THE INFLUENCE OF TRANSFORMATIONAL LEADERSHIP AND INFORMATION TECHNOLOGY ON EMPLOYEE JOB SATISFACTION MEDIATED BY ORGANIZATIONAL LEARNING (Study at PT Pupuk Kaltim Employees)

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Abstract: This study aims to analyze the influence of transformational leadership and information technology on job satisfaction mediated by organizational learning of employees at PT. Pupuk Kaltim. This research was conducted by analyzing the influence of exogenous variables: Transformational Leadership (X1) and Information Technology (X2) with endogenous variables: Employee Job Satisfaction (Y2) and mediating variable, Organizational Learning (Z). To answer these objectives, this study uses explanatory research methods. The population in this study were all employees of PT. Pupuk Kaltim with a total sample of 207 respondents. Data was obtained using proportional stratified random sampling method and then the data was tested using the partial least square (PLS) statistical method. The results showed that based on the 7 (seven) hypotheses tested, there were 6 (six) hypotheses that had a significant influence on the variables tested. In this study, there is one hypothesis that does not have a significant influence, namely the influence of Transformational Leadership on Employee Job Satisfaction.

Keywords: Transformational Leadership, Information Technology, Organizational Learning, Employee Job Satisfaction

1. Introduction

The phenomenon of business competition occurs in various sectors and determines the fate of the company's business continuity. Many challenges that will be faced by organizations in the current era of disruption, especially in the Industrial Age 4.0, namely challenges within the organization itself, domestic challenges and global challenges. The fluctuating global financial situation and the turmoil of geopolitical conflict also have an impact on Indonesia's economic condition. In addition to global challenges, Indonesian companies also face challenges within the country, such as the availability of dwindling natural resources, an unfavourable internal security situation, fluctuating macro, and microeconomic conditions. These challenges greatly affect competitiveness for business continuity.

The industrial era is now entering the Industrial Age Era; the atmosphere is very different from the previous industrial era. In Era Industry 4.0 industry was developed with digitalization and automation based entirely on Information Technology. Internet of things, robotization, and artificial intelligence is something that commonly used in the Industrial Age 4.0. In the Industrial Age 4.0 employees have characteristics that are very different from the previous era. Employees feel they want to be treated as individuals with their own values and goals, not as a factor of production. Employees in this era generally tend to do knowledge-based work and don't like routine work. Functional hierarchical organizations such as those developed by Winston Taylor since the Industrial Age 2.0 have become less suitable for the current situation so that companies need organizational transformation. Companies in facing the challenges of the disruption era have had time to say goodbye to the functional hierarchy and welcome a new structure that underlies work to knowledge and creative, talented and energetic people who work for joint missions (Kolind & Botter, 2017).

Leadership and competent human resource factors are the main factors and very influential in the organizational learning process and organizational change, so that they can be highly competitive. Leadership is one of the main factors in bringing positive change to the organization. If there is no leadership in the organization, employees will not change in the desired direction and can even experience negative changes. Leadership skills are also able to move employees in the right direction, in accordance with the

organization's vision and mission and motivate them to continue to improve performance and innovate.

Factors of human resources that are competent in accordance with company standards will have a positive effect on the effectiveness of the learning process and organizational change in order to improve competitiveness. Benchmarks for learning success and organizational change can be seen from employee job satisfaction (Robbins, 2006).

Generation gap can also be a challenge in company's human resources. The current generation gap is between the baby boomer generations, X generation, and millennial who have different perspectives in running the organization. Millennial have very different characters from the previous generation. When baby boomers are retiring, X and millennial generations will gradually begin to take leadership in running the organization. The generation of baby boomers referred to here is the generation with births from 1946 - 1964, generation X with births from 1965 - 1979, millennial or called Generation Y with births in 1980 - 1995 (Ubl et al 2017).

