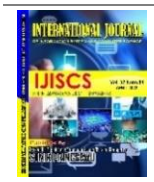

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EVALUATION OF THE SUCCESS OF IMPLEMENTING THE TAEKWONDO INDONESIA INTEGRATED SYSTEM APPLICATION USING THE HOT-FIT MODEL: CASE STUDY OF THE PROVINCIAL BOARD OF TAEKWONDO INDONESIA YOGYAKARTA

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Abstract
Taekwondo Indonesia Integrated System is an application designed to manage various administrative and operational aspects related to the Taekwondo organization in Indonesia. Taekwondo Indonesia integrated system aims to improve coordination and communication between administrators, coaches, athletes, and members, as well as to ensure a more integrated and transparent administrative process at all levels of the organization. This research aims to evaluate the successful implementation of the Taekwondo Indonesia Integrated System using the HOT-Fit methodology. This research explores how various human, technological, and organizational aspects affect the success of the system. Data were collected through questionnaires measuring the dimensions of system quality, information quality, service quality, user satisfaction, system usage, organizational structure and net benefits, which were then analyzed using SPSS and PLS-SEM software. The results showed that service quality has a positive influence on user satisfaction, while system quality and information quality do not significantly affect user satisfaction or system usage. In addition, user satisfaction has a significant effect on system usage and net benefits, with organizational structure also playing a positive role in increasing net benefits. Improved service quality and a strong organizational structure are key to maximizing the success and benefits of the Taekwondo Indonesia Integrated System application. This research provides a practical contribution to the development and implementation of information systems in sports organizations, especially Taekwondo. In addition, the results of this study can be used as a basis for future improvements and enhancements to the TIIS application, so as to increase the efficiency and effectiveness of the operations of Taekwondo organizations in Indonesia.

1.0 INTRODUCTION

Government regulation article 86 of the law of the Republic of Indonesia number 11 of 2022 concerning the establishment of a national sports database system in paragraph 1 contains

data and information regarding sports which includes athletes, coaches, sports personnel, facilities and infrastructure, sports organizations and sports activities [1]. Taekwondo Indonesia Integrated System (TIIS) is an information system designed to manage various operational aspects in the Taekwondo organization in Indonesia in an integrated manner. This application allows administrators to register members online, monitor membership status, and update data in real-time, which speeds up administrative processes and minimizes errors.

This study was conducted to evaluate the implementation of the taekwondo Indonesia integrated system application in the Yogyakarta provincial board using the HOT-Fit (Human, Organization and Technology) model. The HOT-Fit model was chosen based on its ability to provide a comprehensive framework for evaluating the success of information system implementation. This model considers not only technological aspects, but also human and organizational factors [2]. Based on this background, this study formulates the following problems: how are the results of the evaluation of the success of the Taekwondo Indonesia Integrated System application seen from the Human, Organization, and Technology aspects, and what factors are needed so that this application can function effectively according to the needs in the service process for the Yogyakarta Province Management. This research aims to identify problems in the Taekwondo Integrated System (TIIS) application in the Yogyakarta area and provide suggestions for improving the quality of the application. The expected benefits of this research include a comprehensive evaluation of the TIIS application, as well as recommendations for improving the quality of the application.

The utilization of TIIS (Taekwondo Indonesia Integrated System) is as follows: End users of the TIIS application include athletes, coaches, and clubs or dojangs registered in the system, who use this application for various purposes such as exam registration, championships, and member data management. The development and maintenance of the TIIS application is entirely the responsibility of the central board (PBTI), which cooperates with third parties. The provincial board of TI Yogyakarta is not directly involved in the development or maintenance of the system, but only provides input if there are obstacles or needs for change, with the final decision remaining in the hands of the central board. Responsibility for the management and maintenance of the TIIS application rests with the central management (PBTI), which handles all technical and non-technical issues that may occur. Pengprov TI Yogyakarta acts as a user and facilitator at the regional level, without the authority to make changes to the system.

HOT-Fit (Human, Organization, and Technology) Fit in its evaluation method is based on human aspects, namely: system usage and user satisfaction, technology aspects, namely: System quality, information quality, service quality, and organization, namely: organizational structure. The HOT-Fit model is used to identify the suitability between user needs (Human), organizational support (Organization) and technology (Technology) in achieving strategic and operational goals [3].

