

## Financial Information System Analysis of YPPI Rembang University with the PIECES Method

Nita Sari<sup>1\*</sup>, Siti Nur Sikhah Arum Yuliyanti<sup>2</sup>, A. Aviv Mahmudi<sup>3</sup>

Universitas YPPI Rembang

Correspondence Author: Nita Sari nithatoel58@gmail.com

---

### ARTICLE INFO

*Keywords:* Pieces, Financial, System

*Received :* 4 January

*Revised :* 18 February

*Accepted:* 20 March

©2024 Sari, Yuliyanti, Mahmudi:

This is an open-access article distributed under the terms of the

[Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



### ABSTRACT

This study aims to analyze the use of the Financial System at YPPI Rembang University through the PIECES method. Which consists of performance (performance), information (information), economy (economy), control (control), efficiency (efficiency), and service (service). This study measures the level of overall satisfaction with the financial system that has been implemented. In addition, this study also aims to determine the weaknesses and deficiencies of the system, which in the future will become a benchmark in system development. In this study, data collection was carried out by distributing questionnaires to 12 respondents. The results obtained from the respondents to the six indicators proposed are that they have an average of 3.73, which means that users already feel satisfied with the existing financial system

## **INTRODUCTION**

At this time information technology is developing so fast that it brings significant changes in human life in various scopes. In the development of technology, especially developments in information systems, it is indispensable in various scopes such as the scope of education, government, health and, the scope of the economy, where information systems function to support a job in decision-making.

Along with the development of technology, work done with conventional systems has begun to be abandoned and is turning to computational information systems for the development of increasingly complex systems. A system can provide strong support for the standardization of work management, promote the implementation of computational work, and improve work efficiency (Yu & Gu, 2018).

In today's era, technology causes everything possible to be arranged automatically and maximized, where the manual work system is slowly being replaced by increasingly sophisticated technology. Human efforts to bring up breakthroughs in the field of technology are certainly very supportive of the work process which initially took a relatively long time to be able to be completed in a relatively short time with satisfactory results, although with modern technology the expenses or operational costs required will be more and more.

Information systems have developed very rapidly to help humans manage information. One of the applications of information systems in the field of education is the financial information system. The system can integrate data so that financial management becomes easier. The online financial information system functions to process existing expenditure and income data.

YPPI Rembang University is one of the private universities located in Rembang Regency, Central Java. YPPI Rembang University already has several computing systems, one of which is a financial information system. Where the financial information system is very important in an organization, in which there is an overview of financial conditions and financial performance in an entity (Fuadah & Setiyawati, 2020). In the process of implementing a financial information system at YPPI Rembang University, it is necessary to evaluate the system. The evaluation segment measures the performance of the information system which aims to achieve satisfaction by users of the system (Al-Wattar et al., 2019). One of the methods used for the evaluation of financial information systems is to use the PIECES Framework method. Where the PIECES Framework method is a framework that contains classification and problem-solving categories (Fatoni et al., 2020). Here the use of the PIECES Framework is used to see the level of satisfaction of YPPI Rembang University students and financial institutions in using the financial information system which consists of several variables such as performance, information, economy, control and security, efficiency, and service. So that it supports better system performance. Because this affects the level of satisfaction of UYR students and financial entities in using the financial information system.

## LITERATURE REVIEW

### System

A system is a network of several procedures that are interconnected, gathered together to carry out an activity or to complete a certain goal. A system is a series of two or more data that are interrelated and interact to achieve a specific goal. A system is a single unit of procedurally connected and organized data (Sallaby & Kanedi, 2020).

### Information

Information is a message or set of messages that consists of an order sequence of symbols, or meanings that can be interpreted from a message or collection of messages. Information or information is a series of words, sentences, images, or other writing marks that contain thoughts or knowledge that can be used by leaders in making the right decisions based on facts (Deshpande, 2013).