The originality of this research lies in the selection of PT. Pupuk Kaltim as the object of research. PT. Pupuk Kaltim as one of the strategic and vital industries that play an important role in realizing national food sovereignty is also facing various challenges both internally and externally. PT. Pupuk Kaltim which is a member of Holding PT. Pupuk Indonesia (Persero) is listed as the largest producer of Ammonia and Urea in Indonesia with urea production capacity of 3,4 million tons per year, ammonia of 2.7 million tons and NPK of 350 thousand tons per year in which 40% of Urea total production capacity is allocated to more than 2/3 of Indonesia's territory, especially the eastern region (Pupuk Kaltim, 2017).

To maintain competitiveness and anticipate challenges, PT. Pupuk Kaltim needs to do the learning process. PT. Pupuk Kaltim has facilitated the existence of information technology to improve the efficiency of existing business processes. PT. Pupuk Kaltim has made various efforts to build the image and existence of companies at national and international levels. PT. Pupuk

Kaltim has received several reputable awards at national and international levels such as SNI Award for Platinum 2016 and 2017, 2017 Gold Propernas, and IFA Protect & Sustain 2017 from the International Fertilizer Association with the title of Product Excellence Stewardship. The award was the first to be received by the fertilizer industry in Indonesia. Some of the other awards that were also obtained include The Gold Predicate Factory Security System, the Platinum and Gold Innovation Award, the CSR Award, the Annual Report Award, the Sustainability Award, and others. By obtaining a number of awards, it can increase customer confidence in the competency and superiority of PT. Pupuk Kaltim both at national and international levels. This is the result of continuous organizational learning processes that are supported by all work units of the company.

Based on a number of reasons stated above, research will be conducted in depth on the conditions of the organization of PT. Pupuk Kaltim from the perspective of employees. The research scheme in this dissertation will identify how the influence of transformational leadership on organizational learning at PT. Pupuk Kaltim in employee perceptions and their impact on employee job satisfaction. This study was conducted to analyze the effect of exogenous variable: Transformational Leadership (X1) and Information Technology (X2) with endogenous variable: Employee Satisfaction (Y) and the mediating variables: Organizational Learning (Z). The objectives of this study are:

1. Test and explain the influence of Transformational Leadership on Employee Job Satisfaction.

2. Test and explain the influence of Information Technology on Employee Job Satisfaction.

3. Test and explain the influence of Transformational Leadership on Organizational Learning.

4. Test and explain the influence of Information Technology on Organizational Learning.

- 5. Test and explain the influence of Organizational Learning on Employee Satisfaction.
- Test and explain the influence of Transformational Leadership on Employee Job Satisfaction if mediated with Organizational Learning.

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7. Test and explain the influence of Information Technology on Employee Job Satisfaction if mediated with Organizational Learning.

2. Literature Review

2.1. Transformational Leadership and Employee Job Satisfaction

Research conducted by Atmojo (2012) on the effect of transformational leadership on employee job satisfaction states that transformational leadership has a significant effect on employee job satisfaction. Metwally and El-bishbishy (2014) also conducted research aimed at identifying transformational leadership relationships and Employee Satisfaction in one multinational company. From the study, the findings of a significant relationship between transformational leadership and employee job satisfaction were obtained. Transformational leadership shows an attitude that inspires, motivates, and stimulates employees so that it impacts on job satisfaction. Transformational leadership will help employees to be more creative, innovative, and provide new ideas that will lead to the development of the company to become more competitive and able to adapt to environmental changes.

2.2. Information Technology and Employee Satisfaction

Research conducted by Mazidi, Amini, and Latifi (2014) regarding the effect of information technology on employee job satisfaction, customer service, and company performance states that information technology has a positive influence on employee job satisfaction and company performance. Ratna and Kaur (2016) also conducted a study aimed at empirically examining the effect of information technology on several work-related factors, including employee job satisfaction. From the research, the findings of information technology have a very positive effect on employee job satisfaction.

