, Industry 4.0

Learning organization is one of the strategic plans that support the development of an organization. Based on organizational literacy known that learning organizations are aimed at developing human resources as the main driver in creating and developing an organization. Learning organization in the Era of Industry 4.0 forces a rapid change in organizational models and has no exception. Implementing diversity within organizations and change-resistant is a global challenge that critically required us to increase the readiness for change. The purpose of this study is to examine the relationship between new learning organizations and human capital readiness to continue to develop as a phenomenon at the individual level in SMEs in facing the era of industrial revolution 4.0. The population of this research is all SMEs in Indonesia. By using the probability sampling technique, namely simple random sampling, the minimum number of samples is 45 SMEs. The statistical method using multiple linear regression. The results showed that there is a significant relationship between new learning organizations (holistic people experience and agile, digitally enable infrastructure) on human capital readiness in Industry 4.0. The significance value ≤ 0.05 . This means that the learning organizations especially the better holistic people experience and agile, digitally enable infrastructure, the higher the human capital readiness in a SMEs in the Era of Industry 4.0.

INTRODUCTION

Organizations have an important influence on the environment. The organization is a system in which some sub-systems interact with the environment. In learning organizations, not all organizations can learn quickly to survive. Therefore, the organization must always responsive and adaptive to complex environmental development, and always responsive in the face of world competition that continues to grow. Organizational ability is needed in making changes in knowledge with the learning process. That's why commitment is needed high in building and developing strategic resources. Learning organization (LO) is a concept in a dynamic organizational environment and LO is a strategy in the success of the organization.

Organizational learning is learning together, where humans learn continuously expand their capacity to create results that do them want, a place to find new patterns and think broadly, a place to gathering these shared aspirations is liberated and a place where people continually learn how to learn together (Senge, PM, 2004). Therefore, companies need to implement learning organizations in the industrial era with the current increase in the Internet of Things.

Enhancement of the Internet of Things (IoT), Big Data, AI, and Virtual Reality is a big challenge for SMEs in Indonesia. SMEs in Indonesia is increasing from the previous year. The development of cooperatives and MSMEs in Indonesia in the future is direct at strengthening economic resilience to support the rise of the economy. Based on the Regulation of the Minister of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia No. 5 of 2020 concerning the Strategic Plan of the Ministry of Cooperatives and Small and Medium Enterprises for 2020-2024, it is stated that the growth of MSMEs in Indonesia continues to increase, (figure 1).



Source: Minister of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia, 2020

Figure 1. SMEs in Indonesia

In line with the increase in SMEs in Indonesia, it is necessary to implement learning organizations to have human resource readiness. Learning organization is one of the strategic plans that support the development of an organization. Based on organizational literacy known that learning organizations are aimed at developing human resources as the main driver in creating and developing organizations (Runhaar, P, 2017). The organizational model in the previous study focused on the processes (considering humans as machines oriented towards efficient performance). Nowadays, the organizational model is supposed to change on people (considering people as capital are valuable for organizational development. Traditional organizations have to transform into digital-based organizations. Therefore, the company should pay attention to the importance of implementing learning organizations. The idea of the learning organization is a must to stay alive in an organization (Pedler, M. and Burgoyne, J, 2017).

Currently, companies are required to continue to compete, therefore the implementation of a learning organization is important for the company. Learning organization in the Era of Industry 4,0 forces a rapid change in organizational models and has no exception (Stephen M. Mutula, 2009). The new approach in a learning organization is the

new learning organization. Build the new learning organization will be achieving strategic advantage through a commitment to learning.

Implementing diversity within organizations and change-resistant is a global challenge that critically required us to increase the readiness for change (Adserias, Ryan P.; Charleston, LaVar J.; Jackson, Jerlando F. L., 2017). This research aim contributes to the sustainable competitive advantage for SMEs in Indonesia. The purpose of this study is to examine the relationship between new learning organizations and human capital readiness to continue to develop as a phenomenon at the individual level in SMEs in facing the era of industrial revolution 4.0. From this research, it will be known how new learning organizations affect the readiness of human capital to face the development (Industry 4.0), especially in SMEs.

