

The Influence of Information System Quality, Information Quality and Perceived Usefulness on User Satisfaction of Personnel Information Systems (Study at The Indonesian Army Crypto and Cyber Centre)

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Abstract

The purpose of this study is to empirically investigate and demonstrate the effect of information system quality, information quality, and perceived usefulness on user satisfaction on the TNI AD Personnel Information System (Sisfopers). The primary data for the study were collected through the distribution of questionnaires to 74 respondents selected through purposive sampling of The Indonesian Army Crypto and Cyber Center (Pussansiad) personnel. The study employed a descriptive quantitative approach and SEM-PLS for data analysis. The study concluded that while perceived usefulness has no effect on user satisfaction, information system and information quality have a positive and significant effect. Theoretical recommendations will complement the existing literature and empirical references on the research subjects. They can be used practically to benefit the Pussansiad organization, particularly in terms of increasing the confidence of its personnel and the Indonesian Army in developing Sisfopers applications. The research has limitations in that it examines only one Pussansiad organization, the variables are only partially tested, and quantitative methods are used. Further research is recommended in multiple organizations within the Indonesian Army using mixed-method research methods to test variables and mediating variables such as the convenience of use, individual impact, and organizational impact.

Keywords: Information System Quality, Information Quality, Perceived Usefulness, User Satisfaction

1. Background

In applying technology for a modern organization, business intelligence and analytics play a critical role. Investment priorities, particularly the development and operation of technology infrastructure, have become a focus for Information Technology (IT) managers who must handle increasing amounts of data and the ease with which that data can be accessed for analysis and decision-making. These advancements and changes encourage executives to develop their businesses/organizations data-driven. "Data driven" refers to information that can be used and contextually can provide the impetus for actions that can cause periodic behavioral changes.

Business Intelligence (BI) is a type of application of information technology that can

respond to the need to analyze problems and assist in decision-making. In a nutshell, Business Intelligence is knowledge generated through data processing that is analyzed in an organization's/activity. In this case, the military organization, the Indonesian National Army (from now on referred to as TNI AD), collects and produces large amounts of data because its duties and functions are related to land defense. According to the "*Kartika Eka Paksi*" doctrine, the main task of the TNI AD is to uphold state sovereignty and maintain the territorial integrity of the land territory of the Unitary State of the Republic of Indonesia based on Pancasila, the 1945 Constitution, and to protect the entire nation of Indonesia in the land area from all forms of threats and disturbances. To carry out the main tasks at hand, the TNI AD performs a variety of functions, one of which is the special function of

the information system, which is in charge of electronically organizing the TNI AD information system in the fields of administration, operational support, technical support, and information. The main tasks are outlined in a master manual that includes instructions on using information systems. The development and use of the TNI AD information system is always adjusted to the advancement of science and technology, allowing it to anticipate task challenges based on the evolution of the strategic environment in which it operates.

As a result, using Business Intelligence (BI) for information information systems is essential. According to Gartner (2017), business intelligence (BI) is the best practice for an organization in utilizing and analyzing information data in order to improve and maximize the decision-making process and performance in the form of infrastructure, tools, and applications. Thus, the application of business intelligence can be used to improve the quality, effectiveness, and efficiency of the TNI AD organizational environment.

"Information System Success" has become the focal point of the theory that has dominated recent years in information system research. According to Tona and Carlson (2012), a significant amount of literature explains various definitions and measures of information system success. DeLone and McLean introduced an information system success model in 1992, and the success model was developed in 2003 by providing a form of construction that is depicted through 6 (six) variables, namely: System Quality, Information Quality, User Satisfaction, Use, Individual Impact, and Organizational Impact. The TNI AD is a large military organization and a complex data processing institution that requires extensive and complex data processing in the landscape system. In their research, Rosacker and Olson (2008) discovered a difference in the evaluation of information systems in public and private organizations. Many studies have been conducted on the success of information systems in private organizations (Tona, 2012). In contrast, empirical studies show that the success of information systems in the public sector is very limited (Tona, 2012; Livari, 2005), particularly in the military organizations of the Indonesian Army. In the military, business intelligence research that

looks at the success of information systems based on a relevant model, such as the DeLone and McLean 2003 model, is very important.

Global competition in the digital age 4.0 requires information technology to support all aspects of an organization's operational and administrative activities. Both large and small companies or organizations must be adaptable in their use of information technology to remain competitive in their respective business fields (Buana and Wirawati, 2018). Dandago and Rufai (2014) affirmed that information technology is an organizational resource that must be owned and developed for the maximum and appropriate decision-making process.

The use of information technology in the form of an information system plays an essential role in gathering, filtering, and assessing information to assist leaders in making more effective decisions (Romney and Steinbart, 2015). According to Buana and Wirawati (2018), organizations that use information technology designed and developed in a good and quality information system can help the organization improve its performance. According to Buana and Wirawati (2018), computerized information systems enable users to access or view reporting data more effectively, quickly, and precisely at any time and from any location. As a result, user or leader satisfaction can increase. Jang et al. (2006) expressed the same point of view about the most important thing in assessing indicators of user satisfaction with information systems can use indicators of the success of the application of the information system itself.