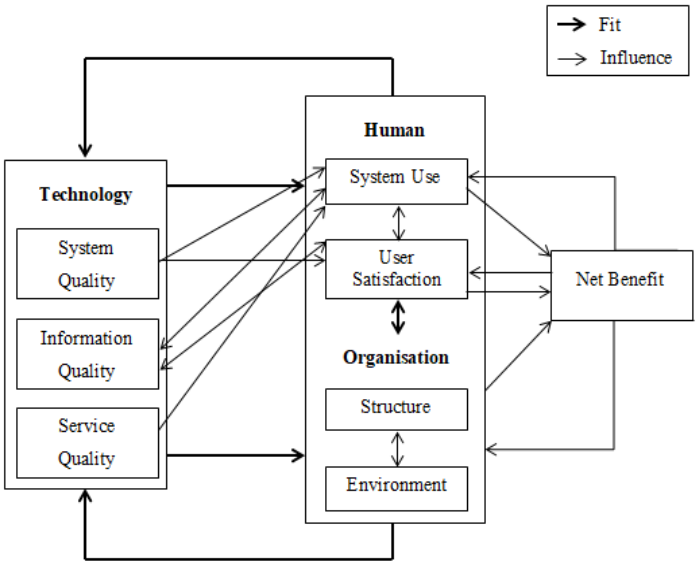

Figure 1. HOT-Fit Model (Yusof et al., 2006)

Structural Equation Modeling (SEM) is a statistical analysis technique used to examine the relationship between latent variables in a structural model [4]. SEM also makes it possible to evaluate the measurement model (the relationship between latent variables and their indicators) and the structural model (the relationship between latent variables) simultaneously providing a more comprehensive picture of the relationship between variables [5].

The organizational environment variable was omitted due to its broad scope. In the organizational environment variable, it includes various elements such as type, culture, political dynamics, hierarchy, planning and control systems, strategy, management, leadership, and support from the top management level and staff team [6].

2.0 METHODOLOGY

2.1 Research Methods

The HOT-Fit analysis design to evaluate the success of TIIS application implementation involves several stages, starting from the analysis of organizational conditions, identification of latent variables including human, organizational, and technological aspects, to data collection through questionnaires. The collected data were then analyzed using SPSS and PLS-SEM methods, including validity and reliability tests and structural model analysis. Figure 2 shows the stages in this process.

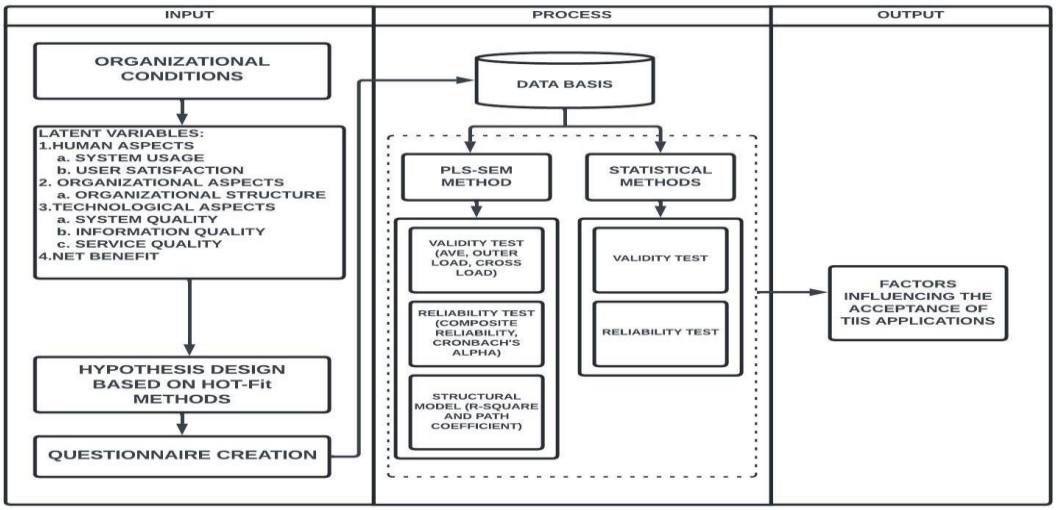

Figure 2. HOT-Fit Research Flowchart

2.2 Organization Condition

This research uses a quantitative descriptive method by conducting surveys and collecting primary data through interviews. Interviews were conducted to understand the condition of the organization with the Yogyakarta Taekwondo Indonesia provincial board.

