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WORK SPIRIT DETERMINATION, WORK RESPONSIBILITY, AND WORK FACILITIES WITH WORK MOTIVATION AS INTERVENING VARIABLES TO PERFORMANCE OF UNIVERSITY EMPLOYEES BATAM USING SEM-PLS (PARTIAL LEAST SQUARE)

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ABSTRACT--- *In this study, researchers use respondents' data, such as gender, age, and duration of work of respondents to be able to provide information about the characteristics of respondents. The questionnaire distributes as many as 65 respondents using census techniques. This study is the result of a field study to obtain questionnaire answer data which measures five main variables in this study, namely work morale, work responsibility, work facilities, work motivation, and employee performance. Data analysis with parametric and non-parametric statistics using SEM-PLS (Structural Equation Modeling-Partial Least Square) regarding research variables, instrument test, normality test, hypothesis test, and discussion of the results of hypothesis testing and Path Analysis. The study uses path analysis to test the pattern of relationships that reveal the influence of variables or a set of variables on other variables, both direct influence and indirect influence. The calculation of the path coefficient in this study is assisted by Smart PLS Ver 3.0. To find out the direct and indirect interactions between variables, it can be seen from the results of the calculation of the path coefficient and to determine the significance. The results of the study are as follows: the effect of the X3 variable on the X4 variable has a p-value of 0,000 <0,05 so it can be stated that the influence between X3 and X4 is significant. The effect of the X3 variable on the Y variable has a p-value of 0,000> 0.05 so it can be stated that the effect between X3 and Y is significant. The effect of the X4 variable on the Y variable has a p-value of 0.006> 0.05 so it can be stated that the influence between X4 and Y is significant. The effect of the X1 variable on the X4 variable has a p-value of 0.038 <0.05 so it can be stated that the influence between X1 and X4 is significant. The effect of the variable X1 on the Y variable has a p-value of 0.009> 0.05 so it can be stated that the influence between X1 and Y is significant. The effect of the X2 variable on the X4 variable has a p-value of 0.012 <0.05 so it can be stated that the effect between X2 and X4 is significant.*

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The effect of the X2 variable on the Y variable has a p-value of 0.008 <0.05 so it can be stated that the effect between X2 and Y is significant.

Keywords-- *work spirit, job responsibility, work facilities, work motivation, performance.*

I. INTRODUCTION

University of Batam (UNIBA) is an institution engaged in the field of education. University of Batam strives to provide high-quality education in systems[1][2], programs, activities, and human resources, according to the needs of industry activities nationally and internationally[3][4]. University of Batam is also a dynamic institution of higher education oriented to the era of globalization which was developed by organizing national and international education programs[5][6][7]. This institution is also able to develop partnerships that have competitiveness with higher education institutions from various developing countries[8].

University of Batam has the vision to become an international standard university in its systems, programs, activities, resources, and graduates who are able to follow the development of science and technology and can compete in meeting quality human resources in various fields in 2030[9][10][11]. University of Batam has the mission of organizing tri dharma of high school especially in education and teaching, research and community service, forming ethical and professional human resources in developing a conducive and dynamic academic atmosphere and culture, improving and completing educational facilities and infrastructure, improving management in a sustainable manner and increasing collaboration with various parties.

To achieve this goal, there are many factors that support, one of which is work spirit. Work spirit is the mental attitude of an individual or group that shows enthusiasm to carry out his work so that it encourages to be able to work together and be able to complete tasks on time with a sense of responsibility towards the work assigned to him. Every employee must have a high work spirit in order to achieve organizational goals. With the high work spirit, every employee will have a sense of responsibility in working. Work responsibility is to do the job completely, not to delay the time so that the work is more improved, quality and can be accounted for officially and legally[12]. Therefore, every employee must have a sense of responsibility in working to produce satisfactory performance. If the employee's performance can be realized well, it will support the achievement of objectives effectively and efficiently because it creates an atmosphere of accelerating the implementation of activities within University of Batam[13].