### Information Systems

Information Systems are an organized collection of people, hardware, software, communication networks, data sources, and policies and procedures that store, retrieve, change, and disseminate information in a company or organization (Fatoni et al., 2020).

### Financial Statements

Financial statements are a file that outlines the parts of financial statements involving balance sheets and profit and loss to obtain deeper information about the condition of finances in a company which is very important in the process of making the right decisions (Sari & Hidayat, 2022).

### Financial Information Systems

A financial information system is an information system designed to provide information about the flow of money for all users. A financial information system is part of SIM used to solve financial problems. Financial information systems generally have an income system consisting of a data processing subsystem supported by an internal audit subsystem that provides internal data and information (Tenardi et al., 2013)

## METHODOLOGY

The PIECES framework is a procedure for classifying a problem, opportunities, and directives in the scope definition, analysis, and system design (Prayogi et al., 2021) The PIECES method has 6 analysis variables, including Performance, Information and Data, Economics, Control and Security, Efficiency, and Service (Ramadhani, 2018).

The 6 variables can be explained as follows:

#### 1. Performance

In performance analysis, this can be used to measure the performance of the system. Whether the running system provides good performance or not. Performance or performance can be measured when the tasks or commands given to the system have reached the target (Ambarita & Sugeng, 2021).

#### 2. Information and Data

Information is very important in a system. Where information is the output of all data inputted in the system. So that the output produced must provide

precise and accurate information. In information analysis, explain whether the system that has been used can provide information to the wishes of users, and the information produced must be precise and accurate.

### 3. Economic

Economic analysis is important to determine the effectiveness of implementing the system in terms of finance and costs incurred (Fatoni et al., 2020). This analysis can be measured by parameters in the form of the amount of costs in operational terms such as maintenance on the system.

### 4. Control and Security

Security in a system is very important, considering that in the current era, there are many cases of data leakage on a system, or data on the system is broken into by irresponsible people. Control analysis can be measured with parameters of information data management settings and data security (Suarantalla, 2017) With control and security analysis, it can measure whether the system that is running has a good level of security or not.

### 5. Efficiency

Efficiency relates to the resources used, to minimize waste (Suarantalla, 2017). Therefore, efficiency requires an increase in output and final results (Ambarita & Sugeng, 2021). Efficiency analysis in a system can be measured from the system can help solve a problem or not. With a high level of efficiency, it can be said that the system has provided satisfaction for its users.

### 6. Service

Service analysis is used to measure the level of service provided and find out existing problems related to service. The system can be said to be good and balanced if its application is balanced with good service. Improving better services for management and system users is a manifestation of the quality of the information system (Pratiwi & Susanti, 2021).

By using the Pieces framework method, the system that is already running can be analyzed to develop the system and can evaluate the level of user satisfaction with the system.

In previous research, with the title "Pieces framework on the implementation of rapid enumeration and evaluation information system of 2020 population census" conducted by Rizka Ika Yuanita in 2020, the research was conducted at BPS West Java province, which resulted in research conducted using the Pieces Framework method in measuring the level of user satisfaction in the Sicepat32 SLS application getting a satisfactory predicate, where the application has been able to provide satisfaction to users and can meet user needs (Yuanita, 2021).

The next research entitled "Analysis of the level of user satisfaction of WhatsApp as an information sharing media using the Pieces Framework method" conducted by Diva Putri Harianto, Joy Nashar Utama Jaya, and Darmansyah in 2022, the research is about the performance of the Whatsapp application as an information sharing media in Balikpapan city using the Pieces Framework method. The results of this study, the average of the variables, namely performance, information, economics, control and security, and

efficiency can be categorized as PUAS for users of the Whatsapp application as a medium for sharing information (Harianto et al., 2022).

Other research that has been done is about "Marketplace Performance Analysis Using PIECES Method" (Case Study: Marketplace Bireuen (meukat.com)) conducted by Munirul Ula, Rizal Tjut Adek, and Bustami in 2021. Using the PIECES method in analyzing the performance of the marketplace with the aim that the Bireuen marketplace can develop well in the future (Ula et al., 2021).

