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Research Article

Analysis of Satisfaction User Integrated Hindu System with Pieces Framework Method in Central Sulawesi

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Abstract

This research aims to 1) To analyze the influence of the *PIECES Framework* simultaneously and significantly on the Hindu Integrated Information System User Satisfaction (SIMPUIH); 2) To Analyze the influence of *Perceived Usefulness* variable as a moderating variable of the *PIECES Framework* on User Satisfaction of Hindu Integrated Information System (SIMPUIH); 3) To analyze the influence of the *Perceived Ease of Use* variable as a moderating variable of the *PIECES Framework* on User Satisfaction of Hindu Integrated Information Systems (SIMPUIH). The population was use employees who used the Simpuh application consist of admins, Hindu religious teachers, extension workers, and Hindu religious officials in the province of Central Sulawesi. The population and sample in this study were 234 respondents with data processing using Structural Equation Modeling (SEM) based on *Partial Least Square* (PLS). The research was carried out in the Work Area of the Ministry of Religious Affairs in Central Sulawesi in 10 districts and cities.

This study found: 1). *PIECES Framework* has a simultaneous and significant influence on Hindu Integrated Information System User Satisfaction; 2). *Perceived Usefulness* has a positive and significant effect in moderating the *PIECES Framework* on Hindu Integrated Information System User Satisfaction; 3) *Perceived Ease of Use* has a positive and significant effect in moderating the *PIECES Framework* on Hindu Integrated Information System User Satisfaction.

Keywords: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Information User Satisfaction

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Introduction

The demands made by the public to the government are reasonable demands that the government should have responded to by making directed changes with the realization of good governance (Warella, 2004).

The way for an organization to be able to run good government is by using an information system. Not a few organizations spend large investments in information systems (Irwansyah, 2003). Stated that information technology is the fourth resource after human resources,

money resources, and machine resources used by managers to form and operate organizations.

Rapid technological progress is also a major factor requiring an agency to keep abreast of technological developments, for that an agency needs an information system that supports the needs of government agencies in creating work efficiency and effectiveness as well as in improving services to the community. Besides that, the advancement of information technology is also a solution in



fulfilling the aspects of transparency, accountability in public participation.

The integration of the government administration system through the information network needs to be continuously developed, especially in the provision of services to enable the availability of data and information in government agencies which are analyzed and utilized quickly, in a timely, relevant and accurate manner. Information is considered as one of the factors of production in institutions/agencies because it is an important tool that can solve various forms of ignorance and uncertainty that often become obstacles in the decision-making process.

The Office of the Ministry of Religious Affairs in Central Sulawesi is one of the government offices that carry out the main tasks and functions of the Ministry of Religion in the Central Sulawesi Province. Office leaders must be able to implement the right strategy, innovation in the management system, and be able to direct employees to excel or give the best performance so that community service can be maximized. For that, we need a system that can assist the leadership in providing information that can support decision making.

The Hindu Integrated Information System (SIMPUPH) is one of the systems developed by the Ministry of Religion Office of Central Sulawesi through the Hindu Community Guidance Division. This system aims to ensure smooth administrative processes as well as uniform data processing methods that allow optimal control over administrative activities in the working area of the Ministry of Religion, Central Sulawesi.

SIMPUPH implementation is very important for the Office of the Ministry of Religious Affairs in Central Sulawesi. Several reasons for the formation of SIMPUPH include 1). Manually processing large amounts of data is no longer efficient, so it is necessary to use computer tools with reliable accuracy. 2). The frequency of changes in administrative data is increasing. This is because the spread of work location often makes communication and coordination difficult.

The application of technology in organizational information systems should consider system users so that the technology applied can be useful by following the task and capabilities of the user. It is not uncommon to find that the technology applied in the information system is often inappropriate or not maximally utilized by system users so that the application of information system does not provide a benefit or even provides no benefit at all in increasing individual performance.

The application of SIMPUPH at the Office of the Ministry of Religious Affairs in Central Sulawesi still faces several obstacles. First, including the activation star-up process is still very slow, system error often occurs when updating

data is done collectively, and the Google application to open applications regarding SIMPUPH is not specific about the Hindu integrated information system, considering the many SIMPUPH applications that similar. This causes the procedure for viewing incidentally data to be too long.

Second, it includes the SIMPUPH application server capacity which is still very lacking, which makes data entry in this application slow. The *data entry* process greatly determines the continuity of subsequent processing processes. If from the beginning data filling is not smooth and inaccurate, then the work to correct data will increase in length, *data sorting* will be slow, and ultimately the organization's goal of producing information on time will not be achieved.