In achieving an agency's goals, tools or supporting facilities are needed to be used in daily activities at the agency. The facilities used are various forms, types and benefits, tailored to the needs, and capabilities of the agency. Work facilities are supporting facilities in physical corporate activities, are used in normal company activities, have a relatively permanent period of usefulness, and provide benefits for the future. Work facilities are very important for organizations or agencies because they can support employee performance, such as in the completion of work. Work facilities are also very influential in employee work results. With adequate facilities, employee motivation will arise at work. Motivation is a process including the responsibility of intensity, direction, and persistence of an individual for his efforts to achieve a goal. The importance of motivation because motivation is the thing that causes, channeling and supporting human behavior so that they want to work actively and enthusiastically in achieving optimal results and producing a satisfactory performance for the organization.

II.

III. RESEARCH METHOD

In this study, researchers used respondent data, such as gender, age, and length of work of respondents in order to provide information about the characteristics of respondents. Questionnaire distributed as many as 65. The discussion in this chapter is the result of field studies to obtain questionnaire answer data that measures five main variables in this study, namely morale, work responsibilities, work facilities, work motivation, and employee performance. Data analysis using parametric and non-parametric statistics using SEM-PLS (Structural Equation Modeling-Partial Least Square) regarding research variables, instrument testing, normality testing, hypothesis testing, and discussion of the results of hypothesis testing and Path Analysis. This study uses path analysis to examine patterns of relationships that reveal the effect of a variable or set of variables on other variables, both direct and indirect. The calculation of the path coefficient in this study is assisted by Smart PLS Ver 3.0. To find out the direct and indirect effects between variables, seen from the calculation of the path coefficient.

Population and Sample.

The population in this study were Batam University employees, totaling 65 people without looking at certain strata and task fields. Arikunto (in Riduwan, 2012: 210) argues that for mere annealing if the subject is less than 100, it is better to take all so that the research is population research. Because of population limitations, all members of the population were used as research samples, so this study used a saturated sample taken from the Census Technique using proportional random sampling.

IV. RESULT AND DISCUSSION

Internal consistency analysis is a form of reliability used to assess the consistency of results across items on the same test. Internal consistency testing uses composite reliability values with the criteria that a variable is said to be reliable if the composite reliability value is > 0.600 (Hair, Hult, Ringle, & Sarstedt, 2014).

Table 1: Internal Consistency Analysis. Source: Data Processing (2019).

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
X1	0.804	0.807	0.855	0.558
X2	0.820	0.807	0.864	0.549
X3	0.898	0.901	0.920	0.625
X4	0.869	0.876	0.898	0.527
Y	0.912	0.921	0.930	0.631

Based on the data of internal consistency analysis in the table above, the results show that variable X1 has a composite reliability value of 0.885> 0.600, then variable X1 is reliable, variable X2 has a composite reliability

value of 0.864> 0.600, variable X2 is reliable, variable X3 has a reliability value composite of 0.920> 0.600 then X3 variable is reliable, X4 variable has a composite reliability value of 0.898> 0.600 then X4 variable is reliable, Y variable has a composite reliability value of 0.930> 0.600 then Y variable is reliable.

Convergent Validity

Convergent validity is used to see the extent to which a measurement is positively correlated with alternative measurements of the same construct. To see an indicator of a construct variable is valid or not, seen from the outer loading value. If the outer loading value is greater than (0.4) then an indicator is valid. (Hair, Hult, Ringle, and Sarstedt, 2014).

Table 2: Convergent Validity. Source: Data Processing (2019)

Validity	X1	X2	X3	X4	Y
X1.1	0.719				
X1.2	0.749				
X1.3	0.735				
X1.4	0.728				
X1.5	0.701				
X1.6	0.777				
X1.7	0.718				
X2.1		0.755			
X2.2		0.736			
X2.3		0.728			
X2.4		0.800			
X2.5		0.715			
X2.6		0.773			
X2.7		0.794			
X2.8		0.795			
X3.1			0.829		
X3.2			0.869		
X3.3			0.813		
X3.4			0.838		
X3.5			0.777		
X3.6			0.772		
X3.7			0.714		
X4.1				0.719	
X4.2				0.734	
X4.3				0.783	
X4.4				0.849	
X4.5				0.819	
X4.6				0.709	

X4.7				0.762	
X4.8				0.702	
Y1					0.715
Y2					0.712
Y3					0.738
Y4					0.878
Y5					0.894
Y6					0.798
Y7					0.888
Y8					0.859

Based on the above table, it can be seen that the outer loading value for the variables X1, X2, X3, X4, and Y where the value of all items in the 5 questions tested is greater than 0.4 then all indicators on the 5 variables are declared valid.

