

## Effects of Self Efficacy and Job Satisfaction on the Improvement of Lecturers Professional Commitment

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**Abstract:** Education is one tool that can be used by a country in the development of human resources, significantly higher education. Higher education is intended to develop students before they are ready to enter the world of work. One of the essential components in higher education is lecturers. The success of higher education is determined by lecturers who have high professional commitment. The lecturers' high self-efficacy will be reflected in their work, how the lecturer is responsive to the development of science, and the creation of student well-being. The main objective of the present study was to find out: 1) the direct influence of self-efficacy on the commitment of the lecturer profession; 2) the direct effect of job satisfaction on the commitment of the lecturer profession; 3) the direct effect of self-efficacy on the job satisfaction of lecturers, and 4) the indirect effect of self-efficacy on professional commitment through job satisfaction. The sample consists of 320 lecturers in South Tangerang City. Path Analysis and SITOREM are used for the analysis of the data. The investigators found that: i) there is a significant positive effect of self-efficacy on professional commitment; (ii) there is a positive influence of job satisfaction on professional commitment; (iii) there is a significant positive effect of self-efficacy on professional commitment through job satisfaction; (iv) there are 14 indicators that become priorities to be repaired immediately and eight indicators that can be maintained and improved.

**Keywords:** Professional commitment, self-efficacy, job satisfaction, lectures, SITOREM

### 1. Introduction

Higher education is a level of education intended as a coaching effort for students before they are ready to enter the world of work. Lecture become has a very vital role at this level. A lecturer must understand that the students they are dealing with are in a transitional period to be appropriately handled. Lecturers who can carry out these tasks must be lecturers who have a high commitment to the profession involved. Professional commitment (PC) is a psychological relationship between a person's involvement, the confidence to accept the goals and values, and feelings of pleasure and enthusiasm toward their professions. In essence, PC consists of three dimensions identified in the literature: affective, continuance, and normative (Floyd & Eckert, 2020). Job satisfaction is the personal factor that influences the PC's stability. These factors are age, health, length of job experience, emotional **stability**, social status, leisure activities, family, and other social relationships (Schultz & Schultz, 2020).

Moreover, the stability in job satisfaction may also reflect similar environmental influences over time (Yang et al., 2020). A view on job satisfaction was put forward by Yanti & Dahlan (2018). In this view, the concept of human resource management in a behavioral approach concluding that job satisfaction is one part of the unique mechanism, which is a determining factor for the occurrence of PC, which incidentally is part of the individual outcome.

Self-efficacy is the second factor that is thought to influence the lack of commitment of the lecturer profession. As stated by (Bandura, 1986) self-efficacy is an individual's belief about their capability to manage responsibilities. Furthermore, self-efficacy is an essential factor in increasing individual performance, cognitive, social, behavioral skills, and satisfaction (Bandura, 1977). Therefore, a high commitment to the profession as a lecturer will certainly produce graduates, as stated in the graduate profile, to achieve learning objectives planned and the institution's vision and mission targets. However, getting a high level of PC requires confidence, sincerity, and harmony in carrying out tasks as a lecturer that look simple but very complex and structured.

### 2. Significance of the Study

Sanghamitra Goswami and Mary Mathew, and NK Chadha (2007) stated that PC is a psychological relationship between a person and their work based on affective reactions to their work. Thus, someone with a high commitment will do their job in the best way. Affective commitment is a strong belief in and acceptance of the goals, values of the profession that lead to individual autonomous learning and increase professional progress. Affective commitment is reflected in the feeling of pride in living the profession as a lecturer, always enthusiastic in working as a lecturer, and assuming that this profession is an important part and will never be replaced in his

life. Continuance commitment is the availability to make great efforts on behalf of the profession. This commitment can be seen in how a lecturer survives in the teaching profession because they have felt the benefits for life and how a lecturer explores his profession and gives everything they have to support their performance. Besides, this continual commitment can also be seen in how a lecturer carries out his profession without pressure and stays committed to working as a lecturer. The last is a normative commitment which is a strong desire to maintain membership in the profession as a lecturer. It is reflected in how a lecturer loyalty and responsibility for the teaching profession they are currently working on. It can also be seen from how a lecturer feels they must survive in the profession of a lecturer.

**Hassan Soodmand Afshar and Mehdi Doosti (2016)** describe job satisfaction as a positive emotional state resulting from an appraisal of one's job or work experience. According to Colquitt (Alexandra Wilczynska. 2017), job satisfaction is a condition that can be obtained if job characteristics meet essential values. A person's work refers to what is considered valuable as long as it is based on one's needs, while needs are required to achieve that well-being. Job satisfaction can be viewed from two things: the lecturer's assessment of the salary obtained, promotion policies and promotion opportunities, the relationship between superiors in this case, the structural ranks with lecturers, professional relationships with fellow lecturers and administrative staff, and the emotion of the lecturer towards their profession and the condition of the work environment in which the lecturer serves.

