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ASPECTS OF INFORMATION TECHNOLOGY AND ORGANIZATIONAL COMMITMENT IN INCREASING RADICAL INNOVATION

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Abstract

Information technology used by STMIK lecturers tends to be completed only at the level of output of programs and activities that have been determined by the university, to realize ideal teaching, research and community service through the behavior of lecturers in sharing knowledge, organizational commitment of STMIK lecturers In conducting teaching, research and community service as the Tri Dharma of higher education, it still needs to be further proven, innovation is very important to be able to face all possible challenges that will come, including the mindset as a lecturer must develop along with the times, because in In this era of distortion, lecturers must be able to change their way of thinking so that they are better. The purpose of this study is to develop the concept of increasing lecturer innovation and examining the effect of information technology, sharing knowledge and organizational commitment to innovation in STMIK lecturers in Bekasi. The research was conducted with a quantitative approach and survey methods, the population in this study was 80 lecturers who remained scattered in STMIK in Bekasi, 66 lecturers were taken as the research sample using random sampling technique, and the data were obtained by questionnaires. The analytical method used in analyzing the data is the path analysis technique. The results showed that information technology, knowledge sharing and organizational commitment had a positive direct effect on the innovation of STMIK lecturers in Bekasi. The most significant new finding is the indirect effect of information technology on lecturer innovation through organizational commitment. Radical innovation provides the largest contribution to the measurement of lecturer innovation variables, the concept of increasing innovation can be emphasized on Information Technology and Organizational Commitment of STMIK lecturers.

Keywords: Information Technology, Knowledge Sharing, Organizational Commitment, Lecturer Innovation

1. Introduction

In the main duties of lecturers such as: teaching, research and community service which are packaged in the form of the Tridharma of Higher Education. For this reason, the task of the lecturer is to provide support and guidance for students, lecturers are also required to carry out research and service to the community in the surrounding environment, however the last 2 (two) fields are still often referred to as 'additional work'. Lecturers also focus more

on routine assignments as lecturers, mentors and examiners of students to make new innovations through research and community service activities. Whereas through a research, it can be placed to find an understanding, technology, and new solutions to various problems that are owned by students, lecturers, universities and other wider communities. The most important element for lecturers as part of Higher Education in forming quality human resources (HR).

The results of research and academic work are mostly just a formality, only to fulfill the promotion (credit score) of lecturers and eventually accumulate in the library. The research results of lecturers, which are around 70 percent, are still in the form of references for student research or other research activities. And these results are not only to be recorded and stored in the library, but disseminated to the public so that the benefits are felt (Deddy Mulyadi, 2016).

The information technology used by STMIK lecturers tends to be completed only at the output level of the programs and activities that have been determined by the university. Further activities of the program are rarely carried out and only become individual or group reports which are then stored in the library. The use of information technology and programs should be continued until the level of benefits that can be felt by the community.

To realize the ideal teaching, research and community service, this can be done through the behavior of lecturers in sharing knowledge. People actually really need practical knowledge to be used in their daily lives, especially in supporting community activities. And knowledge can be obtained from universities where STMIK lecturers can take advantage of information technology as knowledge transfer. But in reality, the behavior of STMIK lecturers has not been optimal in sharing knowledge. The effectiveness of knowledge sharing behavior is a fundamental matter in organizations. The behavior of sharing knowledge is not only for lecturers to students but also to fellow colleagues. In addition to having objective,

rational, and technical knowledge in the form of data or documents (explicit knowledge), lecturers as one of the internal resources of Higher Education also have subjective, cognitive, experience-based knowledge (tacit knowledge). These two domains of knowledge are important assets in organizations that must be communicated between individuals and organizations. This is intended so that the knowledge sharing process runs well to support various decisions.

The organizational commitment of STMIK lecturers in conducting teaching, research and community service as the Tri Dharma of higher education still needs to be further proven. Of the several STMIK lecturers in Bekasi, although they have the obligation to carry out teaching, research and community service, it is still very little, and the interest of lecturers to submit research and community service proposals is still low (Eddy Setiadi, 2016).

