



Evaluation of Management Information Systems for Pharmaceutical Inventory Control at The Hospital

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ABSTRACT

Hospital X is one of the hospitals in Lampung that has implemented management information systems for pharmacy since 2016, has not yet been evaluated, and there are several obstacles, such as the absence of warnings for out-of-stock drugs and drug procurement planning is still calculated manually. This research was a descriptive study with a cross-sectional approach to the management information system of pharmaceutical inventory control. This research data comes from the distribution of the De Lone and McLean questionnaires and the results of structured interviews to support system development. Based on calculations using a predetermined formula, it is said that the level of respondents' satisfaction with management information systems drug inventory control is in the medium category, but is still very far from the high satisfaction category, so further interviews are needed. After developing a pharmaceutical inventory control management information system, there were 18 participants from the pharmacy participated in training and self-testing for eight days. Based on the research that has been done, it can be concluded that the level of the respondent's satisfaction category has increased its variables, the satisfaction variable has a perception of satisfaction in the medium category of 100% and the high category of 0%, but after developing a pharmaceutical inventory control system, the satisfaction level of respondents in the high category has increased was 27.78%, so the development of a control management information system needs to be done.

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ABSTRAK

Rumah sakit X salah satu rumah sakit di Lampung yang sudah menerapkan SIM farmasi sejak tahun 2016, hingga saat ini belum dilakukan evaluasi, dan terdapat beberapa kendala seperti, belum adanya peringatan untuk stok obat yang habis dan perencanaan pengadaan obat masih dihitung secara manual. Penelitian ini merupakan penelitian deskriptif dengan pendekatan cross sectional pada sistem informasi manajemen pengendalian persediaan farmasi. Data penelitian ini berasal dari hasil pendistribusian kuesioner De Lone dan Mc Lean serta hasil wawancara terstruktur untuk mendukung pengembangan sistem. Berdasarkan perhitungan menggunakan rumus yang telah ditentukan dikatakan bahwa tingkat kepuasan responden terhadap SIM pengendalian persediaan obat dalam kategori sedang, namun masih sangat jauh dari kategori kepuasan tinggi, sehingga perlu dilakukan wawancara lebih lanjut. Setelah dilakukan pengembangan SIM pengendalian persediaan farmasi kemudian dilakukan pelatihan yang diikuti oleh 18 peserta dari farmasi dan uji coba mandiri selama delapan hari. Berdasarkan penelitian yang telah dilakukan dapat disimpulkan bahwa tingkat kategori kepuasan responden mengalami peningkatan

pervariabelnya, pada variabel kepuasan memiliki persepsi kepuasan dalam kategori sedang sebesar 100% dan kategori tinggi 0%, namun setelah dilakukan pengembangan sistem pengendalian persediaan farmasi tingkat kepuasan responden pada kategori tinggi mengalami peningkatan sebesar 27,78%, sehingga pengembangan sistem informasi manajemen pengendalian perlu dilakukan.



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INTRODUCTION

The hospital pharmacy installation where all pharmaceutical activities are carried out play an active role in the patient's healing process, and play an important role in drug management, both direct service to patients and control of all medical supplies in hospitals for both outpatients and inpatients (Yulianti, et al., 2015; Zaied, 2012), so that data management plays an important role in supporting pharmaceutical inventory control. Manual data management has many drawbacks besides taking a long time, its accuracy is not acceptable, because the possibility of errors that occur is very large. Hospitals are required to be able to provide fast, precise and quality services, so to support pharmaceutical services, a tool is needed to achieve good health services (Murnita, et al., 2016). Therefore, management information system support is very necessary (Advistasari, et al., 2015; Ngugi et al., 2020).