Self-efficacy is the second factor that is thought to influence the level of commitment of the lecturer profession. **Bandura (1994)** defines self-efficacy as people's beliefs about their ability to produce specified levels of performance that exert influences or events that affect their lives. Self-efficacy determines how people think, motivate themselves, and behave. Such beliefs produce diverse effects through four main processes: cognitive rational, affective, and s. Self-efficacy is described in 3 factors, namely magnitude, strength, and generally (magnitude (level of task difficulty) in which are beliefs about mastery experiences (successful completion of tasks) which consists of three things: 1) performance desensitization (encouragement to eliminate bad influences past achievements by having an optimistic view of completing tasks); 2) performance exposure (encouragement to highlight the success that has been achieved in terms of having confidence in their ability to complete tasks) and 3) self-instructed performance (having the urge to train oneself to do the best). Strength (confidence stability) which includes psychological and emotional states (instructions for individuals about how successful and unsuccessful they are when doing the given task) which consists of three things, namely: 1) attribution (having the confidence to persist in completing the tasks they have); 2) relaxation biofeedback (belief has the ability to relax which aims to reduce stress). Generally (broad field of behavior) which includes vicarious experiences and social persuasion. Which consists of 1) self-instruction (the urge to govern oneself to respond to various situations and conditions in a good and positive way) and 2) interpretive treatment (the urge to interpret something new and correct the old wrong interpretation).

### **3. Review of Related Studies**

**Ajay Kumar Attri and Neelama Devi (2017)**, in their research, conclude that there is a significant positive effect between self-efficacy and PC. In line with Garcia Gilbert F (2015), his dissertation concluded a significant positive effect between self-efficacy and professional commitment. **Hadiya Habib's research (2019)** concludes that there is a significant positive effect between self-efficacy and commitment to the teaching profession. **Jalil Fathi and Elahe Sovadi Rostami (2018)** conclude that there is a significant positive effect between self-efficacy and PC. The higher the teacher efficacy, it is predicted that the higher the commitment of the teaching profession will be. **Tyson J Sorensen and Aaron J McKim (2014)** conclude that there is a significant positive effect between job satisfaction and PC. **Yong Jiang's research (2005)** concludes that there is a significant positive effect between job satisfaction and PC. Research by **Ismail Bakan and Tuba Buyukbese and Burcu Ersaham, and Buket Sezer (2014)** conclude that there is a significant positive effect between job satisfaction and PC.

**Zulfu Demirtas (2018)** concludes that there is a significant positive effect between job satisfaction and PC. The higher the job satisfaction, it is predicted that the higher the commitment of the teaching profession will be. Research by **J Joey Blackburn and J C Bunch, and J Cris Haynes (2017: 28)** concludes that there is a significant positive effect between self-efficacy and job satisfaction. The higher the self-efficacy, the higher the teacher's job satisfaction is predicted. Research by **Yalalova, Yulia, and Li Zhang (2017)** concludes that there is a significant positive effect between self-efficacy and job satisfaction. The higher the self-efficacy, the higher the teacher's job satisfaction is predicted. The research of **Ming-Cheng Lai and Yen-Chun Chen (2012)** concluded a significant positive effect between self-efficacy on job satisfaction. The higher the self-efficacy, the higher the teacher's job satisfaction is predicted.

#### 4.Objectives of the Study

- To determine the direct effect of self-efficacy on the commitment of the lecturer's profession.
- To find out the direct effect of job satisfaction on lecturer's professional commitment
- To determine the direct effect of self-efficacy on job satisfaction.
- To determine the indirect effect of self-efficacy on lecturer's professional commitment through job satisfaction

#### 5.Hypotheses of the Study

- There is a significant positive direct effect of self-efficacy on the commitment of the lecturer profession.
- There is a significant positive direct effect of job satisfaction on the commitment of the lecturer's profession
- There is a significant positive direct effect of self-efficacy on job satisfaction.
- There is a significant positive indirect effect of self-efficacy on the commitment of the lecturer profession through job satisfaction

#### 6.Population and Sample

The population in this study were permanent lecturers at private universities in South Tangerang City. The investigators used a proportional random sampling technique and randomly selected 320 lecturers at 14 private universities.

##### 6.1.Statistical Techniques Used in the Present Study

The researcher developed the professional commitment, self-efficacy, and job satisfaction questionnaire, and the data analysis technique used Path Analysis and SITOREM analysis.