According to Jang et al. (2006), the use of technology, process, and characteristics of the system is the primary focus in the information systems quality that can be used as guidelines in a task to increase efficiency. Meanwhile, Sacer and Oluic (2013) argued that information systems play an essential role in managing an organization's business and decision-making by users or leaders. The function of a company's information system is to provide a resource in the context of the process and to provide information for users or leaders in determining and making a decision. Users of information systems will be able to complete their tasks more efficiently and effectively if they are supported to quality information from the output of an information

system. (Azhar, 2017). The availability of relevant information that aligns with the organization's needs will help run the information system efficiently within the organization. According to Georgescu and Jeflea (2015), information is the most important and plays a vital role in using information systems in all fields. According to Romney and Steinbart (2015), information is defined as the collection and grouping of data that is then processed to deliver goals and support decision-making. Information quality will be beneficial for managers and other information users in providing support for information availability (Gelinas et al. 1999). Meanwhile, Setyo and Dessy (2015) explained their findings: "To measure the quality of information, the quality of the output of the implementation of the information system itself can be assessed." The finding by Setyo and Dessy (2015) also supports Gelinas et al.'s (1999) theory that achieving an organization's business goals is possible with quality information support.

According to Kotler and Keller (2016), user satisfaction can be measured by how well an application of the system performs when confronted with the expected performance of the system itself. Increased user satisfaction can also be measured by how much the system provides good benefits (Ein-Dor and Segev, 1988) and encouragement and intensity of desire to use the system (Guimares and Igbaria, 1997). Other than system and information quality, many factors can influence user satisfaction, one of which is the benefits users can get from applying information systems (perceived usefulness). According to Amalia (2016), perceived usefulness is defined as the level of individual belief that increased performance can be achieved by using a specific system. According to Vinerean (2013), the view of confidence is the ability of user with perceived benefits to obtain information to improve performance. Rukmiyati and Budiarta (2016) stated that user will receive and use an information system if it can provide benefits and convenience. Similarly, Buana and Wirawati (2018) argued that job performance would improve if information systems were supported. If user is convinced that the information system is useful and will enhance their ability to perform their job, they are more likely to make regular use of it. In their research on information systems,

Istianingsih and Wijayanto (2008) discovered a positive and significant correlation between the Perceived Usefulness and user satisfaction variables. However, the findings of Moh. Arqam Salam (2014) showed no significant relationship between the two variables, perceived usefulness and user satisfaction.

According to the Evaluation of the Integrated Information System (Sisfo) of the Army's Integrated Asset Management held by the Indonesian Army Headquarters on September 28, 2021, there are still some weaknesses and shortcomings related to the information system that need improvement. The areas are mainly the Personnel Administration Information System (Sisfopers), including 1) the information system, which is currently being developed and has been tested for functions, still requires improvement, one of which is Sisfopers, 2) there has been no discussion of material related to security operations by the Army Cyber and Crypto Center (referred as Pussansiad) because it has not yet been installed, 3) to ensure network and asset management security within the national army organization, the TNI AD cyber security technique instructions must be completed as soon as possible. There has been very little research on applying the successful model of the TNI AD Personnel Administration Information System (Sisfopers). The analysis of the quality of the system applied to user satisfaction, particularly in the National Army organization, is still limited to internal audits and evaluations, with no results in an academic and scientific context.

Additionally, no prior study has been conducted on user satisfaction with applying the Indonesian Army's Sisfopers (personal information system), both in terms of system quality, information quality, and perceived usefulness in the organizational environment of the Indonesian Army's work unit. Army Cyber and Crypto Center is one of the organizational units that utilizes the personnel administration information system (Sisfopers). The system supports its primary mission of providing information on TNI AD personnel related to body security (security personnel) for leaders or user who are constantly required to be quick and accurate in presenting data/information to assist the leadership in making a decision. Academic research using scientific methods is required to

determine the success of the TNI AD Sisfopers application, particularly in the Pussansiad organization.

2. Theoretical Framework

2.1. Business Intelligence System

Organizations may have a variety of BI (Business Intelligence) systems. According to Olszak and Ziemba (2012), Business Intelligence can be understood from both a business and a technical standpoint. According to Gartner (2017), providing an understanding of BI from a technical perspective focuses on infrastructure, applications, and tools, as well as best practices. In this context, BI systems are frequently classified as follows: a) load-transformation-extraction (ETL) systems, which are activities of sending data from the transaction system into data storage; b) Data Warehouse (DW), as a database for storing and merging data; c) analytic tools, which are online analytical processing (OLAP) tools, where there will be transaction processing by users through access, analysis, and sharing of information stored in the Data Warehouse; and d) the display layer, is the appearance of the user interface (Olszak and Ziemba, 2012). Understanding BI from a business perspective provides a definition that emphasizes BI as an idea and method used in organizations to aid in decision-making (Chen, 2001) and to distribute "the right information to the right people at the right time" (Nakayama, 2001). The importance of BI, according to Bach, is related to "timely, relevant, and easy-to-use information generation that will have a positive impact on better and faster decision making at various levels of management." (Bach, 2017). Wixom and Watson (2010) define BI as "the technologies, applications, and processes for collecting, storing, accessing, and analyzing data to assist users in making better decisions." This definition implies that BI can have an impact on organizational performance if it is used to improve decision-making.

