

MODELING AND OPTIMIZATION TO INCREASE LECTURERS' WORK COMMITMENT

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ARTICLE INFO	ABSTRACT
<p>Keywords: Lecturer Work Commitment, Self-Efficacy, Teamwork, Compensation and Motivation for Achievement</p>	<p><i>This study aims to identify strategies for increasing lecturers' work commitment by examining variables that positively and dominantly impact this commitment. The variables include self-efficacy, teamwork, compensation, and achievement motivation, which are explored both directly and indirectly concerning lecturers' work commitment at Pamulang University. The population consists of 2024 lecturers from 17 study programs at the university during the 2019/2020 academic year, with a sample size of 267 determined through proportional random sampling using the Cochran Formula. The findings reveal several key influences: 1) self-efficacy directly affects lecturers' work commitment; 2) teamwork has a direct impact on work commitment; 3) compensation directly influences work commitment; 4) achievement motivation also directly impacts work commitment; 5) self-efficacy directly affects achievement motivation; 6) teamwork directly influences achievement motivation; 7) compensation directly affects achievement motivation; 8) self-efficacy indirectly impacts work commitment through achievement motivation; 9) teamwork indirectly influences work commitment via achievement motivation; and 10) compensation indirectly affects work commitment through achievement motivation. The SITOREM analysis identifies 14 indicators across five variables that require improvement and 10 indicators that should be maintained and developed. The study concludes that enhancing lecturers' self-efficacy, teamwork, compensation, and motivation for achievement can effectively strengthen their work commitment, providing a foundation for targeted improvements within academic institutions.</i></p>

INTRODUCTION

Improving education has long been one of the national agendas of this nation. In knowing the various forms of innovation and improvement efforts that have been carried out by this country to improve the quality of education and face the problems faced in education in Indonesia. However, the improvement and innovation efforts that have been made so far know that many have not been able to improve an education and have not been able to solve the problems faced in the field today. In this context, lecturers' work commitment is crucial for improving productivity and educational outcomes. Work commitment reflects a lecturer's dedication to their institution, goals, and role within the organization, influencing their decision to remain engaged and productive. Lecturers with a strong sense of commitment are better positioned to contribute to the quality of higher education (Muthueloo & Rose, 2005). The work commitment of lecturers, as a psychological state, is influenced by several factors including self-efficacy, teamwork, compensation, and motivation for achievement. These variables directly or indirectly affect lecturers' willingness to invest in their roles and strive for institutional goals (Allen & Meyer, 1990).

The university as one of the formal educational institutions is a place where the interaction of various educational components occurs to achieve the goals that have been set. Law No. 12 of 2012 (2012) states that the objectives of higher education are: 1) The development of the potential of students to become human beings who believe in and fear God Almighty and have noble, healthy, knowledgeable, capable, creative, independent, skilled, competent, and cultured for the benefit of the nation; 2) The production of graduates who master the branches of

Science and/or Technology to meet national interests and increase the nation's competitiveness; 3) The production of Science and Technology through research that pays attention to and applies Humanities values to be beneficial to the progress of the nation, as well as the progress of civilization and the welfare of mankind; and 4) The realization of Community Service based on reasoning and research works that are useful in advancing public welfare and educating the nation's life. To realize this goal, one of the challenges experienced by every university is to improve the quality of the tridharma of higher education in it, where the most important component in improving the quality is lecturers.

The work commitment of a lecturer is a factor from within a lecturer which is a factor in increasing the work productivity of a lecturer. The work commitment of a lecturer in organizing in a university or university is an activity that favors the organization or institution, in this case the campus and also favors his goals and desires to maintain his existence as a lecturer at the university in carrying out his duties, in addition to the work commitment of a lecturer in an organization or educational institution, in this case a university as a psychological state that is characterized by a The relationship between a lecturer and the organization of the University institution that influences the lecturer will continue to survive to carry out a task that is imposed on him as a lecturer or lecturer.

A lecturer's work commitment is crucial as it serves as a meaningful focus for their role, directly contributing to both educational quality and specialized responsibilities. This commitment reflects a strong relationship between the lecturer and their organization, playing a vital role in enhancing work performance and supporting the achievement of institutional goals. Work commitment is defined as an employee's acceptance, involvement, and dedication towards organizational objectives, coupled with their readiness to embrace organizational values and participate in activities aimed at improvement (Muthuveloo & Rose, 2005). Commitment consists of three interrelated components: affective commitment, which involves emotional connection and engagement; continuance commitment, which is based on the perceived costs of leaving the organization; and normative commitment, which stems from a sense of obligation to remain (Allen & Meyer, 1990). A lecturer's commitment is, therefore, a fundamental aspect of their motivation to support and help students.

Pamulang University as one of the universities with the largest number of lecturers in Indonesia, namely 2029, lecturers certainly need many aspects to improve their quality to realize the vision they want to achieve. One of the variables that needs to be improved is the work commitment of lecturers. The indicators seen in this variable are: 1) There is a decrease of 21.11% from the average intensity of lecturers in the odd semester of 2022 compared to the even semester of 2021 in the implementation of online learning, 2) There is a decrease of 4.74% from the average lecturer participation in the odd semester of 2022 compared to the even semester of 2021 in the implementation of online learning, 3) There is an increase of 1.55% from the average lecturer achievement in the odd semester of 2022 to the even semester of 2021 in the implementation of online learning, 4) There are 26.67% of lecturers who need to be improved in knowing the characteristics of the organization where they work and knowing the organization well and being willing to be involved in management and involvement in work in institutions to support their Affective Commitment. 5) There are 37.33% of lecturers who need to be improved in knowing the institution's investment is valuable, knowing the greatness of the institution and understanding the psychological contract in the institution as well as knowing other alternative possibilities to increase Sustainable Commitment. 6) There are 5.00% of lecturers who need to be improved in knowing how to work as part of remuneration, knowing the meaning of awards and understanding suggestions from superiors to increase Normative Commitment.