Third, there is no documentation regarding *summary flow charts* that show the flow of data from raw data to printed information. This issue seems simple, but sometimes it can make it difficult for the leadership of the ministry of religion in Central Sulawesi to oversee the flow of information contained in the organization they lead.

Fourth, *Weak Data Management Systems*. This is evident from the absence of standard operating standards, the emergence of excess *overflow reporting*, inefficient *redundancy*, and so on. Fifth, the office layout is still inadequate. The space for administrative activities (writing), computer operations, or data sorting is still mixed up so that the work becomes less systematic.

Sixth, including maintenance of machines or hardware, the organization still relies on suppliers with an annual contract system. As a result, if there are technical problems, even if they are very simple, the employees cannot immediately fix them themselves. The seventh is the lack of awareness and the not yet widespread *computerized mindedness* among users, especially employees, extension agents, and teachers in the Hindu environment and the weakness of information systems within the data processing organization itself. This involves administrative and operational issues such as how to handle large data volumes, create optimal data entry forms, determine the exact amount of data required, determine operating standards, develop input and output systems, and so on.

Given that the Hindu Integrated Information System (SIMPUPH) is used to meet the needs of user groups including Admins, Hindu Religious Teachers, Hindu Instructors, and Pembimas Employees, it is necessary to evaluate the quality of the information system. By evaluating an existing system, it is hoped that the evaluated organization will better understand and understand the obstacles and benefits of using the system that has been running so far. So that the costs incurred by the organization for this information system can be more effective and efficient and the results achieved are by following or close



to the targets or targets that have been determined in the initial planning.

Evaluation is a planned activity to assess a problem that occurs using instruments and the results can be compared with benchmarks to obtain conclusions so that solutions can be found to solve problems that arise. Meanwhile, information system evaluation can be carried out in different ways and at different levels, depending on the purpose of the evaluation. The objective is to assess technical capabilities, operational implementation, and system utilization (Tullah and Hanafri, 2014).

PIECES Framework is a tool in evaluating a computer-based information system, which consists of important points that are useful as guidelines/references in analyzing the system. *PIECES Framework* contains important things in system evaluation, such as *Performance, Information and data, Economics, Control and security, Efficiency*, and finally *Service*. By using *PIECES* as a system analysis tool, a detailed and comprehensive system will receive special attention, so that the strengths and weaknesses of the system can be identified and later used as a reference for further organizational progress.

This study analyzes or measures user satisfaction information systems simpuh with the *PIECES* method, FR framework by adding variables *Perceived Usefulness* and *Perceived Ease of Use* as moderating variables.

Literature Review

PIECES Framework is a framework that contains categories for classifying problems and making solutions to these problems (Whitten and Bentley, 2007). The classification is divided into six categories according to the order, namely *Performance, Information, Economics, Control, Efficiency*, and *Service*. Apart from that, *PIECES* have here *impetus* namely *Problem, Opportunity*, and *Directive*. In *PIECES framework* six components that can be used in the evaluation of user satisfaction of information systems, namely: *Performance, Information / Data, Economic, Control and Security, Efficiency and Service*,

Perceived usefulness is a phase in which a person believes that the wearer of a particular system will be able to add the person's work performance. Based on this definition, it can be interpreted that the use of ICT can increase the performance and work performance of anyone who uses it.

Thompson (1991) argues that the benefits of information technology are the impacts expected by information technology users in carrying out their duties. Individuals will use information technology if that person has an

understanding of the benefits or uses (*usefulness*) is good for its use.

Perceived ease of use is a degree to which a person believes that using a particular system, capable of reducing the effort someone in doing something that shows the ease of use. Systems that are more frequently used indicate that the system is better known, easier to operate, and easier to use by users (Davis, 1989).

Engel (1990) argues that satisfaction is the feeling of being happy or disappointed in a person which comes from a comparison between his impression of the result of service and his expectations.

Tirtomulyo (1999) states that to get satisfaction. Satisfied customers will become the pioneers or determinants for the continuity of a service business

Research Framework and Hypotheses

The research framework was developed by developing a method of measuring user satisfaction with information systems, especially the Hindu integrated information system (SIMPUR) by integrating the *PIECES Framework* method with the *Effectiveness* variable in the independent variable and the *Perceived Usefulness (PU)* and *Perceived Ease of Use (PEOU)* variables as moderating variables.