A substantial body of literature focuses on the value of BI. The general conclusion is that BI improves organizational performance by accomplishing goals such as increasing revenue

and productivity or lowering costs (Trieu, 2017). BI also helps to improve customer and employee satisfaction. The second discussion in the existing literature is about the organizational impact of BI. "Impact" in this context refers to "a state in which the organization has achieved one or more of the following outcomes: increased operational efficiency of processes; new or improved products or services; and/or strengthened organizational intelligence and dynamic organizational structure" (Trieu, 2017). Several studies have shown that BI can help transform business processes (Park, 2012), reduce mistargeted customers (Park, 2012), increase organizational intelligence, and develop new products or services (Trieu, 2017). In summary, the definition of BI includes technical, organizational, and individual perspectives. System users can make better decisions thanks to advances in technology. Changes in behavior occur in this prospect, and as a result, they impact organizational performance.

2.2 Technology Acceptance Model Theory (TAM)

Davis published the concept of TAM theory (Technology Acceptance Model) for the first time in 1989, a theory that can explain and understand why a user is interested in using an information system and several factors that influence user acceptance of the information system itself. This concept describes how two main factors influence a person's use of an information system. The first factor is perceived ease of use, and the second factor is perceived usefulness. These two main factors are then used by a user to determine attitudes toward utilizing an information system (attitude toward using). The attitude of the user in the application of the information system can then have an influence on the behavioral intention in using the information system (behavioral intention to use), which can then further influence the user in determining the actual attitude in using the information system (actual system use). Davis (1989) discovered that external variables such as security, training, understanding, and many others impacted the use of the information system.

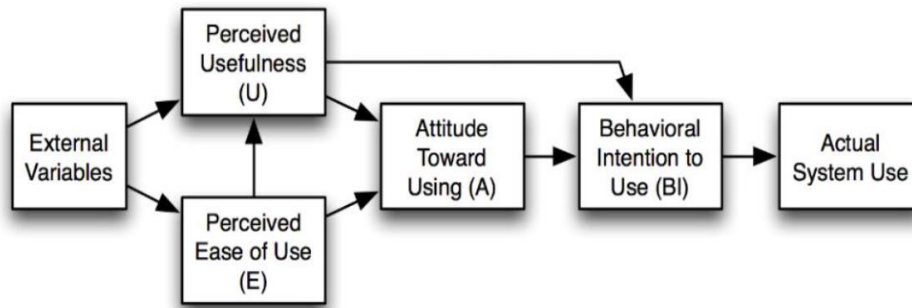


Figure 2.1 Technology Acceptance Model

Source: Davis (1989)

The ease of use assessment is how the user evaluates how simple it is to use and understand an information system. On the other hand, the usefulness assessment is the user's assessment of the extent of the value of the benefits that can be obtained by using the information system. According to Venkatesh and Davis (2000), the TAM concept is the best theoretical concept and the most appropriate theory to explain user acceptance and behavior towards applying an information system. This theory has been used and applied in many previous studies, including the application of TAM theory to accounting software by Rukmiyati et al. (2016) and Sayekti et al. (2016). TAM theory will also be used in this study to explain the utility of implementing the Sisfopers information system, a personnel administration application in the TNI AD Crypto and Cyber Center.

3. Research Method

A quantitative approach with a causal descriptive method was used to design this research. According to Cooper and Schindler (2014), causal descriptive research methods are frequently used to provide an overview and analysis of causality (cause and effect relationships) or the influence of one variable on another variable. This method generates a summary or explanation of the extent to which the independent variables will positively or negatively impact the dependent variable. Furthermore, multiple linear regression was used as a measuring tool in this research to determine how much

influence the value of one or more independent variables has on the dependent variable.

According to Sugiyono (2013), the sample can also be defined as part of the number and characteristics of a population. In scientific research, samples can be determined in various ways/techniques. The sampling technique was used by the researcher. The sample was determined and selected based on specific criteria that the researcher evaluates, namely using the purposive sampling method, in which samples were chosen with certain considerations (Cooper and Schindler, 2014). Organic personnel of the Indonesian Army Crypto and Cyber Center (Pussansiad) who have tasks related to Sisfopers, starting from data input, processing, and using data in the form of output displayed from the personnel information system itself, is the considerations used in determining specific criteria in this research. The researcher's sample consists of Pussansiad personnel whose daily tasks are directly related to the TNI AD Personnel Administration Information System Application (Sisfopers).