The above problem is reinforced by research conducted by Urbancova Hana (2013) that individuals who hold knowledge are tools for the generation of innovation. Thanks to the personal creativity of lecturers, knowledge, skills, abilities and sharing of experiences it is possible to generate new, innovative ideas that will help universities to achieve competitive advantages. And from each research result, lecturers and researchers do not just stop at the word level, but can also be applicable and produce something useful for society and get closer to the industry with research results so that they can produce quality innovative products.

Innovation is very important to be able to face all possible challenges that will come, including the mindset as a lecturer must develop along with the times, because in this era of distortion, lecturers must be able to change their way of thinking so that they are better. Lecturers are higher education human resources who have a very central and strategic role in all activities in higher education. The innovative behavior of lecturers can be realized if the lecturer carries out assignments with full creativity to provide positive outcomes for higher

education, on the other hand, the innovation behavior of the lecturers is shown by the intensity of the lecturer in providing constructive suggestions, supporting creative ideas to colleagues, providing new ideas, proactively developing new methods, implementing new ideas and providing recommendations on problems at work as well as in high categories so that the level of lecturer confidence that creativity will help lecturers to work well (Praptini Yulianti, 2016). Below is a table of initial survey data about the innovation of STMIK lecturers in Bekasi.

Table 1. Initial survey data for STMIK lecturers' innovation in Bekasi

Questionnaire	Corresponding (%)	Not Corresponding (%)
Innovation	10%	90%
Leadership	80%	20%
Budget	50%	50%
Information Technology	40%	60%
Organizational Commitment	40%	60%
Knowledge Sharing	30%	70%

Initial survey data on lecturer innovation using incidental sampling, where the sampling technique is based on chance, meaning that any lecturer who meets by chance with the researcher can be used as a sample and is suitable as a source of data, the sample was taken from 30 respondents of STMIK lecturers in Bekasi who have program accreditation study: C, with the characteristics of respondents, among others: Age (25-35 years = 13%, 36-45 years = 47%, 46-55 years = 10%, 56-65 years = 7%), gender (male- male = 87%, female = 13%), length of teaching (<5 years = 57%, 6-10 years = 27%,> 11 years = 17%) with at least latest S2 education levels. Based on the results of the initial survey, the researchers tried to examine the unsuitable factors that influenced lecturer innovation, namely information technology, knowledge sharing and organizational commitment. Therefore, the researcher limits the research problem to be analyzed only on certain variables that are considered influencing the Lecturer Innovation variable at STMIK in Bekasi. These variables are (1) Information Technology Variable and (2) Knowledge Sharing Variable as exsogenous

variable, (3) Organizational Commitment Variable as intervening variable; and (4) Lecturer Innovation Variable as the dependent variable (endogenous).

2. Materials and Method

This study uses an associative quantitative approach, survey methods and path analysis techniques. In using this survey research method, researchers used a questionnaire as a means of collecting data. The variables in this path analysis consist of one endogenous variable (bound), three exogenous variables (free). The endogenous variable (Y) is the STMIK Lecturer Innovation. Exogenous variables consist of Information Technology (X1), Knowledge Sharing (X2), and Organizational Commitment (X3). The steps in the analysis are as follows:

a) Conducting an analysis of correlational and simple linear regression aspects for every two variables. To calculate the path coefficient, a simple product moment correlation coefficient is used between each of the two research variables.

b) Perform regression linearity test on the relationship of each two variables.

he unit of analysis used in this study is a lecturer who has permanent lecturer status and has NIDN (National Lecturer Identification Number) that are scattered in assignments at STMIK in Bekasi. As mentioned above, the campuses studied were STMIK which had accreditation of the "C" study program and there were 3 (three) STMIK campuses. The sampling technique used was simple random sampling, so that each element of the population had the same opportunity and was known to be selected. Determining the number of samples from the population that will be the target of data collection refers to a logical statistical reference, (Rully Indrawan and R. Poppy Yaniawati, 2014). One of them is using the Slovin statistical formula, determining the sample size of a population with the formula: $n = N / [1 + N \alpha 2]$, where, n = sample, N = population, and α = error margin. By using the slovin formula at $\alpha = 0.05$, the sample size (n) = 66 samples was obtained.

