



Analysis of User Acceptance Towards The Implementation of Information Systems in Financial Institutions Using Technology Readiness and Acceptance Model Approach

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Abstract

This research aims to measure the influence of user acceptance and readiness on implementing information systems. Researchers conducted this research using a quantitative approach. Researchers collected samples using a multi-stage purposive sampling strategy. There were one hundred participants in the study's sample. This study used two data collection methods: unstructured interviews were conducted to gather supporting data for the research, and questionnaires were distributed to get primary data. Inferential statistical analysis was performed in this study utilizing the PLS-SEM approach with SmartPLS. At this point, two analyses, the measurement model analysis, and the structural model analysis, must be completed. These findings indicate that sentiments of optimism and inventiveness positively impact opinions about the advantages and usability of information systems. This factor encourages users' interest in accepting or continuing to use the information system so that it will have a good influence on its implementation. On the other hand, user discomfort in using information systems tends to negatively influence assessments of the benefits and ease of use of information systems. User discomfort in using information systems hinders users' interest in using the information system, which impedes implementing the information system. The insecurity factor did not influence the assessment of the benefits and ease of use of information systems. These findings have several differences from previous research.

Keywords: User Readiness, Information System Acceptance, Partial Least Squares-Structural Equation Model.

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1. Introduction

Technological developments, especially information systems (IS), are now global. Information systems are no longer seen as just a complement but have become the primary support for existing business processes in an organization. Implementing information systems in organizations is based on the need for quality information. Organizations can make sound strategic decisions with quality information to gain a competitive advantage [1]. The use of information systems across various industries, including banking, insurance, manufacturing, education, hotels, and retail, provides insight into opinions regarding the significance of these systems. Financial information systems, academic information systems, human resource information systems, marketing information systems, manufacturing information systems, and others are all impacted by implementing information systems in different businesses. The organization will gain from adopting information systems [2]. First, they need to be successfully implemented by organizations.

Additionally, they said that before a business can reap the rewards, putting information systems into place is difficult. The organization's business activities may be impacted, and financial losses may arise from failing to establish an information system [3]. The effectiveness of an information system's implementation in an organization is determined by how its users operate it. Without organizational members' commitment, the installation of information systems will encounter numerous challenges [4]. Organizations must consider system users while implementing information systems since they are a crucial system component. The same was said in another opinion: while adopting an information system, several aspects, including those related to the inventor, user, legal system, and institution, must be considered [5].

Multiple studies have focused on system users. To implement technology, the first step is to assess the user's readiness to accept it. He claims that everybody can use technology, but the best way to do so will depend on how ready a person is to embrace it. To ascertain a person's technological readiness level, the researchers created a model known as the Technology Readiness Index (TRI) [6]. Four elements are thought to affect a person's

preparedness to utilize technology: comfort and insecurity are thought to be hindering factors, while optimism and a sense of invention are considered to be driving factors. The Technology Readiness Index measurement findings are divided into three categories: low, medium, and high technology readiness [7]. By establishing a readiness level scale, any company that is experiencing or will experience comparable problems can make use of the Technology Readiness Index. However, while TRI has generally indicated the degree of preparedness for putting information systems into place, it has not explained how user readiness affects information system implementation [8].

The Technology Readiness Index (TRI) and the Technology Acceptance Model (TAM) were the models from which the Technology Readiness and Acceptance Model (TRAM) was developed [9]. Additional studies also modified TRI and TAM to quantify and examine the impact of user readiness on adopting information technologies in diverse contexts and kinds of companies. Variations in the results have been noted in several earlier investigations on different study objects [10]. A few of the results also deviate from the assertion made by Parasuraman about the motivating and impeding elements of information system implementation [11]. Although there are some variations, consumers' attitudes regarding information systems generally reflect how ready they are to adjust to using them [12]. This will affect user satisfaction, information system acceptability, and the effectiveness of information system implementation in a company. This remark implies that an organization's adoption of an information system and the readiness of each user are inextricably linked [13] [14] [15]. Sharia Microfinance Institutions take part in implementing information systems for some of the reasons above surrounding information system implementation. LKMS's information systems aim to support managerial and operational procedures, enhancing output and competitive advantage. The existence of Sharia financial information systems like AKSIOMA and Arium Sharia banking is one instance of how information systems are used in LKMS [17] [18] [19] [20].

2. Research Methods

We conducted this research using a quantitative approach. Data collection in this research involved conducting surveys using questionnaires, while data analysis was performed statistically using statistical data processing applications. Researchers also conducted unstructured interviews with several respondents; the results of these interviews were intended as additional data for this research. Researchers took samples using a multi-stage purposive sampling technique. The initial step in the sampling process involves the identification of a subset of the population that meets the predetermined criteria (purposive sampling), whereby the Sharia microfinance institutions chosen as samples are required to have an information system put in place. Selecting a sample of responders who use the system is the second step. There were one hundred participants in the study's sample. This study used two data collection methods: unstructured interviews were conducted to gather supporting data for the research, and questionnaires were distributed to get primary data. Inferential statistical analysis was performed in this study utilizing the PLS-SEM approach with SmartPLS. At this point, two analyses, the measurement model analysis, and the structural model analysis, must be completed.