This research framework model can be seen in the Fig. 1

Hypothesis

- 1) *PIECES Framework* simultaneously has a positive and significant effect on the Hindu Integrated Information System User Satisfaction (SIMPUR).
- 2) *Perceived Usefulness* moderates the *PIECES Framework* variable and has a positive and significant effect on Hindu Integrated Information System User Satisfaction (SIMPUR).
- 3) *Perceived Ease of Use* moderates the *PIECES Framework* variable which has a positive and significant effect on Hindu Integrated Information System User Satisfaction (SIMPUR).

Research Methodology

This research is an explanatory research which explains the causal relationship between (independent variable, moderating variable, and dependent variable). Population and sample consisted 234 respondents, of admins, Hindu religious teachers, extension workers and Hindu religious officials in Central Sulawesi province using the census method (population total). SEM Structural Equation Modeling based on Partial Least Square (PLS) was used to test the hypothesis.

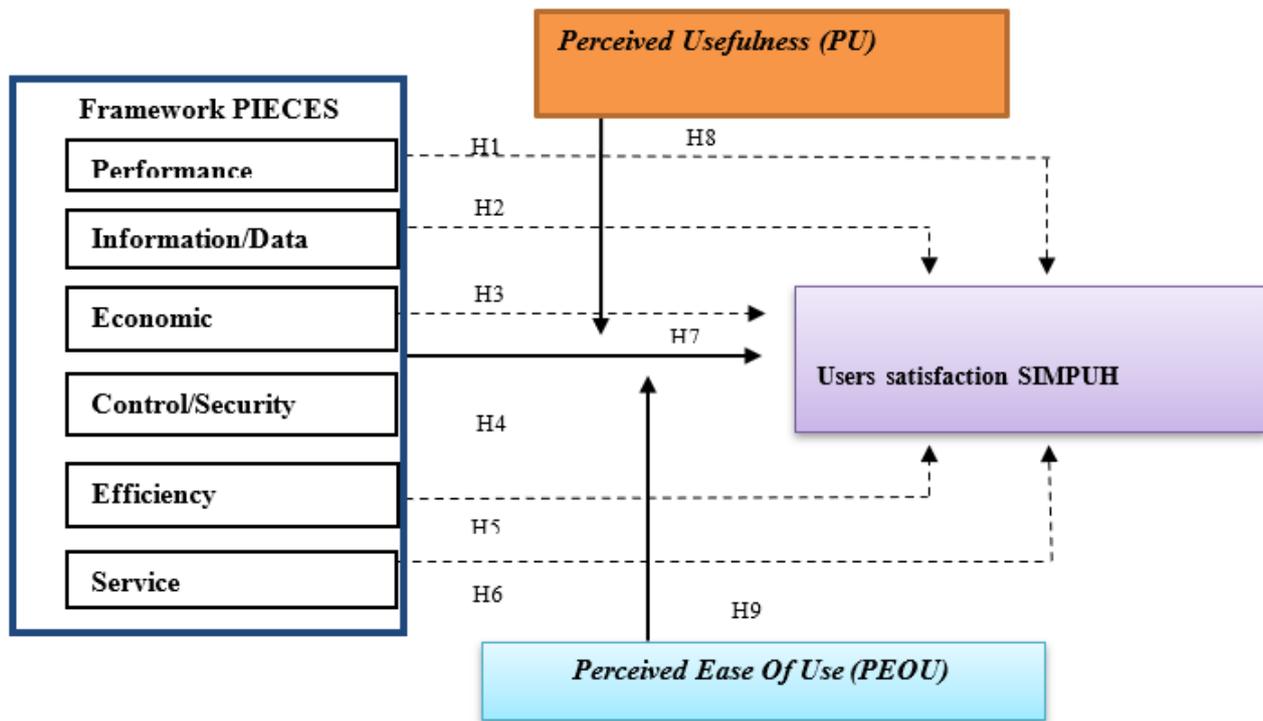


Fig. 1: Research Framework Model

Results and Discussion

The research hypothesis testing uses the estimated significance value of the parameters to provide very useful information about the relationship between the research variables. In PLS, statistical testing of each hypothesized relationship is carried out using a simulation. The test results with WarpPLS from the PLS analysis and the results of the pituitary testing used in testing the hypothesis is the t-value. Hypothesis testing can be done with the p-value compared to the error rate (α). The results of testing the research hypothesis are shown in Table 1 & Fig. 2.

Hypothesis 1:

Variable PIECES Framework on User Satisfaction of the Hindu Integrated Information System (SIMPUH).