From several studies that have been done above, the authors will use the Pieces Framework method in evaluating the performance of the financial information system at YPPI Rembang University. Evaluating the performance of a system aims to improve services to users optimally.

### **Data Collection**

The data collection method used in this study is to use data collection techniques by distributing questionnaires (Ula et al., 2021). The distribution of questionnaires aims to evaluate and measure the financial system of YPPI Rembang University using the PIECES method, where there are 12 respondents in it. In the questionnaire technique, where the researcher gives several questions to the respondent. The questionnaire here was given to several staff from the finance bureau of YPPI Rembang University and several students who were directly involved in using the system.

### **Data Analysis Method**

The data generated from the questionnaire in the data collection method, then the data will be processed with a Likert scale. Likert scale is a scale used in measuring the perceptions, attitudes, or opinions of a person or organization regarding a social event or phenomenon, based on the operational definitions set by the researcher (taufiqurrachman, 2022). On this scale, it is used in evaluating the success value of benefits in knowing user satisfaction from a running system (Ramadhani 2018). The formula that will be used uses a Likert scale as follows:

$$RSK = \frac{JSK}{JK}$$

RK = Average satisfaction/interest

JKS = Total score of the questionnaire

JK = Number of Questionnaires

In determining the satisfaction value of financial system users, it can be defined as follows:

## **RESULT AND DISCUSSION**

The iPet application was designed to assist individuals in finding a pet for adoption and to provide support for pets whose owners are no longer able to care for them, reducing the likelihood of them running away. For this study, a developmental research method was employed, involving the systematic design, development, and evaluation of instructional programs, processes, and products. Following the six steps of the waterfall model, the iPet application was created, encompassing requirements analysis, design, implementation, testing, deployment, and maintenance.

The IT experts utilized the ISO 25010 standards established by the International Organization for Standardization to guide the development of iPet. The experts evaluated the application based on various criteria, including functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability. Additionally, a quality of use assessment was conducted, with end-user respondents from Barangay Aduas Norte Cabanatuan City, consisting of both pet owners and non-pet owners, providing feedback on the functional suitability, performance efficiency, usability, and reliability of iPet. The application successfully met and surpassed the evaluation criteria set by the IT experts, demonstrating its effectiveness and user satisfaction.

Table 1. System User Satisfaction Level

Value Range	Predicate
1-1.79	Very dissatisfied
1.8-2.59	Dissatisfied
2.6-3.39	Undecided
3.4-4.91	Satisfied
4.92-5	Very satisfied

## RESULT AND DISCUSSION

### System Analysis

The financial system has a very important role for its users, especially for financial staff on campus. Because with the existing financial system, work related to financial needs can be fulfilled by the system. In addition, the risk of losing financial data is minimal, because the system that runs is always updated regularly. To minimize damage to the system.

Several questions were asked by researchers to 12 respondents. Here are some lists of questions given to respondents:

Table 2. List of Questions asked by the Researcher

No	Domain	Question
1	Performance	a. The difference between using a conventional system and a computational system. b. The function of the financial system has supported the financial needs on campus. c. The effects are caused if the system is damaged.
2	Information	a. The financial system has provided the necessary information to the campus finance staff. b. The information provided is easy to understand. c. The resulting information can be verified.
3	Economic	a. The use of financial systems can minimize campus expenses. b. Effective use of available time and energy resources.

		c. Resources required in the maintenance and control of the financial system.
4	Control	a. The potential for data to be accessed by outsiders. b. The occurrence of errors caused by human error or system failure. c. The possibility that the financial system can be lost or researched.
5	Efficiency	a. There has been double data recording. b. The current system is more user-friendly. c. The system can produce information as desired.
6	Service	a. Financial systems are updated regularly. b. The financial system can produce accurate and consistent information. c. The system has served the needs required by users.