2.3. Transformational Leadership and Organizational Learning

Research conducted by Atwood Mora & Kaplan (2010) regarding transformational leadership and organizational learning resulted in the finding that transformational leadership has a positive influence on organizational learning. Likewise, with research

conducted by Kurland, Peretz, and Hertz-Lazarowit (2010) which says that transformational leadership has a significant influence on organizational learning.

2.4. Information Technology and Organizational Learning

Research conducted by Zhang and McCullough (2002) regarding information technology and organizational learning resulted in findings that organizational learning has a positive influence on information technology. Bharadwaj (2000) also states that information technology is influenced by organizational learning.

2. 5. Organizational Learning and Employee Satisfaction

Research conducted by Rose et al (2009) which aims to determine the effect of organizational learning on employee job satisfaction results in findings that organizational learning has a positive influence on employee job satisfaction. Uniati (2014) also conducted research on the effect of organizational learning on employee job satisfaction. From the research, it was found that organizational learning had a positive influence on employee job satisfaction.

Based on the discussion above, the following hypotheses can be proposed:

- H 1: Transformational leadership has a significant effect on Employee Job Satisfaction
- H 2: Information Technology significantly influences Employee Job Satisfaction
- H 3: Transformational leadership significantly influences organizational learning
- H 4: Information Technology has a significant effect on Organizational Learning
- H 5: Organizational Learning has a significant effect on Employee Job Satisfaction
- H ₆: Transformational Leadership significantly influences Employee Job Satisfaction in Organizational Learning mediation
- H 7: Information Technology significantly influences Employee Job Satisfaction in Organizational Learning mediation

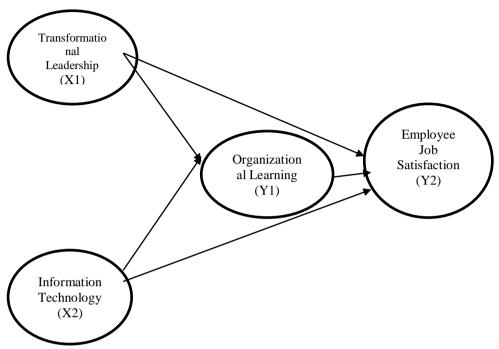


Figure 1: Research Framework

Figure 1 of the research framework is to show the relationship between variables of Transformational Leadership, Information Technology, Organizational Learning and Employee Job Satisfaction.

3. Methodology

The type of data in this study is to use primary data in the form of questionnaires with closed questions and distributed electronically through company emails by attaching a cover letter sent to each employee's personal email without including the name of the researcher to obtain results that are independent of this study. Furthermore, respondents were given the opportunity for 2 (two) weeks to fill in all the questions without being missed. For employees who do not fill out the questionnaire will be emanated automatically by the system (there is a warning for those who have not responded) to the questionnaire can be collected as a whole. After being declared complete and validated by the system, the results of the questionnaire were processed randomly by the system by

ignoring grade I and II employees who were seconded to subsidiaries or foundations to obtain samples representing Grade I to Grade III. Based on the *Human Resources Information System* (HRIS) of PT. Pupuk Kaltim, employees consist of grade I to grade VII. The population studied in this study was 429 people including Grade I employees (General Managers or staff equivalent to General Managers), Grade II (Managers and equivalent staff Manager) and Grade III (Superintendent or Superintendent equivalent staff).

This study uses samples taken by probability sampling method where each unit in the population has the opportunity or in other words, each sample has the same possibility to be chosen (Ethical, et al 2015). The number of samples was determined using the Slovin formula so that the sample size was obtained by 207 samples. The number of samples in detail is shown in the table below:

No	Grade	Total Population	Number	of
			Samples	
1	Grade I	39	19	
2	Grade II	112	54	
3	Grade III	278	134	
Total		429	207	

Table 1. Research Populations and Samples

This research is designed to answer the problems that have been formulated, research objectives, and test hypotheses. This study includes explanatory research, which is a study that seeks to explain the relationship between variables through testing hypotheses. The data collected is cross-sectional data (research conducted at one time and one time, no follow-up), to find the relationship between the independent variable (risk factor) and the dependent variable (effect).