Validity of Diskriman

Discriminant validity aims to assess an indicator of a constructed variable that is valid or not, by looking at the Value of Heterotrait - Monotrait Ratio of Correlation (HTMT) <0.90, then the variable has a good discriminant validity (valid) (Hair, Hult, Ringle, & Sarstedt, 2014).

Table 3: Discriminant Validity. Source: Data Processing (2019)

Variable	X1	X2	X3	X4	Y
X1					
X2	0.724				
X3	0.492	0.470			
X4	0.732	0.795	0.709		
Y	0.319	0.311	0.761	0.444	

Based on the above table, the correlation results obtained variables X1 with X2 of 0.724, the correlation of variables X1 with X3 of 0.492, the correlation of variables X1 with X4 of 0.732, the correlation of variables X1 with Y of 0.319. All variables have a correlation value <0.900 thus the correlation value of all variables is valid. The results of the correlation of variables X3 with X2 of 0.470, correlation of variables X4 with X2 of Customers amounted to 0.795, correlation of variables Y with X2 of Customers amounted to 0.311. All variables have a correlation value <0.900 thus the correlation value of all variables is valid. The results also correlate variables X4 with X3 of 0.709, correlation of variables Y with X3 of 0.761. All variables have a correlation value <0.900, thus the correlation value of all variables is valid. Finally, the results of the correlation of variables Y with X4 of 0.444. All variables have a correlation value <0.900 thus the correlation value of all variables is valid.

Structural Model Analysis (Inner Model)

Analysis of structural models or inner models aims to test the research hypothesis. The part that needs to be analyzed in the structural model is the coefficient of determination (R Square) by testing the hypothesis.

Collinearity testing is to prove the correlation between latent/construct variables whether strong or not. If there is a strong correlation, it means that the model contains problems, if viewed from a methodological point of view because it has an impact on the estimation of statistical significance. This problem is called colinearity. The value used to analyze it is by looking at the value of the Variance Inflation Factor (VIF). (Hair, Hult, Ringle, & Sarstedt, 2014; Garson, 2016). If the VIF value is greater than 5.00, it means that there are a colinearity problem and vice versa, and there is no colinearity problem, if the VIF value <5.00 (Hair, Hult, Ringle, and Sarstedt, 2014).

Table 4: Collinierity. Source: Data Processing (2019).

Variable	X1	X2	X3	X4	Y
X1				2.370	2.416
X2				2.388	2.915
X3				1.277	1.682
X4					2.737
Y					

From the above data it can be described as follows:

a. The VIF for X1 and Y correlations is 2,416 <5.00 (there is no colinearity problem)

b. VIF for correlation X2 with Y is 2.915 <5.00 (there is no colinearity problem)

c. VIF for X3 correlation with Customer Y is 1.682 <5.00 (there is no colinearity problem)

d. VIF for correlation X4 with Y is 2.737 <5.00 (there is no colinearity problem)

Thus, from the data above, the structural model, in this case, does not contain a colinearity problem