2.3 Latent Variables

Latent variables in this study include three aspects, namely:

1. Human aspects, in the human aspect there are two indicator variables, namely system usage and user satisfaction. Variable system usage is measuring the extent to which users understand and utilize the TIIS application, which includes knowledge, expertise, expectations, attitudes, acceptance, and training. The user satisfaction variable is measuring the level of user satisfaction with the TIIS application, including the perceived benefits and suitability of application functions to user needs. includes aspects of perceived usefulness and user satisfaction.
2. Organizational Aspects, Measuring top management support, planning and communication on ITIS application development within the organization.
3. Technological aspects, the indicator variables are system quality, information quality, and service quality. System quality Measures the quality of the system provided by the TIIS application. this includes Ease of use, ease of learning, Flexibility, Availability, Security, Usefulness, Reliability. Information quality Measures the quality of information provided by the TIIS application. this includes accuracy, completeness, quality,

legibility, timeliness, reliability, and data entry method. Service quality Measures the quality of service provided by the TIIS application. this includes assurance, quick responsiveness, empathy, and service.

4. Net Benefit, Measures how effective and efficient ITIS applications are in improving organizational performance and assisting in decision making. This includes effectiveness, efficiency, job effect, and direct benefit.

2.4 Hypothesis Design

[3]Based on the HOT-Fit research model developed by Yusof (2006), the hypothesis model used to evaluate the successful implementation of the taekwondo Indonesia integrated system application based on human, technology and net benefit aspects is as follows:

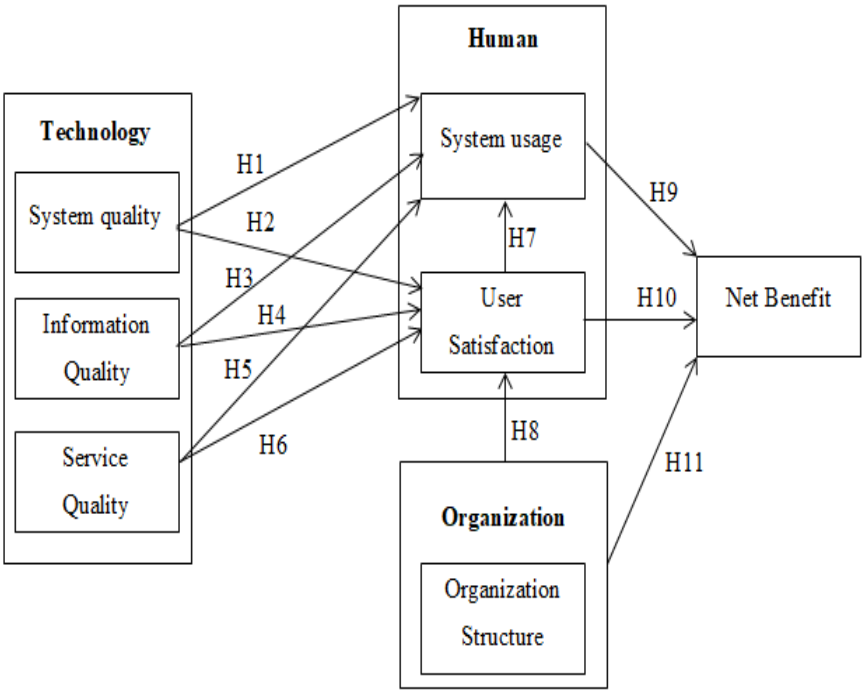

Figure 3. TIIS Evaluation Hypothesis

Based on the relationship between the variables that have been analyzed, the following eleven hypotheses are generated, namely:

1. H1: System Quality (KS) affects System Usage (PS).
2. H2: System Quality (KS) affects User Satisfaction (PS).
3. H3: Information Quality (KI) affects System Usage (PS).
4. H4: Information Quality (KI) affects User Satisfaction (KP).
5. H5: Service Quality (KL) affects System Usage (KS).
6. H6: Service Quality (KL) affects User Satisfaction (KP).
7. H7: User Satisfaction (KP) affects System Usage (PS).
8. H8: Organizational Structure (SO) affects User Satisfaction (KP).
9. H9: System Usage (PS) affects Net Benefit (NB).
10. H10: User Satisfaction (KP) affects Net Benefit (NB).
11. H11: Organizational Structure (SO) has an effect on Net Benefit (NB).