The results of testing the PIECES Framework variable hypothesis on User Satisfaction with the Hindu Integrated Information System obtained a path coefficient of 0.827, because of the p-value ($0.000 \leq 0.05$). Then the results obtained H0 are rejected and H1 is accepted, so the PIECES Framework has a significant influence on User Satisfaction with the Hindu Integrated Information System. this means that the seventh hypothesis is accepted.

Hypothesis 2:

Variable Perceived Usefulness as a moderating variable PIECES Framework on Hindu Integrated Information System User Satisfaction (SIMPUH).

The results of testing the hypothesis of the Perceived Usefulness variable moderate the relationship between the

PIECES Framework and the Hindu Integrated Information System User Satisfaction, the path coefficient of 0.233 is obtained because of the p-value ($0.000 \leq 0.05$). Then the results obtained H0 are rejected and H1 is accepted so that, Perceived Usefulness has a significant influence in moderating the PIECES Framework on the Hindu Integrated Information System User Satisfaction. this means that the eighth hypothesis is accepted.

Hypothesis 3:

Perceived Ease of Use variable as a moderating variable of the PIECES Framework on User Satisfaction of Hindu Integrated Information Systems (SIMPUH).

The results of testing the hypothesis of the variable Perceived Ease of Use moderate the relationship between the PIECES Framework and the Hindu Integrated Information System User Satisfaction obtained a path coefficient of 0.201 because of the value of p ($0.000 \leq 0.05$). Then the results obtained H0 are rejected and H1 is accepted so that, the Perceived Ease of Use has a significant effect in moderating the PIECES Framework on the Hindu Integrated Information System User Satisfaction. this means that the ninth hypothesis is accepted.

Table 1: Results of Testing the Moderation Hypothesis

Variable Relationships	Path Coefficient	p-value	Information
V → Y	0.827	<0.001	Significant
V * M1 → Y	0.233	<0.001	Significant
V * M2 → Y	0.201	<0.001	Significant

Source: Data Processing Using WarpPLS, 2020

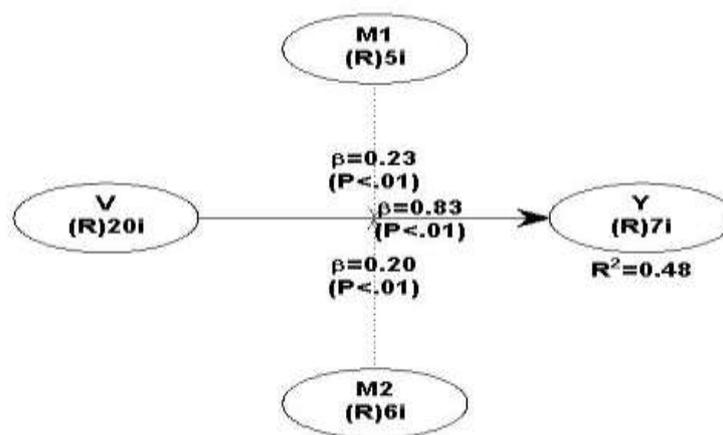


Fig. 2: Variable PIECES Framework

The simultaneous influence of PIECES Framework on User Satisfaction of Hindu Integrated Information System (SIMPUH)

Analysis of the influence of the PIECES Framework variable on user satisfaction of the Hindu integrated information system, based on the results of the hypothesis testing of the PIECES Framework variable on User Satisfaction of the Hindu integrated PIECES Framework system, which has a direct and significant effect on User Satisfaction with the Hindu Integrated Information System (SIMPUH).

The findings in this study are that using PIECES as a system analysis tool, a detailed and comprehensive system will receive special attention so that, the strengths and weaknesses of the system can be identified to be used as a reference for further organizational progress. Simultaneously Performance, Information/data, Economics, Control and security, Efficiency, and Service as part of the PIECES Framework method provides excellent support so that what users expect in using the Hindu integrated information system (Simpuh) is by following expectations, flexible, easy to use makes users very satisfied with the simple information system. By using Pieces Framework, you can determine the use and usefulness, so that the user feels comfortable and easy to use as a technology tool in helping efficiency in their work

This study supports previous research conducted by Apriyanti *et al.* (2014). is in a good category.

The influence of the Perceived Usefulness variable as a moderating variable of the PIECES Framework on User Satisfaction of the Hindu Integrated Information System (SIMPUH)

The results of testing the hypothesis of the Perceived Usefulness variable moderate the relationship between the PIECES Framework and the Hindu Integrated Information System User Satisfaction greatly contributed so that Perceived Usefulness had a significant effect in moderating the PIECES Framework on the Hindu Integrated Information System User Satisfaction.