METHOD RESEARCH

The research paradigm in this research is positivism using the quantitative method. This research was deductive by using a cross-sectional study design approach, meaning that the sampling method is done at the same time simultaneously (Saunders M, Lewis P, and Thornhill A, 2017). The research design in this thesis used a survey with a questionnaire. Survey research can be generalized because the sample tends to be representative of a large population (Saunders M, Lewis P, and Thornhill A, 2017). The total population is 8.000.000 SME's in Indonesia. The sampling technique used in this study is probability sampling. Probability sampling is a sampling technique that provides equal opportunities for each element of the population to be selected as a member of the sample (Sugiyono, 2017). This study using the Slovin formula as follows (Silalahi, 2017):

$$n = \frac{N}{(Ne^2) + 1}$$

Where:

n = number of samples

N = total population

e = precision value 0,15 or 15%

Then:

$$n = \frac{8.000.000}{(8.000.000 \times 0,15^2) + 1}$$

$$n = \frac{8.000.000}{180001} = 44,44 \approx 45 \text{ SME's}$$

This research using statistical techniques namely multiple linear regression. Prior to the multiple linear regression analysis, the data were tested for classical assumptions which included normality test, multicollinearity test, and heteroscedasticity test (Ghozali, 2016). The multiple linear regression to examine the relationship of new learning organizations on the human capital readiness of SMEs in Industry 4.0. Regression analysis carried out to predict/known the effect of one or more independent variables on the dependent variable (Ghozali, 2016). The regression equation in this study is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

Where:

Y : Human capital readiness

X₁ : Clarity of purpose

X₂ : Holistic people experience

X₃ : Thriving ecosystem

X₄ : Agile, digitally enabled infrastructure

X₅ : Continual engagement

X₆ : Intelligent decision-making

α : Score intercept (Constant), Value of Y When X = 0 (Constant).

β : The regression direction coefficient, the direction number or the regression coefficient that shows the increase or decrease in the dependent variable based on the independent variable. If β (+) then there is an increasing trend and if β (-) then there is a decreasing trend.

e : error

The hypothesis testing used t-test, F test and R-square (R^2) (Ghozali, 2016). data processing by using software R.

RESULT AND DISCUSSION

The data of this study obtained from questionnaires that were distributed by google form to SMEs. The sample in this study was calculated based on the probability sampling technique with the Slovin formula so that a minimum sample in this study is 45 SMEs. After examining the completeness of the questionnaire data, then the data was processed for research.

A normality test is used to determine whether the data is normally distributed or not. The normality test in this study used p-plot normal test. The following shows the results of the R cloud program output normality test using the normal p-plot test.

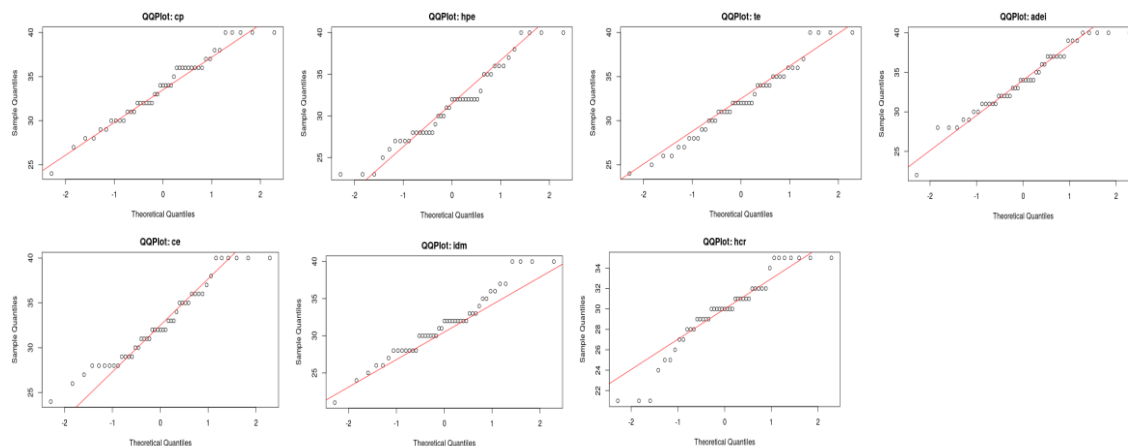


Figure 2. Results of Normality Test

Based on the normal residual p-plot, it can be seen, that the data normally distributed. This can be seen from the data that spreads close to the diagonal or follows the direction of the diagonal line. It can be concluded that the regression model meets the assumption of normality.