4. Findings and Discussion

The TNI AD Personnel Information System (referred as Sisfopers) is the Indonesian Army's personnel data management application. The Sisfopers application runs on the Linux operating system and connects to an IBM DB2 database server. When launched, the TNI AD Sisfopers application will display a Login Form to ensure that only unit users have access to the TNI AD Sisfopers application. There is a menu at the top of the form that allows users to access the

features provided by the Sisfopers TNI AD application. The menu that can be accessed is customized to each user's rights (Perkasad, 2013).

The Indonesian Army Sisfopers application contains a wide range of general procedures. Personnel Search and Edit Data Maintenance are the general procedures that will be described. Many TNI AD Sisfopers application

features are used by first searching for specific personnel data to be processed. Figure 4.1 depicts the form for searching for personnel in the TNI AD Sisfopers application. Personnel searches can be performed using a personnel military ID number, name, position, or rank.

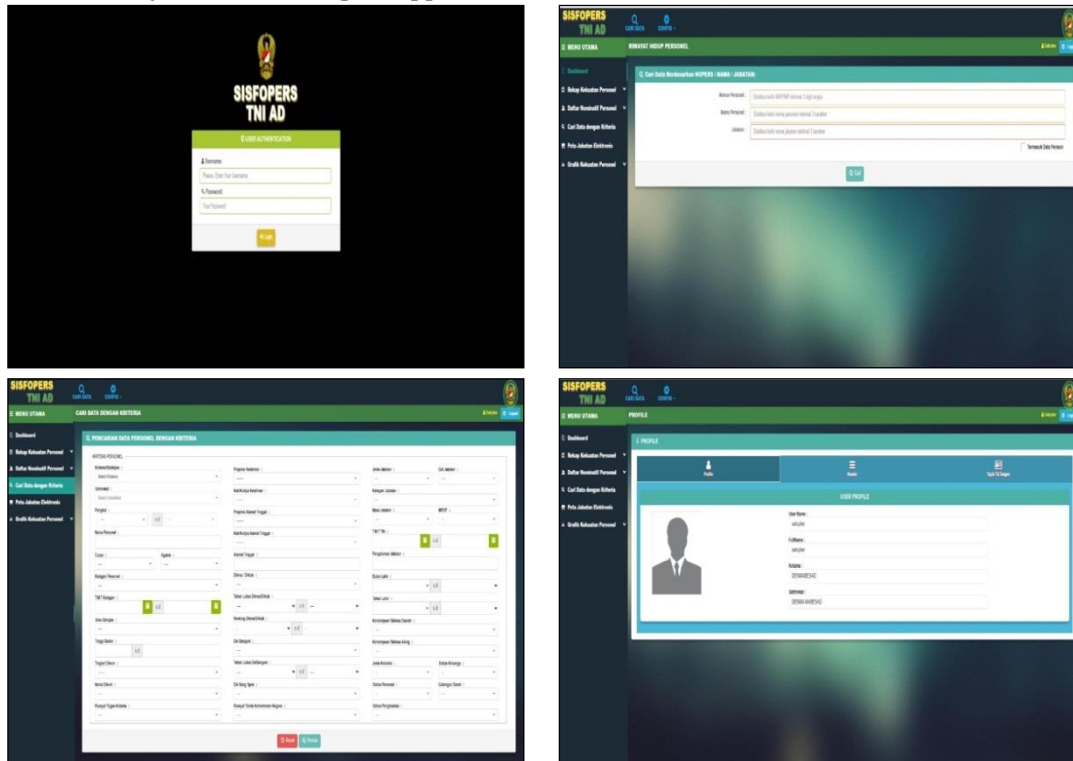


Figure 4.1 Sisfopers Dashboard View
Source: TNI AD Sisfopers Application

The Personnel Search Results List will display the results of the personnel search. Personnel searches may generate one, a few, or no results at all. The number of personnel who meet the desired criteria will be displayed in the form's lower-left corner. The personnel data displayed are their military ID number, full name, rank, corps, position, and unit. By clicking on the data element in the Search Results, users can sort search results based on the data elements displayed.

The TNI AD Personnel Information System (Sisfopers) is a digitalization program that is interconnected throughout the data processing process and consists of information system components used to generate various

administrative data in the personnel sector. The system functions to realize an information system that is capable of ensuring the preparation and presentation of information quickly, accurately, and safely to support the decision-making process in the field of TNI AD personnel.

The research questionnaires were distributed from 10 December 2021 to 31 December 2021. Furthermore, data analysis of respondents who had participated and was collected descriptively was performed based on rank, work unit, gender, age, and education, as shown in the tables below.

Table 4.1 Gender data

Gender	Amount	Percentage
Male	70	94.6 %
Female	4	5.4 %
Total	74	100 %

Source: Research data, 2021

According to Table 4.1, 94.6% of respondents were male, totaling 70 individuals. In comparison, female respondents accounted for only 5.4% of the total, or four people. This data explains why male military personnel continues to dominate the Pussansiad organization, both lower-ranked

officers (*Perwira Pertama*) and non-commissioned officers (*Bintara*). They always use the TNI AD Sisfopers application when performing their duties. Furthermore, Table 4.2 contains respondent data categorized by age.