Based on the theoretical considerations above, researchers took 66 lecturers as a sample of this study. By calculating the sample of each STMIK with the formula n = (population class / total population) x the number of samples specified. STMIK (1) : N = 66/80 x 13 = 10,7 = 11, STMIK (2) : N = 66/80 x 31 = 25,4 = 25, STMIK (3) : N = 66/80 x 36 = 29,7 = 30, So that the total sample size = 66 samples.

Alternative answers in the questionnaire are based on the answer criteria in the form of intensity, according to the size characteristics of each variable as outlined in the form of a questionnaire, with alternative answers: "Always (SL), Often (SR), Sometimes (KK), Rarely (JR), or Never (TP) ". Positive statements / questions are given a score of 5 - 1, while negative statements / questions are given a score of 1 - 5.

Below is a picture of the model used by the researcher as a reference in compiling this research framework:
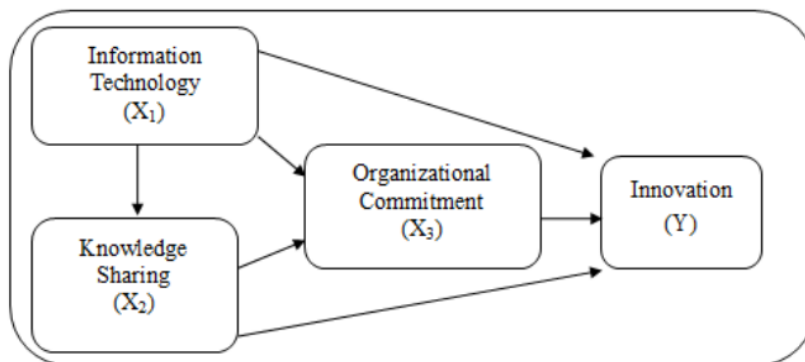

Figure 1.Research framework / path analysis constellation

The purpose of this research is to develop the concept of increasing lecturer's innovation, by analyzing the direct effect of information technology on the innovation of STMIK lecturers in Bekasi, the direct effect of sharing knowledge on the innovation of STMIK lecturers in Bekasi, the direct influence of organizational commitment to the innovation of STMIK lecturers in Bekasi, the direct effect of information technology on organizational commitment of STMIK lecturers in Bekasi, direct influence of sharing knowledge on organizational

commitment of STMIK lecturers in Bekasi, direct influence of information technology on sharing knowledge of STMIK lecturers in Bekasi, indirect influence of information technology on innovation of STMIK lecturers in Bekasi through knowledge sharing, indirect influence of technology information on the innovation of STMIK lecturers in Bekasi through organizational commitment, the indirect effect of sharing knowledge on innovation of STMIK lecturers in Bekasi through organizational commitment.

3. Result and Discussion

Statistical calculations are depicted in the tables below:

Table 2. List of Descriptive Statistics Summary

Description	Innovation	Information Technology	Knowledge Sharing	Organizational Commitment
Average	31.03	92.85	65.83	44.81
Standard Error	0.64	0.84	0.65	0.45
Median	35.43	96.72	70.10	52.05
Mode	35.18	96.69	69.83	48.25
Standar Deviation	5.19	6.85	5.28	3.68
Variance	26.9837	46.8998	27.8564	13.5136
Range	27	34	27	20
Lowest	18	76	53	35
Highest	45	110	80	55
Total Score	2048	6128	4345	2958
Sample Size	66	66	66	66

Table 3. Error Estimated Regression in Normality Test Results

Error Estimated Regression	n	L_{count}	L_{table} $\alpha = 0.05$	Desciption
Y over X_1	66	0.096	0.109	Normally distributed
Y over X_2	66	0.104	0.109	Normally distributed
Y over X_3	66	0.078	0.109	Normally distributed
X_3 over X_1	66	0.099	0.109	Normally distributed
X_3 over X_2	66	0.049	0.109	Normally distributed
X_2 over X_1	66	0.073	0.109	Normally distributed