The application of e-health has been widely used by health institutions such as the Hospital Management Information System (SIMRS) (Ackah, et al., 2017; Nugroho, et al., 2019). The purpose of implementing a health information system is to provide accurate and timely information in a form that suits the needs of decision-making at all levels of administration for planning, mobilizing implementation, monitoring, controlling, and assessing (Murnita, et al., 2016; Sukarno, 2019). SIMRS functions to process and integrate all hospital service flows in the form of a network of coordination, reporting, and administrative procedures used to obtain precise and accurate information (Permenkes RI, 2013; Yulianti et al., 2015). Pharmacy SIM can be used to support the decision-making process, for example in the procurement of drug stock which is run with the help of computer equipment (Murnita et al., 2016).

Based on observations at X hospital, the hospital has implemented a pharmacy SIM since 2016 and so far it has not been evaluated, and there are still some obstacles, such as the absence of warnings for out-of-stock drugs and drug procurement planning is still being calculated manually. manual so that it can increase the workload of employees and take a long time to do it. Information system evaluation contains the intent to identify the strengths and weaknesses of an application that is being used, to find out whether or not information is available when needed, and to know that the information provided in the application is presented accurately, reliably, and on time (Advista sari et al., 2015). Evaluation can be done when the policy has been running long enough and there is no definite time limit for a policy to be evaluated (Tampa' i, et al., 2012).

The De Lone and McLean method can be used to evaluate a system, it is related to the decision-making process that is not based on information, the available information is irrelevant, not utilized by management, not on time, too

much information, inaccurate information available, data whose way of use is not flexible (Delone, W.H.; McLean, 2003; Novalendo, et al., 2018). Based on research conducted Putra, et al., (2017) states that the quality of information has a significant effect on user satisfaction of 4.16, user satisfaction has a significant effect on user intensity of 3.28, so it can be concluded that the quality of information has a direct effect on user intensity.

De Lone and McLean say that the three factors (system quality, information quality, service quality) quality have a significant influence on user satisfaction and user satisfaction greatly affects the benefits of the system, this is reinforced by research conducted Angelina, et al., (2019) Service quality has a significant effect on user satisfaction because the response time of the support team is good so that it can increase user satisfaction.

METHOD

This research is a descriptive study with a cross-sectional approach where respondents only have one opportunity to fill out a questionnaire. The data in this study came from the distribution of questionnaires consisting of various statements related to the theory of the DeLone and McLean models. This study uses an attitude scale from a Likert scale to determine the value of each variable (Sugiyono, 2017). The subjects of this study used all pharmacy employees who operate the pharmacy management information system at hospital X with a population of pharmacy staff involved in the use of management information systems at the hospital, with the sample criteria being pharmacists at hospital X, pharmacy officers who had operated SIM, pharmacy officers who have worked for 6 months or more.

Variable is the amount that can change and affect an event or study result (Noto atmodjo, 2018; Surahman, et al., 2016). The main variables in this study consisted of, system quality, information quality, service quality, usage, user satisfaction, and benefits. The research instrument is a tool that will be used to collect data. The instruments used in this research are questionnaires and structured interviews related to the pharmacy SIM which will be distributed to pharmacy employees at the Hospital Pharmacy Installation. Questionnaires are written questions that are used to obtain information from respondents (Noto atmodjo, 2018). Before the questionnaire is used, ethical clearance will be submitted at the Adventist Hospital in Bandar Lampung, then validity and reliability tests will be carried out at the ABL hospital and then the actual data will be collected at the X hospital. The instrument in this study was adopted from Zaied, (2012) and has been translated Advistasi et al., (2015) then modifications were made to several statement items, namely in statements no. 4, 5, 7, 27, and 35. The instrument consists

of 6 variables (system quality, information quality, service quality, usage, user satisfaction, and benefits). 20 indicators (reliability, ease of use, effectiveness, accuracy, relevance, current, easy to understand, completeness, timely, safe, form, IT support, IT responsiveness, frequency of use, willingness to use, completeness of content, accuracy of information, ease of use, individual impact, organizational impact) and consists of 57 statement items. This research was conducted in August-December 2021