METHOD

The method used in this study is a simple exploratory sequential analysis method known as the POP-SDM Method (Modeling and Optimization of Resource Strengthening Management) which is an alternative exploratory sequential method developed by (Setyaningsih et al., 2019). In this method, the research begins by conducting simple qualitative research to explore the factors that are suspected to have a positive and dominant influence on the resources to be strengthened. Based on the factors or variables found, a constellation of the influence of these variables on the resources to be strengthened is prepared to produce a research hypothesis. Furthermore, in the quantitative research stage, hypothesis testing is carried out using path analysis. Based on the findings of the path analysis, a SITOREM analysis was carried out to determine the priority for handling indicators that are still weak. The end result of the implementation of the POP-HR method is recommendations and strategies to improve

aspects of management resources that are still weak as a priority for handling that is positively beneficial to the organization (Setyaningsih et al., 2019).

This research was carried out at Pamulang University which is located at Jalan Surya Kencana No.1 Pamulang Campus I, Jalan Witanaharja Pamulang Barat Campus II and Jalan Raya Puspitek No.11 Serpong South Tangerang, Banten Province. The research was carried out for 10 months which was carried out in stages starting from the preparation of research proposals to the research on the work commitment of lecturers at Pamulang University, South Tangerang City, Banten. The preliminary data sources used in this qualitative research are the leadership of the Vice Rector of Human Resources (HR), the Dean, the Head of the Study Program, both the chairman, deputy, and secretary of the study program within the University of Pamulang. The data collection technique used in this qualitative research stage uses the interview method. The analysis of the selection of free variables in this qualitative research was carried out using the *Tally Mark* method. Meanwhile, quantitative research focuses on descriptive and inferential data analysis

RESULTS AND DISCUSSION

Result

Normality Test

The normality test of the estimated standard error in this study was carried out using the Lilliefors Test. For a sample size of $n = 267$ with a significance level of $\alpha = 0.05$, the L_{table} value is 0.0542223. In order for the standard error of the estimate to be assumed to be derived from a normally distributed population, it must meet the requirement that $L_{cal} < L_{table}$. The results of the normality test are presented in the form of a summary in the following table.

Table 1. Summary of Estimation Standard Error Normality Test

No	Error Estimation	n	L Count	L Table	Conclusion
1	$Y - \hat{Y}_1$	267	0,051473091	0,05422	Normally distributed
2	$Y - \hat{Y}_2$	267	0,04414517	0,05422	Normally distributed
3	$Y - \hat{Y}_3$	267	0,05306277	0,05422	Normally distributed
4	$Y - \hat{Y}_4$	267	0,04531058	0,05422	Normally distributed
5	$X_2 - X_1$	267	0,043096626	0,05422	Normally distributed
6	$X_3 - X_1$	267	0,054174062	0,05422	Normally distributed
7	$X_4 - X_1$	267	0,053325797	0,05422	Normally distributed
8	$X_3 - X_2$	267	0,053857597	0,05422	Normally distributed
9	$X_4 - X_2$	267	0,053891497	0,05422	Normally distributed
10	$X_4 - X_3$	267	0,053633631	0,05422	Normally distributed
Normal Distribution Requirements: $L_{calculate} < L_{table}$					

Based on the normality test requirements that $L_{calung} < L_{table}$, the results show that all L_{cal} values meet these requirements. Thus, the null hypothesis (H_0) is accepted, which means that the standard error of estimation for the Work Commitment variable against the variables Self-Efficacy, Teamwork, Compensation, and Motivation comes from a normally distributed population. Likewise, the standard error of estimation for the variables Teamwork, Compensation, and Achievement Motivation against the Self-Efficacy variable and the Compensation and Achievement Motivation variable against the Teamwork variable also came from a normally distributed population. In addition, the standard error of estimation for the Achievement Motivation variable against the Compensation variable also comes from a normally distributed population.

Linearity Test

Overall, the calculation results of the research regression model are presented in the following table:

Table 2. Summary of Regression Model Linearity Test Results

No.	Model of Relationship Between Variables	Fcal	Ftable $\alpha = 0,05$	Linearity Pattern Test Results
1	$Y - X_1$	1,343	1,388	LINIER
2	$Y - X_2$	1,021	1,388	LINIER
3	$Y - X_3$	1,321	1,384	LINIER

4	Y - X4	1,184	1,372	LINIER
5	X2 - X1	1,288	1,386	LINIER
6	X3 - X1	1,377	1,386	LINIER
7	X4 - X1	1,067	1,386	LINIER
8	X3 - X2	0,977	1,388	LINIER
9	X4 - X2	1,383	1,388	LINIER
10	X4 - X3	1,052	1,384	LINIER

Table 2. It shows the results of linearity tests for various models of relationships between variables. In this table, the value of F_{cal} is compared with the value of F_{table} at the level of significance $\alpha = 0.05$ to determine whether the relationship between the variables is linear. The results of the analysis show all $F_{cal} < F_{table}$ values, so it can be concluded that the relationship between the tested variables is linear.

Table 3. Regression Model Summary

No.	Model of Relationship Between Variables	Model Regression	Significance Test Results
1	Y - X1	$\hat{Y} = 44,737 + 0,717X1$	Signifikan
2	Y - X2	$\hat{Y} = 117,693 + 0,215X2$	Signifikan
3	Y - X3	$\hat{Y} = 126,160 + 0,153X3$	Signifikan
4	Y - X4	$\hat{Y} = 120,025 + 0,161X4$	Signifikan
5	X2 - X1	$X2 = 98,179 + 0,148X1$	Signifikan
6	X3 - X1	$X3 = 85,143 + 0,191X1$	Signifikan
7	X4 - X1	$X4 = 114,071 + 0,212X1$	Signifikan
8	X3 - X2	$X3 = 91,045 + 0,171X2$	Signifikan
9	X4 - X2	$X4 = 105,189 + 0,321X2$	Signifikan
10	X4 - X3	$X4 = 120,337 + 0,206X3$	Signifikan

Based on Table 3, there is evidence of a relationship between the variables tested. Here is an interpretation of the table:

1. Relationship between Work Commitment (Y) and Self-Efficacy (X1): $Y^{\wedge}=44,737+0.717X1$
 $\hat{Y} = 44,737 + 0.717X1$
 $Y^{\wedge}=44,737+0,717X1$ The results of the significance test show that this relationship is significant, meaning that Self-Efficacy (X1) has a significant effect on Work Commitment (Y).
2. Relationship between Work Commitment (Y) and Teamwork (X2): $Y^{\wedge}=117.693+0.215X2$
 $\hat{Y} = 117.693 + 0.215X2$
 $Y^{\wedge}=117.693+0.215X2$. The results of the significance test showed that this relationship was significant, meaning that Teamwork (X2) had a significant effect on Work Commitment (Y).
3. Relationship between Work Commitment (Y) and Compensation (X3): $Y^{\wedge}=126,160+0.153X3$
 $\hat{Y} = 126,160 + 0.153X3$
 $Y^{\wedge}=126,160+0.153X3$ The results of the significance test show that this relationship is significant, meaning that Compensation (X3) has a significant effect on Work Commitment (Y).
4. Relationship between Work Commitment (Y) and Achievement Motivation (X4): $Y^{\wedge}=120,025+0.161X4$
 $\hat{Y} = 120,025 + 0.161X4$
 $Y^{\wedge}=120,025+0,161X4$ The results of the significance test show that this relationship is significant, meaning that Achievement Motivation (X4) has a significant effect on Work Commitment (Y).
5. Relationship between Teamwork (X2) and Self-Efficacy (X1): $X2=98.179+0.148X1$
 $X2 = 98.179 + 0.148X1$
 $X2=98.179+0.148X1$ The results of the significance test showed that this relationship was significant, meaning that Self-Efficacy (X1) had a significant effect on Teamwork (X2).
6. Relationship between Compensation (X3) and Self-Efficacy (X1): $X3=85.143+0.191X1$
 $X3 = 85.143 + 0.191X1$
 $X3=85.143+0.191X1$ The results of the significance test show that this relationship is significant, meaning that Self-Efficacy (X1) has a significant effect on Compensation (X3).

7. Relationship between Achievement Motivation (X4) and Self-Efficacy (X1): $X4=114,071+0,212X1$ $X4 = 114,071 + 0.212X1$ The results of the significance test show that this relationship is significant, meaning that Self-Efficacy (X1) has a significant effect on Achievement Motivation (X4).
8. Relationship between Compensation (X3) and Teamwork (X2): $X3=91.045+0.171X2$ $X3 = 91.045 + 0.171X2$ The results of the significance test show that this relationship is significant, meaning that Teamwork (X2) has a significant effect on Compensation (X3).
9. Relationship between Achievement Motivation (X4) and Teamwork (X2): $X4=105,189+0.321X2$ $X4 = 105,189 + 0.321X2$ The results of the significance test show that this relationship is significant, meaning that Teamwork (X2) has a significant effect on Achievement Motivation (X4).
10. Relationship between Achievement Motivation (X4) and Compensation (X3): $X4=120.337+0.206X3$ $X4 = 120.337 + 0.206X3$ The results of the significance test show that this relationship is significant, meaning that Compensation (X3) has a significant effect on Achievement Motivation (X4).

Table 4 Summary of Regression Model Significance Test Results

No.	Model of Relationship Between Variables	Fcal	Ftabel $\alpha = 0,05$	Significance Test Results
1	Y - X1	175,005	2,406	Signifikan
2	Y - X2	7,922	2,406	Signifikan
3	Y - X3	4,789	2,406	Signifikan
4	Y - X4	10,188	2,406	Signifikan
5	X2 - X1	7,345	2,406	Signifikan
6	X3 - X1	10,132	2,406	Signifikan
7	X4 - X1	6,666	2,406	Signifikan
8	X3 - X2	6,546	2,406	Signifikan
9	X4 - X2	12,662	2,406	Signifikan
10	X4 - X3	6,149	2,406	Signifikan

All the regression models tested showed significant results because the Fcal value on each model was much greater than the Ftabel value. The findings indicate that the independent variables (Self-Efficacy, Teamwork, Compensation, and Achievement Motivation) have a significant influence on the dependent variables (Work Commitment) as well as on each other in the relationship between the variables tested.

Thus, the findings of the analysis concluded that all of the regression models tested showed a linear relationship between the variables analyzed, and all of these models were significant, suggesting that the independent variables had a significant influence on the dependent variables.

Test Model

The test of the research model is presented as in the correlation between variables tested using SPSS as explained in the following table:

Table 5. Intervariable Test Results

Correlations

		Work Commitment	Self-Efficacy	Teamwork	Compensation	Motivation for Achievement
Work Commitment	Pearson Correlation	1	.631**	.170**	.133*	.192**
	Sig. (2-tailed)		0,000	0,005	0,030	0,002
	N	267	267	267	267	267
Self-Efficacy	Pearson Correlation	.631**	1	.164**	.192**	.157*

	Sig. (2-tailed)	0,000		0,007	0,002	0,010
	N	267	267	267	267	267
Teamwork	Pearson Correlation	.170**	.164**	1	.155*	.214**
	Sig. (2-tailed)	0,005	0,007		0,011	0,000
	N	267	267	267	267	267
Compensation	Pearson Correlation	.133*	.192**	.155*	1	.151*
	Sig. (2-tailed)	0,030	0,002	0,011		0,014
	N	267	267	267	267	267
Motivation for Achievement	Pearson Correlation	.192**	.157*	.214**	.151*	1
	Sig. (2-tailed)	0,002	0,010	0,000	0,014	
	N	267	267	267	267	267

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The results of the correlation test can be presented in the arrangement of variables drawn as constellations as follows.