##### 6.2.Data Analysis and Interpretation

**Table1. Normality testKolmogorov-Smirnov**

No	Variable Name	ScoreAsymp. Sig. (2-tailed)	Normality Test PrerequisitesAsymp. Sig > 0,05
1	Professional commitment	0,200	0,200 > 0,05
2	Job satisfaction	0,200	0,200 > 0,05
3	Self Efficacy	0,096	0,096 > 0,05

Based on table 1 can be explained that professional commitment has an asymp.Sig. (2-tailed) value for the Kolmogorov-Smirnov test of 0.200 or > 0.05 level of significance. So  $H_0$  is accepted,  $H_a$  is rejected, which means that the professional commitment variable is normally distributed. The job satisfaction variable has an asymp.sig. (2-tailed) value for the Kolmogorov-Smirnov test of 0.200 or > 0.05 level of significance. So  $H_0$  is accepted,  $H_a$  is rejected, which means that the job satisfaction variable is also normally distributed. The third variable, namely self-efficacy, has an asymp.sig. (2-tailed) value for the Kolmogorov-Smirnov test of 0.200 or > 0.05 level of significance. So  $H_0$  is accepted,  $H_a$  is rejected, which means that the self-efficacy variable is normally distributed.

**Table.2. Homogeneity Test Bartlett**

No	Data Grouping	Df	$\chi^2_{\text{count}}$	$\chi^2_{\text{table}}$	Prerequisites for Homogeneity Test $\chi^2_{\text{count}} \leq \chi^2_{\text{table}}$ and Sig. > 0,05
1	Variable Y to $X_1$	1	1,903	3,841	$1,903 \leq 3,841$ and Sig. 0,168 > 0,05
2	Variable Y to $X_2$	1	0,232	3,841	$0,232 \leq 3,841$ and Sig. 0,631 > 0,05
3	Variable $X_2$ to $X_1$	1	1,217	3,841	$1,217 \leq 3,841$ and Sig. 0,271 > 0,05

Based on table 2. There are three interpretations, namely (1) The results of the calculation for testing the homogeneity of the self-efficacy variable ( $X_1$ ) with the professional commitment variable (Y) obtained  $\chi^2_{\text{count}} = 1.903$  with df = one at the sig.Level. 0.168. Because  $\chi^2_{\text{hitung}} 1.903 \chi^2_{\text{table}} 3.841$ , and Sig. 0.168 > 0.05 then  $H_0$  is accepted, and  $H_a$  is rejected, so it can be interpreted that the homogeneity of the variance of the self-efficacy group with professional commitment comes from a homogeneous data population. in other words, the homogeneity of the variance of the Y data group to  $X_1$  is homogeneous and the homogeneity requirements of the group variance fulfilled; (2) The results of the calculation for testing the homogeneity of the job satisfaction variable ( $X_2$ ) with the professional commitment variable (Y) obtained  $\chi^2_{\text{count}} = 0.232$  with df = 1 at the sig.Level. 0.631. Due to  $\chi^2_{\text{count}}$

0.232  $\chi^2_{table}$  3.841, and Sig. 0.631 > 0.05 then  $H_0$  is accepted, and  $H_a$  is rejected, so it can be interpreted that the homogeneity of the variance of the job satisfaction group with professional commitment comes from a homogeneous data population, in other words, the homogeneity of the variance of the Y data group to  $X_2$  is homogeneous. Therefore, the homogeneity requirements of the group variance were fulfilled. (3) The calculation results for testing the homogeneity of the self-efficacy variable ( $X_1$ ) with the job satisfaction variable ( $X_2$ ) obtained  $\chi^2_{count} = 1.217$  with df = one at the sig level. 0.271. Because of  $\chi^2_{count} 1.217 < \chi^2_{table} 3.841$  and Sig. 0.271 > 0.05 then  $H_0$  is accepted, and  $H_a$  is rejected, so it can be interpreted that the homogeneity of the variance of the self-efficacy group with job satisfaction comes from a homogeneous data population, in other words, the homogeneity of the variance of the  $X_2$  data group to  $X_1$  is homogeneous and the homogeneity requirements of the group variance fulfilled.

**Table.3. Linearity Test**

Relationship Between Variables	Regression Equation	Linearity of the Regression Equation			Score p
		$F_{count}$	$F_{table 0,05}$	$F_{table 0,01}$	
Y- $X_1$	$Y = 5,397 + 0,959 X_1$	0,767	1,39	1,59	0,923
Y- $X_2$	$Y = 2,401 + 0,981 X_3$	0,877	1,39	1,59	0,764
$X_2$ - $X_1$	$X_3 = 4,131 + 0,960 X_1$	1,186	1,39	1,59	0,156