---

### Data Calculation and Analysis

The results of the research that has been done using the PIECES Framework method. By asking several questions in the form of a questionnaire, were submitted to 12 respondents in measuring satisfaction with the use of the financial system of YPPI Rembang University, which is as follows:

#### 1. Performance Indicators

Indicators of performance can be seen in Table 3 below:

Table 3. The results of the performance indicator questionnaire

No Respondent	Performance Indicator		
	P1	P2	P3
1	4	3	3
2	5	4	3
3	3	4	4
4	3	5	5
5	4	3	4
6	4	4	3
7	4	4	5
8	3	4	4
9	4	4	4
10	4	5	3
11	4	3	3
12	5	3	4
<b>Average</b>	3.92	3.83	3.75

$$RK = \frac{3.91 + 3.83 + 3.75}{3}$$

$$RK = \frac{11.49}{3}$$

$$RK = 3,83$$

Based on the above calculations, it can be seen from the table of results from the performance indicator questionnaire, that the results obtained are at 3.83. This shows that users feel SATISFIED with the existing financial system at YPPI Rembang University.

2. Information Indicator

Indicators of information can be seen in Table 4 below:

Table 4. The Results of the Information Indicator Questionnaire

No Respondent	Indicator Information		
	P1	P2	P3
1	4	4	4
2	3	3	4
3	4	3	3
4	3	4	3
5	5	3	4
6	4	4	4
7	4	4	4
8	3	4	4
9	3	4	4
10	3	4	4
11	4	3	3
12	4	4	4
<b>Average</b>	3.67	3.67	3.75

$$RK = \frac{3.67+3.67+3.75}{3}$$

$$RK = \frac{11.09}{3}$$

$$RK = 3,69$$

Based on the above calculations, it can be seen from the table of results from the indicator information questionnaire, that the results obtained are at 3.69. This shows that users feel SATISFIED with the financial system at YPPI Rembang University.

3. Economic Indicators

Indicators of the economy can be seen in Table 5 below:

Table 5. The results of the Economic Indicator Questionnaire

No Respondent	Economic Indicators		
	P1	P2	P3
1	3	4	4
2	4	4	3
3	4	3	3
4	3	4	4
5	3	4	4
6	4	5	3
7	4	4	4

8	4	4	3
9	3	3	4
10	4	4	4
11	3	3	4
12	4	4	4
<b>Average</b>	3.58	3.83	3.67

$$RK = \frac{3.58+3.83+3.67}{3}$$

$$RK = \frac{11.08}{3}$$

$$RK = 3,63$$

Based on the above calculations, it can be seen from the table of results from the economic indicator questionnaire, that the results obtained are at 3.63. This shows that users feel SATISFIED with the existing financial system at YPPI Rembang University.

#### 4. Control Indicator

Indicators of control can be seen in Table 6 below:

Table 6. The Results of the Control Indicator Questionnaire

No Respondent	Control Indicator		
	P1	P2	P3
1	5	4	4
2	4	4	4
3	4	4	3
4	5	3	4
5	3	4	4
6	4	3	4
7	4	4	5
8	4	4	4
9	4	4	3
10	3	3	3
11	4	4	4
12	4	4	3
<b>Average</b>	4.00	3.75	3.75

$$RK = \frac{4.00+3.75+3.75}{3}$$

$$RK = \frac{11.5}{3}$$

$$RK = 3,78$$

Based on the above calculations, it can be seen from the table of results from the indicator control questionnaire, that the results obtained are at 3.78. This shows that users feel SATISFIED with the financial system at YPPI Rembang University.