The research approach used is a quantitative approach. The process of quantitative approach begins with theory, which then uses deductive logic to be derived into a research hypothesis that is accompanied by measurement and operationalization of variables. Furthermore, generalizations are based on statistics so conclusions can be

drawn as a result of the research findings. This research was conducted to explain the effect of Transformational Leadership, Organizational Learning, and Employee Job Satisfaction. To answer the formulation of the problem, the objectives to be achieved and test the hypothesis, this study was designed with the following designs:

- a. In terms of data collection techniques, this study includes a type of survey research, namely research that takes samples from a population using a questionnaire as the main data collection tool (Singarimbun in Singarimbun and Effendi (eds), 2008).
- b. In terms of the intentions to be achieved, this research includes explanatory research, which is a study that seeks to explain between variables through hypothesis testing (Singarimbun in Singarimbun and Effendi (eds), 2008).
- c. Based on the data analysis, this research includes analytical research, namely research that analyzes sample data with inductive statistics with descriptive statistics that are generalized to population conclusions (Arikunto, 2002).

4. Results and Discussion

4.1. Validity and Reliability tests

Testing of convergent validity describes the size of the correlation between indicator scores and scores of latent variables seen from the value of *combined loadings* and *cross-loadings* or probability values. *Factors loading* value greater than 0.5 or probability value smaller bags of alpha 5% showed that the indicator is valid and can be included in the model. The results of the validity test are in Table 2.

	Transformational	Information	Organizational	Employee
	leadership	Technology	Learning	Satisfaction
X111	0.660			
X112	0.677			
X113	0.723			

Table 2: Validity Test

	Transformational	Information	Organizational	Employee
	leadership	Technology	Learning	Satisfaction
X121	0.783			
X122	0.816			
X123	0.837			
X124	0.891			
X125	0.840			
X126	0.872			
X127	0.706			
X128	0.860			
X131	0.860			
X132	0.822			
X133	0.795			
X134	0.522			
X141	0.878			
X142	0.823			
X143	0.855			
X144	0.893			
X145	0.743			
X146	0.927			
X151	0.927			
X152	0.927			
X153	0.927			
X154	0.927			

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0.684

0.796

0.769

0.859

0.857

X155

X156

X211

X212

X213

X221

X222

0.927

0.927

	Transformational	Information	Organizational	Employee
	leadership	Technology	Learning	Satisfaction
X223		0.866		
X224		0.854		
X231		0.837		
X232		0.863		
X233		0.856		
Y111			0.822	
Y112			0.865	
Y113			0.810	
Y114			0.853	
Y115			0.834	
Y116			0.826	
Y117			0.860	
Y121			0.858	
Y122			0.859	
Y123			0.865	
Y124			0.873	
Y125			0.839	
Y131			0.846	
Y132			0.821	
Y133			0.849	
Y134			0.826	
Y211				0.343
Y212				0.663
Y213				0.675
Y221				0.771
Y222				0.723
Y231				0.774
Y232				0.851
Y233				0.811

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© Centre for Indonesian Accounting and Management Research Postgraduate Program, Brawijaya University Based Table 2, the result of convergent validity for variables Transformational leadership shows the value of *loading factor* > 0.5. Thus it can be concluded that the measurement of Transformational Leadership indicators meets the convergent validity test, and is stated to be significant in measuring the variables of Transformational Leadership. The results of the convergent validity of Information Technology variables show the value of *loading factor* > 0.5.

So it can be concluded that the measurement of Information Technology variables fulfils the convergent validity test and is stated to be significant in measuring Information Technology variables. The results of the convergent validity of Organizational Learning variables show the value of *loading factor* > 0.5. So that it can be concluded that the measurement of the Organizational Learning variable meets the convergent validity test and is stated to be significant in measuring the Organizational Learning variable. The results of testing the convergent validity of the Employee Job Satisfaction variable which continuously shows the value of *loading factor* > 0.5. However, there is one indicator that has a value of *loading factor* < 0.5. So it can be concluded that the measurement of indicators for the variable Employee Job Satisfaction does not meet the convergent validity test and is declared not significant in measuring the variable Employee Job Satisfaction.