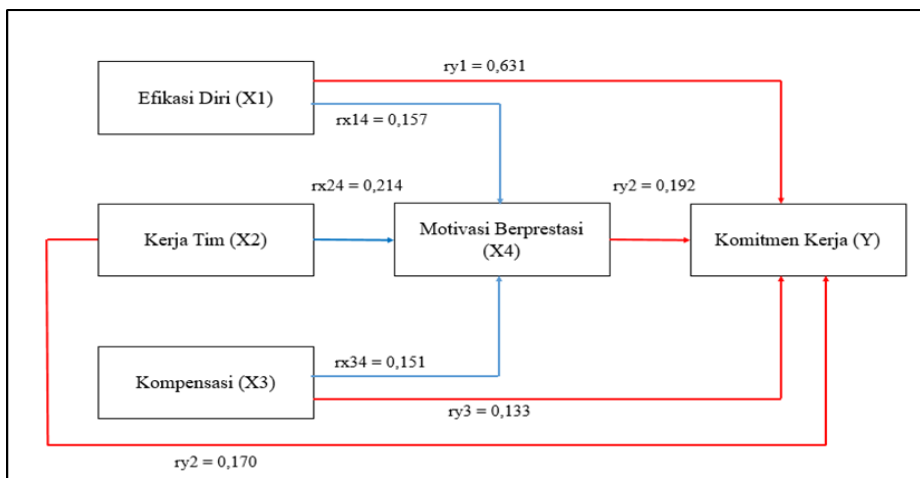


Figure 1. Results of Correlation Test Between Variables

Model of the influence of paths between variables on substructure 1

The influence model between substructure 1 variables consists of one bound variable, namely work commitment (Y) and also four independent variables, namely self-efficacy (X1), teamwork (X2), compensation (X3) and achievement motivation (X4), as well as one residual variable, namely ϵ_y . Judging from this influence, the path model in substructure 1 is $\hat{Y} = X1Y + X2Y + X3Y + X4Y + \epsilon_y$. Furthermore, the results of the linear test of the regression model on substructure 1 are presented in the following table: $\beta \beta \beta \beta$

Table 6. Summary of Regression Model in Substructure 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.640a	.499	.400	13.640

a. Predictors: (Constant), Motivation for Achievement, Compensation, Self-Efficacy, Teamwork

Table 6. shows that the magnitude of the coefficient of error ϵ_y is $\sqrt{1 - R^2} = 0.501$, which means that using the basis of the results of this calculation, then the framework of the empirical causal relationship of the variables X_1, X_2, X_3 and X_4 to Y in substructure 1 can be stated $Y = 0.293X_1 + 0.166X_2 + 0.106X_3 + 0.173X_4 + 0.501$ with $R^2_{YX4321} = 49.9\%$. In the constellation model, the path coefficients in substructure 1 can be shown in Figure 2.

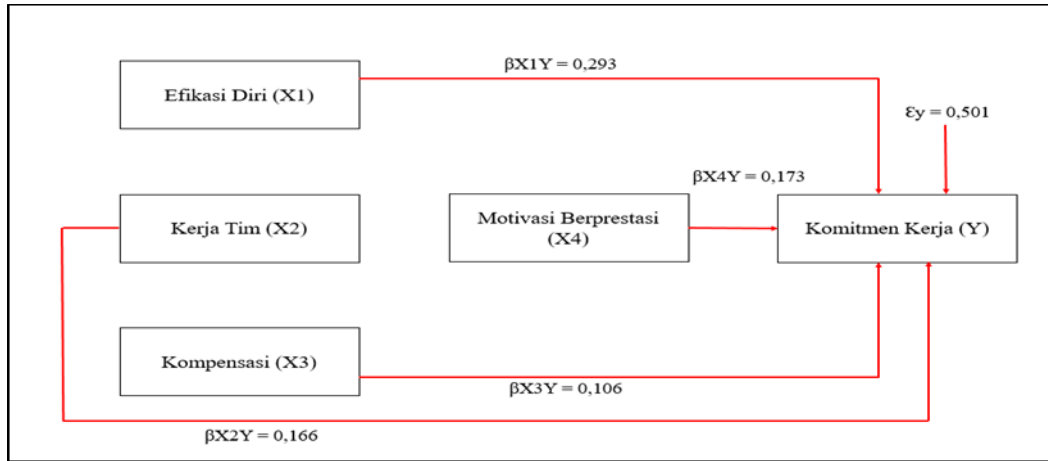


Figure 2. Constellation Model of Path Coefficients in Substructure 1

Model of the influence of paths between variables on substructure 2

The model of the influence between variables on substructure 2 consists of the variables of achievement motivation (X_4), self-efficacy (X_1), teamwork (X_2) and compensation (X_3), as well as one residual variable, namely ϵ_{X_4} . Based on this influence, the path model in substructure 2 is $X_4 = X_1X_4 + X_2X_4 + X_3X_4 + \epsilon_{X_4}$. Furthermore, the results of the linear test of the regression model on substructure 2 are presented in the following table: $\beta \ \beta \ \beta$

Table 7. Summary of Regression Model in Substructure 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.266a	0,171	0,160	20,361

a. Predictors: (Constant), Compensation, Teamwork, Self-Efficacy

Table 7. shows that the magnitude of the coefficient of error ϵ_{X_4} is $\sqrt{1 - R^2} = 0.829$, which means that using the basis of the results of this calculation, then the framework of the empirical causal relationship of the variables X_1, X_2, X_3 to X_4 in substructure 1 can be expressed $X_4 = 0.146X_1 + 0.271X_2 + 0.139X_3 + 0.829$ with $R^2_{YX4321} = 17.1\%$. In the constellation model, the path coefficients in substructure 2 can be shown in the Figure below.

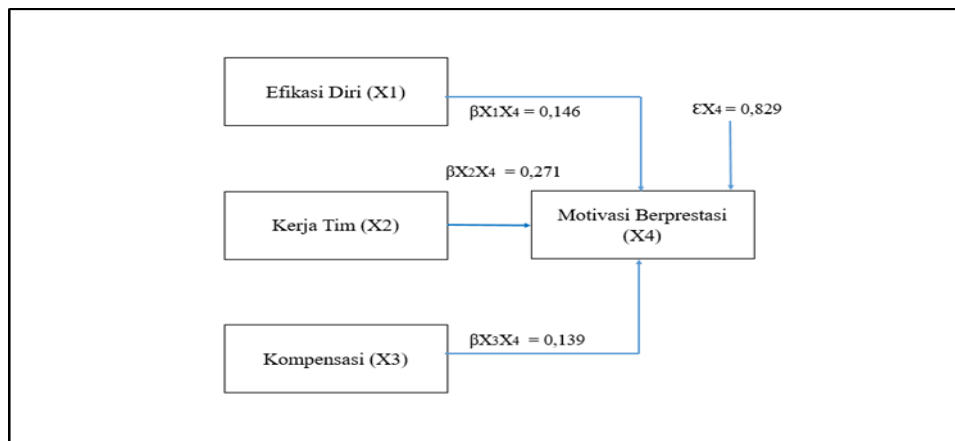


Figure 2. Constellation Model of Path Coefficients in Substructure 2

Furthermore, the influence of the path as a whole by combining the results of the analysis of each substructure is obtained in Figure 3 below.