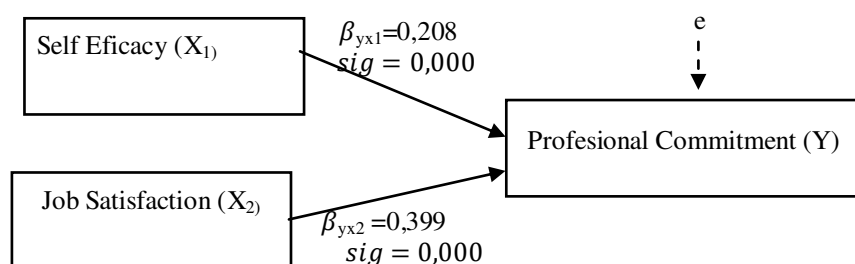
From table 3, it shows the P-value of Sig. 0.923 > 0.05 or  $F_{count} = 0.767$  and  $F_{table}$  with dk numerator 86 and dk denominator 232 and significance level = 0.05 is 1.32 ( $F_{count} = 0.767 < F_{table} = 1.32$ ), which means  $H_0$  is rejected and  $H_a$  is accepted. Thus, it can be interpreted that the Y regression equation model on  $X_1$  is linear, and the linear requirements are met. It means that a simple linear regression model can be used and predicts professional commitment, which is influenced by self-efficacy variables. The third row of Table 3 shows the P-value of Sig. 0.764 > 0.05 or  $F_{count} = 0.877$  and  $F_{table}$  with dk numerator 93 and dk denominator 225 and significance level = 0.05 is 1.30 ( $F_{count} = 0.877 < F_{table} = 1.30$ ) which means  $H_0$  is rejected and  $H_a$  is accepted. Thus, it can be interpreted that the Y regression equation model on  $X_2$  is linear, and the linear requirements are met. It means that a simple linear regression model can be used and predicts professional commitment, which is influenced by job satisfaction variables. The fourth row in table 3 shows the P-value of Sig. 0.155 > 0.05 or  $F_{count} = 1.186$  and  $F_{table}$  with dk numerator 95 and dk denominator 223 and significance level = 0.05 is 1.30 ( $F_{count} = 1.186 < F_{table} = 1.30$ ) which means  $H_0$  is rejected and  $H_a$  is accepted. Thus, it can be interpreted that the regression equation model  $X_3$  over  $X_1$  is linear, and the linear requirements are met. It means that a simple linear regression model can be used and predict job satisfaction influenced by self-efficacy variables.

**Table4. Correlation Coefficient between Variables**

Correlation	Correlation Value	Sig.	Conclusion
Y- $X_1$	0,992	0,000	correlation between Y and $X_1$ is very strong and significant
Y- $X_2$	0,989	0,000	correlation between Y and $X_2$ is very strong and significant
Y- $X_3$	0,993	0,000	correlation between Y and $X_3$ is very strong and significant
$X_3$ - $X_1$	0,991	0,000	correlation between $X_3$ and $X_1$ is very strong and significant
$X_3$ - $X_2$	0,984	0,000	correlation between $X_3$ and $X_2$ is very strong and significant

Based on table 4 above, the correlation coefficient matrix between the variables above and paying attention to the guidelines for providing an interpretation of the correlation coefficient (Sugiyono, 2011) indicates that all relationships between variables have very strong and significant correlations all path coefficients can be used.

**Figure.1 Substructure Path Coefficient 1**



Based on Fig. 1, the causal relationship between substructure 1 consists of one endogenous variable, namely professional commitment, and two exogenous variables, self-efficacy and job satisfaction. The results showed all path coefficients are significant with a probability value (sig.)  $0.000 < 0.05$ . Thus, the sub-structural relationship model 1 ( $X_1$ ,  $X_2$ , to  $Y$ ) in Fig. 1 did not need to be corrected by the trimming method. Based on the picture above, the significance value of each variable proves the rejection or acceptance of the hypothesis. It is indicated by a number less than 0.05. The significance value of the  $X_1$  variable (self-efficacy) is indicated by the number 0.000, where the number is smaller than 0.05. It means that self-efficacy ( $X_1$ ) has a direct positive and significant effect on a commitment to the profession, so it can be concluded that the null hypothesis ( $H_0$ ) is rejected and  $H_1$  is accepted. Likewise, the significance value of the  $X_2$  variable (Job Satisfaction) is indicated by the number 0.000, where the number is smaller than 0.05. It means that job satisfaction ( $X_2$ ) has a direct positive and significant effect on the profession's commitment. It can be concluded that the null hypothesis ( $H_0$ ) is rejected, and  $H_2$  is accepted. Thus, the structural equation for sub-structural 1 is  $Y = 0.208 X_1 + 0.399 X_2$

**Table5. Regression Equation Significance Test Results**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	176718.045	2	58906.015	13527.076	.000 <sup>b</sup>
	Residual	1376.077	317	4.355		
	Total	178094.122	319			

a. Dependent Variable: Professional\_Commitment

b. Predictors: (Constant), JobSatisfaction, Self\_Efficacy

The table above shows the probability value (sig.)  $0.000 < 0.05$ , thus the regression equation  $Y = 0.208 X_1 + 0.399 X_2$  is significant. The results of this test confirm that the equation can be used to predict commitment to the profession based on scores of self-efficacy and job satisfaction.

