

## Analysis of the Factors Influencing an Enhance Productivity of Lecturers in Batam City

Indrayani<sup>1</sup>, Damsar<sup>2</sup>

<sup>1</sup>Universitas Batam, Indonesia

<sup>2</sup>Universitas Andalas, Indonesia

[indrayani@univbatam.ac.id](mailto:indrayani@univbatam.ac.id)

### Abstract

*The purpose of this study was to investigate the effect of the work environment and self-efficacy both partially and simultaneously on the work productivity of lecturers at the Universities in Batam City. The analysis employed is associative analysis, and the research method is quantitative, in which the sample includes lecturers at four universities in Batam City, including Universitas Batam, Universitas Ibnu Sina, Universitas Universal, and Universitas Riau Kepulauan. The sampling methodology employs the stratified random sampling technique, a sampling method that takes into consideration the levels or strata in the population. This technique is used when the population comprises members or elements that are not homogeneous and stratified proportionally such that each stratum must be represented in the sample. Samples were collected from each of the two study programs at each institution, namely, Management and Accounting, with the functional position group of Head Lecturer with Lecturer, therefore the number of samples in this study was 40 respondents. The findings of this study show that: 1) the work environment has a partial and significant effect on work productivity; 2) self-efficacy has a partial and significant effect on work productivity; and 3) the work environment and self-efficacy both have a positive and significant effect on work productivity. The adjusted R square value of 0.884 can be called the coefficient of determination. This indicates 0.884 (84.4 percent) of work productivity may be gained and described by the work environment and self-efficacy. The other 15.6% can be explained by variables outside the model that were not explored.*

### Keywords

work environment; self efficacy; work productivity



## I. Introduction

Human resources are now particularly concerned with optimum workplace conduct in any organization in which they are employed. This, of course, necessitates that human resources be more interactive and possess more competence and skill in conducting management activities inside the internal environment of the organization in order to achieve a common goal that is defined by the business itself. With the best work procedures followed by all of the company's current employees, the company will be able to increase its productivity gradually and successfully, as predicted, and deal with problems in a quick, accurate, and efficient way. Human Resources (HR) is the most important component in a company or organization to run the business it does. Organization must have a goal to be achieved by the organizational members (Niati et al., 2021). Development is a change towards improvement. Changes towards improvement require the mobilization of all human resources and reason to realize what is aspired (Shah et al, 2020). The development of human resources is a process of changing the human resources who belong to an

organization, from one situation to another, which is better to prepare a future responsibility in achieving organizational goals (Werdhiastutie et al, 2020).

The principle is that to achieve good work productivity for the university, the lecturers must be able to contribute more and significantly to the university in carrying out management activities that exist in an internal environment to have a positive effect on the creation of common goals for the company or organization. Productivity is a comparison of the outcomes accomplished and the involvement of workers per unit of time or a quantity of products or services that may be produced depending on a person, group, or individual employee within a particular amount of time (Sedarmayanti, 2018).

In this regard, lecturers will predominate, and they play an important role in assisting universities to carry out programs that have been prepared to be achieved based on forecasting and in-depth analysis from various parties for the progress of the university. They are able to survive in today's challenging conditions by understanding the conditions of the workplace and developing self-efficacy.

With a work atmosphere that fosters each lecturer's self-efficacy, the institution will be able to cultivate human resource competence that will enable them to give the best aspects and components. This is beneficial for advancing universities not only on a small scale but also in their ability to compete with universities from outside the region, including the existence of lecturers who are competitive in competing and capable of carrying out the tri-dharma of higher education according to the predetermined portion and standardization. In order for colleges to be able to compete with other universities, attaining the best accreditation and other factors that stimulate the growth and productivity of universities is a common goal.

Utilization of more interactive and creative lecturers today will provide concrete evidence of the integrity of the suitability of practice and theory, which must be combined with each other in order to create a balance of understanding for students in the process of teaching and learning on the campus.