Table 4.2. Respondent Age

Age range	Frequency	Percentage
18 - 22	10	13.5%
23 - 27	35	47.3 %
28 - 32	17	23 %
33 - 37	9	12.2 %
38 - 42	3	4.0%
Total	74	100 %

Source: Research data 2021

According to Table 4.2, 47.3% of respondents are between 23-27 years old. While respondents aged 38-42 years represented only 4% of respondents or three individuals. This data explains why most personnel who perform tasks related to the Sisfopers Application are still young adults, both lower-ranked officers and non-commissioned

officers. This condition is consistent with current technological advancements, which necessitate adaptable personnel with specialized knowledge and skills in information, communication, and technology advancements. Following that, Table 4.3 will detail respondent data by level of education.

Table 4.3 Respondent level of education

Education	Frequency	Persentase
High school	59	79.8%
Vocational School (D3)	1	1.3
Bachelor's Degree (S1)	12	16.2%
Master's Degree (S2)	2	2.7%
Total	74	100 %

Source: Research data 2021

According to Table 4.3, 79.8% of respondent have a high school level of education, equating to 59 people. Meanwhile, the other respondents have a bachelor's degree

at a rate of 16% (12 people), and 2.7% have a master's degree, respectively (2 people). The high school graduates are non-commissioned officers who act as operators in the Sisfopers

application, whereas lower-ranked officers (Lieutenant-Captain), already have a Bachelor's or Master's degree. Apart from serving as unit commanders in each section, these officers are expected to have great knowledge and skills in information and communication technology, particularly computer science, to give orders and directions regarding the tasks assigned to them by the commander/leader. The following

table 4.4 summarizes the respondent's information by work unit.

According to Table 4.4, 32,4% respondents assigned to the operational/implementing unit or work unit and the deterrence and enforcement units (24 people) and 25%, respectively (19 people). At the same time, the remainder is dispersed throughout the Director's Staff work unit and the General Service Section (*Bagum*).

Table 4.4 Respondent Working Unit

Position	Frequence	Percentage
Commander's Staff	5	6.8 %
Director's Staff	15	20.3 %
Enforcement Unit	19	25.6%
Deterrence Unit	24	32.4%
General Service Staff	11	14.9 %
Total	74	100 %

Source: Research data 2021

The Deterrence Unit and the Enforcement Unit are operational units within the Pussansiad organization that constantly use the Sisfopers application to perform routine tasks related to infrastructure and cyber enforcement within the TNI AD internal environment. Similarly, the Director and the General Service Section cannot be separated from the TNI AD Sisfopers Application because it constantly updates report and plans for both education and coaching for Crypto and Cyber in Regional Military Command (*Kodam*) personnel, and internal services within the Pussansiad.

4.2. Reliability Test Results

Cronbach's Alpha is one of the reliability measurement techniques. According to Nunnally (1967), a construct or variable is considered reliable if its Cronbach's Alpha coefficient value is above 0.60 (≥ 0.60). Based on reliability measurements, Cronbach's Alpha coefficient values for the variables information system quality, information quality, perceived usefulness, and user satisfaction are 0.659, 0.754, 0.809, and 0.850, respectively. These values indicate that the instruments used in the study met the criteria for reliability.

Table 4.9 Reliability Test Results

Variabel	<i>Cronbach's alpha</i>	<i>Composite Reliability</i>	Conclusion
System Quality			
- Efficiency	0.659	0.777	Reliable
- Accessibility			
- Integration			
- System response time			
Information Quality			
- Relevance	0.754	0.844	Reliable
- Accuracy			
- Punctuality			

- Completeness			
Perceived Usefulness			
- Makes Job Easier			
- Usefull	0.809	0.854	Reliable
- Increase Productivity			
- Enhance my effrectiveness			
- Improve my job performance			
User Satisfaction			
- Completeness			
- Accuracy	0.850	0.898	Reliable
- Convenience			
- Accuracy			

Source: Research data 2021

In addition to using Cronbach's Alpha, composite reliability can be used to test a variable's reliability. This study also tested its reliability using composite reliability and Cronbach's Alpha to determine reliability. Composite reliability determines the true value of a variable's reliability, whereas Cronchbach's Alpha determines the variable's lowest value of reliability. Thus, the results of composite reliability must be greater than the results of Cronbach's Alpha (Abdillah and Hartono, 2015). Hair et al. (2011) stated that in practice, Cronbach's Alpha and Composite Reliability (composite reliability) must be greater than 0.7, although it also stated that the value of 0.6 is acceptable.

4.3. Hypothesis Testing

The structural model can be measured or tested by evaluating the *R-square* model on each endogenous latent variable as a predictor variable for the model in question. Meanwhile, the significance of the *path coefficient* on the endogenous variable was determined using the *t-statistic* or *p-value*. If the specified conditions are met, the following step can be calculated using *Bootstrapping* on PLS. The tables and figures below contain the results of processing and calculating data using *Bootstrapping* PLS.