Table 4. List of Significance Test Results and Regression Linearity Test

Regression	Regression Equation	Significant Test		Linearity Test	
		F_{count}	F_{table} $\alpha = 0.05$	F_{count}	F_{table} $\alpha = 0.05$
Y over X_1	$\hat{Y} = 48.00 + 0.33X_1$	15.477	3.99	0.715	0.730
Y over X_2	$\hat{Y} = 52.90 + 0.29X_2$	4.375	3.99	0.136	0.216
Y over X_3	$\hat{Y} = 41.13 + 0.86X_3$	47.316	3.99	0.140	0.213
X_2 over X_1	$\hat{X}_2 = 48.8 + 0.028X_1$	11.40	3.99	0.015	0.138
X_3 over X_1	$\hat{X}_3 = 41.13 + 0.48X_1$	5.427	3.99	0.123	0.302
X_3 over X_2	$\hat{X}_3 = 52.9 + 0.62X_2$	64.629	3.99	0.102	0.440

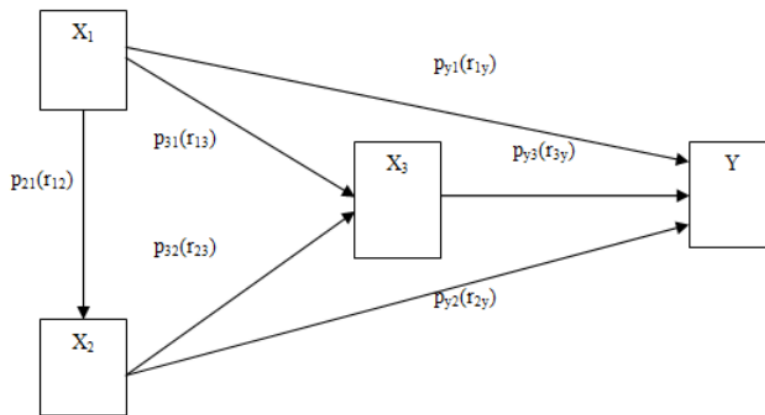A summary of the model is presented below:

Figure 2. Summary of Model Structural Relations between Variables

After information on the path coefficients and coefficients, the structural model can be seen in this figure:

Information Technology (X₁)

$r_{1y} = 0.626$
$p_{y1} = 0.369$

$r_{13} = 0.435$
$p_{31} = 0.332$

$r_{12} = 0.316$
$p_{21} = 0.316$

Organizational Commitment (X₃)

$r_{3y} = 0.647$
$p_{y3} = 0.336$

Innovation (Y)

$r_{23} = 0.431$
$p_{32} = 0.325$

$r_{2y} = 0.606$
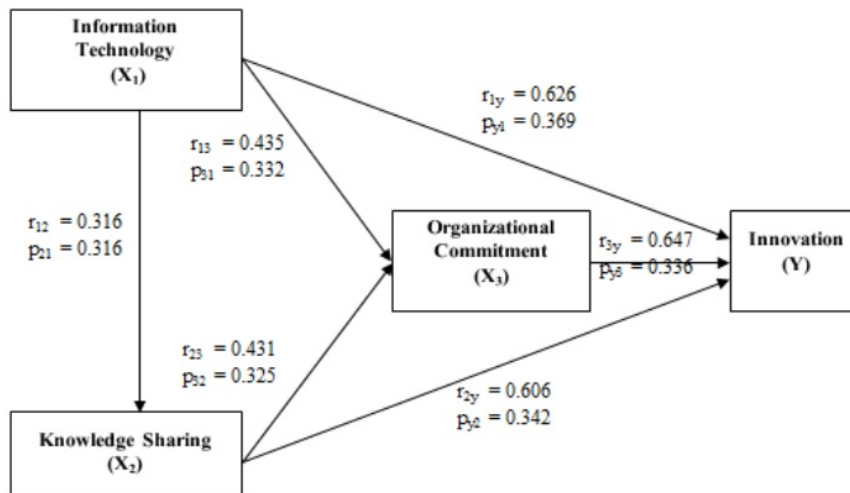$p_{y2} = 0.342$

Knowledge Sharing (X₂)

Figure 3. Summary of Path Analysis Results in the Structural Relationship Model between Variables

From the results of the analysis and calculation process carried out in the attachment to the direct influence section, it can be concluded:

Table 5. List of Results of Direct Inter-Vaariable Effects

No.	Direct Influence	Path Coefficients	dk	t_{count}	t_{table} $\alpha = 0.05$
1.	X_1 againts Y	0.369	62	4.47	1.999
2.	X_2 againts Y	0.342	62	4.15	1.999
3.	X_3 againts Y	0.336	62	3.87	1.999
4.	X_1 againts X_2	0.316	64	2.66	1.998
5.	X_1 againts X_3	0.332	63	2.95	1.998
6.	X_2 againts X_3	0.326	63	2.90	1.998