This will be generated by the presence of a self-efficacy of each lecturer in the capacity to deliver competitive instruction, allowing students to have a strategic mentality with optimal and effective approaches to have genuine consequences for sustainable everyday life. The productivity of lecturers will have extraordinary benefits for the university, providing an important impetus for the development of the university with productive and innovative lecturers that enable them to get out of their comfort zones in teaching, researching, and serving the community

To address this challenge, this study therefore aims to: 1) to investigate and analyze the work environment's partially positive and significant effect on the work productivity of lecturers at universities in Batam City; 2) to investigate and analyze whether self-efficacy partially has a positive and significant effect on the work productivity of lecturers at universities in Batam City; and 3) to investigate and analyze whether the work environment and self-efficacy simultaneously have a positive and significant effect on the work productivity of lecturers at universities in Batam City.

The following are the theoretical and practical advantages of this study: 1) For organizations, as a consideration for the company or agency involved in making decisions, particularly about the work environment and self-efficacy of lecturers' work productivity at universities in Batam City; 2) For Researchers: Adding insight and knowledge about human resources, particularly about phenomena related to the work environment and self-efficacy of lecturers' work productivity at universities in Batam City; 3) For Future Research, as a reference material to conduct research, especially those related to the problem of the work environment and self-efficacy of lecturers' work productivity at universities in Batam City.

## II. Review of Literature

### 2.1. Work environment

Good management at work is one method for navigating the management process in the workplace. Obviously, an employee must have a suitable, pleasant, and secure workplace in order to perform managerial duties. According to Sedarmayanti (2015), the work environment is comprised of the overall tools and materials encountered, the work setting in which an individual works, his/her work practices, and both individual and group work arrangements. In other words, anything in the workplace that may impede the employee's ability to accomplish their tasks. The work environment is a location where workers may do tasks in line with their company's instructions. A good work atmosphere will make employees feel secure and at ease, allowing them to do their best job.

According to Afandi (2018), the work environment encompasses all aspects of the human resource environment that have a significant impact on the performance of activities, such as temperature, humidity, ventilation, lighting, noise, workplace cleanliness, and the sufficiency of work equipment. The work environment will influence the emotional experience of the employee. The work environment is characterized by the general tools and materials encountered, the setting in which people operate, and both individual and group work practices. The work environment is the whole set of work facilities and infrastructure around workers who are doing work and which might have an impact on the execution of the activity (Sutrisno, 2016). Indicators of the work environment include job comfort, job security, coworker relationships, and work facilities.

### 2.2. Self-efficacy

Self-efficacy, according to Laura (2013), is a person's perception that he/she can handle a circumstance and generate numerous good and helpful outcomes. This implies that self-efficacy is related to a person's conviction that influences their level of motivation. Moreover, self-efficacy, according to Feist & Gregory (2014), is the confidence in one's capacity to exert some sort of control over one's own well-being and environmental occurrences. A person's self-efficacy is a conviction that influences his or her motivation (Saptono, 2015).

Self-efficacy is crucial to a person's human resources since self-confidence is essential for future employment opportunities. It is also related to a person's perception of their own skills in a given sector. With confidence in one's own talents, it is envisaged that the pattern of interest in human resources would expand. It implies that self-efficacy indicates belief in one's capacity to do a task, which in turn generates the drive to take action or not. Self-efficacy is also related to an individual's belief in their ability to take the necessary action to achieve the desired outcome.

One of the best such instance of high self-efficacy is having an optimistic attitude. A positive mood can improve the ability to process information more efficiently. Having the thought that failure is not something that is detrimental but instead motivates one to do better. On the other hand, individuals with low self-efficacy that is, having a pessimistic attitude or a negative mood, increase the likelihood of a person becoming angry, feeling guilty, and magnifying their mistakes. Self-efficacy makes a difference in the way to think, feel, and act. Self-efficacy beliefs affect the choices made and the actions achieved by individuals.

According to Wening (2013), belief in self-efficacy will be able to determine how much effort an individual can make, as well as how long they will have the ability to survive in the face of unfavorable situations. There are several factors that influence self-

efficacy (Bandura, 2015), namely: the nature of the task at hand; certain situations or types of tasks that require more difficult and heavy performance than other task situations; external incentives; and incentives in the form of rewards given by employees. One's success in mastering or carrying out a task is reflected on by others. In such instances, giving praise, material, and others, status or individual roles in the environment.