3. Results and Discussion

The t-test analysis on the structural model, which shows the acceptance of hypothesis one (H1) regarding the positive influence of OPT on PU, shows that optimism plays a vital role in users' views of the benefits of using information systems. Users with an optimistic attitude towards information systems tend to view them as tools that benefit their work, interpreting the positive influence as an indication of this. Furthermore, the path coefficient value of 0.7 indicates a significant impact of OPT on PU in the model. A high path coefficient shows that optimism significantly shapes user perceptions of information systems. Any increase in users' optimism towards an information system will substantially increase their perception of its benefits. This can have practical implications for information systems development, where efforts to improve user optimism can be considered a strategy to increase the adoption and effective use of such systems. In addition, the understanding that the positive influence resulting from optimism is that users believe that using the information system will provide benefits illustrates the positive correlation between optimistic beliefs and positive perceptions of the system. These findings are consistent with previous research that supports the idea that positive attitudes toward technology encourage greater acceptance and use. In this context, the analysis results provide empirical support for optimism's importance in shaping user perceptions of the benefits of using information systems. The suitability of the findings with previous research strengthens the validity of the results and indicates consistency in the impact of optimism on user perceptions. The implications can help practitioners and information system developers design more effective strategies to increase users' acceptance and use of information systems.

The t-test analysis on the structural model, which shows the acceptance of hypothesis two (H2) regarding the positive influence of INN on PU, shows that the level of innovative thinking of users plays an essential role in assessing the benefits of using information systems. With the acceptance of H2, we can conclude that users' level of innovativeness positively influences how they perceive the benefits of using information systems. The path

coefficient value of 0.2 shows that although the influence of innovativeness on user perception may not be as significant as the influence of optimism in the previous model, it is still substantial. Thus, innovative thinking positively contributes to shaping user perceptions of the benefits of information systems. This can mean that users with a high level of innovativeness are more likely to see information systems as tools that significantly benefit their work. Any increase in users' innovativeness level will substantially increase their perception of the benefits of using information systems. Therefore, strategies to encourage innovative thinking among users can be considered a strategic step in expanding the acceptance and use of information systems. Thus, these findings also provide practical insights for information system developers. Efforts to promote innovative thinking among users, for example, through training, education, or integrating innovative features in the system, can be considered strategies to increase system adoption and improve user perceptions of its benefits. In this context, the analysis results highlight how psychological factors, such as optimism and innovativeness, can influence users' perceptions of information systems. The unity of the findings with previous literature strengthens the analysis results and provides a solid basis for designing more effective interventions and strategies for promoting the acceptance and use of information systems in the work environment.

Although hypothesis one (H3) did not receive statistical acceptance, the analysis results demonstrated a significant influence between DIS and PU in the structural model, with a path coefficient value -0.15. Even though the path coefficient value is negative, this can be interpreted as meaning that the higher the user's level of discomfort with the information system, the lower their assessment of its benefits. A significant path coefficient value shows that discomfort plays a fundamental role in shaping user perceptions of the benefits of information systems. Although the impact is negative, namely, the higher the pain, the lower the benefits assessment, understanding this impact can provide valuable insight. In this context, users who feel uncomfortable using information systems may experience certain obstacles or dissatisfaction that can reduce their perception of the system's benefits. Therefore, strategies to minimize the inconvenience, such as providing better training, more effective technical support, or improving the user interface, can be considered to increase positive perceptions of the benefits of information systems. These findings may signal to information systems developers and practitioners to focus on understanding and addressing user discomfort as an integral part of information systems acceptance strategies. Identifying and overcoming factors that cause discomfort is expected to increase acceptance and positive perceptions of the benefits of using information systems.

The analysis results indicate that INS does not significantly influence PU in the structural model, with a path coefficient value that may be close to zero or positive, despite hypothesis one (H4) not being statistically accepted. Nevertheless, examining the implications of these findings in the context of information system use is crucial. The absence of a negative influence of insecurity on user perceptions can mean that, at least within the framework of this research, the level of information system security does not significantly impact users' views of the benefits of using the system. This could be good news, as it suggests that users may not need to pay intense attention to security when using specific information systems. However, these results do not imply complete disregard for the security aspect. Secure information systems are essential to protect sensitive information and maintain data integrity and availability. Although insecurity is not considered a significant factor influencing user perception in this context, it is still necessary to maintain and improve the security of information systems so that users can feel comfortable and confident when using them. Therefore, these findings can provide a more contextual view of information system security. Even if it does not significantly impact the user's perception of the system's usefulness, ensuring adequate security to maintain user trust and protect critical information is still essential. In practice, information system developers and administrators still need to focus on implementing effective security measures and educating users about the importance of information security. While insecurity may not be the primary focus in increasing acceptance, security remains integral in information systems design, management, and use.