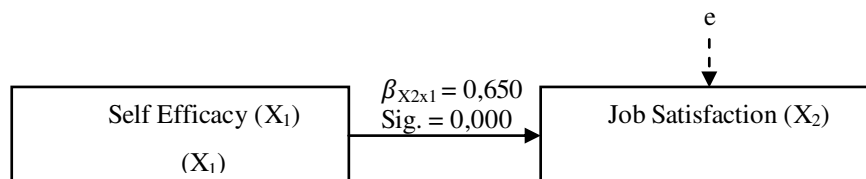
**Table.6. Coefficient of Determination of Self-Efficacy and Job Satisfaction with Professional Commitment**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996 <sup>a</sup>	.992	.992	2.08679

a. Predictors: (Constant), Job\_Satisfaction, Self\_efficacy

Based on the table above, the contribution given by self-efficacy and job satisfaction to commitment to the profession can be seen from the coefficient of determination of 0.992, which can be interpreted that 99.2% of commitment to the profession can be explained by self-efficacy, quality of work-life and job satisfaction. In comparison, the rest of 0.08% is influenced by other variables outside the research variables.

**Figure.2 Substructure Path Coefficient 2**



The causal relationship between substructure 2 consists of one endogenous variable, namely job satisfaction ( $X_2$ ), and one exogenous variable, namely self-efficacy ( $X_1$ ). The sub-structural equation 2 is  $X_2 = \beta_{X2x1} X_1 + \varepsilon_1$ . The results of the analysis show that all path coefficients are significant with a probability value (sig.)  $0.000 < 0.05$ . Thus, the sub-structural relationship model 2 ( $X_1$  to  $X_2$ ) in Figure 2 does not need to be corrected by the trimming method. Thus the structural equation for sub-structural 2 is  $X_2 = 0.650 X_1$

**Table.7. Regression Equation Significance Test Results**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	179264.235	1	89632.117	9829.059	.000 <sup>c</sup>
	Residual	2890.753	318	9.119		
	Total	182154.988	319			

- a. Dependent Variable: Job Satisfaction  
b. Predictors: (Constant), Self Efficacy

The table above shows the probability value (sig.)  $0.000 < 0.05$ , thus the regression equation  $X_2 = 0.650 X_1$  is significant. The results of this test confirm that the equation can be used to predict job satisfaction based on self-efficacy scores.

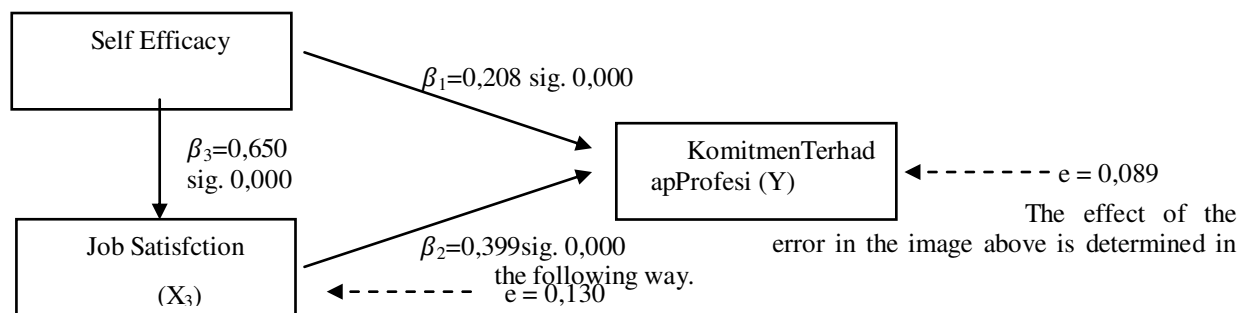
**Table.8. Coefficient of Determination of Self-Efficacy with Job Satisfaction**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992 <sup>a</sup>	.984	.984	3.01978

a. Predictors: (Constant), Self\_efficacy

Based on the table above, the contribution given by self-efficacy to job satisfaction can be seen from the coefficient of determination of 0.984, which can be interpreted that 98.4% of job satisfaction can be explained by self-efficacy. In comparison, other variables outside the research variables influence the other remaining 1.6%. After knowing the direct effect of each independent variable on the dependent variable in both the first and second regression equations, then the indirect effect of self-efficacy ( $X_1$ ) on professional commitment ( $Y_1$ ) through job satisfaction ( $X_2$ ) is calculated. To make it easier, first, a trajectory model is prepared in the path analysis as follows.