The degree to which a person's social status affects others' self-esteem and self-confidence depends on information about self-efficacy. A person's self-efficacy will increase or decrease if he gets positive or negative information about him/herself. The indicators of the self-efficacy variable are as follows: cognitive process, selection process, motivation process, and affection process.

### **2.3. Work productivity**

As per Sutrisno (2017), work efficiency is a psychological attitude, which means always looking for a mental attitude to improve things that already exist. There are individuals who believe that today they will do better than yesterday, and tomorrow they will do better than today. Technically, productivity is the comparison between the output (results) and the total resources used (input) (Elbandiansyah, 2019). Productivity necessitates a comparison between the accomplished outcomes and the work per unit of time. Productivity is an essential aspect in determining a company's success. If staff productivity consistently grows by large amounts from time to time, the organization will easily achieve its objectives. Especially in the more intense competition, all organizations are trying to optimize employee performance by continually raising productivity in order to survive.

According to Busro (2018), work productivity is the capacity of an individual or group to generate products and services within a certain amount of time or in line with a predetermined plan. Productivity is the mental attitude of human resources or workers that reflects their capacity to perform tasks on the job and the outcomes gained depending on the resources available. Productivity is a comparison of the outcomes accomplished and the involvement of workers per unit of time or the number of products or services that may be produced by a person, group, or individual employee within a certain time period (Sedarmayanti, 2018). Productivity is the attitude or conduct of human resources that allows them to create something that has been defined by the firm according to the quality and time that has been established in order to help the organization accomplish its objectives. Productivity can be affected by a number of factors, such as management, how committed people are to the success of the business, how well the vision and goal are kept and carried out, and how well people come up with ways to help the organization succeed.

Team members are responsible for executing those strategies, the motivations, reasons, and drives that make people act. Repeated human actions become habits. Motivation can lead to good actions and behavior from every human being or workforce. Furthermore, these good behaviors and actions may support work productivity and ultimately benefit the progress of the organization; discipline behavior and one's actions in accordance with the demands and responsibilities; skills; one's ability to complete a job according to the time and/or energy she/he has; health and work environment, including physical working conditions (comfort, lighting, air circulation) and the relationship between workers (humorous, mutual cooperation, and mutual support).

If both conditions are good, productivity and work motivation will increase. On the other hand, unfavorable working conditions will adversely affect the health of the workforce, resulting in decreased productivity. Coupled with the risk of impact on other

work units or divisions. Indicators of work productivity variables are as follows: ability, increasing the results achieved, morale, and self-development.

Accordingly, the present study proposed some hypotheses as follows:

- H1: The work environment partially has a positive and significant effect on the work productivity of lecturers at universities in Batam City.
- H2: Self-efficacy partially has a positive and significant effect on the work productivity of lecturers at universities in Batam City.
- H3: The work environment and self-efficacy simultaneously have a positive and significant effect on the work productivity of lecturers at universities in Batam City.

### III. Research Method

This kind of study, which includes associative research, tries to investigate the influence or link between two or more factors. The quantitative methodology uses numerous current research findings and established theories to develop hypotheses, followed by empirical analysis to confirm the constructed hypotheses (Sugiyono, 2018).

#### 3.1 Sampling and data collection

The sample reflects the size and features of the population as a whole. The sampling methodology employs stratified random sampling, a sampling method that takes the levels or strata of the population into consideration. This method is used when the population has individuals or components that are not homogenous and proportionately stratified and each strata must be represented in the sample. In this study, 40 people with the job titles of Head Lecturer and Lector were chosen from the two study programs at each institution, which were Management and Accounting. The data gathered by questionnaires was in the form of a list of questions. The respondents were lecturers at universities in Batam City. Similarly, direct interviews with university lecturers in Batam City were conducted to collect data.

### IV. Result and Discussion

Software version 22. The research analysis model was multiple linear regression to test the hypotheses.