The results of the questionnaire will also calculate the percentage of answers that strongly disagree, disagree, agree, and strongly agree for each measured dimension, then each variable will be categorized (Putri, et al., 2020). This is done to characterize individuals separately from a predetermined group. The standard deviation is calculated by looking for a range of scores, the maximum possible score obtained by the respondent is reduced by the minimum score that may be

obtained by the respondent, then the range of scores is divided by six (Azwar, 2012). The following parameters are used to determine the characteristics of respondent satisfaction:

- Instrument Maximum Score : Number of questions x largest scale score
- Instrument Minimum Score : Number of questions x smallest scale score
- Theoretical mean (μ) : Number of questions x number of categories
- Population Standard Deviation (σ): $1/6 \times (\text{maximum score} - \text{minimum score})$

Based on the calculations above, each respondent will be classified into four categories as follows (Azwar, 2012):

Table 1
Categorization Formula

Category	Formula
Low	$X < (\mu - 1.0\sigma)$
Moderate	$(\mu - 1.0\sigma) < X < (\mu + 1.0\sigma)$
High	$X > (\mu + 1.0\sigma)$

Note: X = Respondent's answer score

RESULTS AND DISCUSSION

Validity and reliability testing was carried out at the Y Hospital in Bandar Lampung, it because Y Hospital Bandar Lampung has the same type as X hospital, namely type C and has not used a pharmacy inventory control SIM, and calculations for drug procurement are still done manually. This test consists of 57 statement items from six variables and 20 indicators and questionnaires are distributed to 31 respondents (pharmaceutical staff), then the data obtained is processed using the help of SPSS for Windows Version 21.

Test validity this is intended to measure the accuracy of the research measuring instrument about the content or the actual meaning being measured. If Value of r count (Corrected Item-Total Correlation) > r table then the question can be declared valid (Prisgunanto, 2017). The basis for making the decision of the item is declared valid, namely the value of r arithmetic > r table, in this study using 31 respondents so that it has a value of r table as big as 0.344 with a 5% confidence level. A statement is said to be valid if it is able to measure what is desired and can reveal existing variables (Sodiq, et al., 2020). There are 4 out of 57 invalid statement items, this is because the value of r count < r table consists of system quality variables (pharmaceutical installation information produces information relevant to your work) with an r value of 0.305, service quality (IT support patient in gives an explanation of the use of the pharmaceutical installation information system) the calculated r value is 0.319 and (the information and technology department notifies the user when the system will be implemented) with the calculated r value of 0.254, system usage variable (users are happy to use existing information systems) with a calculated r value of 0.299.

Reliability testing is carried out to find out the instrument used can produce the same or consistent results after repeated measurements (Istyanto & Maghfiroh, 2021; Purnomo, 2018), not only that, the reliability test serves to determine whether the instrument can be used more than once or vice versa (Beni, et al., 2020) and all variables can be

said that all variables can be declared reliable this is because the Cronbach Alpha value of each variable is > 0.60. This value states that the instrument is reliable and the reliability is perfect, this is in line with the research that has been done Sodiq et al., (2020) states that the higher the value of the reliability coefficient, the higher the reliability value of the instrument and vice versa. If the Cronbach Alpha is 0.50 then the reliability is low, 0.50-0.70 is moderate reliability and 0.07-0.90 then the reliability is high (Purnomo, 2018).

It is known that the majority of pharmacists at hospital X are dominated by female employees, consisting of 28 respondents with a percentage of 77.8% and 8 (eight) male respondents with a percentage of 22.2%. Based on the characteristics of the age of the respondents, it is dominated by the age of 18-30 years as many as 28 respondents with a percentage of 77.8% and the majority of pharmacists have different levels of education but are dominated by the latest education D3 pharmacy as many as 12 respondents with a percentage of 33.3%, which then followed by D1 Pharmacy with 11 respondents with a percentage of 30.6%. Judging from the length of work of the respondents, the majority of respondents have worked for > 3 years as many as 15 respondents with a percentage of 69.4%, and based on their position, most respondents served as TTK as many as 18 respondents with a percentage of 50%.