Reliability testing is done by measuring the level of reliability of the indicator group towards the latent variables formed. The measurement can be seen from the value of *Cronbach's alpha coefficients* and *Composite reliability coefficients*, where both the *Cronbach alpha* value and *composite reliability* value is greater than 0.6 indicating the level of reliability of the indicator group towards latent variables. H acyl Test Reliability is presented in Table 3.

	Composite Reliability	Cronbach's Alpha
X1	0.984	0.982
X2	0.955	0.948
Z	0.975	0.973
Y	0.890	0.855

Table 3: Reliability Test

Based Table 3, the reliability test results of composite variable Transformational Leadership shows the value of 0,984; Information Technology variable shows a value of 0.955, the Organizational Learning variable shows a value of 0.975 and the Employee Job Satisfaction variable shows a value of 0,890; it shows that the analysis results have high reliability because the composite reliability value obtained > 0.6. The test results show Cronbach alpha values and composite reliability also have values more than 0.6 for each variable, so it can be concluded that all construct indicators meet the reliability test.

To test the validity of each variable is done by comparing the value of the square root of AVE by Correlation between Variables if the value of the square root of AVE is higher than the other correlation values between the construct, it shows that these variables have high discriminant validity. The results of the discriminant validity test are presented in Table 4.

	Transformatio nal Leadership	Information Technology	Organizational Learning	Employee Satisfaction	
Transformational	(0.833)	0.457	0.769	0.526	
Leadership	()				
Information	0.457	(0.826)	0.608	0.583	
Technology					
Organizational	0.769	0.608	(0.844)	0.670	
Learning					
Employee	0.526	0.583	0.670	(0.717)	
Satisfaction					

Table 4: Comparison of AVE Square Roots with Inter-Variable Correlations

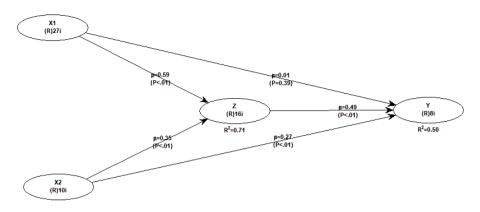
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Based on Table 4, the square root value AVE Transformational Leadership is 0.833. This value is higher than the value of the correlation between Transformational Leadership and Information Technology of 0.457, Transformational leadership with Organizational Learning amounting to 0.769 and Transformational Leadership with Employee Job Satisfaction of 0.526. The value of square root AVE Information Technology is 0.826. This value is higher than the value of the correlation between Transformational Leadership and Information Technology of 0.457, Information Technology with Organizational Learning of 0.608 and Information Technology with Employee Job Satisfaction of 0.583. The value of square root AVE Organizational Learning is 0.844. This value is higher than the value of the correlation between Transformational Leadership and Organizational Learning of 0.769, Information Technology with Organizational Learning is 0.608 and Organizational Learning with Employee Job Satisfaction of 0.670. Square root value AVE Employee Job Satisfaction is 0.717. This value is higher than the value of the correlation between Transformational Leadership and Employee Job Satisfaction of 0.526, Information Technology with Employee Job Satisfaction of 0.583 and Organizational Learning with Employee Job Satisfaction of 0.670. Thus it shows that the variables of Transformational Leadership, Information Technology, Organizational Learning, and Employee Job Satisfaction have high discriminant validity.

4.2. Partial Least Square Analysis

In *partial least squares analysis* (PLS) the WarpPLS program is used. The following is a picture of the PLS model as shown in Figure 2:





Information:

- X1: Transformation Leadership
- X2: Information Technology
- Z: Organization Learning
- Y: Employee Satisfaction

Based on data processing using WarpPLS it has produced R-Square values as shown in Table 5.