**Figure.3** Sturcture Path



$$P_{e1} = \sqrt{1 - R_1^2}$$

$$P_{e2} = \sqrt{1 - R_1^2} = \sqrt{1 - 0,992} = 0,089$$

$$P_{e1} = \sqrt{1 - R_1^2} = \sqrt{1 - 0,984} = 0,130$$

The total variance of data that the model can explain is measured by:

$$R_m^2 = 1 - P_{e1}^2 P_{e2}^2 \dots P_{ep}^2$$

The interpretation of  $R_m^2$  is the same as the interpretation of the coefficient of determination ( $R^2$ ). In the regression analysis for the model above, the total coefficient of determination is obtained as follows.

$$R_m^2 = 1 - (P_{e1})^2 \times (P_{e2})^2$$

$$R_m^2 = 1 - (0,089)^2 \times (0,130)^2$$

$$R_m^2 = 1 - (0,007921 \times 0,0169)$$

$$= 1 - 0,024821$$

$$= 0,9751 = 0,975$$

The calculation above explains that the diversity of data that can be explained by the model in this study is 0.975 or 97.5%, which means that 97.5% of the information contained in the data can be explained by the model, while the remaining 2.5% is explained by the model. The other variables that have not been included in this research model. Since all hypotheses in this study were accepted, it can be calculated the indirect effect of self-

efficacy ( $X_1$ ) on commitment to the profession ( $Y$ ) through job satisfaction ( $X_2$ ). The indirect effect in this study can be described in the following table.

**Table9. Calculation of direct and indirect effects**

Path	Beta		Direct Score	Indirect Score	P Total Score
	$\beta_1 / \beta_2 \beta_3 / \beta_4 \beta_5$	$B_3$			
$X_1 \rightarrow Y$	0,208	-	0,208	-	0,208
$X_2 \rightarrow Y$	0,399	-	0,399	-	0,399
$X_1 \rightarrow X_2$	0,650	-	0,650	-	0,650
$X_1 \rightarrow X_2 \rightarrow Y$	0,650	0,399	-	$0,650 \times 0,399 = 0,259$	0,909

Based on table 9, it can be described that the testing of the four hypotheses in this study. The first hypothesis testing was carried out by testing the direct effect of self-efficacy ( $X_1$ ) on the commitment to the profession ( $Y$ ). To test that self-efficacy ( $X_1$ ) has a direct positive effect on professional commitment ( $Y$ ), the first statistical hypothesis tested is as follows:

$H_0$ :  $\beta_{yx_1} \leq 0$ , there is no direct positive effect of self-efficacy on professional commitment.

$H_1$ :  $\beta_{yx_1} > 0$ , there is a positive direct effect of self-efficacy on professional commitment.

From the calculation results, the path coefficient value is obtained with  $\beta_{yx_1} = 0.208$ . The test results of the significance of the coefficients obtained  $t_{hitung}$  of 4.994 and  $t_{table}$  of 1.645. Based on the calculation results obtained  $t_{count} > t_{table}$ . So  $H_0$  is rejected, and  $H_1$  is accepted. Thus it can be concluded that self-efficacy ( $X_1$ ) has a significant positive direct effect on professional commitment ( $Y$ ).

The second hypothesis tested the direct effect of job satisfaction ( $X_2$ ) on professional commitment ( $Y$ ). To test that job satisfaction ( $X_2$ ) has a direct positive effect on professional commitment ( $Y$ ), the second statistical hypothesis is tested as follows:

$H_0$ :  $\beta_{yx_2} \leq 0$ , there is no direct positive effect of job satisfaction on professional commitment.

$H_1$ :  $\beta_{yx_2} > 0$ , there is a positive direct effect of job satisfaction on professional commitment.

From the calculation results obtained path coefficient value with  $\beta_{yx_2} = 0.399$ . The results of testing the significance of the coefficients obtained  $t_{hitung}$  of 10.163 and  $t_{table}$  of 1.645. Based on the calculation results obtained  $t_{hitung} > t_{table}$ . So  $H_0$  is rejected, and  $H_2$  is accepted. Thus it can be concluded that job satisfaction ( $X_2$ ) has a significant positive direct effect on professional commitment ( $Y$ ).

The third hypothesis was tested by testing the direct effect of self-efficacy ( $X_1$ ) on job satisfaction ( $X_2$ ). To test that self-efficacy ( $X_1$ ) has a direct positive effect on job satisfaction ( $X_2$ ), the third statistical hypothesis tested is as follows:

$H_0$ :  $\beta_{x_2x_1} \leq 0$ , There is no direct positive effect of self-efficacy on job satisfaction.

$H_1$ :  $\beta_{x_2x_1} > 0$ , There is a positive direct effect of self-efficacy on satisfaction

From the calculation results obtained path coefficient value with  $\beta_{x_2x_1} = 0.650$ . The test results of the significance of the coefficients obtained  $t_{hitung}$  of 13.815 and  $t_{table}$  of 1.645. Based on the calculation results obtained  $t_{hitung} > t_{table}$ . So  $H_0$  is rejected, and  $H_4$  is accepted. Thus it can be concluded that self-efficacy ( $X_1$ ) has a significant positive direct effect on job satisfaction ( $X_2$ ).