Info graphic of Respondent's Perception of the hospital installation on Management Information System of Pharmaceutical

This research consists of six variables and 20 indicators. Perceptions given by respondents to these indicators vary widely, ranging from perceptions of strongly agree, agree, disagree, and strongly disagree. The more perceptions agree and strongly agree, it can be said that respondents are satisfied with these indicators. The following is the perception of the SIM pharmacy inventory control at hospital X given by the respondents:

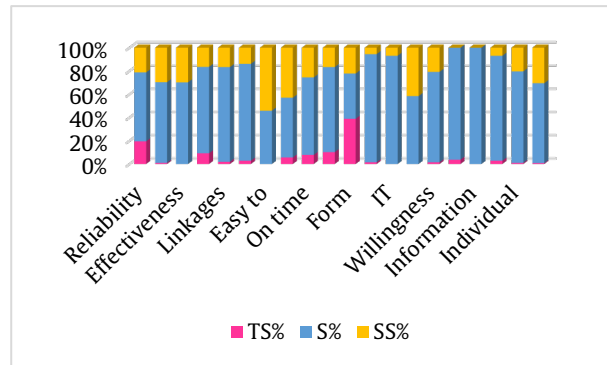


Figure I. Infographic of Respondents' Perception toward Management Information System of Pharmaceutical at the hospital X

Based on the Figure II, there are several indicators that have the perception that respondents do not agree with statements related to these indicators, such as on the reliability indicator, there are 21 respondents who disagree with the statement, especially on the statement "the pharmaceutical installation information system is reliable so that disturbances rarely occur" there are 15 respondents who disagree. According to the statement that reliability

indicators need to be developed to increase the perception of respondents' satisfaction.

Evaluation of Respondent Satisfaction Level

This evaluation was conducted to determine the level of respondents' satisfaction with the Management Information System of pharmaceutical inventory control at the hospital installation X. The following are respondents' answers that have been calculated.

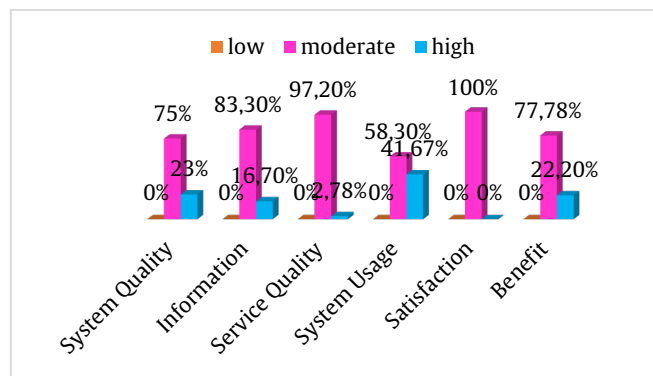


Figure II. Percentage of Respondent Statements

Satisfaction with the Quality of Pharmaceutical Inventory on Management Information System

User satisfaction is defined as the satisfaction that comes from the experience gained while operating a pharmaceutical information system (Sholistiyawati, et al., 2020). Based on the initial data obtained from the distribution of questionnaires in IFRS X consisting of 36 respondents and an evaluation has been carried out and it can be stated that the level of satisfaction of respondents with the quality of SIM pharmaceutical inventory control is in the medium category with a percentage of 75% or as many as 27 out of 36 and there are no respondents which has a low level of satisfaction with the quality of the system, so it can be stated that the better the quality of the system can increase user satisfaction with the system that is running. This is in accordance with previous research saying that the quality of the system can affect the level of user satisfaction (Rismayanti, et al., 2021; Tam and Oliveira, 2017; Tarwoto dan Kuncoro, 2019).

satisfaction with the system quality variable, which has an average value of 3.33 with a standard deviation of 0,48.