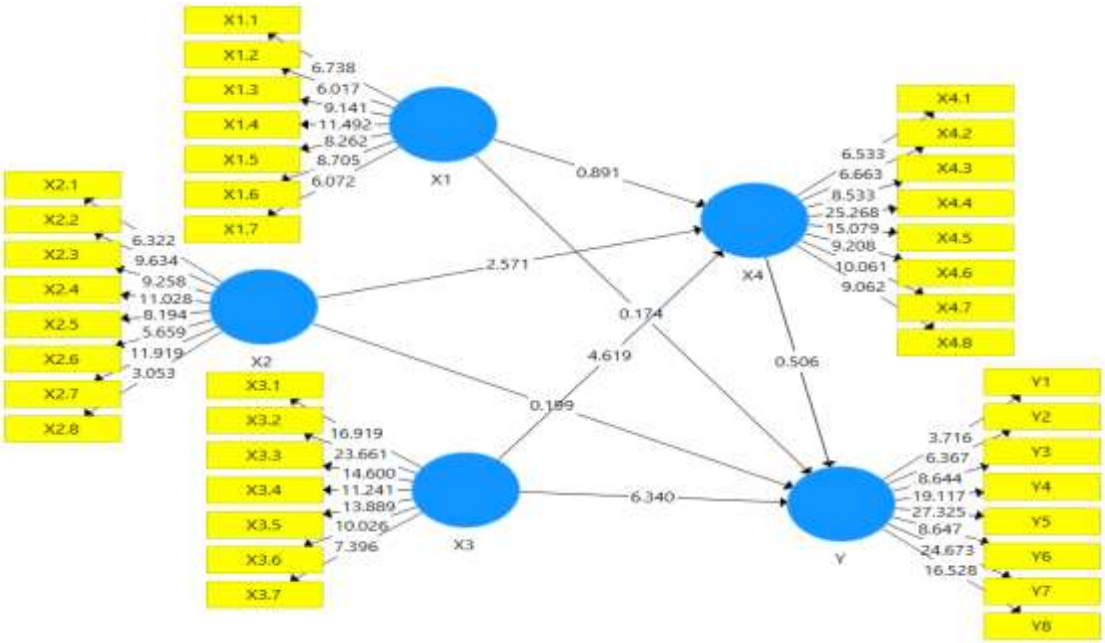

Figure 1: Hypothesis Testing.

Direct influence hypothesis testing aims to prove the hypotheses of the influence of a variable on other variables directly (without intermediaries). If the path coefficient value is positive, this indicates that an increase in the value of a variable is followed by an increase in the value of others. If the path coefficient value is negative, this indicates that an increase in one variable is followed by a decrease in the value of other variables. If the probability value (p-value) <Alpha (0.05) then Ho is rejected (the effect of a variable with other variables is significant). If the value of probability (P-Value)> Alpha (0.05) then Ho is rejected (the effect of a variable with other variables is not significant).

Table 5: Hypothesis of Direct Effects. Source: Data Processing (2019).

Variable	Real Sample	Sample Average	Standard Deviation	t-statistik	p-values
X1 -> X4	0.130	0.162	0.146	0.891	0.038
X1 -> Y	-0.023	-0.049	0.133	0.174	0.009
X2 -> X4	0.439	0.407	0.171	2.571	0.012
X2 -> Y	0.036	0.023	0.182	0.199	0.008
X3 -> X4	0.385	0.399	0.083	4.619	0.000
X3 -> Y	0.749	0.740	0.118	6.340	0.000
X4 -> Y	-0.086	-0.035	0.171	0.506	0.006

1. The direct effect of the X3 variable on the X4 variable has a path coefficient of 4.619 (positive), then an increase in the value of the X3 variable will be followed by an increase in the X4 variable. The influence of the variable X3 on the variable X4 has a P-Values value of 0,000 <0.05, so it can be stated that the influence between X3 and X4 is significant.
2. The direct effect of the X3 variable on the Y variable has a path coefficient of 6.340 (positive), then an increase in the value of the X3 variable will be followed by an increase in the Y variable. The effect of the X3 variable on Y has a p-values value of 0,000> 0.05, so it can be stated that the influence between X3 and Y is significant.
3. The direct effect of the X4 variable on the variable Y has a path coefficient of 0.506 (positive), then an increase in the value of the X4 variable will be followed by an increase in the Y variable. The effect of variable X4 on Y has a p-values value of 0.006> 0.05, so it can be stated that the influence between X4 and Y is significant.
4. The direct effect of the X1 variable on the X4 variable has a path coefficient of 0.891 (positive), then an increase in the value of variable X1 will be followed by an increase in variable X4. The influence of variable X1 to X4 has a p-values value of 0.038 <0.05, so it can be stated that the influence between X1 and X4 is significant.
5. The direct effect of the X1 variable on the Y variable has a path coefficient of 0.174 (positive), then an increase in the value of variable X1 will be followed by an increase in variable Y. The effect of variable X1 on Y has a p-values value of 0.009> 0.05, so it can be stated that the influence between X1 and Y is significant.

6. The direct effect of the X2 variable on the X4 variable has a path coefficient of 2.571 (positive), then an increase in the value of variable X2 will be followed by an increase in variable X4. The influence of the X2 variable on X4 has a p-values value of 0.012 <0.05, so it can be stated that the influence between X2 and X4 is significant.

7. The direct effect of the X2 variable on the Y variable has a path coefficient of 0.199 (positive), then an increase in the value of variable X2 will be followed by an increase in variable X4. The influence of the variable X2 on Y has a P-Values value of 0.008 <0.05, so it can be stated that the influence between X2 and Y is significant.