Table 5: Value of *R-Square*

Variable	R- Square
Transformation Leadership(X1), Information	0.711
Technology (X2), Organizational Learning (Z)	0.711
Transformational Leadership Kep (X1),	
Information Technology (X2), Organizational	0.498
Learning (Z), Employee Satisfaction (Y)	

Value of *R-Square* the influence of Transformational Leadership and Information Technology on Organizational Learning by 0.711, can be interpreted that Organizational Learning can be explained by Transformational Leadership and Information Technology

by 71.1% and the remaining 28.9% is explained by other factors that are not included in the study. Value of *R-Square* Influence Transformational Leadership and Information Technology of the Employee Satisfaction through Organizational Learning of 0,498. This can be interpreted that the Employee Satisfaction can be explained by the Transformational Leadership, Information Technology and Organizational

Learning by 49.8% and the remaining 50.2% explained by other factors which not included in the study.

Based on the results of the model match test, the proposed conceptual framework meets the requirements or can be used as a measurement model in this study. The results of the *inner-model* test *are* presented in Table 6.

Hypothesis	Inter-Variable Relationships		Path coefficient	SE	P-value	Information	
H1	$X1 \rightarrow$	Y		0.013	0.049	0.394	Not Significant
H2	$X2 \rightarrow$	Y		0.267	0.047	< 0.001	Significant
H3	$X1 \rightarrow$	Ζ		0.595	0.045	< 0.001	Significant
H4	$X2 \rightarrow$	Ζ		0.348	0.046	< 0.001	Significant
H5	$Z \rightarrow Y$	<i>l</i>		0.493	0.046	< 0.001	Significant
H6	X1	\rightarrow	Y	0.293	0.033	-	-
	through Z						
H7	X2	\rightarrow	Y	0.172	0.034	-	-
	through Z						

Table 6: Inner-Model Testing Result

Based on Table 6, it can be seen that in this study there were 7 (seven) hypotheses, of which 6 (six) hypotheses had significant results because the *p*-value was less than 0.05 (α) and 1 (one) hypothesis was not significant because the *p*-value was more than 0.05 (α). This is because the distribution of age of respondents above 48 years and the age of productivity working above 25 years is 69.08%. The description of testing the *innermodel* can be stated in the following information:

- 1. Transformational Leadership (X1) does not significantly influence Employee Job Satisfaction (Y) at α of 5% (*p*-value = 0.394). The coefficient is positive but not significant. This shows that there is no direct relationship between Transformational Leadership and Employee Job Satisfaction.
- 2. Information Technology (X2) has a significant effect on Employee Job Satisfaction (Y) at α of 5% (*p*-value <0.001). The coefficient is positive. This shows that there is a direct relationship in the same direction, so the higher the value of Information Technology the higher the value of Employee Job Satisfaction.
- 3. Transformational Leadership (X1) has a significant effect on Organizational Learning (Z) at α of 5% (*p*-value <0.001). The coefficient is positive. This shows that there is a direct relationship, so the higher the value of Transformational Leadership the higher the value of Organizational Learning.
- 4. Information Technology (X2) has a significant effect on Organizational Learning (Z) at α of 5% (*p*-value <0.001). The coefficient is positive. This shows that there is a direct relationship in the same direction, so the higher the value of Information Technology the higher the value of Organizational Learning.
- 5. Organizational Learning (Z) has a significant effect on Employee Job Satisfaction (Y) at α of 5% (*p*-value < 0.001). The coefficient is positive. This shows that there is a direct relationship, so the higher the value of Organizational Learning the higher the value of Employee Job Satisfaction.
- 6. Transformational Leadership (X1) has a greater influence on the Employee Satisfaction (Y) if mediated by Learning Organizations (Z) of 0.293 compared to a direct relationship of the Transformational Leadership to the Employee Job Satisfaction at 0.013. This means Employee Job Satisfaction will increase more if through the Organizational Learning process first. Organizational Learning is the perfect mediation to increase Employee Job Satisfaction.
- Information Technology (X2) has a smaller influence on Employee Job Satisfaction (Y) if mediated by Organizational Learning (Z) of 0.172 compared to Information Technology's direct relationship to Employee Job Satisfaction of 0.267. This means that there are organizational learning indicators that conflict

with Information Technology so that it can reduce the influence of Information Technology on Employee Job Satisfaction.