The multicollinearity test aims to test whether the regression model found a correlation between the independent variables. A good regression model should not correlate with the independent variables. If the independent variables are correlated with each other,

then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation value between independent variables is equal to zero.

To detect the presence or absence of multicollinearity in the regression model, it can be seen from the tolerance value or variance inflation factor (VIF). These two measures indicate which of each independent variable is explained by the other independent variables. Tolerance measures the variability of the selected independent variables that cannot be explained by other independent variables. A low tolerance value is the same as a high VIF value (because $VIF = 1/\text{tolerance}$) and indicates high collinearity. The cut-off value used is a tolerance value of 0.10 or equal to the VIF value above 10.

Table 1. Results of Multikolinerity Test

Multicollinearity test vif(lm_model)	
Clarity of Purpose	2.919977
Holistic People Experience	3.140107
Thriving Ecosystem	2.484750
Agile, Digitally Enabled Infrastructure	2.254666
Continual Engagement	3.820542
Intelligent Decission Making	2.575517

Source: Output R, (2022)

The results above indicate that the value of each independent variable has a VIF value < 10. So it can be concluded that there is no multicollinearity between independent variables in the regression model.

A heteroscedasticity test was used to determine whether the data had the same variance (homogeneous). The heteroscedasticity test of the data carried out using the Breusch-Pagan test. Following are the results of the heteroscedasticity test using the R version 2.0 software:

Table 2. Results of Heteroscedasticity Test

studentized Breusch-Pagan test
data: lm_model
BP = 8.6288, df = 6, p-value = 0.1956

Source: Output R, (2022)

By using R software, the results of the regression coefficients are as follows:

Table 3. Results of Multiple Linear Regression

Call:
lm(formula = hcr ~ cp + hpe + te + adei + ce + idm, data = data2)
Coefficients:
(Intercept) cp hpe te adei ce idm

6.7611 0.0561 0.3672 -0.2374 0.3055 0.3143 -0.1048

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	6.7611	3.6894	1.833	0.0747 .
cp	0.0561	0.1603	0.350	0.7283
hpe	0.3672	0.1389	2.642	0.0119 *
te	-0.2374	0.1422	-1.670	0.1031
adei	0.3055	0.1338	2.283	0.0281 *
ce	0.3144	0.1650	1.905	0.0644 .
idm	-0.1048	0.1340	-0.783	0.4387

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.392 on 38 degrees of freedom

Multiple R-squared: 0.6348,

Adjusted R-squared: 0.5772

F-statistic: 11.01 on 6 and 38 DF,

p-value: 4.362e-07

Source: Output R, (2022)

Based on the results above, there are only 2 variables that are declared significant, namely the holistic people variable and agile, digitally enable infrastructure. Due to the p-value (sig) < 0.05 then H0 is rejected, meaning that the holistic people and agile, digitally enabling infrastructure to have a significant effect on the human capital readiness. This is in line with the results state that the learning organization in digital era 4.0. New learning organization determined whether an organization can prepare human capital readiness for their organisation (Daly J, Overton L, 2017). Organizational learning has a positive and significant effect on innovation capability, both directly and through mediating hard skills and soft skills (Goestjahjanti FS, Asbari M, Purwanto A, et al. , 2020).

Based on the results above, it is known that the F count is 11,01 and R-square value is 0.6348 or 63.48% which shows the meaning that the new learning organization variable simultaneously has an effect of 63.48% on human capital readiness. While the remaining 36.52% is influenced by other factors that are ignored by the author.

CONCLUSION

The purpose of this study is to examine the relationship between new learning organizations and human capital readiness to continue to develop as a phenomenon at the individual level in SMEs in the era 4.0. From this research, known that new learning organizations (holistic people and agile, digitally enabling infrastructure) affect the human capital readiness in Industry 4.0, especially in SMEs.

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