Satisfaction with Information Quality of Pharmacy Inventory Control on Management Information System

The quality of information is the output generated from the technology system that can have a positive influence on the delivery of appropriate content. Information quality assessment criteria are based on the characteristics of how accurate, complete, accessible, adequate, understandable, timely and in good format are, all of which are important for the acceptance of information technology (Ghazal, et al., 2018). Based on the initial data obtained from the distribution of questionnaires on IFRS X consisting of 36 respondents and an evaluation has been carried out, it can be stated that the level of respondents' satisfaction with the quality of SIM control is in the medium category with a percentage of 83.30% or as many as 30 of 36 respondents have a high level of satisfaction. in the medium category and none of the respondents had a low level of satisfaction with the quality of information. Based on this it can be said that the better the quality of information, the better the user satisfaction with the system that is running, so that in system development it is necessary to pay attention to the quality of information that will be provided to system users.

Table 2
Categorization Formula

Code	Description	Mean ± SD
A1	Pharmacy installation information system displays menus according to user needs	3,25±0,44
A2	The pharmacy installation information system is reliable so that disturbances rarely occur	2,75±0,73
A3	Information systems do not have backups or provide backups for files, data or systems in case of damage	3,06±0,63
A4	Easy data entry and data correction	3,25±0,50
A5	The procedure for using the system is easy to understand and use	3,31±0,47
A6	Computers can run information system applications well	3,31±0,47
A7	The existence of a pharmacy installation information system makes work more effective	3,33±0,48
A8	Users can easily use the information system according to their work needs	3,25±0,44

Data source: Primary data processed 2021

Information systems that produce high quality can urge users to use service systems, thus the quality of information is considered an important factor affecting the use of a system. According to Mukred and Yusof (2018) The

significant impact of information quality on the system, shows that in the system designer must involve feedback from users to ensure that system requirements are met taking into account the quality of information.

Tabel 3
Satisfaction with Information Quality

Code	Description	Mean ± SD
B1	The information generated is unbiased, free from error, and can be fully used as material for reporting	3,08 ±0,50
B2	The accuracy of the information produced by the pharmacy installation information system is high	3,06 ±0,53
B3	The information generated by the pharmacy installation information system corresponds to the data entered in the computer	3,11 ±0,47
B4	The information generated by the pharmacy installation information system is relevant to your job	3,17 ±0,38
B5	The reports generated by the pharmacy installation information system are useful for users	3,22 ±0,42
B6	The pharmacy installation information system produces information that does not match the user's needs	3,06±0,41
B7	The resulting information is always up to date.	3,22±0,42
B8	The information generated by the information system is appropriate to the user's needs	3,00±0,34
B9	The resulting information contains a clear meaning and is easy to read.	3,25±0,44
B10	I find it difficult to read and understand information from the pharmacy installation information system	2,83±0,38
B11	The resulting information is very comprehensive, no information is omitted, and is not misleading.	3,11 ±0,58
B12	The pharmacy installation information system has instructions for use	2,94±0,49
B13	Information systems produce incomplete information	2,86±0,38
B14	The resulting information is always available when needed so that it does not lose its meaning when used	3,28±0,54
B15	The time required for the system to generate information is short	3,11±0,58
B16	I'm having a hard time finding the information I need on the pharmacy installation information system	2,94±0,23
B17	The time needed to get information from the pharmacy installation information system is short	2,86±0,35
B18	Information can only be used by parties who can access it so it is safe from data damage	3,28±0,54
B19	There is a backup of data in case of damage to the information system	2,97±0,70
B20	Information systems are not easily hijacked (hacked) by irresponsible parties	2,94±0,23
B21	The form and content of the report are in accordance with predetermined standards	2,83±0,76
B22	The pharmacy installation information system has menu instructions, filling instructions, operating instructions	2,83±0,76

Data source: Primary data processed 2021

The service quality variable consists of eight indicators including accuracy (B1, B2, B3), relevance (B4, B5, B6), current (B7, B8), easy to reach (B9, B10), completeness (B11, B12), on time (B13, B14, B15, B16, B17), safe (B18, B19, B20), form (B21, B22). Based on Table 3, codes B14 and B18 have the highest average value, so it can be interpreted that the statements on these indicators can affect the level of respondents' satisfaction with the information quality variable of SIM pharmaceutical inventory control.