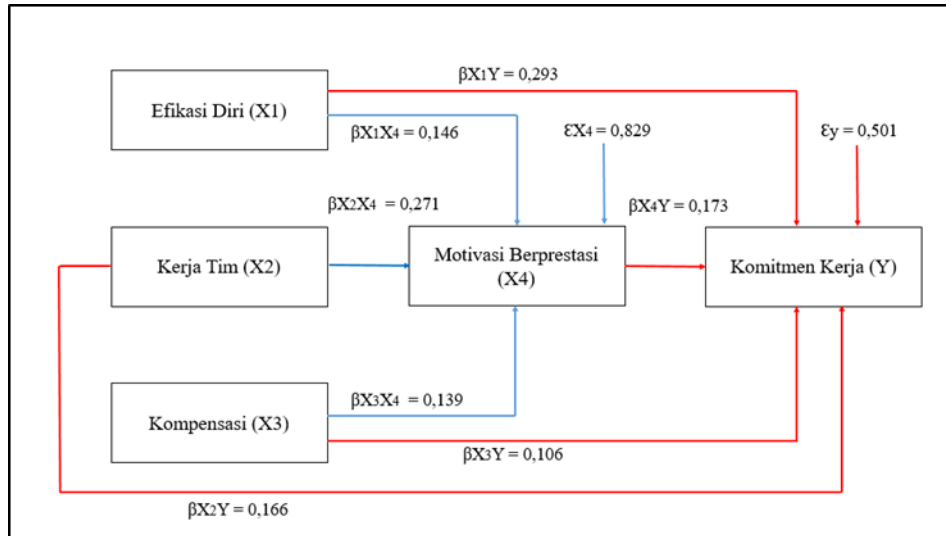


Figure 3. Path Coefficient

Significance of Indirect Influence

To determine the influence of intervening variables (X1, X2 and X3), a sobel test was carried out based on the following table.

Table 8. Effect of Intervening Variables

No	Variable	Standardized Coefficients Beta	Unstandardized Coefficients B	Std. Error	Sig. < 0.05
1	X1 - Y	0,209	0,293	0,056	Signifikan
2	X2 - Y	0,153	0,166	0,062	Signifikan
3	X3 - Y	0,105	0,106	0,056	Signifikan
4	X4 - Y	0,186	0,173	0,041	Signifikan
5	X1 - X4	0,108	0,146	0,083	Signifikan
6	X2 - X4	0,180	0,271	0,091	Signifikan
7	X3 - X4	0,102	0,139	0,083	Signifikan

- Effect of intervening variable X4 on X1 – X4 – Y
From Table 8, to determine the magnitude of the influence of intervening variables based on the sobel test, the result of Sa1b1 was obtained of 0.012, so that tcal = 2.094. With the magnitude of t-table = 1.969, then t-count > t-table, so it can be concluded that the achievement motivation variable (X4) can mediate the relationship between self-efficacy (X1) and work commitment (Y).
- Effect of intervening variable X4 on X2 – X4 – Y
From Table 8, to determine the magnitude of the influence of intervening variables based on the sobel test, the result of Sa1b1 was obtained as 0.019, so that tcal = 2.433. With the magnitude of t-table = 1.969, then t-count > t-table, so it can be concluded that the achievement motivation variable (X4) can mediate the relationship between teamwork (X2) and work commitment (Y).
- Effect of intervening variable X4 on X3 – X4 – Y
From Table 8, to determine the magnitude of the influence of the intervening variable based on the sobel test, the result of Sa1b1 was obtained of 0.010, so that the count = 2.402. With the magnitude of t-table = 1.969, then t-calculate > t-table, so it can be concluded that the variable of achievement motivation (X4) can mediate the relationship between compensation (X2) and work commitment (Y).

Uji Hipotesis

After analyzing the substructure model, the results of the calculations obtained can be used to test the hypothesis in order to find out the direct and indirect influence between variables.

Table 9. Summary of Hypothesis Testing Results

No	Hypothesis	Path Coefficient	Statistical Test	Results	Conclusion
1	Self-efficacy (X1) towards work commitment (Y)	0,293	H0: X $\beta_{1Y} \leq 0$ H1: $\beta_{1Y} > 0$	H0 rejected	Immediate Positive Effect
2	Teamwork (X2) Towards Work Commitment (Y)	0,166	H0: X $\beta_{2Y} \leq 0$ H1: $\beta_{2Y} > 0$	H0 rejected	Immediate Positive Effect
3	Compensation (X3) Against Work Commitment (Y)	0,106	H0: X $\beta_{3Y} \leq 0$ H1: $\beta_{3Y} > 0$	H0 rejected	Immediate Positive Effect
4	Achievement Motivation (X4) Towards Work Commitment (Y)	0,173	H0: X $\beta_{4Y} \leq 0$ H1: $\beta_{4Y} > 0$	H0 rejected	Immediate Positive Effect
5	Self-efficacy (X1) on Achievement Motivation (X4)	0,146	H0: X $\beta_{1X4} \leq 0$ H1: $\beta_{1X4} > 0$	H0 rejected	Immediate Positive Effect
6	Teamwork (X2) Towards Achievement Motivation (X4)	0,271	H0: X $\beta_{2X4} \leq 0$ H1: $\beta_{2X4} > 0$	H0 rejected	Immediate Positive Effect
7	Compensation (x3) Against Achievement Motivation (x4)	0,139	H0: X $\beta_{3X4} \leq 0$ H1: $\beta_{3X4} > 0$	H0 rejected	Immediate Positive Effect

