LABWORK MANAGEMENT INFORMATION SYSTEM SATISFACTION MEASUREMENT IN INDUSTRIAL ENGINEERING STUDY PROGRAM TELKOM UNIVERSITY

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ABSTRACT

Information system is an important element for enhancing the organization performance, in this case enhancing performance of laboratory, the satisfaction of the information system must be able to be measured. In this research, the satisfaction of labwork management information system is measured.

This research purpose is to measure the satisfaction of labwork management information system in Industrial Engineering Study Program, Telkom University using dimension of quality based on research from Soesanto et al (2014). This research use Successive interval to gain the Weight Average Performance for determining the overall satisfaction from the information system.

Further research can be conducted to improve the labwork management information system based on the satisfaction level that identified in this research.

Keywords: *Satisfaction Measurement, Weight Average Performance, Successive Interval, Management Information System, Laboratory.*

1. INTRODUCTION

In recent year, information system can't be separated from the daily activity in education sector, especially in labwork activity. laboratory taking part as the main part of universities activity. Activity in the laboratory process such as scheduling, administration, labwork activites and other else can be done quickly with the help form information system.

Industrial engineering study program in Telkom University use integrated information system for all laboratory to manage the information processing across laboratory. The idea of this information system is to minimize inefficient activity such as administration bureaucracy in order to gain competitive and quick response service for laboratory assistant and college student.

To make sure the management information system that implemented in the industrial engineering study program meets the customer expectation, an improvement analysis based on customer perspective are needed.

This research is based on previous research from Soesanto et al (2014) in determining the dimension of quality for management information system and derived the needs into technical characteristic.

2. THEORETICAL BACKGROUND
2.1. Management Information System
Management information system is the integrated system that supports operational, management, and the function of decision making from organization (Turban et al 2005). Management information system is an integrated system that provide information for supporting operational, management and decision support activities from an organization (O'Brien, 2005).

2.2. Dimension of Quality
The concept was defined by Garvin (1987). The dimensions consist of 8 critical dimensions. Understanding the trade-offs desired by customers among the dimension of qualitys can help build a competitive advantage for an organization.

2.3. Successive Interval

Hidayat (2011) defined method of successive interval Is a method to raise the measure of ordinal scale into interval.

3. RESEARCH METHOD

This research purpose is to measure the satisfaction of labwork management information system using dimension of quality based on Soesanto et al (2014).

The first step is conducted by determine the technical characteristic specificaly design for labwork management information system and put it into questionnaire question. This research using likert scale from 1 to 4 for each satisfaction and importance question in the questionnaire. The next step is to determine the respondent for this research, 30 respondent were chosen including laboratory assistant and college student who are currently using the labwork management information system. The next step is collect the respondent data and test the validity and reliability of the data. To find the value of WAP, the first thing to do is to raise the data which is ordinal scale into interval scale and find the average of importance and satisfaction from each indicator. After obtained the WAP value, the next step is to find the gap from importance and satisfaction from each indicator. Microsoft Excel Sofware is used to calculate the WAP value.

4. RESULT AND DISCUSSION

4.1. Reliability

Reliability is a dimension that determine a reliable of an management information system. Based on this research, the highest gap is "frequency of updating" and the lowest gap is "information is believable".

Table 1. Reliablility WAP

Indicator	Importance	Satisfaction	GAP
Services performance is reliable	3,31	3,23	0,08
Frequency of Updating	3,40	3,23	0,17
Information is believable	3,23	3,50	-0,27

4.2. Efficiency

Efficiency is a dimension that describes whether an information system used the optimal resources. Based on this research, the highest gap is " infrastructure availability that is proper". The indicator of "optimum use of resource" have 0 in gap, it means that the importance and satisfaction from this indicator is equal based on the respondent point of view.

Table 2. Efficiency WAP

Indicator	Importance	Satisfaction	GAP
Infrastructure Availability that is proper	3,23	2,75	0,47
Integrated Database	3,40	3,23	0,17
Optimum use of resource	3,23	3,23	0,00

4.3. Support

Support is a dimension that support the usage of information system. Based on this research, the highest gap is " there's training for user" and the lowest gap is "the information system has user guide".

