LABORATORY USERS SATISFACTION BASED ON INFORMATION TECHNOLOGY AND TEACHER CAPABILITY

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Abstract

User satisfaction is very important for any institution as well as PAP Laboratory FKIP UNS. The consequences that it needed depth analysis to improve the services of the laboratory. The objective of this research is to determine PAP Laboratory user satisfaction based on two variables that are information technology and teacher capability. The research used the quantitative research approach with descriptive method. The population was PAP Laboratories users consisting of students, teachers and pupils Vocational High School (SMK) who have completed vocational training in the PAP Laboratory. The sample was taken by a convenience sampling technique with 200 respondents. The analysis used Cartesian diagram with four quadrants. The result of the research are: (1) the PAP Laboratory need improvements to information technology variable, especially on the Internet, computer facilities and software;   (2) It also can be argued that the ability of teachers variable still need improvement in terms of responsiveness, speed and user friendliness when they delivery. Teacher performance is also need to be improved too. Finally for the teacher mastery of learning materials is good and can be continued.

Keywords: PAP Laboratory, Users Satisfaction, Information Technology, Teacher Capability.

BACKGROUND

PAP Laboratory FKIP UNS is one of the laboratories that serve as a reference for both higher education institutions and Vocational High School (SMK). Every year, many visitors (from inside and outside the UNS) comes to the PAP Laboratory to conduct a comparative study and participated in a special training about Office Administration. High enthusiasm for the PAP Laboratory

must be followed up by doing research on the extent to which the level of satisfaction of its users.

Kotler and Keller (2006) are defining satisfaction as a feeling of pleasure or disappointment that comes from the comparison between perceptions of the results of a product with the expectation. Similarly, Rangkuti (2003: 40) say that the customer's satisfaction of a service is determined by the level of customer important before using the service compared with the results of customer perception of the service after the customer perceives the service performance. The concept of satisfaction is something dynamic, one time consumers can be satisfied, but when the environment changes, the conditions are different. Thus, satisfaction should always be monitored on an ongoing basis. The main thing to do is how to maintain and manage the satisfaction of the conditions well.

Things that affect user satisfaction, especially in the PAP Laboratory are influenced by many variables; two of those variables are Information Technology and Teachers Capability. Information technology (IT) can be defined as the use of electronic machines and programs for the processing, storage, transfer and presentation of information (Björk, 1999). Referring to the definition, what is meant by information technology in this research is related to the Internet network, computer facilities and software used. While the Teacher Capability (TC) translates as ability in mastering the material and the ability of soft skills in serving customers such as responsiveness, speed and friendliness when serve the users and the appearance of the teachers.

The aim of this research was to determine the PAP Laboratory User Satisfaction views of Information Technology and Teacher Capability.

METHODS

This research is a descriptive that measure about user's satisfaction PAP laboratory. Then, the populations in this research are all users Laboratories PAP consist of students, teachers and pupils SMK who have completed vocational training in the Laboratory of PAP. The sample was taken by convenience sampling technique with a sample of 200 respondents. This amount meets the minimum standards of a sample, as proposed by Roscoe (1982: 253) in Sugiyono (2009: 129) states that a decent sample size in the research were between 30 until 500. The used

of the technique of convenience with the consideration that the chosen as a user sample is encountered in the research period and also because the number of unknown population.

In this study, a questionnaire used as an instrument of research is the development of two variables on the level of interest and the level of satisfaction, which are variable of Information Technology (IT=TIK) and Teacher Capability (TC=PK). Both variables are then scaled into each of eight indicators for the level of interest and the level of user satisfaction. As for the research used the Likert scale with four response options. Before being used as a research instrument, was taken a tryout test on instruments that used on 30 people. The tryout test results from these instruments are as follows:

Table 1. The Result Of The Research Carried Of Test

No	Connection	R	P	Information
1	TIKe1-TIKe	0.918	0.000	Valid
2	TIKe2-TIKe	0.932	0.000	Valid
3	TIKe3-TIKe	0.876	0.000	Valid
Alpha cronbach = 0.890				Reliabel
1	PKe1-Pke	0.749	0.000	Valid
2	PKe2-Pke	0.859	0.000	Valid
3	PKe3-Pke	0.801	0.000	Valid
4	PKe4-Pke	0.939	0.000	Valid
5	PKe5-Pke	0.795	0.000	Valid
Alpha cronbach = 0.884				Reliabel
1	TIK1-TIK	0.972	0.000	Valid
2	TIK2-TIK	0.964	0.000	Valid
3	TIK3-TIK	0.949	0.000	Valid
Alpha cronbach = 0.958				Reliabel
1	PK1-PK	0.844	0.000	Valid
2	PK2-PK	0.748	0.000	Valid
3	PK3-PK	0.825	0.000	Valid
4	PK4-PK	0.852	0.000	Valid
5	PK5-PK	0.815	0.000	Valid
Alpha cronbach = 0.871				Reliabel

Information:
TiKe : Information Technology for Important Rate
PKe : Teachers for Important Rate
TIK : Information Technology for Satisfaction Rate
PK : The teacher for Important Rate

Based on the results of tryout, it is known that the correlation coefficient obtained ≥0.3 and significant, it can be stated that the instruments used are valid. This is in accordance with the opinion of Sugiyono (2009: 178) that if the correlation coefficient obtained by ≥ 0.3 and significant, it can be stated that the instruments used are valid. In addition, it is also known that the Cronbach alpha values for all variables examined ≥ 0.6. This is in accordance with the opinion Maholtra (1999: 282) who suggested that if the alpha coefficient of ≥ 0.6 can be stated that the instruments used are reliable. Thus, it is feasible to use the instruments in the collection of research data.

From the results of data collection using the questionnaire, so the data processed using descriptive statistical analysis. As calculated in the descriptive statistics is the mean, mode and can then be used to calculate the performance gap is the gap between the level of important and the level of satisfaction felt by users Laboratories PAP.

The steps in the calculation of users' satisfaction, as follows:

1. Calculate the important average value for each variable
2. Calculate the value of the average level of satisfaction as perceived by the user for each variable
3. Calculate the performance gap is the difference between the average rate of important with the level of satisfaction
4. Furthermore, the average value that has been obtained is used as the basis for drawing Cartesian diagram. Cartesian diagram is a field that consists of four sections to be limited by two perpendicular lines intersecting at the point-dot ($\overline{X}$, $\overline{Y}$). Where $\overline{X}$ represents the average score of the level of important on the PAP Laboratory users. While $\overline{Y}$ is the average score of the level of user satisfaction above PAP Laboratory. The Cartesian diagram is as follows:

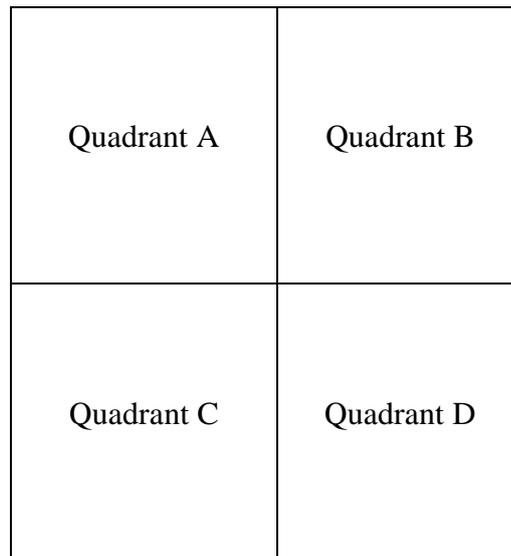|	
Quadrant A	Quadrant B
Quadrant C	Quadrant D

Figure 1.Cartesian Diagram

Furthermore, the explanations of each quadrant are as follows:

Quadrant A

In this position, when viewed from the important of users PAP Laboratory, indicators of IT variables and AT, is at a high level, but if in the view of satisfaction, users feel a low level, so that the user requires an improvement in the indicator.

Quadrant B

With regard quadrant B, the views of the important of users PAP Laboratory, indicators of IT variables and KP, is at a high level, and the views of satisfaction, users feel a high level as well.

Quadrant C

Quadrant C showed that when viewed from the important of users PAP Laboratory, indicators of IT and KP variables considered less important, but when seen from quite a good level of user satisfaction. However, users tend to ignore the indicators lies in this position.