Table 9. The results of hypothesis testing are shown, with the following results:

- a. The value of the coefficient of the X1Y path is 0.293 with a t-count of 2.402, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since the t-count exceeds the t-table, H0 is rejected and H1 is accepted. The results showed that there was a significant positive influence of self-efficacy (X1) on work commitment (Y). This means that the higher the self-efficacy of the lecturer, the greater the commitment of the lecturer at Pamulang University. β
- b. The value of the coefficient of the X2Y path is 0.166 with a t-count of 2.066, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since t-count is greater than t-table, H0 is rejected and H1 is accepted. The results indicate that there is a significant positive influence of teamwork (X2) on work commitment

- (Y). In other words, the better the work of the lecturer team, the higher the commitment of lecturers at Pamulang University. β
- c. The value of the path coefficient X3Y is 0.106 with a t-count of 2.100, while the t-table is 1.969 at a significance level of $\alpha = 0.05$. Since t-count is greater than t-table, H0 is rejected and H1 is accepted. The findings show that there is a significant positive effect of compensation (X3) on work commitment (Y). The greater the compensation received by lecturers, the higher the lecturer's work commitment at Pamulang University. β
 - d. The value of the coefficient of the X4Y path is 0.173 with a t-count of 2.755, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since t-count is greater than t-table, H0 is rejected and H1 is accepted. The results showed that there was a significant positive influence of achievement motivation (X4) on work commitment (Y). This means that the higher the motivation for lecturers' achievements, the greater the commitment of lecturers at Pamulang University. β
 - e. The value of the path coefficient X1X4 is 0.146 with a t-count of 2.758, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since the t-count exceeds the t-table, H0 is rejected and H1 is accepted. The results showed that there was a significant positive influence of self-efficacy (X1) on achievement motivation (X4). The higher the self-efficacy of lecturers, the greater the motivation for lecturers to excel at Pamulang University. β
 - f. The value of the path coefficient X2X4 is 0.271 with a t-count of 2.963, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since t-count is greater than t-table, H0 is rejected and H1 is accepted. The results showed that there was a significant positive influence of teamwork (X2) on achievement motivation (X4). The better the work of the lecturer team, the greater the motivation for lecturers to excel at Pamulang University. β
 - g. The value of the path coefficient X3X4 is 0.139 with a t-count of 2.670, while the t-table is 1.969 at the significance level of $\alpha = 0.05$. Since the t-count exceeds the t-table, H0 is rejected and H1 is accepted. The results indicated that there was a significant positive influence of compensation (X3) on achievement motivation (X4). The higher the compensation given to lecturers, the greater the motivation for lecturers to excel at Pamulang University. β

Indicator Analysis

The indicator analysis in this study adopts the Scientific Identification Theory to Conduct Operation Research in Education Management (SITOREM) approach, a theory developed by (Hidayat et al., 2020). SITOREM is defined as a scientific method to identify variables (theories) in the context of implementing "Operation Research" in the field of education management (Hardhienata, 2017).

In this study, the analysis of the influence strength between variables was carried out by evaluating the contribution of independent variables to the bound variables. This step involves calculating the determination coefficient, which is obtained from the square of the correlation coefficient.

Table 10. Analysis of the Contribution of Research Variables

No	Influence Between Variables	Correlation Coefficient	Coefficient of Determination	Contribution
1	The Influence Between Self-Efficacy and Work Commitment	0,631	0,397734059	39,77%
2	The Influence Between Teamwork and Work Commitment	0,170	0,290254326	29,03%
3	The Influence Between Compensation and Work Commitment	0,133	0,177519444	17,75%
4	The Influence Between Achievement Motivation and Work Commitment	0,192	0,370219797	37,02%

5	The Effect Between Self-Efficacy and Achievement Motivation	0,157	0,245385584	24,54%
6	The Influence Between Teamwork and Achievement Motivation	0,214	0,456033069	45,60%
7	The Effect Between Compensation and Achievement Motivation	0,151	0,226784534	22,68%

Based on the results of the contribution analysis that has been carried out, the next step is to compile the order of influence between variables, starting from the variable with the highest correlation coefficient to the one with a lower coefficient. The weight of each indicator is calculated based on the assessment of one or more experts, taking into account criteria such as "Cost, Benefit, Urgency, and Importance". The results of the analysis of the weight of the research indicators are presented in the following table.

Keterangan		
No	Bobot Skor	Klasifikasi Indikator
1	4,00 – 5,00	Dipertahankan atau dikembangkan
2	0,00 – 3,99	Prioritas untuk segera diperbaiki

After obtaining the average score of the research results in each indicator and the percentage of weight of each indicator, then an analysis can be carried out to determine the classification of indicators of the research variables which are divided into: Groups of indicators that need to be improved immediately (high weight and low score) and Groups of indicators that need to be maintained or developed (high weight and high score) as presented in the following table.

Table 11. Determination of SITOREM Analysis Results

SELF-EFFICACY (ry1 = 0.631), Rank 1				
Early Indicators		Indicators after Expert Assessment		Indicator Value
1	Confidence in performing various tasks from easy to difficult	1st	Confidence in doing a variety of tasks from easy to difficult (21%)	4,06
2	Confidence in completing work targets	2nd	Confidence in completing work targets (21%)	4,04
3	Perseverance in the face of tasks	3rd	Perseverance in effort (21%)	3,75
4	Tenacity in effort	4th	Confidence in carrying out a variety of tasks (19%)	3,26
5	Confidence in carrying out various tasks	5th	Confidence endures in the face of tasks (18%)	4,01

TEAMWORK (ry2 = 0.170), Rank 3				
Early Indicators		Indicators after Expert Assessment		Indicator Value
1	Restrictions on its own claims and ambitions	1st	Readiness to help other team members (22%)	3,78