Equation: 
$$(1) Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

#### 4.2. Results Validity and reliability tests

**Table 1.** Validity test results

<b>Item-Total Statistics</b>				
<b>Work environment</b>	<b>Scale Mean if Item Deleted</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item-Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
P1.1	27.40	18.246	<b>.433</b>	.828
P1.2	27.35	18.079	<b>.482</b>	.822
P1.3	27.28	15.743	<b>.728</b>	.788
P1.4	27.35	15.515	<b>.698</b>	.792
P1.5	27.28	16.871	<b>.706</b>	.796
P1.6	27.43	17.789	<b>.497</b>	.820
P1.7	27.48	18.204	<b>.393</b>	.834

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P1.8	27.38	16.240	<b>.559</b>	.814
<b>Self-efficacy</b>				
P2.1	27.18	22.712	<b>.498</b>	.879
P2.2	27.05	20.664	<b>.656</b>	.864
P2.3	27.13	21.189	<b>.527</b>	.878
P2.4	27.30	19.600	<b>.786</b>	.850
P2.5	27.05	21.331	<b>.651</b>	.865
P2.6	27.30	20.318	<b>.684</b>	.861
P2.7	27.18	21.174	<b>.580</b>	.872
P2.8	27.18	19.122	<b>.782</b>	.850
<b>Work productivity</b>				
Y.1	27.48	17.128	<b>.470</b>	.820
Y.2	27.43	17.533	<b>.423</b>	.826
Y.3	27.35	15.977	<b>.578</b>	.806
Y.4	27.43	14.558	<b>.743</b>	.781
Y.5	27.33	16.225	<b>.641</b>	.799
Y.6	27.48	16.256	<b>.617</b>	.802
Y.7	27.33	17.456	<b>.430</b>	.825
Y.8	27.48	15.948	<b>.534</b>	.813

As depicted on the table, the results of the validity test on the variables work environment, self-efficacy, and work productivity are declared valid. This is due to the total corrected item-total correlation exceeding 0.03.

**Table 2.** Reliability test results

<b>Variables</b>	<b>Cronbach Alpha</b>	<b>Conclusions</b>
Work environment	0.832	Reliable
Self-efficacy	0.880	Reliable
Work productivity	0.829	Reliable

According to the table above, the findings of the reliability test for the work environment, self-efficacy, and work productivity are reliable. The reason behind this is that the Cronbach's alpha value is more than 0.6.

*Normality tests*

**Table 3.** Kolmogorve-Smirnov tests

<b>One-Sample Kolmogorov-Smirnov Test</b>		
		Unstandardized Residual
N		40
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.51566542
Most Extreme Differences	Absolute	.111
	Positive	.099
	Negative	-.111
Kolmogorov-Smirnov Z		.700
<b>Asymp. Sig. (2-tailed)</b>		<b>.711</b>
a. Test distribution is Normal.		
b. Calculated from data.		

The above table depicts the Kolmogorov-Smirnov normality test. It is called the asymptotic value. With sig. (2-tailed) 0.711, which is greater than 0.05, the data can be assumed to be normally distributed.

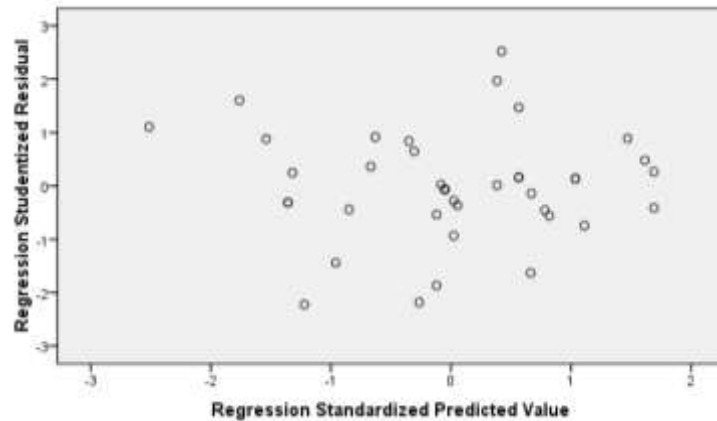
*Multicollinearity tests*

**Table 4.** Multicollinearity test results

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Work environment	<b>.388</b>	<b>2.577</b>
Self-efficacy	<b>.388</b>	<b>2.577</b>

Table 4 demonstrates that the work environment and self-efficacy variables have a tolerance value greater than 0.10 and a VIF less than 10, exempting this research from multicollinearity concerns.