Quadrant D

In this position, when viewed from the important of users PAP Laboratory, indicators of IT variables and KP considered less important, but when seen from the level of satisfaction, consumers are very satisfied.

RESULTS AND DISCUSSION

Distributing questionnaires conducted on laboratory users with a total of 200 questionnaires. Of these, as many as 184 questionnaires were returned. After checking, it turned out a total of 12 questionnaires could not be analyzed because it is incomplete. Therefore, the analysis is only performed on 172 questionnaires were filled full. Thus, the response rate is 86%.

A. **Gap Analysis Over Interest Rate and User Satisfaction of PAP Laboratory**

In Table 2 can be viewed the results of the calculation of the level of interest and satisfaction of users of PAP laboratory and performance gap of variable information technology.

Tables 2. Importance and User Satisfaction Levels of PAP Laboratory to IT variable

Indi cator	Levels of Important				Total	Ave rage	Levels of satisfaction				Total	Average	GAP
	VI	I	LI	NI			VS	S	LS	NS			
	4	3	2	1			4	3	2	1			
IT1	116	52	4	0	628	3.65	55	83	32	2	526	3.06	0.59
IT2	110	57	5	0	621	3.61	43	97	29	3	524	3.05	0.56
IT3	106	63	3	0	619	3.60	45	103	24	0	537	3.12	0.48

Table 2 shows the calculation of the level of important and student satisfaction over the information technology used by the teacher in the learning process. Results show that students are satisfied with the software used (IT3) in the learning process. This can be seen by the low level of important with the GAP between the levels of student satisfaction in the learning process. In addition, it is also known that the students feel that the internet network in the Laboratory of PAP not meet the satisfaction level of students during the learning process. This is shown by the high value of GAP between importance and satisfaction level of students on the Internet network indicators provided in the PAP Laboratory (IT1). The GAP is the highest in the variable GAP of information technology. It can be concluded that the network needs to be upgraded for the Internet is used in the learning process. This is because the Internet is the main thing in supporting teaching and learning activities.

Tables 3. The Levels of Importance and User Satisfaction of PAP Laboratory for TC Variable

Indicator	Levels of Important				Total	Average	Levels of satisfaction				Total	Average	GAP
	VI	I	LI	NI			VS	S	LS	NS			
	4	3	2	1			4	3	2	1			
TC1	110	62	0	0	626	3.64	39	114	19	0	536	3.12	0.52
TC2	97	75	0	0	613	3.56	43	111	18	0	541	3.15	0.41
TC3	88	83	1	0	603	3.51	38	109	22	3	526	3.06	0.45
TC4	87	81	4	0	599	3.48	50	111	8	3	552	3.21	0.27
TC5	82	87	2	1	594	3.45	45	115	10	2	547	3.18	0.27

Teacher capability variable measured by five (5) indicators, namely responsiveness in serving (TC1), the ability to deliver learning materials (TC2), speed in serving (TC3), the hospitality in serving (TC4) and the appearance of teachers (TC5). Based on calculations GAP, it is known that the highest GAP is the ability to serve (TC1). Thus, it is needed to improve in terms of the ability of teachers to serve the needs of students. While the lowest GAP is two indicators, they are hospitality teacher in serving (TC4) and the appearance of teachers (TC5).

B. Analysis of Importance and User Experience Levels of PAP Laboratory

This analysis conducted by calculating the average indicator of the level of interest and the level of user satisfaction PAP laboratory. Furthermore, the average value can be described its Cartesian diagram. There are the value of the average rate of interest into its X-axis and the value of the average level of satisfaction into its Y-axis.