5. Efficiency Indicator

Indicators of efficiency can be seen in Table 7 below:

Table 7. The Results of the Efficiency Indicator Questionnaire

No Respondent	Efficiency Indicator		
	P1	P2	P3
1	3	4	5
2	4	3	4
3	4	3	4
4	4	4	3
5	3	5	5
6	5	3	4
7	3	3	5
8	4	3	4
9	3	4	4
10	4	4	4
11	3	3	4
12	4	4	3
<b>Average</b>	3.67	3.58	4.08

$$RK = \frac{3.67+3.58+4.08}{3}$$

$$RK = \frac{11.33}{3}$$

$$RK = 3,76$$

Based on the above calculations, it can be seen from the table of results from the efficiency indicator questionnaire, that the results obtained are at 3.76. This shows that users feel SATISFIED with the existing financial system at YPPI Rembang University.

6. Service Indicator

Indicators of service can be seen in Table 7 below:

Table 8. The results of the service indicator questionnaire.

No Respondent	Service Indicator		
	P1	P2	P1
1	4	4	4
2	3	4	3
3	4	4	4
4	4	3	4
5	4	4	3
6	4	3	3
7	4	4	4
8	4	4	3
9	3	4	4
10	3	4	4
11	3	4	4
12	5	4	3
<b>Average</b>	3.75	3.83	3.58

$$RK = \frac{3.75+3.83+3.58}{3}$$

$$RK = \frac{11.16}{3}$$

$$RK = 3,72$$

Based on the above calculations, it can be seen from the table of results from the service indicator questionnaire, that the results obtained are at 3.72. This shows that users feel SATISFIED with the financial system at YPPI Rembang University.

The results of the 6 assessments above can be calculated again to find the average in seeing indicators of user satisfaction with the financial system.

Based on some of the data above, namely from the assessment indicators including performance, information, economy, control, efficiency, and service. Shows an average of 3.73, it can be concluded that the level of satisfaction of financial system users at YPPI Rembang University is in the SATISFIED category. Therefore, the current system has a positive influence on users. Even though it has a Satisfied category from system users, the campus must always monitor the running of the system, so that in the future the system used always provides optimal output for system users.

Tabel 9. Indicator Recapitulation Results

No Respondent	Service Indicator		
	P1	P2	P1
1	4	4	4
2	3	4	3
3	4	4	4
4	4	3	4
5	4	4	3
6	4	3	3
7	4	4	4
8	4	4	3
9	3	4	4
10	3	4	4
11	3	4	4
12	5	4	3
<b>Average</b>	3.75	3.83	3.58

## CONCLUSION AND RECOMMENDATION

The research method used is using the PIECES method which consists of performance, information, economics, control, efficiency, and service in determining the level of satisfaction of financial system users at YPPI Rembang University. The results obtained from 12 respondents, namely the performance indicator shows a value of 3.83, the information indicator shows a value of 3.69, the economic indicator shows a value of 3.63, the control indicator shows a value of 3.78, the efficiency indicator shows a value of 3.76, and the service indicator shows a value of 3.72 with an average number in all indicators which has a value of 3.73. With this number of values, it shows that the financial system at YPPI Rembang University has a SATISFIED category for system users.

Of the six assessment indicators above, the economic indicator has the lowest value. This means that the campus must make improvements to increase the operational costs that must be incurred for the needs of the system. So that the system used can function optimally.

## ACKNOWLEDGMENTS

The author expresses gratitude to Allah SWT for allowing the author to complete this research. As well as thanking the supervisor and colleagues who helped in the research process from beginning to end.