Satisfaction with Service Quality of Pharmacy Inventory Control on Management Information System

Service quality is a characteristic of goods or services that shows the ability to provide satisfaction according to user needs and is a tool used in marketing and is important in the success of information systems (Salim, *et al.*, 2021). However, the pharmaceutical control management information system service in this study is an action that supports the use of the system through IT by developing the

system so that it can increase responsiveness quickly and accurately.

Based on the initial data obtained from the distribution of questionnaires at IFRS X consisting of 36 respondents and an evaluation has been carried out, it can be stated that the level of respondents' satisfaction with the quality of SIM services for controlling pharmaceutical inventory is in the medium category with a percentage of 97.20% or as many as 35 of 36 respondents have The level of satisfaction is in the medium category and there are no respondents who have a low level of satisfaction with service quality, so it can be stated that the better the quality of the service, the more

user satisfaction with the system that is running, but the percentage of respondents' satisfaction in the high category is very minimal (2.78 %), therefore it is necessary to extract more in-depth information related to service quality variables by using a structured interview method to the officers concerned. This is in accordance with previous research which said that the service quality of the system can affect the level of respondent satisfaction (Fathoni, et al., 2017; Prayudi, et al., 2020), so that the better the services provided, the level of respondent satisfaction in the high category.

Table 4
Satisfaction with Service Quality

Code	Description	Mean ± SD
C1	There is always support from the information technology department for the development of quality information systems	3,06±0,23
C2	When users face problems the technology and information department will be happy to provide solutions	3,03±0,29
C3	Employees of the technology and information department understand well the needs of users	3,08±0,28
C4	Users feel comfortable communicating with the technology and information department	3,06±0,23

Data source: Primary data processed 2021

The service quality variable consists of two indicators including IT support (C1, C2), IT capture power (C3, C4). Based on Table 4, code C3 (Employees of the information and technology department understand well the user's needs) has the highest average value, so it can be interpreted that the statements on these indicators can affect the level of respondents' satisfaction with the service quality variable of SIM pharmaceutical inventory control.

Satisfaction with the Use of Pharmaceutical Inventory on Management Information Systems

The use of SIM drug inventory control in this study is the intensity of use that can affect the level of user interest in

using the system. Based on the initial data obtained from the distribution of questionnaires in IFRS X consisting of 36 respondents and an evaluation has been carried out, it can be stated that the level of respondents' satisfaction with the use of SIM pharmaceutical inventory control is in the medium category with a percentage of 58.30% or as many as 21 of 36 respondents have a high level of satisfaction in the medium category and 41.67% in the high satisfaction category. Like the DeLone and McLean success model, user satisfaction can be used to influence actual use and behavioral intentions, in accordance with previous research which states that respondents' satisfaction with use is influenced by user satisfaction in using the application (Yakubu *et al.*, 2018).

Table 5
Purpose of Using the System

Code	Description	Mean ± SD
D1	Users always use information systems in inputting data	3,39±0,49
D2	In one day users use the information system more than once	3,56±0,50
D3	Users use information systems in completing their work	3,31±0,47
D4	I am satisfied with the information system in the pharmacy installation	3,19±0,47
D5	Most employees in pharmaceutical installations are interested in using information systems	3,19±0,40

Data source: Primary data processed 2021

The use variable consists of two indicators including frequency of use (D1, D2, D3), willingness to use (D3, D4). Based on Table 5, code D2 (in one day the user uses the information system more than once) has the highest average value, so it can be interpreted that the statements on these indicators can affect the level of respondents' satisfaction with the variable of using SIM for controlling pharmaceutical inventory.

Satisfaction with the Pharmaceutical Inventory Control on Management Information System

Satisfaction in this study is the response and feedback generated by users after using the system. Based on the

initial data obtained from the distribution of questionnaires in IFRS X consisting of 36 respondents and an evaluation has been carried out, it can be stated that the level of satisfaction of respondents to the SIM pharmaceutical inventory control is in the medium category with a percentage of 100% or as many as 36 of 36 respondents have a satisfaction level in the category moderate and no one stated that satisfaction with the SIM pharmaceutical inventory control was in the high category, so it was necessary to extract more in-depth information with the relevant respondents.