Testing the hypothesis of indirect effects aims to prove the hypotheses of the influence of a variable on other variables indirectly (through intermediaries). If the indirect effect coefficient> coefficient of direct effect, then the intervening variable is mediating the relationship between one variable with another variable. Conversely, if the value of the indirect effect korfisien <coefficient of direct effect, then the intervening variable does not mediate the relationship between one variable with another variable

Table 6: Hypothesis of Indirect Effects. Source: Data Processing (2019)

Variable	Real Sample	Sample Average	Standard Deviation	t-statistik	p-values
X1 -> X4 -> Y	-0.011	-0.001	0.037	0.303	0.008
X2 -> X4 -> Y	-0.038	-0.022	0.077	0.489	0.006
X3 -> X4 -> Y	-0.033	-0.011	0.068	0.489	0.006

1. Based on the table above, it is obtained that the coefficient of the indirect effect the X1 variable to Y is 0.174 <0.303 (direct effect X1 to Y) thus it can be stated that X4 does not mediate the effect between X1 and Y.

2. The coefficient value of the indirect effect of the X2 variable on Y is 0.199 <0.489 (the direct effect of X2 on Y) thus it can be stated that X4 does not mediate the effect of X2 on Y.

3. Then, the coefficient value of the indirect effect of the X3 variable on Y is 6.340> 0.489 (the direct effect of X1 on Y) thus it can be stated that X4 mediates the effect between X1 and Y.

Coefficient of Determination (r square)

The coefficient of determination (r square) aims to evaluate the accuracy of the predictions of a variable. In other words, to evaluate how the variation of the value of the dependent variable is influenced by the variation of the value of the independent variable in a path model.

Table 7: Coefficient of Determination. Source: Data Processing (2019).

Variable	R Square	Adjusted R Square
X4	0.635	0.617
Y	0.493	0.460

In the table above, the result of the influence of X1, X2, and X3 on X4 (e1) is 0.635, meaning that the magnitude of the effect of X1, X2, and X3 on X4 is 63.50%. Then, the effect of X1, X3, and X4 on Y is 0.493, meaning that the magnitude of the influence of X1, X3, and X4 on Y is 49.30%.

V. CONCLUSION

1. The direct effect of the variable X3 on the variable X4 has a path coefficient of 4.619 (positive), then an increase in the value of the X3 variable will be followed by an increase in the X4 variable. The influence of the variable X3 on the variable X4 has a p-value of 0,000 <0.05, so it can be stated that the influence between the X3 variable and the X4 variable is significant.
2. The direct effect of the X3 variable on the Y variable has a path coefficient of 6.340 (positive), then an increase in the value of the X3 variable will be followed by an increase in the Y variable. The effect of the X3 variable on the Y variable has a p-value of 0,000> 0.05, so it can be stated that the influence between the X3 variable and the Y variable is significant.
3. The direct effect of the X4 variable on the Y variable has a path coefficient of 0.506 (positive), then an increase in the value of the X4 variable will be followed by an increase in the Y variable. The effect of the X4 variable on the Y variable has a p-value of 0.006> 0.05, so it can be stated that the influence between the X4 variable and the Y variable is significant.
4. The direct effect of the X1 variable on the X4 variable has a path coefficient of 0.891 (positive), then an increase in the value of the X1 variable will be followed by an increase in the X4 variable. The influence of the X1 variable to the X4 variable has a p-value of 0.038 <0.05, so it can be stated that the influence between the X1variable and the X4 variable is significant.
5. The direct effect of the X1 variable on the Y variable has a path coefficient of 0.174 (positive), then an increase in the value of the X1 variable will be followed by an increase in the Y variable. The effect of the X1 variable on the Y variable has a p-value of 0.009> 0.05, so it can be stated that the influence between the X1 variable and the Y variable is significant.
6. The direct effect of the X2 variable on the X4 variable has a path coefficient of 2.571 (positive), then an increase in the value of the X2 variable will be followed by an increase in the X4 variable. The influence of the X2 variable on the X4 variable has a p-value of 0.012 <0.05, so it can be stated that the influence between the X2 variable and the X4 variable is significant.
7. The direct effect of the X2 variable on the Y variable has a path coefficient of 0.199 (positive), then an increase in the value of the X2 variable will be followed by an increase in the X4 variable. The influence of the X2 variable on the Y variable has a p-value of 0.008 <0.05, so it can be stated that the influence between the X2 variable and the Y variable is significant.

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