The fourth hypothesis was tested by testing the indirect effect of self-efficacy ( $X_1$ ) on professional commitment ( $Y$ ) through job satisfaction ( $X_2$ ). To test that self-efficacy ( $X_1$ ) has a positive indirect effect on professional commitment ( $Y$ ) through job satisfaction ( $X_2$ ), the fourth statistical hypothesis is tested as follows:

$H_0$ :  $\beta_{yx_1x_2} \leq 0$ , There is no positive indirect effect of self-efficacy on professional commitment through job satisfaction.

$H_1$ :  $\beta_{yx_1x_2} > 0$ , There is a positive indirect effect of self-efficacy on professional commitment through job satisfaction.

From the calculation results obtained path coefficient value with  $\beta_{yx_1x_2} = 0.909$ . Based on the calculation results,  $H_0$  is rejected, and  $H_5$  is accepted. Thus it can be concluded that self-efficacy ( $X_1$ ) has a significant positive indirect effect on professional commitment ( $Y$ ) through job satisfaction ( $X_3$ ). It can be concluded that the

job satisfaction variable is a moderator variable that strengthens the relationship between the self-efficacy variable and the professional commitment variable.

In the process of implementing operational research in the field of education management, the addition of scientific identification theory, in this case, the SITOREM (Scientific Identification Theory to Conduct Operation Research Education Management) analysis, is a scientific introduction theory to conduct operations research in the field of education management (Hardhienata, 2017) with the model statistics and indicator analysis of each variable to obtain optimal solutions to variable indicators that need to be improved, maintained or improved. The purpose of the SITOREM analysis is to derive recommendations and order of priority for handling repairs. There are three criteria used, namely: (1) the strength of the relationship between the independent variable and the dependent variable; (2) The order of priority indicators of the variables studied, and (3) the value of indicators obtained from the results of research in the field. The origin of the strength of the relationship between the independent and dependent variables is obtained from data analysis using statistical analysis methods. In contrast, the order of priority indicators of the variables studied is arranged based on expert opinions and analysis from researchers. Finally, indicator values are obtained from data calculations from the field of answers of the research respondents.

The first step is to analyze the contribution of the correlation coefficient and the coefficient of determination of the independent variables with the dependent variable of the study, namely by using the formula for calculating the correlation coefficient and the coefficient of determination. Based on the correlational research design in this study, the contribution analysis can be explained in table 10 as follows.

Table.10. Contribution Analysis of Research Variables

No	relationship between research variable	correlati on coefficient	coefficient of determination	contribution (%)
1	The relationship between self-efficacy and professional commitment	0,992	0,983	98,3%
2	The relationship between job satisfaction and professional commitment	0,993	0,985	98,5%
4	The relationship between work self-efficacy and job satisfaction	0,991	0,981	98,1%

Based on table 10, they are then weighted by experts. After obtaining the weight of the assessment from the expert for the weight (%) of each indicator, then an analysis is carried out to determine the classification of the indicators of the research variables, namely into groups of indicators that need to be improved immediately (high weights and low scores), and groups of indicators that need to be improved—maintained or developed (high weight, high score) (WidodoSunaryo & Sri Setyaningsih, 2018). Based on the SITOREM analysis, the following suggestions/recommendations will be made: indicators that are already good are recommended to be maintained, and indicators that are not good are recommended to be improved to prioritize handling improvements. The results of the SITOREM analysis in this study can be explained in the following table.