*Heteroscedasticity tests*



**Figure 1.** Scatterplot

The scatterplot figure demonstrates that the data distribution does not exhibit any specific patterns and is not too spread out; hence, heteroscedasticity problems do not occur.

*Hypotheses test results*

**Table 5.** Partial test results

Model		t	Sig.
	(Constant)	<b>1.168</b>	<b>.250</b>
	Work environment	<b>9.077</b>	<b>.000</b>
	Self-efficacy	<b>2.078</b>	<b>.045</b>

The t-count for the work environment is 9.077, which is larger than 1.68 and significant at 0.000, indicating that the work environment has a positive and statistically significant influence on work productivity. The first hypothesis is thus accepted. In addition, the t-count for self-efficacy is 9.077, which is greater than the t-table value of 1.68 and significant at 0.045, indicating that self-efficacy has a positive and significant influence on work productivity. The second hypothesis is thus acceptable.

**Table 6.** Simultaneous test results

ANOVA <sup>b</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	725.183	2	362.591	<b>149.743</b>	<b>.000<sup>a</sup></b>
Residual	89.592	37	2.421		
Total	814.775	39			

a. Predictors: (Constant), Self efficacy, Work environment  
 b. Dependent Variable: Work productivity

Table 6 demonstrates that F-count 149,743 is higher than F-table 2.87 and the significance is 0.000. The conclusion is that the work environment and a person's sense of self-efficacy have a positive and significant effect on how productive they are at work. Therefore, the third hypothesis is accepted. The adjusted R square is 0.884, or 84.4 percent,



indicating that work productivity can be described by the work environment and self-efficacy, with the remaining 15.6 percent explained by unstudied factors outside the model.

### 4.3 Analyze

The findings of empirical testing to answer research questions and the first research hypothesis indicate that the work environment has a positive and statistically significant influence on work productivity. In addition, the confirmation of the second hypothesis suggests that self-efficacy has a positive and significant influence on work productivity. Work productivity is the capacity of an individual or organization to create products and services within a certain time frame or in line with a previously established plan. Productivity shows the mental attitude of human resources or workers, which might reflect the capacity of people to carry out tasks on the job and the outcomes gained based on available resources.

To confirm the proposed third hypothesis, the work environment and self-efficacy simultaneously have a positive and significant effect on work productivity. The condition of a productive work environment will have a positive impact on lecturers in carrying out work activities in accordance with the needs of the university. Existing lecturers will be required to be able to carry out several components in meeting the tridharma standards of higher education so that it will encourage universities to have accreditation as expected. The need for a work environment that is able to provide a sense of comfort and safety for lecturers to give their best. The work environment is the overall tools and materials encountered.

Every lecturer must have a high level of self-efficacy in carrying out competency activities in teaching and meeting the needs of students, as well as completing the components required to work for the university, in order to produce educators with better and higher ranks and groups within the university setting. Self-efficacy is assessed by a person's confidence in their ability to master a situation and generate a variety of positive and beneficial outcomes. Self-efficacy influences the intensity of a person's motivation. Self-efficacy may also affect how hard a person is willing to work and how long they can stay strong in bad situations.

## V. Conclusion

The findings of this study indicate that the work environment and self-efficacy variables influence the work productivity of lecturers in a partial and simultaneous manner. As a result, suggestions can be made regarding the work environment, such as lecturers' establishing more effective communication to discover all aspects of teaching support, such as grants, ranks, and other useful things to support the lecturers' work program. In self-efficacy, it is required to be able to give students unique and inventive instruction so as to cultivate future human resources who not only comprehend scientific concepts theoretically but also in practice. It is advised that future studies attempt to include significant characteristics and sectors inside the academic setting.

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