2	Readiness to help other team members	2nd	Taking responsibility in relation to others (20%)	3,59
3	Taking responsibility in relation to others	3rd	Respect for the opinions of others (20%)	3,63
4	Open up to others	4th	Restrictions on their own claims and ambitions (19%)	4,05
5	Respect for the opinions of others	5th	Open to others (19%)	3,74

COMPENSATION (ry3 = 0.133), Rank 4				
Early Indicators		Indicators after Expert Assessment		Indicator Value
1	Salary	1st	Salary (29%)	3,81
2	Allowances	2nd	Allowance (25%)	3,72
3	Incentive	3rd	Insentif (23%)	4,02
4	Facilities	4th	Facilities (23%)	3,71

ACHIEVEMENT MOTIVATION (ry4 = 0.192), Rank 2				
Early Indicators		Indicators after Expert Assessment		Indicator Value
1	Tenacity	1st	Perseverance (22%)	3,93
2	Perseverance	2nd	Persistence (21%)	4,04
3	Involvement in established standards	3rd	Strong desire for performance feedback (21%)	3,85
4	Prestige Social	4th	Engagement with established standards (19%)	3,91
5	Strong desire for performance feedback	5th	Prestige social (18%)	4,01

LECTURER'S WORK COMMITMENT				
Early Indicators		Indicators after Expert Assessment		Indicator Value
1	Readiness and willingness to work on behalf of the institution	1st	Call to serve the institution (22%)	3,77
2	Call to serve the institution	2nd	Loyalty to the institution (22%)	4,04
3	Loyalty to the institution	3rd	Readiness and willingness to work on behalf of the institution (20%)	3,79
4	Desire to maintain membership in the institution	4th	Acceptance of organizational values and goals (19%)	4,07

5	Acceptance of organizational values and goals	5th	Desire to maintain membership in an institution (17%)	4,04

Indicator analysis produces groups of indicators that need to be improved immediately and groups of indicators that need to be maintained or developed as presented in the following table.

Table 12. Summary of Indicator Analysis Results

Priority Order of Indicators to be Improved		Maintained Indicator Order/Developed	
1st	Tenacity in effort	1	Confidence in performing various tasks from easy to difficult
2nd	Confidence in carrying out various tasks	2	Confidence in completing work targets
3rd	Perseverance	3	Perseverance in the face of tasks
4th	Strong desire for performance feedback	4	Tenacity
5th	Involvement in established standards	5	Prestige social
6th	Readiness to help other team members	6	Restrictions on its own claims and ambitions
7th	Taking responsibility in relation to others	7	Incentive
8th	Respect for the opinions of others	8	Loyalty to the institution
9th	Open up to others	9	Acceptance of organizational values and goals
10th	Salary	10	Desire to maintain membership in the institution
11th	Allowances		
12th	Facilities		
13th	Call to serve the institution		
14th	Readiness and willingness to work on behalf of the institution		

This table identifies the priorities for improvement and development of indicators based on the assessments given.

Discussion

a. Direct Effect Between Self-Efficacy Variable (X1) on Work Commitment Variable (Y)

The results of the study showed that there was a positive relationship between self-efficacy and work commitment. Lecturers who have high self-efficacy show an increase in their work commitment. The low contribution of self-efficacy to work commitment is relevant to research from (Malik et al., 2019) which states that self-efficacy negatively predicts work commitment, meaning that there is a relationship but is relatively weak. Thus, the findings obtained in this study can be seen that self-efficacy is able to contribute to increasing work commitment.

SITOREM's analysis also supports these findings, showing that although self-efficacy ranks first in direct influence on work commitment, key indicators such as tenacity in effort and confidence in carrying out tasks still need to be improved, as they are both in the first and second priority of the 14 indicators that require immediate improvement.

b. Direct Effect Between Teamwork Variable (X2) on Work Commitment Variable (Y)

The results of the study show that there is a positive relationship between teamwork and work commitment. Lecturers who have high teamwork show an increase in their work commitment. The low

contribution of teamwork to work commitment is relevant to research (Malik et al., 2019) which states that self-efficacy negatively predicts work commitment, meaning that there is a relationship but is relatively weak. Thus, the findings obtained in this study can be seen that teamwork is able to contribute to increasing work commitment.

SITOREM's analysis also supports this, showing that although teamwork ranks third in direct influence on work commitment, some key indicators related to teamwork, such as readiness to help team members, responsibility towards others, respect for others' opinions, and openness, are at the sixth to ninth priority of the 14 indicators that need to be improved immediately.

c. Direct Effect Between Compensation Variable (X3) on Work Commitment Variable (Y)

The results of the study show that there is a positive relationship between compensation and work commitment. Lecturers who have high compensation show an increase in their work commitment. The low contribution of compensation to work commitment is relevant to research from (Malik et al., 2019) which states that compensation negatively predicts work commitment, meaning that there is a relationship but is classified as weak. Thus, the findings obtained in this study can be seen that compensation is able to contribute to increasing work commitment.

SITOREM's analysis supports these findings, with compensation ranking fourth in direct influence on work commitment. Several compensation-related indicators, such as salaries, benefits, and facilities, are at the tenth to twelfth priority out of 14 indicators that need to be improved urgently to strengthen these relationships.

d. Direct Effect Between Achievement Motivation Variable (X4) on Work Commitment Variable (Y)

The results of the study show that there is a positive relationship between achievement motivation and work commitment. Lecturers who have high motivation for achievement show an increase in their work commitment. The low contribution of achievement motivation to work commitment is relevant to research from Malik et al. (2019) which states that achievement motivation negatively predicts work commitment, meaning that there is a relationship but is relatively weak. Thus, the findings obtained in this study can be seen that achievement motivation is able to contribute to increasing work commitment.