Table 3. Support WAP

Indicator	Importance	Satisfaction	GAP
The information system has user guide	3,31	3,09	0,22
There's training for user	3,31	2,40	0,91
The information system has FAQ	3,23	2,61	0,61
Call Center Support Availability	2,94	2,61	0,33

4.4. Security and Privacy

Security and privacy is an important component in designing an information system in order to secure the information system and the user's privacy. Based on this research, there are two indicator that meets the respondent expectation which are "the data is encrypted" and "user has a limitation of access". The lowest gap is "user has an account".

Table 4. Security and Privacy WAP

Indicator	Importance	Satisfaction	GAP
The Data is encrypted	3,23	3,23	0,00
User has an account	2,75	3,23	-0,48
User has a limitation of access	2,94	2,94	0,00

4.5. Ease of Use

Ease of use of information systems is something that is expected by the user, therefore an information system should be designed to meet the user need. Based on this research, the highest gap is "The newest information notification is available" and the lowest gap is "The Information System support multiplatform".

Table 5. Ease of Use WAP

Indicator	Importance	Satisfaction	GAP
The Information system connected to internet	3,50	2,94	0,56
The Information System support multiplatform	3,23	2,94	0,29
The Information System is available in many languages	3,23	2,75	0,47
The Newest information notification is available	3,61	2,75	0,86

4.6. Appearance

A display of an information system is influential to the level of user acceptance of information systems. Based on this research, the highest gap is "The dimension is proper to view" and the lowest gap is "Picture/images are displayed properly".

Table 6. Appearance WAP

Indicator	Importance	Satisfaction	GAP
Text is display legibly	3,23	3,50	-0,27
Picture/images are displayed properly	3,03	3,50	-0,47
The dimension is proper to view	3,75	3,23	0,53
The information system has proper color combination	3,23	3,23	0,00

4.7. Content

Contents of information systems is the main thing that must be considered when designing information systems. Based on this research, the highest gap is "The Information system has a sitemap" and the lowest gap is "The information system has practicum administration menu". "The information system has inventory management menu" indicator value is equal, which means that the importance and satisfaction from this indicator meet the respondent expectation.

Table 7. Content WAP

Indicator	Importance	Satisfaction	GAP
The information system has dashboard menu	3,40	3,50	-0,10
The information system has practicum administration menu	2,75	3,94	-1,18
The information system has inventory management menu	3,23	3,23	0,00
The information system has assistant payroll menu	2,94	2,80	0,14
The information system has letter management menu	3,23	3,23	0,00
The information system has research and publication menu	3,23	3,23	0,00
The information system has user profile menu	2,40	3,50	-1,10
The Information system has a sitemap	3,61	2,94	0,67
The Information system has a search menu	3,50	3,31	0,19

4.8. Effectiveness

Effectiveness is a dimension that describes whether the information system could achieve the goal based on stakeholder needs. Based on this research, the satisfaction value is above the importance value which means that the labwork management information system help the organizational business process in laboratory.

Table 8. Effectiveness WAP

Indicator	Importance	Satisfaction	GAP
The Information System help organizational business process	3,16	3,40	-0,24

4.9. Acceptability

A dimension which is related to the expectations of stakeholders whether it was made according to needs. Absed on this research, the indicator gap value is 0, this indicate that the system meet the expectation for this indicator.

Table 9. Acceptability WAP

Indicator	Importance	Satisfaction	GAP
The Information System meets the requirement	3,23	3,23	0,00

4.10. Customizable

A dimension which is related to the ease of users and information system, that influences by the change of external or internal factors. Based on this research, the highest gap is "The Information system has historical record" and the lowest gap is "The Information System Data is dynamic".

Table 10. Customizable WAP

Indicator	Importance	Satisfaction	GAP
The Information System Data is dynamic	3,16	3,40	-0,24
The Information system has historical record	3,40	3,23	0,17

5. CONCLUSION

From the result of the gap between importance and satisfaction from each indicator, we can conclude that the labwork management information system satisfaction can be measured for evaluation using dimension of quality based on Soesanto et al (2014). "The information system has practicum administration menu" is the lowest gap from all indicator, which means that the respondent is satisfied with this indicator because the value is higher that the importance value. There are some indicator that need further attention such as "There's training for user" and "The Newest's information notification is available" indicators. Further research can be done to improve the information system based on the satisfaction value from this research.

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