Based on the results of the analysis that has been carried out, it is obtained the percentage of respondent satisfaction in the high category (0%), therefore it is necessary to extract more in-depth information related to the satisfaction

variable by using a structured interview method to the officers concerned. Based on previous research said that the

quality of information, system quality, service quality can affect the level of user satisfaction (Fathoni, et al., 2017).

Table 6
Satisfaction with Usage Satisfaction

Code	Description	Mean ± SD
E1	Fill in the information generated by the pharmacy installation information system according to what I need	2,94±0,23
E2	Pharmacy installation information system application is able to produce clear information	2,97±0,17
E3	The pharmacy installation information system is able to generate reports according to what I need	2,97±0,17
E4	Pharmacy installation information system application produces accurate information	3,00±0,00
E5	I am satisfied with the accuracy level of the pharmacy installation information system	3,00±0,00
E6	The pharmacy installation information system application that I use is user-friendly	3,00±0,24
E7	I am easy to apply and understand the pharmacy installation information system	3,08±0,37

Data source: Primary data processed 2021

The satisfaction variable consists of three indicators including completeness of content (E1, E2, E3), accuracy of information (E4, E5) and ease of use (E6, E7). Based on Table 6, code E7 (I am easy to apply and understand the pharmacy installation information system) has the highest average value, so it can be interpreted that the statement on this indicator can affect the respondent's level of satisfaction with the SIM pharmaceutical inventory control.

Satisfaction with the Benefits of Pharmacy Inventory on Management Information Systems

The benefits of this study are a positive impact that affects performance and success both individually and in groups that play an important role in contributing to the

achievement of goals. The net benefits of an information system can be used to measure the success of the information system, the level of effectiveness (Meilani, et al., 2020; Nugroho dan Prasetyo, 2018). Based on the initial data obtained from the distribution of questionnaires at IFRS X consisting of 36 respondents and an evaluation has been carried out, it can be stated that the level of respondents' satisfaction with the benefits of SIM pharmaceutical inventory control is in the medium category with a percentage of 77,78% or as many as 28 of 36 respondents and 41,67% in the category of high satisfaction. Based on research Wulansari, et al (2021) efforts that can be made to make users more satisfied and the number of website views created is increasing, tus it is expected to be able to attract users and add real-time information features.

Table 7
Satisfaction with Benefits

Code	Description	Mean ± SD
F1	Pharmacy installation information system application can improve my work performance	3,17±0,38
F2	The information system always provides information according to my work needs	3,19±0,47
F3	Pharmacy installation information system helps me work more effectively and efficiently	3,22±0,42
F4	The existence of an information system helps pharmacy installations improve services to patients	3,39±0,55
F5	Information systems play an important role in the successful performance of pharmaceutical installations	3,25±0,44
F6	Information systems can contribute to the achievement of the vision, mission and goals of the organization	3,25±0,44
F7	Information systems can easily make adjustments to new conditions according to pharmaceutical needs	3,31±0,47

Data source: Primary data processed 2021

The benefit variable consists of two indicators including individual impact (F1, F2, F3), organizational impact (F4, F5, F6, F7). Based on Table 7, code F7 (Information systems can easily make adjustments to conditions that suit the needs of pharmaceutical needs) has the highest average value so that it can be interpreted that the statements on these indicators can affect the level of respondents' satisfaction with pharmaceutical inventory control.

100% and the high category of 0%, but after developing a pharmaceutical inventory control system, the satisfaction level of respondents in the high category has increased was 27.78%, so the development of a control management information system needs to be done.

CONCLUSIONS AND SUGGESTIONS

Based on the research that has been done, it can be concluded that the level of the respondent's satisfaction category has increased its variables, the satisfaction variable has a perception of satisfaction in the medium category of

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