## REFERENCES

- Al-Wattar, Y. M. A., Almagtome, A. H., & Al-Shafeay, K. M. (2019). The role of integrating hotel sustainability reporting practices into an Accounting Information System to enhance Hotel Financial Performance: Evidence from Iraq. *African Journal of Hospitality, Tourism, and Leisure*, 8(5).
- Ambarita, S. Y. B., & Sugeng, S. (2021). Implementation of the PIECES Method in the Student Assessment System of SMPN 201 Jakarta. *Eduvest - Journal of Universal Studies*, 1(9), 988-998. <https://doi.org/10.59188/eduvest.v1i9.214>
- Deshpande, S. (2013). No 主観的健康感を中心とした在宅高齢者における健康関連指標に関する共分散構造分析 Title. *Journal of the American Chemical Society*, 123(10), 2176-2181. <https://shodhganga.inflibnet.ac.in/jspui/handle/10603/7385>
- Fatoni, A., Adi, K., & Widodo, A. P. (2020). PIECES Framework and Importance Performance Analysis Method to Evaluate the Implementation of Information Systems. *E3S Web of Conferences*, 202, 0-10. <https://doi.org/10.1051/e3sconf/202020215007>
- Fuadah, H., & Setiyawati, H. (2020). The Effect of the Implementation of Transparency and Accounting Information Systems on the Quality of Financial Reports. *IJO-International Journal of Business ...*, 3(11), 1-12. <http://www.ijojournals.com/index.php/bm/article/view/371>

- Harianto, D. P., Jaya, J. N. U., & Darmansyah, D. (2022). Analisis Tingkat Kepuasan Pengguna Whatsapp Sebagai Media Berbagi Informasi Menggunakan Metode Pieces Framework. *Journal of Information System Research (JOSH)*, 3(3), 306-313. <https://doi.org/10.47065/josh.v3i3.1547>
- Pratiwi, A. E., & Susanti, S. (2021). Evaluasi Kinerja Sistem Informasi Akuntansi Accurate Accounting Enterprise Menggunakan Metode Pieces. *Jurnal Responsif: Riset Sains Dan Informatika*, 3(1), 63-74. <https://doi.org/10.51977/jti.v3i1.402>
- Prayogi, R., Ramanda, K., Budihartanti, C., & Rusman, A. (2021). Penerapan Metode PIECES Framework Dalam Analisis dan Evaluasi Aplikasi M-BCA. *Jurnal Infortech*, 3(1), 7-12. <https://doi.org/10.31294/infortech.v3i1.10122>
- Ramadhani, S. (2018). PIECES Framework untuk Analisa Tingkat Kepuasan Pengguna dan Kepentingan Sistem Informasi. *Jurnal Teknologi Dan Manajemen Informatika*, 4(2). <https://doi.org/10.26905/jtmi.v4i2.2101>
- Sallaby, A. F., & Kanedi, I. (2020). Perancangan Sistem Informasi Jadwal Dokter Menggunakan Framework Codeigniter. *Jurnal Media Infotama*, 16(1), 48-53. <https://doi.org/10.37676/jmi.v16i1.1121>
- Sari, P. A., & Hidayat, I. (2022). Analisis Laporan Keuangan. *Eureka Media Aksara*, 1(69), 5-24.
- Suarantalla, R. (2017). Yogyakarta (Ipmsy) Berbasis Web. 2(1).
- taufiqqurrachman. (2022). Cara Hitung Kuesioner pada skala likert. Drs.Taufiqqurrachman,M.Si. <https://saintekmu.ac.id/myblog/taufiqqurrachman/read/cara-hitung-kuesioner-pada-skala-likert>
- Tenardi, W., Agustina, D., & Welda. (2013). Sistem Informasi Keuangan pada. 1-9.
- Ula, M., Tjut Adek, R., & Bustami, B. (2021). Marketplace Performance Analysis Using PIECES Method. *International Journal of Engineering, Science and Information Technology*, 1(4), 1-6. <https://doi.org/10.52088/ijesty.v1i4.138>
- Yu, Q., & Gu, X. (2018). Customizable modeling method of workflow engine used in an information system. *Proceedings - 2017 International Conference on Computing Intelligence and Information System, CIIS 2017, 2018-Janua*, 241-245. <https://doi.org/10.1109/CIIS.2017.43>

Yuanita, R. I. (2021). Pieces Framework on the Implementation of Rapid Enumeration and Evaluation Information System of 2020 Population Census. *Jurnal Pilar Nusa Mandiri*, 17(1), 47-52. <https://doi.org/10.33480/pilar.v17i1.2014>