Table 4.13 Descriptive Statistics of PLS-Bootstrapping Results

Variable	Sample	Mean	Std Deviation	T-statistic	P-Values
Information System Quality (SQ)					
SQ1	0.651	0.642	0.116	5.617	0.000
SQ2	0.596	0.587	0.116	5.131	0.000
SQ3	0.699	0.699	0.084	8.284	0.000
SQ4	0.779	0.763	0.068	11.453	0.000
Information Quality (IQ)					
IQ1	0.700	0.681	0.125	5.578	0.000
IQ2	0.630	0.629	0.111	5.671	0.000
IQ3	0.866	0.857	0.040	21.727	0.000
IQ4	0.825	0.805	0.076	10.804	0.000

Perceived Usefulness (PU)					
PU1	0.660	0.633	0.180	3.675	0.000
PU2	0.938	0.894	0.126	7.472	0.000
PU3	0.630	0.577	0.185	3.406	0.001
PU4	0.706	0.646	0.228	3.092	0.002
PU5	0.716	0.645	0.233	3.070	0.002

User Satisfaction (US)					
US1	0.872	0.875	0.047	18.402	0.000
US2	0.741	0.740	0.090	8.225	0.000
US3	0.839	0.830	0.053	15.863	0.000
US4	0.860	0.857	0.044	19.413	0.000

Source: Research data 2021

If the *t-statistic* value is greater than 1.96, it is concluded that the relationship between these latent variables is significant. According to the PLS Algorithm results display (Figure 4.4), System Quality has a *t-statistic* value of 6.994 for user satisfaction, which is greater than 1.96. The result indicates that System Quality has a beneficial effect on User Satisfaction.

Similarly, the *t-statistic* value of 2.358 is greater than 1.96 for the Quality of Information.

This value indicates that this latent exogenous variable has a beneficial effect on User satisfaction. However, this is not the case for the *t-statistic* variable perceived usefulness, which has a value of 0.152. This value is less than the table value of 1.96 ($0.152 < 1.96$) and explains why the latent variable perceived usefulness negatively affects user satisfaction. There is a *t-statistic* and a *p-value*, which indicates that the criteria must have a *p-value* of less than 0.05.

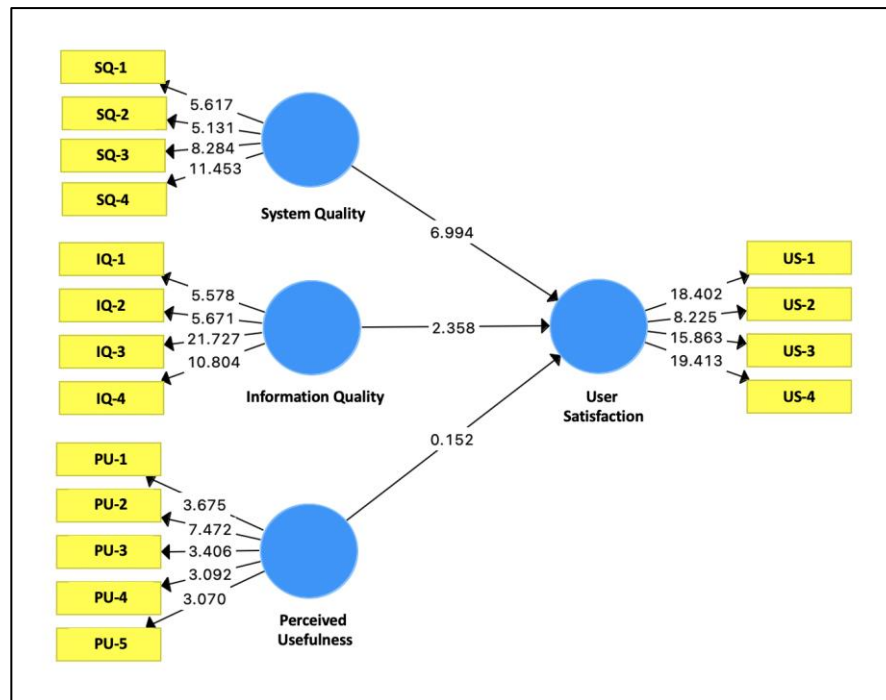


Figure 4.4 PLS- Bootstrapping Result

Source: Research data 2021

The following explanation is that the path coefficient value is the correlation coefficient between system quality and user satisfaction, implying that Information system quality affects 0.533 units when assessing user satisfaction. Similarly, information quality

contributes 0.279 to user satisfaction, and perceived usefulness contributes 0.021 to user satisfaction among the Sisfopers staff of the Indonesian Army.