The results of these findings confirm that achievement motivation does have a role in increasing work commitment, although it is not significant. SITOREM's analysis supports these results, showing that although achievement motivation ranks second in direct influence on work commitment, several related indicators, such as readiness to help team members, responsibility towards others, respect for others' opinions, and openness, are third to fifth out of 14 indicators that need to be improved immediately.

e. Direct Effect Between Self-Efficacy Variable (X1) on Achievement Motivation Variable (X4)

The results of the study show that there is a positive relationship between self-efficacy and motivation to achieve. Lecturers who have high self-efficacy show an increase in their motivation to excel. The low contribution of self-efficacy to commitment to achievement motivation is relevant to research from (Malik et al., 2019) which states that self-efficacy negatively predicts achievement motivation, meaning that there is a relationship but is classified as weak. Thus, the findings obtained in this study can be seen that self-efficacy is able to contribute to increasing motivation to achieve.

f. Direct Effect Between Teamwork Variables (X2) on Achievement Motivation Variables (X4)

The results of the study show that there is a positive relationship between teamwork and achievement motivation. Lecturers who have high teamwork show an increase in their motivation to excel. The low contribution of teamwork to achievement motivation is relevant to research from (Malik et al., 2019) which states that teamwork negatively predicts work achievement motivation, meaning that there is a relationship but is classified as weak. Thus, the findings obtained in this study can be seen that teamwork is able to contribute to increasing motivation to achieve.

g. Direct Effect Between Compensation Variables on Achievement Motivation Variables (X4)

The results of the study show that there is a positive relationship between compensation and achievement motivation. Lecturers who have high compensation show an increase in their motivation for achievement. The low contribution of compensation to achievement motivation is relevant to research from (Malik et al., 2019) which states that compensation negatively predicts work motivation, meaning that there is a relationship but is classified as weak. Thus, the findings obtained in this study can be seen that compensation is able to contribute to increasing achievement motives.

After testing, there are strategies that can be applied to increase lecturers' creativity focused on strengthening indicators that require immediate improvement. This indicator includes both creativity variables

as bound variables and indicators of independent variables such as self-efficacy, teamwork, compensation, and motivation to achieve. The priority of the free variable improvement is divided into four levels. The first rank that must be improved is self-efficacy (X1), followed by achievement motivation (X4) as the second rank, teamwork (X2) as the third rank, and compensation (X3) as the fourth rank. The following is a strategy to improve weak indicators in lecturers' work commitment, which can be done through the steps detailed in the following table:

Table of Strategies for Improving Lecturer Work Commitment Indicators

It	Indicator	Initiator Achievement Strategy
1.	Strengthening the call to serve the institution	<ol style="list-style-type: none"> 1) Giving awards to lecturers who have made significant contributions 2) Implement an online service reporting system to simplify the administrative process. 3) Provide financial incentives, such as allowances or bonuses, for staff who are active in community service activities. 4) Providing flexibility in the implementation of duties, especially for lecturers who have many responsibilities. 5) Socializing in detail the benefits of improving functional positions for lecturers and institutions
2.	Increased readiness and willingness to work on behalf of the institution	<ol style="list-style-type: none"> 1) Provide flexibility in scheduling academic activities to accommodate the needs of lecturers. 2) Show that the lecturer's contribution will open up career development opportunities, such as promotions or further study opportunities. 3) Supporting lecturers to develop Community Service competencies through relevant training programs. 4) Involve lecturers in decision-making related to academic policies. 5) Evaluate the effectiveness of the programs that have been implemented to increase the readiness and willingness of lecturers. 6) Establish cooperation with other institutions to open opportunities for collaboration and joint development.

Therefore, by implementing these strategies, it is hoped that the work commitment of lecturers can increase, which in turn will support the achievement of institutional goals and the development of lecturers' careers.

CONCLUSION

Lecturers' work commitment, which is an important element related to the achievement of higher education goals, can be increased by strengthening other variables that have a positive and dominant effect on lecturers' work commitment. From the data and facts supported by the initial survey, it shows that there are still problems from the lecturer's work commitment, so it is necessary to conduct research to find solutions and produce new ways to improve the existing situation. The variables that have a positive and dominant effect on lecturers' work commitment are self-efficacy, teamwork, compensation and motivation to achieve. In addition, it was found that the independent variables found had direct and indirect influences as follows. Based on SITOREM analysis, an optimal solution was obtained that there were as many as 14 indicators that needed to be improved and 10 indicators that were maintained, with the order of priority of improvement 1. Tenacity in trying; 2. Confidence in carrying out various kinds of tasks; 3. Perseverance; 4. Strong desire for performance feedback; 5. Involvement in the established standards; 6. Readiness to help other team members; 7. Taking responsibility in relation to others; 8. Respect for the opinions of others; 9. Open to others; 10. Salary; 11. Allowance; 12. Facilities; 13. Call to serve the institution; and 14. Readiness and willingness to work on behalf of the institution. Meanwhile, the indicators maintained include: 1. Confidence in performing various tasks from easy to difficult; 2. Confidence in completing work targets; 3. Perseverance in facing tasks; 4. Persistence; 5. Social prestige; 6. Limitation of its own claims and ambitions; 7. Incentives; 8. Loyalty to the institution; 9. Acceptance of the values and objectives of the organization; and 10. The desire to maintain membership in the institution.

REFERENCES

- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1–18.
- Hardhienata, S. (2017). The development of scientific identification theory to conduct operation research in education management. *IOP Conference Series: Materials Science and Engineering*, 166(1), 12007.
- Hidayat, R., Hardhienata, S., Patras, Y. E., & Agustin, R. R. (2020). The effects of situational leadership and self-efficacy on the improvement of teachers' work productivity using correlation analysis and SITOREM. *COUNS-EDU: The International Journal of Counseling and Education*, 5(1), 6–14.
- Malik, O. F., Shahzad, A., Raziq, M. M., Khan, M. M., Yusaf, S., & Khan, A. (2019). Perceptions of organizational politics, knowledge hiding, and employee creativity: The moderating role of professional commitment. *Personality and Individual Differences*, 142, 232–237.
- Muthuveloo, R., & Rose, R. C. (2005). Typology of organizational commitment. *American Journal of Applied Science*, 2(6), 1078–1081.
- Setyaningsih, S., Ishlah, M. S. N., & Hardhienata, S. (2019). Optimization of enhancement of lecturer professional commitment using path analysis and sitorem method. *International Journal of Recent Technology and Engineering*, 8(2), 5–10.