5. Conclusions and Implications

From this discussion and interpretation of the above, it can be concluded that transformational leadership does not have a significant impact on organizational learning. The characteristics of transformational leaders in delegating tasks or corporate strategies cannot be accepted directly by employees.

Information Technology has a significant influence on employee job satisfaction. Through the existence of reliable information technology can support the performance of employees to provide high-quality products and provide the best service for consumers. In addition, the existence of information technology also helps employees to deal with the complexity of work more effectively. Increased productivity through the existence of information technology will be to create a sense of satisfaction to the employees through a workflow that is more compact, flexible, and current.

Transformational leadership has a significant influence on Organizational Learning. Transformational leadership role in creating and realizing the organization's culture by stimulating learning environment for reflective and critical thinking, as well as play an active role in decision making. Characteristics of leaders are expected to be able to convey the company's plans and strategies to run well so as to encourage more effective organizational learning. Respondents are very concerned about transformational leadership styles, especially regarding indicators that value achievement and inspire a shared vision that is felt to be good enough in the company.

Information technology has a significant influence on organizational learning. Information technology that is increasingly modern and easily accessible is able to encourage the process of organizational learning in a better direction. Respondents saw the existence of telecommunications equipment as good, but hardware and software still needed to be improved. The rapid development of technology must be understood and evaluated properly and is expected to synergize with the organizational learning process. If information technology is constantly updated and reliable, the learning process will be applied effectively and employees have the convenience to access the knowledge, experience, and ideas of other employees.

Organizational learning has a significant influence on employee job satisfaction. Organizational learning formed by companies that are structured, systematic, and can be targeted will be able to encourage employee job satisfaction. This research proves that organizational learning carried out by companies, directly or indirectly interacting with employees has created a more pleasant working atmosphere, thus creating an effective working atmosphere for employees to carry out their responsibilities. In addition, the positive atmosphere of organizational learning can create a collaborative culture between each employee that supports the organization to continue to learn and better prepare for business competition.

Transformational leadership has a considerable influence on Employee Job Satisfaction if through a learning organization. Through an ongoing learning process for all employees, it can create a collaborative, creative, innovative and mutually supportive work atmosphere to improve self-competence and employee job satisfaction for better organizational progress. Learning can be done independently or in groups such as continuing school to a higher level, attending seminars, training, conferences, *Focus Group Discussion* (FGD), *e-learning* and so on. Leaders who apply style Transformational leadership has a vision and vision that is far ahead, sometimes its thinking cannot be understood directly by some employees, so learning is needed so that employee competencies increase and understand what is meant by the leader.

Information technology has a smaller influence on employee job satisfaction through organizational learning compared to the direct relationship between information technologies to employee job satisfaction.

6. Limitations and Recommendations for Future Studies

The method of data retrieval in this study has a limit where the distribution of questionnaires is only through the *survey link* to the email of each respondent using the company's intranet network. Respondents who are outside the office or outside the city will experience problems in accessing the *survey link*. The *alert system is* applied for respondents who have not filled out the questionnaire, allowing respondents to answer

the *survey* by delegating to others such as colleagues or subordinates which is difficult for researchers to control. Researchers assume that all respondents have understood the question on the questionnaire, but the distribution of questionnaires through the *survey link* allows to provide a different understanding of each respondent because there is no prior explanation about the contents of the questionnaire. For further research, it is necessary to add employee performance variables as endogenous variables to be further investigated in order to prove the effectiveness of the relationship between employee job satisfactions on employee performance.

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