1. Cartesian Diagram of IT Variable

Tables 4. Average Rate of Important and User Satisfaction of PAP Laboratory for Information Technology Variable

Indicator	The average of Important levels (X)	The average of Satisfaction levels (Y)
IT1	3.65	3.06
IT2	3.61	3.05
IT3	3.60	3.12
Average	3.62	3.07

Based on Table 4 known that the average rate of interest for variable PAP users Laboratories IT is 3.62 while the level of user satisfaction Laboratories PAP to variable IT is 3:07. Furthermore, to determine any indicator in IT variable

included in quadrant A, B, C and D, the following is a presentation of its Cartesian diagram. Cartesian diagram served of its purpose is to map the level of interest and the level of user satisfaction Laboratories PAP to IT variable.
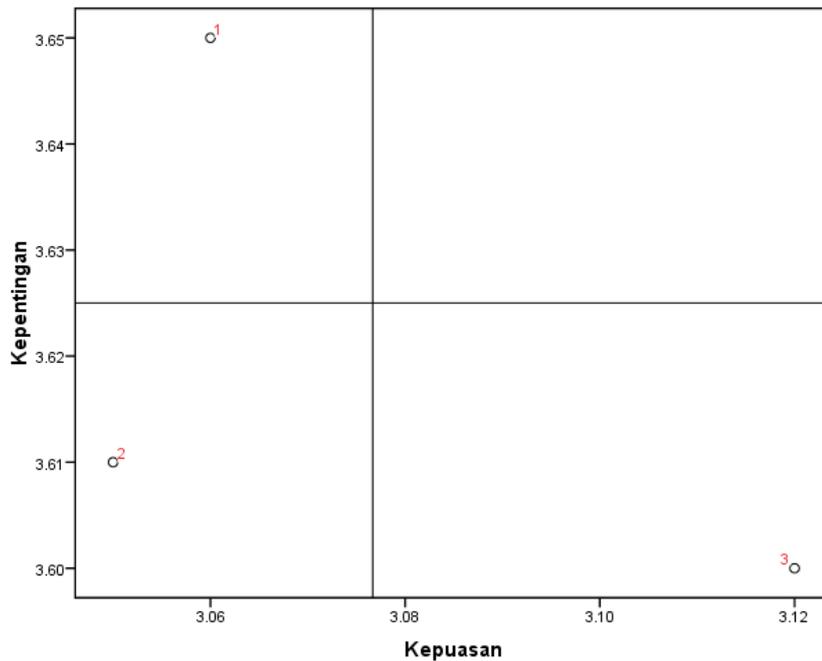

Figure 2. The Levels Of Importance And User Satisfaction Of Pap Laboratory To It Variable

Based on the figure2it is known that for the IT variables, indicators are spread in Quadrant A, C and D. Thus it can know also that:

Quadrant A

In this position, when viewed from the interests of users of PAP Laboratory, internet network indicator of IT variable, are at a high level, but if viewed of its satisfaction, users felt a low level, so that the user requires an improvement in the indicator.

Quadrant C

Quadrant C showed that when viewed from the interests of users of PAP Laboratory, computer facilities indicator of IT variable, is considered less important, but when viewed from the level of user satisfaction is quite good. However, users tend to ignore indicator lies in this position.

Quadrant D

In this position, when viewed from the interests of users Laboratories PAP,

indicator of software that is used IT variable is considered less important, but when viewed from the level of satisfaction, consumers were very satisfied.

Based on these results, it can be argued that the needs to be improvements to the existing Internet network in the Laboratory PAP. It can also be argued that the need to increase for computer facilities and software that is used, so as to achieve user satisfaction Laboratories PAP

2. Cartesian Diagram of TC Variable

Tables 5. Average Rate of Important and User Satisfaction PAP Laboratory for TC Variable

Indicators	The average of Important levels (X)	The average of Satisfaction levels (Y)
TC1	3.64	3.12
TC2	3.56	3.15
TC3	3.51	3.06
TC4	3.48	3.21
TC5	3.45	3.18
Average	3.53	3.14