The results of the analysis in this study indicate that Perceived Usefulness has a significant influence in moderating the PIECES Framework on the Hindu Integrated Information System User Satisfaction. In connection with Perceived Usefulness, it provides benefits to users and strengthens simpuh as a means of measuring the performance of employees, extension agents, and Hindu Religion teachers in reporting performance evaluations to their superiors.

Perceived Usefulness (perceived usefulness/benefits) has an influence on the user of the information symptom, in this case, the simple user really believes and is greatly helped in improving his work performance, with this belief, the user is very satisfied with the Hindu integrated information symptom.

So Perceived Usefulness is positively related and has a significant influence on the Hindu integrated information system (Simpuh) which is managed by the Hindu



Community Service of the Ministry of Religion of Central Sulawesi Province.

The findings in this study are in line with the opinion of Davis *et al.* (1989) define usefulness as a level where a person believes that the use of a particular subject will be able to increase the person's work performance. Perceived usefulness is defined as the extent to which a person believes that using technology will improve job performance. Perceived usefulness is a belief about the decision-making process, if someone believes that information systems are useful then he will use them. Conversely, if someone believes that information systems are less useful then he will not use them (Jogiyanto, 2007). So from this definition, it can be interpreted that the benefits of using computers can increase the performance and work performance of those who use them.

This research supports previous research conducted by Rukmiyati and Budiarta (2016) regarding the Effect of Information System Quality, Information Quality, and Perceived Usefulness on End-User Satisfaction of Accounting Software (Empirical Study of Star Hotels in Bali Province). The results of his research indicate that information system quality, information quality, and perceived usefulness have a positive effect on information system end-user satisfaction.

The findings in this study contradict previous research by Anfa and Chalidyanto (2016) regarding Performance Evaluation of Inpatient Billing Systems Using the PIECES Framework. The results of his research indicate that Performance, Information, Economy, Control, Efficiency and Service (PIECES) hinder the work of inpatient billing system users.

The influence of the Perceived Ease of Use variable as a moderating variable of the PIECES Framework on User Satisfaction of the Hindu Integrated Information System (SIMPUH)

Based on the results of the hypothesis testing, the Perceived Ease of Use variable moderates the relationship between the PIECES Framework and the Hindu Integrated Information System User Satisfaction, so that the Perceived Ease of Use variable has a significant effect in moderating the PIECES Framework on the Hindu Integrated Information System User Satisfaction.

Perceived Ease of Use (Ease of Use) users find it easy to be able to operate this information system so that Simpuh provides ease of use as a work reporting system. Thus, the Perceived Ease of Use has a positive and very significant influence in moderating the PIECES Framework method on the Hindu Integrated Information System User Satisfaction.

The ease that is meant by users of the Hindu integrated information system (simpuh) is that the technology is easy to operate, so users believe in easy-to-use technology. Ease

of use (Ease of Use) with the intensity of use against the user (User) as interaction is very necessary to show the ease of use.

User confidence in technology (Simpuh) in using the system does not require very hard effort, even it is very easy to use in its work so that users feel very satisfied and the higher the use of Simpuh.

The results of this study support the opinion of Davis *et al.* (1989) as perceived ease of use, which is the level of how much computer technology is felt to be relatively easy to understand and use. The quality of information systems shows that if users of information systems find it easy to use the system, they don't require much effort to use them, so they will have more time to do other things which will likely improve their overall performance.

The findings in this study contradict previous research by Subhan (2007). The influence of Perceived Usefulness, Perceived Ease of Use, and Psychological Attachment variables on the use of information technology found that perceived usefulness did not have a significant effect on attitude in using the software. MYOH, and acceptance of perceived ease of use and psychological influence (psychological attachment) have a significant influence on attitude in utilizing MYOH software.

Conclusion

1. *PIECES Framework* has a simultaneous and significant influence on Hindu Integrated Information System User Satisfaction;
2. *Perceived Usefulness (PU)* moderates the relationship between PIECES Framework and Hindu Integrated Information System User Satisfaction, so that Perceived Usefulness has a positive and significant effect in moderating the PIECES Framework on Hindu Integrated Information System User Satisfaction;
3. *Perceived Ease Of Use* moderates the relationship between PIECES Framework and Hindu Integrated Information System User Satisfaction, so that Perceived Ease Of Use has a positive and significant effect in moderating the PIECES Framework on Hindu Integrated Information System User Satisfaction.

Conflict of Interest

The authors declare that there is no conflict of interest with present publication.

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