2.5 Questionnaire Creation

Using a questionnaire as a guide, which is addressed to TIIS application users as respondents. In this study, the objects and materials studied were the users of the TIIS application. The questionnaire must be designed in a language that is easily understood by the respondents, namely the users of the TIIS application in the Yogyakarta IT area. In addition, the questionnaire must also group the indicators in each dimension in various aspects of the research (human, organizational, and technological). The questions in the questionnaire use a Likert scale from 1 to 4, where scale 1 means "strongly disagree," scale 2 "disagree," scale 3 "agree," and scale 4 "strongly agree." The resulting questionnaire will be the main tool in data collection.

2.6 Data Processing

2.6.1 Database

The data collected from the questionnaire is processed and stored in the database for analysis. the methods used for analysis are statistical methods and PLS-SEM methods.

2.6.2 Statistical Methods

1. Validity testing is carried out to verify that the data used is as expected. The validity test using SPSS software is a process to determine whether the measuring instrument or research instrument used actually measures what should be measured [7]. The item correlation value (pearson correlation) is considered valid if the item> 0.30 and the item measured correlation is significant and greater than the R-table value.
2. Reliability test, Reliability testing is carried out to ensure that the measurement results are consistent when retested. Reliability test with Cronbach's alpha to measure the consistency of items on research variables. The Cronbach's alpha value ranges between 0 and 1, with the interpretation of the Cronbach's alpha value> 0.90 indicates excellent consistency, 0.80 - 0.90 indicates good consistency, 0.70 - 0.80 indicates sufficient consistency, 0.60 - 0.70 indicates doubtful consistency, <0.60 indicates poor consistency [8].

2.6.3 PLS-SEM Method

1. Validity Test

The validity test using the PLS-SEM method includes testing convergent validity (AVE), outer loadings, and cross loadings to ensure that the measurement instrument is valid.

a. AVE (Average Variance Extracted), Convergent validity measures the extent to which indicators measuring a construct have a high correlation with each other. A high AVE value indicates that the indicators do reflect the same construct [4].
b. Outer Loadings, high outer loadings to ensure that the indicator effectively measures the intended construct with an outer loadings value> 0.70. the outer loading criteria are a value> 0.70 states that the indicator is considered to have good validity, a value between 0.40 and 0.70 states that the indicator is still acceptable if other indicators in the construct have strong loadings and the overall construct validity remains good, a value <0.40 states that the indicator is considered inadequate and may need to be removed from the model [9].
c. Cross Loadings, Cross loadings measure the correlation between indicators and all constructs in the model. Indicators should have the highest loading on the intended construct compared to other constructs [10].

2. Reliability Test

The reliability test using the PLS-SEM method includes testing composite reliability and Cronbach's alpha to ensure the internal consistency of the measurement instrument.

a. Composite Reliability, Composite reliability is a measure used to assess the internal consistency of indicators that measure a construct in the model. A composite reliability value of> 0.70 is generally considered adequate and a value between 0.60 to 0.70 is still acceptable [10].
b. Cronbach's Alpha, Cronbach's alpha is a measure of internal consistency that evaluates the extent to which indicators measuring a construct correlate with each other. Cronbach's alpha values >0.70 are generally considered adequate and values between 0.60 and 0.70 are still acceptable [10].

3. Structural Model

Structural ModelStructural model analysis is carried out to measure the relationship between latent variables using the R-square and path coefficient values.

a. R-Square, R-square is used to show how well the independent variables explain the dependent variable in the model. 0 $R^2$1: an R-square value closer to 1 indicates that the model can explain most of the variance in the dependent variable. R^2 0: indicates that the independent variable does not explain much of the variance in the dependent variable [10].
b. Path Coefficient, The path coefficient value indicates how much influence an independent variable has on the dependent variable. A value of $P < 0.05$ is considered significant, which means that there is strong evidence of a relationship between the independent variable and the dependent variable [10].

3.0 RESULANT

3.1 Results and Discussion

The research data comes from the Yogyakarta Indonesian Taekwondo Provincial Board, with the number of taekwondo members in the province of D.I Yogyakarta totaling 6,798 people. According to the yount formula (ahmad, 2015) [11] = 204 people. However, the number of respondents obtained in this study was only 54 people, due to a new policy from the central board (PBTI) that the TIIS application was no longer used in taekwondo events, including level increase exams (UKT), championships, training, so that the target population sample was not achieved.