Based on Table 5, known that the average rate of users' interest of PAP Laboratory for TC variable is 3.53. While the level of user satisfaction PAP Laboratory for TC variable is 3.07. Furthermore, to determine any indicator in TC variable included in quadrant A, B, C and D, the following is a presentation of its Cartesian diagram. Cartesian diagram presented of its purpose is to map the level of interest and the level of user satisfaction PAP Laboratory for TC variable.
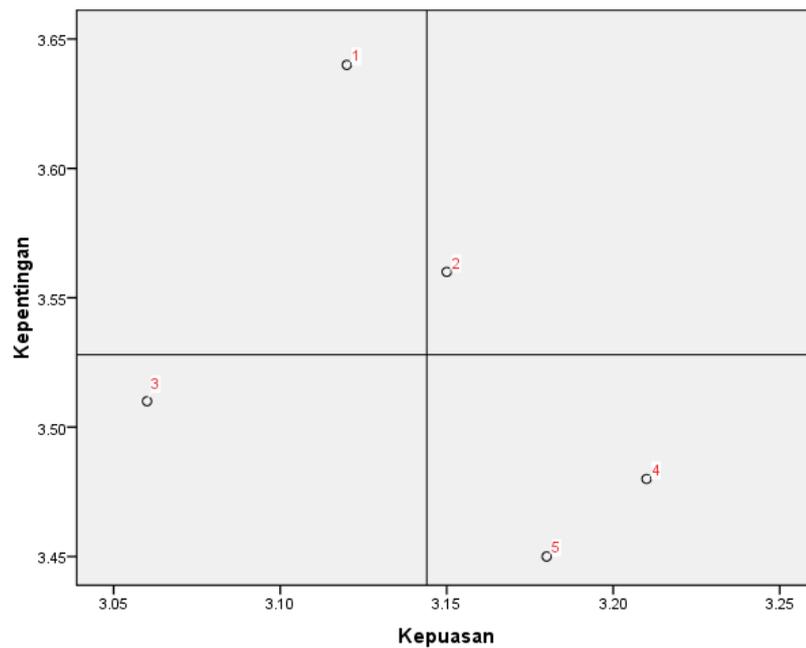
**Figure 3. The level of important and User Satisfaction
PAP Laboratory for TC Variable**

Based on the figure 3 it is known that for TC variables, indicators are spread in Quadrant A, B, C and D. Thus it also known that:

Quadrant A

In this position, when viewed from the interests of users of PAP Laboratory, indicators of responsiveness in serving on the KP variable, is at a high level, but when viewed of satisfaction, users felt a low level, so that the user requires an improvement in these indicators

Quadrant B

By regard quadrant B, so views of the interests of users of PAP Laboratory, an indicator of the ability of delivering learning materials, are at a high level, and the views of satisfaction, users also felt a high level.

Quadrant C

Quadrant C showed that when viewed from the interests of users of PAP Laboratory, the speed indicator in the service of the KP variables, considered less important, but when viewed from the level of user satisfaction is quite good. However, users tend to ignore the indicator liesin this position.

Quadrant D

In this position, when viewed from the interests of users of PAP Laboratory, hospitality indicators in serving and teaching performance of the KP variable considered less important, but when seen from the level of satisfaction, consumers are very satisfied.

Based on these results, it can be argued that the need for improvement in terms of responsiveness when serving users of PAP Laboratory. It can also be stated that the need for an increase to the speed in the service, hospitality in serving and teaching so as to achieve the appearance of user satisfaction of PAP Laboratory. As for the ability of learning material is good and can be more maintained.

CONCLUSION

Based on the analysis and discussion of the above, the conclusions of this study are:

1. User Satisfaction PAP Laboratory for Information Technology Variable still low so that the necessary repairs and improvement, especially for the Internet network, computer facilities and software used.

2. User Satisfaction PAP Laboratory for Teaching Ability variables in terms of mastery of the material already good, but still need improvement in terms of responsiveness, speed and hospitality as well as the appearance of a teacher at the Laboratory of PAP.

REFERENCES

Björk, Bo-Christer. 1999. Information technology in construction: domain definition and research issues. International *Journal of Computer Integrated Design And Construction*, SETO, London. Volume 1, Issue 1, May 1999 pp. 1-16.

Kotler, P and Keller K. L. 2006. *Marketing Management*, Twelfth Edition, Perason Education International, Singapore.

Malhorta, N.K. 1999. *Marketing Research 2nd Ed*. New Jersey: Prentice-Hall Inc.

Rangkuti, Freddy, 2003. *KonsepPengukuran Kepuasan*. Publisher: PT. Gramedia Pustaka Utama, Jakarta.

Sugiyono. 2009. *Metode Penelitian Bisnis*. Publisher: Alfabeta, Bandung.