Table 6. List of Indirect Effect Sobel Test Results

No.	Indirect Influence	Standar Error (Sab)	t_{count}	t_{table} $(\alpha=0,05)$
1.	X_1 against Y through X_2	0.0393	3.11	1.999
2.	X_1 against Y through X_3	0.0289	4.03	1.999
3.	X_2 against Y through X_3	0.0373	2.99	1.999

Note: $t_{count} > t_{table}$ (significant indirect effect)

Table 7. Percentage of Direct and Indirect Effect Coefficients

No.	Direct Influence	Percentage	Indirect Influence	Percentage
1.	$X_1 \rightarrow Y$	13.16%	$(X_1 \rightarrow X_2)*(X_2 \rightarrow Y)$	10.80%
2.	$X_1 \rightarrow Y$	13.16%	$(X_1 \rightarrow X_3)*(X_3 \rightarrow Y)$	11.12%
3.	$X_2 \rightarrow Y$	11.69%	$(X_2 \rightarrow X_3)*(X_3 \rightarrow Y)$	10.92%

4. Conclusion

a. Information technology has a positive direct effect on lecturer innovation. Referring to the findings of this research, it is concluded that lecturer innovation is directly influenced positively by information technology. With the improvement of information technology will increase lecturer innovation.

b. Knowledge sharing has a positive direct effect on lecturer innovation. Referring to the findings of this research, it is concluded that lecturer innovation is directly influenced positively by knowledge sharing. By increasing knowledge sharing, it will increase lecturer innovation.

c. Organizational commitment has a positive direct effect on lecturer innovation. Referring to the findings of this research, it is concluded that lecturer innovation is directly influenced positively by organizational commitment. With an increase in organizational commitment will increase lecturer innovation.

d. Information technology has a direct positive effect on knowledge sharing. This research explains that knowledge sharing is positively influenced by information technology directly. The increase in information technology also increases knowledge sharing.

e. Information technology has a positive direct effect on organizational commitment. Referring to this research, it is concluded that organizational commitment is directly influenced by information technology. With the improvement of information technology will increase organizational commitment.

f. Knowledge sharing has a positive direct effect on organizational commitment. Referring to the findings of this research, it is concluded that organizational commitment is directly positively influenced by knowledge sharing. Increased knowledge sharing will increase organizational commitment.

g. Radical innovation provides the largest contribution to the measurement of lecturer innovation variables. The main thing in increasing lecturer innovation is that with the lecturer carrying out a new innovation process in the fields of teaching, research and community service, the number of results of new innovation activities in the fields of teaching, research and community service is used as reports and the results of innovation activities in the fields of teaching, research and community service. can be used by the campus, the general public or others.

h. From the findings above, the concept of increasing innovation can be emphasized on Information Technology and Organizational Commitment of STMIK lecturers, namely by increasing new innovations of lecturers supported by colleagues / leaders / campuses who always encourage the use of information technology and foster lecturers' commitment to always be happy, proud and feeling has a strong influence on the STMIK campus so that there is an increase in the number / innovation reports that can be used as activities that can be used by the lecturers themselves, the STMIK campus and the community.

5. **Recommendation**

a. Integration innovation gives the lowest contribution in measuring the innovation variable of lecturers. The main thing that can be improved is that the lecturer combines the process of innovation activities, the number of results of these innovation modification activities is used as a report and the results of these innovation modification activities can be used by the campus, the general public or others.

b. Facilitating conditions give the lowest contribution in measuring information technology variables. The main thing that can be improved is the objective factors outside the environment that make it easier for the lecturer to work.

c. Knowledge donating gives the lowest contribution in measuring knowledge sharing variables. The main thing that can be improved is without being asked the lecturer to tell other lecturers in the same or different departments about the work experience they have, the ideas they have, teach skills that are mastered and provide information related to work.

d. Normative commitment gives the lowest in measuring the organizational commitment variable. The main thing that can be improved is that the lecturer remains loyal to this campus because it is a moral obligation and believes in the value of remaining loyal to one campus only.

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