Table 4.14 T-statistic Data

	Path Coefficients	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Value
SQ → US	0.533	0.536	0.076	6.994	0.000
IQ → US	0.279	0.243	0.118	2.358	0.019
PU → US	0.021	0.079	0.137	0.152	0.879

Source: Research data 2021

The following data analysis determines the significance of the relationship between the latent variables by examining the *t-statistic* value. *T-statistic* values will be calculated using

the PLS Bootstrapping method from the correlation between exogenous and endogenous variables, as described in Table 4.15 below.

Table 4.15 Hypothesis Test Results

Hypothesis	t-statistic	p-Value	Conclusion
H1; Information system quality has a positive effect on User satisfaction	6.994	0.000	Accepted
H2; Information quality has a positive effect on User Satisfaction	2.358	0.019	Accepted
H3; Perceived Usefulness has a positive effect on User satisfaction	0.152	0.879	Rejected

Source: Research data 2021

The following are the results of hypothesis testing when the *t-statistics* and *p-values* for the influence of each variable are taken into account, as shown in Table 4.15:

1. H1: Information system quality has a *T-statistic* value of $6,994 > 1.96$ and a *P-Value* of $0.000 < 0.050$. This graph demonstrates that the quality of information systems has a significant positive impact on user satisfaction.
2. H2: Information quality has a *T-statistic* value of $2.358 > 1.96$ and a *P-Value* of $0.019 < 0.050$. This metric

demonstrates that information quality has a significant positive effect on user satisfaction.

3. H3: Perceived usefulness has a *T-statistic* value of $0.152 < 1.96$ and a *p-Value* of $0.879 > 0.050$. This value demonstrates that user satisfaction is unaffected by perceived usefulness.

4.4. Discussion

The purpose of this study was to use the SEM-PLS method to test three hypotheses regarding the effect of

information system quality, information quality, and perceived usefulness on user satisfaction with the TNI AD Sisfopers application. The goodness-of-fit test indicated that the model developed in this study was feasible under moderate-criteria conditions. The following discussion encapsulates the hypothesis for each latent variable based on the results of several tests and data analysis:

4.4.1. Hypothesis-1 (H-1): Information System Quality has a positive effect on User Satisfaction.

The first hypothesis (H-1) developed in this research is that the quality of personnel information systems affects user satisfaction. The hypothesis-1 test (H-1) establishes a correlation between the variables of information system quality (SQ) and user satisfaction (US) in personnel information systems, obtaining a path coefficient of 0.533 and a *t*-count value of 6.994, indicating that the *t*-count value obtained is greater than the *t*-table value of 1.96.

The *t*-statistic test results indicate that the magnitude of the significant number for information system quality is 0.000, which suggests that the significance value is less than the probability value of 0.05 or the *p*-value of $0.00 < 0.05$, implying that Hypothesis-1 (H-1) is accepted. The information system quality variable's *t*-statistic or the *t*-count value was 6.994 with a *t*-table value of 1.96, indicating $t\text{-statistic} > t\text{-table}$. To summarize, the information system quality variable positively affects Sisfopers user satisfaction and shows a unidirectional correlation with Sisfopers user satisfaction. Based on these data, it can be concluded that information system quality has a positive and significant effect on user satisfaction of personnel information systems.

This test provides an overview of the high value placed on information

system quality, contributing to a user's perception of a high level of satisfaction. The findings of this study support the results of previous research by Iranto and Indira (2016) by demonstrating that system quality has a positive and significant effect on user satisfaction. Saputri (2016), Fendini et al. (2016), Setyo and Dessy (2015), Buana and Wirawati (2018), Rukmiyati and Budiarta (2016), Ikhyannuddin (2017), Fahmi, Jumi, and Nahar (2020) all reached the same conclusion, stating that system quality has a positive and significant effect on user satisfaction of personnel information system.

Additionally, respondents stated that Sisfopers satisfies its users by using a high-quality system. Their opinion is that an effective and efficient system, when implemented, can assist in the execution of personnel administration tasks both within the Pussansiad environment and within the Indonesian Army's internal security function.

According to Davis (1989), the system's quality that perceived ease of use refers to whether or not an information system is simple enough to understand and use. This opinion demonstrates that when users can easily apply information systems, they do not require additional effort or time to operate, and thus feelings of satisfaction for the information system are generated.

4.4.2. Hypothesis-2 (H-2): Information Quality has a positive effect on User Satisfaction.

The second hypothesis (H-2) developed in this study is that Information quality affects the user satisfaction of personnel information systems. The second hypothesis test (H-2) establishes a correlation between the variables of information quality (IQ) and user satisfaction (US) in personnel information systems, yielding a path

coefficient of 0.279 and a t-count of 2.358, indicating that the t-count value is greater than the *t-table* value of 1.96.

The *t-statistic* test results indicate that the magnitude of the significant number for the quality of information systems is 0.000, which indicates that the significance value is less than the probability value of 0.05 or the *p-Value* value of 0.000 < 0.05, implying that Hypothesis-2 is accepted. The information system quality variable's *t-statistic* or t-count value is 2.358, while the *t-table* value is 1.96, indicating that t-statistic is greater than *t-table* (*t-statistics* > *t-table*). Thus, the information quality variable affects user satisfaction. The information quality variable has a positive t-value, indicating a unidirectional correlation between user satisfaction and personnel information system. According to the data of these values, a conclusion can be drawn that information quality has a positive and significant effect on user satisfaction of personnel information systems.