Table10. SITOREM Analysis Results

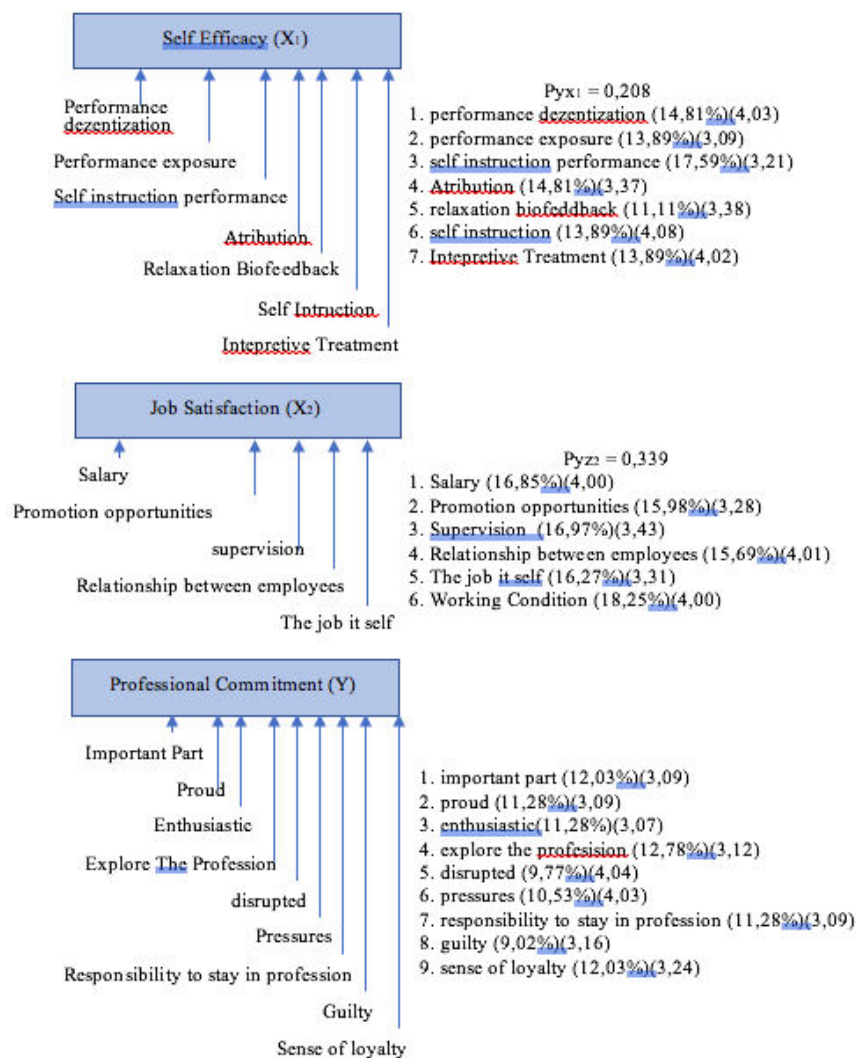
Results of cytoremanalysis	
Order of priority indicators for immediate repair	Indicators that need to be maintained or developed
1. explore the profession (12,78%) (3,12)	1. pressures(10,53%) (4,03)
2. important part (12,03%) (3,09)	2. disrupted (9,77%) (4,04)
3. sense of loyalty (12,03%) (3,24)	3. working condition (18,25%) (4,00)
4. Proud ((11,28%) (3,09)	4. Salary (16,85%) (4,00)
5. responsibility to stay in profession (11,28%) (3,09)	5. Relationship between employees (15,69%) (4,01)
6. Enthusiastic (11,28%) (4,03)	6. Performance Dezentization (14,81%) (4,03)
7. guilty (9,02%) (3,16)	7. Self Instruction (13,89%) (4,06)
8. Supervision (16,97%) (3,43)	8. Interpretive Treatment (13,89%) (4,02)
9. the job it self (16,27%) (3,31)	



Results of cytoremanalysis	
Order of priority indicators for immediate repair	Indicators that need to be maintained or developed
10. Promotion opportunities (15,98%) (3,28)	
11. Self Instructed Performance (17,59%) (3,21)	
12. Attribution (14,81%) (3,37)	
13. Performance Exposure (13,89%) (3,09)	
14. Relaxation Biofeedback (11,11%) (3,38)	

To see how strong the relationship between the independent and dependent variables is and to get the optimal solution from this research, it can be seen in the constellation of research and statistics based on scientific introduction theory for operations research in the field of education management or better known as SITOREM as shown in the following figure.

**Fig.4**Sitorem Analysis Results



## 7.Recommendations

- Higher education managers can increase the commitment of the lecturers' profession by first strengthening the lecturer's self-efficacy
- Higher education managers can increase the commitment of the lecturers' profession by first strengthening the lecturer's jobSatisfaction
- Higher education managers can increase lecturer job satisfaction by first strengthening the lecturer's self-efficacy
- Fourteen indicators must be the main priority in increasing PC through increasing self-efficacy and job satisfaction. The fourteen indicators are: 1) performance exposure; 2) self-instruction performance; 3) attribution; 4) relaxation biofeedback; 5) promotion opportunities; 6) supervision; 7) the job itself; 8) essentialparts; 9) proud; 10) enthusiastic; 11) explore the professional; 12) responsibility to stay in the profession; 13) guilty and 14) sense of loyalty.
- Eight indicators must be maintained and improved in increasing PC through increasing self-efficacy and job satisfaction. The fourteen indicators are 1) performance desensitization; 2) self-instruction; 3) interpretive treatment; 4) salaries; 5) relationship between employees; 6) working conditions; 7) disrupted and 8) pressures

## 8.Conclusion

The conclusion is increasing self-efficacy and job satisfaction is essential due to its contribution to the PC. The job satisfaction variable is a moderator variable that strengthens the relationship between self-efficacy and the PC variables. While 14 indicators were recommended to be retained using SITOREM and eight others were prioritized for improvement

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