3.2 Instrument Test using SPSS

3.2.1 Validity Test

The validity test is used to assess the extent to which research instruments, such as questionnaires, are able to measure the intended variables. This test ensures that the instrument accurately reflects the variable to be measured, where high validity indicates the accuracy and relevance of the instrument [7]. A question item is declared valid if its Pearson correlation value is greater than the R-Table value. Based on calculations with a significance level of 5%, the R-Table value obtained is 0.263.

Tabel 1. Hasil Uji Validitas SPSS

Indicator	Pearson Correlation	Table Value R	Description
Item01	.657	0,263	Valid
Item02	.712	0,263	Valid
Item03	.656	0,263	Valid
Item04	.805	0,263	Valid
Item05	.414	0,263	Valid
Item06	.570	0,263	Valid
Item07	.592	0,263	Valid
Item08	.665	0,263	Valid
Item09	.731	0,263	Valid
Item10	.760	0,263	Valid
Item11	.667	0,263	Valid
Item12	.857	0,263	Valid
Item13	.811	0,263	Valid
Item14	.761	0,263	Valid
Item15	.736	0,263	Valid
Item16	.722	0,263	Valid
Item17	.777	0,263	Valid
Item18	.800	0,263	Valid
Item19	.801	0,263	Valid
Item20	.647	0,263	Valid
Item21	.666	0,263	Valid
Item22	.790	0,263	Valid
Item23	.707	0,263	Valid
Item24	.777	0,263	Valid
Item25	.581	0,263	Valid
Item26	.773	0,263	Valid
Item27	.735	0,263	Valid
Item28	.790	0,263	Valid

Item29	.749	0,263	Valid
Item30	.715	0,263	Valid
Item31	.723	0,263	Valid
Item32	.823	0,263	Valid
Item33	.799	0,263	Valid
Item34	.719	0,263	Valid
Item35	.774	0,263	Valid
Item36	.855	0,263	Valid
Item37	.761	0,263	Valid
Item38	.706	0,263	Valid
Item39	.748	0,263	Valid
Item40	.752	0,263	Valid
Item41	.823	0,263	Valid
Item42	.649	0,263	Valid
Item43	.745	0,263	Valid
Item44	.745	0,263	Valid

3.2.2 Reliability Test

The reliability test with Cronbach's alpha provides an overview of the internal consistency of the measurement scale in a study. A high Cronbach's alpha value indicates that the items on the scale have a strong correlation with each other. Cronbach's alpha is measured in the range 0 to 1, with values > 0.90 indicating excellent consistency, 0.80 - 0.90 indicating good consistency, 0.70 - 0.80 indicating fair consistency, 0.60 - 0.70 indicating dubious consistency, and < 0.60 indicating poor consistency [8].

Table 2. SPSS Reliability Test Results

Number	**Variables**	**Reliability Statistic**	
		Cronbach's Alpha	**N of Items**
1	System quality	.899	11
2	Information Quality	.936	9
3	Service Quality	.845	5
4	System Usage	.917	6
5	User Satisfaction	.880	4
6	Organizational Structure	.893	5
7	Net Benefit	.889	4

3.3 Validity and reliability test

Average Variance Extracted (AVE) is a measure of convergent validity that indicates how much variance can be explained by the measured indicator. A high AVE value indicates that the indicator has good convergent validity, with a minimum value limit set at 0.50 [4].

Table 3. AVE Test Results

	Average variance extracted (AVE)
User Satisfaction	0.737
Information Quality	0.665
Service Quality	0.627
System Quality	0.523
Net Benefit	0.753
System Usage	0.717
Organizational Structure	0.716

Composite reliability (rho_c) is a measure used to evaluate the internal reliability of a variable in a measurement model. Composite reliability values that exceed 0.70 are usually considered to indicate good reliability, while values between 0.60 and 0.70 are still acceptable in the early stages of research [10].

Table 4. Composite Reliability Test Results

	***Composite reliability* (rho_c)**
User Satisfaction	0.918
Information Quality	0.947
Service Quality	0.892
System Quality	0.922
Net Benefit	0.924
System Usage	0.938
Organizational Structure	0.926

Hypothesis testing using path coefficient results is a statistical analysis method used to evaluate the relationship between variables in a model. The hypothesis is considered accepted if the calculated t value is greater than the t table value, and is considered rejected if the calculated t value is less than the t table value. In addition, the p-value is also used in hypothesis testing. If the p-value is smaller than the significance level (alpha) 0.05, the hypothesis is accepted. Conversely, if the p-value is greater than alpha 0.05, the hypothesis is rejected [11].