This test provides an overview of the importance of information quality, which results in a high level of satisfaction for the users. This research generates conclusions and can support Iranto and Indira's (2016) findings by explaining how the quality of information has a positive and significant effect on the satisfaction of information system users. Saputri (2016), Fendini et al. (2016), Setyo and Dessy (2015), Buana and Wirawati (2018), Rukmiyati and Budiarta (2016), and Ikhyannuddin (2017) all came to the same conclusion, stating that the quality of information has a positive and significant effect on user satisfaction with personnel information system applications. Fahmi, Jumi, and Nahar (2020) also reached the same conclusion, stating that the quality of information has a positive and significant effect on user satisfaction of personnel information system applications.

Additionally, respondents stated that Sisfopers satisfied its users because the output or quality of the information produced is sufficient. Respondents added their opinion, stating that the quality of information or output from the Sisfopers application is not only good but also relevant, accurate, timely, and complete, following the information data required by users to support the execution of personnel administration tasks within the Pussansiad environment and the internal security function of the TNI AD.

The quality of information is defined as the output of an information system in the form of information. When the user believes that the output of data/information displayed is maximal, User satisfaction can be maximized; thus, the higher the quality of the information revealed, the greater the satisfaction of the user/user when using the information system in question because the information provided is in accordance with the user's needs and has been maximized. This finding corroborates the findings of previous research by Rukmiyati and Budiarta (2016), Nurhayati et al. (2016), Supriatna (2012), and Fahmi, Jumi, and Nahar (2020), who examined the correlation between information quality and user satisfaction and concluded that there was a positive and significant..

4.4.3. Hypothesis-3 (H-3): Perceived Usefulness has a positive effect on User Satisfaction.

The third hypothesis (H-3) developed in this study is that the perceived usefulness of personnel information systems affects user satisfaction. The third hypothesis test (H-3) establishes a correlation between the perceived usefulness (PU) variable and user satisfaction (US) with a path coefficient of 0.021 and a t-count of 0.152, indicating that the t-count is less than the *t-table* value of 1.96.

The magnitude of the significant number on perceived usefulness obtained by the *t-statistic* test is 0.879, indicating that the significance value is greater than the probability value of 0.05 or the *p-value* of $0.879 > 0.05$, indicating that H-3 is unacceptable (rejected). The *t-statistic* or *t-count* of perceived usefulness is 0.152, while the *t-table* is 1.96, meaning that the *t-statistic* is less than the *t-table* (*t-statistic* < *t-table*). As a result, it can be concluded that the perceived usefulness variable does not affect the level of satisfaction among users. The perceived usefulness variable has a positive *t-value*, indicating a one-way relationship with user satisfaction with personnel information systems. Based on these values, it can be concluded that perceived usefulness does not affect the satisfaction of personnel information system users.

The test provides an overview of perceived usefulness and has no direct effect on user satisfaction. The findings of this study differ from those of previous research conducted by Buana and Wirawati (2018), Rukmiyati and Budiarta (2016), with the explanation that perceived usefulness has a positive and significant effect on information system user satisfaction. However, the findings of this study corroborate previous research by Amalia and Pratomo (2016), Fahmi, Jumi, and Nahar (2020), and Prayanthi et al. (2020), which concluded that perceived usefulness had no discernible effect on user satisfaction with information systems. The research findings above can be used to evaluate how to increase user trust in the TNI AD Sisfopers application by innovating and developing applications with more attractive features, mobile, an improved user interface (UI), and adaptive accessibility, all of which are enabled by advances in information technology and communications (ICT) that are on their way to generation 5.0.

5. Conclusion

In general, this research established empirical evidence for the application of Davis's (1989) Technology Acceptance Model (TAM) theory, as well as DeLone and McLean's (1992) information system success model, to the application of information technology systems with a focus on TNI AD Personnel Information System Applications (Sisfopers). Additionally, empirical evidence demonstrates the influence of system quality on user satisfaction; the higher the system's quality, the higher the level of user satisfaction. Similarly, the study's empirical evidence demonstrates that the quality of information also significantly impacts user satisfaction. The output (quality of the information displayed) may not meet user expectations, affecting user satisfaction. Additionally, this research discovered empirical evidence that perceived usefulness did not contribute to TNI AD Sisfopers users' satisfaction. The descriptive statistical data analysis conducted in this study yields the following conclusions:

1. The partial test of variables revealed a positive and significant relationship between information system quality and user satisfaction in the TNI AD Sisfopers.
2. The partial test of variables revealed a positive and statistically significant relationship between information quality and user satisfaction in the context of the TNI AD Sisfopers.
3. The partial variable test revealed no effect of perceived usefulness on user satisfaction with the TNI AD Sisfopers.

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