Hubungan variabel	Hipotesis	Path Coefficient	T statistics (|O/STDEV|)	P values	Results
User Satisfaction -> Net Benefit	H10	0.462	3.014	0.003	Accepted
User Satisfaction -> System Usage	H7	0.644	3.798	0.000	Accepted
Information Quality -> User Satisfaction	H4	0.445	1.905	0.057	Rejected
Kualitas Informasi -> Penggunaan Sistem	H3	0.359	1.474	0.140	Rejected
Service Quality -> User Satisfaction	H6	0.469	2.703	0.007	Accepted
Service Quality -> System Usage	H5	- 0.151	0.884	0.377	Rejected
System Quality -> User Satisfaction	H2	- 0.067	0.342	0.733	Rejected
System Quality -> System Usage	H1	0.066	0.330	0.741	Rejected
System Usage -> Net Benefit	H9	0.176	1.149	0.250	Rejected
Organizational Structure -> User Satisfaction	H8	0.086	0.480	0.631	Rejected
Organizational Structure -> Net Benefit	H11	0.306	2.259	0.024	Accepted

3.4 Hypothesis Test

Hypothesis H1: Hypothesis H1 is rejected, with a P value of 0.741 greater than 0.05. Indicates that system quality does not have a positive and significant effect on system usage.
Hypothesis H2: Hypothesis H2 is rejected, with a P value of 0.733 greater than 0.05. Indicates that system quality does not have a positive and significant effect on user satisfaction.
Hypothesis H3: Hypothesis H3 is rejected, with a P value of 0.140 greater than 0.05. Indicates that information quality has no positive and significant effect on system usage.
Hypothesis H4: The H4 hypothesis is rejected, with a P value of 0.057 greater than 0.05. Indicates that information quality has no positive and significant effect on user satisfaction.
Hypothesis H5: The H5 hypothesis is rejected, with a P value of 0.377 greater than 0.05. Indicates that service quality has no positive and significant effect on system usage.
Hypothesis H6: Hypothesis H6 is accepted, with a P value of 0.007 smaller than 0.05. Indicates that service quality has a positive and significant effect on user satisfaction.
Hypothesis H7: Hypothesis H7 is accepted, with a P value of 0.000 smaller than 0.05. Indicates that user satisfaction has a positive and significant effect on system usage.
Hypothesis H8: The H8 hypothesis is rejected, with a P value of 0.631 greater than 0.05. Indicates that organizational structure does not have a positive and significant effect on user satisfaction
Hypothesis H9: Hypothesis H9 is rejected, with a P value of 0.250 greater than 0.05. Indicates that system use does not have a positive and significant effect on net benefits
Hypothesis H10: Hypothesis H10 is accepted, with a P value of 0.003 smaller than 0.05. Indicates that user satisfaction has a positive and significant effect on net benefits
Hypothesis H11: Hypothesis H11 is accepted, with a P value of 0.024 smaller than 0.05. Indicates that organizational structure has a positive and significant effect on net benefits.

4.0 CONCLUSION

Based on research on the application of the Taekwondo Indonesia Integrated system, the results of statistical analysis and data show that the following conclusions can be drawn, system quality has no effect on user satisfaction and system usage. Any change in system quality will affect user satisfaction and system usage. Information quality has no effect on user satisfaction and system usage. If there are better policies related to information quality, this will increase user satisfaction and system usage. Service quality has no influence on system usage but has an influence on user satisfaction. Indicates that the quality of service on system usage needs improvement. Service quality has an influence on user satisfaction so this must be maintained. User satisfaction has an influence on system usage and net benefits. Indicates that user satisfaction with system usage and overall net benefits is very good. Organizational structure has no influence on user satisfaction but has an influence on net benefits. Indicates that the organizational structure has no influence on user satisfaction, because users feel that the socialization is still lacking, so users have difficulty using the TIIS application. Organizational structure has an influence on net benefits so that this needs to be maintained. System usage has no influence on net benefits. If improvements are made to the use of the system in the TIIS application, the impact of using the system on net benefits will increase.

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