By accepting hypothesis one (H5), which states that OPT positively influences PEU, the analysis shows that users' optimistic attitude towards information systems positively impacts their perception of the system's ease of use. The significant path coefficient value, 0.25, indicates that OPT is essential in forming PEU in the structural model. Users with an optimistic attitude towards information systems tend to have positive expectations regarding the system's ease of use. This positive attitude then influences their view that using information systems is more accessible or more user-friendly. These results yield several practical implications. By understanding how optimism can reinforce positive views about ease of use, developers can adjust system designs to make them more intuitive and easier to use. These results are essential to understanding the psychological factors influencing users' perceptions of information systems. The unity of the findings with previous literature can provide a solid basis for designing more effective interventions and strategies to increase the acceptance and use of information systems.

The first hypothesis (H6), which says that INN has a positive effect on PU and that this effect is significant in the structural model, was accepted. The analysis shows that users' innovative thinking positively impacts how they see the benefits of using information systems and how easy they are to use. First of all, the acceptance of H6

indicates that users with a high level of innovative thinking tend to see information systems as tools that significantly benefit their work. It can be interpreted that creative thinking plays a crucial role in forming a positive view of the benefits of using the system. Furthermore, the path coefficient value of 0.3 between innovativeness and perceived ease of use shows that innovative thinking also positively impacts users' views about the ease of use of information systems. This understanding indicates that users who think innovatively will feel that using information systems is easier to understand and use. In practice, these results provide insight for information system developers to consider innovative features that can improve the system's user experience and ease of use. An increased understanding of how creative thinking influences user perceptions can help design solutions that better meet user needs and expectations.

With the acceptance of hypothesis one (H7), the analysis results show that DIS on using information systems significantly negatively impacts PEU, with a path coefficient of -0.2. These findings indicate that the higher the user's level of discomfort with the use of an information system, the more difficult it is for them to assess the ease of use of the system. In this context, these results provide an understanding that user discomfort can inhibit the acceptance and use of information systems. Users who feel uncomfortable may find using the system complicated to apply in their daily work. Therefore, reducing discomfort must be considered to increase information system adoption. Practitioners and policymakers can consider several steps to overcome user discomfort. This may involve providing more in-depth training, more precise guidance, or improving the user interface to make it more intuitive.

Additionally, listening to user feedback can identify areas that trigger discomfort and find appropriate solutions. With this understanding, an emphasis on user comfort can help create an environment that supports information system adoption. It can also motivate users to be more open to new technologies and increase the chances of successfully implementing information systems in various organizational contexts.

Although hypothesis one (H8) is not statistically supported, the analysis results indicate that INS does not significantly affect PEU in the structural model. Although the path coefficient value between INS and PEU may not be statistically significant, understanding the absence of a negative influence can provide important insight. The lack of a negative impact between insecurity and PEU can be interpreted as meaning that, at least in the context of this research, the level of information system security does not significantly influence users' views about the system's ease of use. Although security remains an essential factor, it does not appear to be a significant barrier to user perceptions of the ease of use of information systems. This may provide relief because security remains essential, and users may not feel hindered by security issues when using information systems. Users may focus more on other aspects, such as the benefits of information systems and ease of use. In this context, information systems developers and practitioners can continue prioritizing information security and emphasize efforts to increase usability and ease of use to increase system adoption and acceptance. Identifying that insecurity does not significantly impact perceived ease of use can help identify priorities in information system development and improvement. Focusing on other aspects that influence the user experience may be more beneficial for achieving the acceptance and successful use of information systems.

By accepting hypothesis one (H9), which states that PU positively influences ITU, the analysis results show that users' positive assessment of the benefits of using information systems positively impacts their interest in using or accepting the system. The significant path coefficient value, namely 0.4, indicates that perceived usefulness strongly influences intention to use in the structural model. This understanding can be interpreted as saying that the greater the user's upbeat assessment of the benefits of using an information system, the higher their interest in adopting and using it. This reflects the close relationship between perceived usefulness and the user's intention to use a technology. These results yield several practical implications. First, increasing users' perceptions of the benefits of an information system can be considered a key strategy to increase users' intention to adopt the system. Users' perception of the benefits of an information system can be improved through user education, practical training, or the introduction of additional features that enhance the benefits of using the system. Second, understanding that perceived usefulness positively impacts intention to use can also help system developers design and optimize features that highlight the system's benefits. Emphasizing these aspects can make the system more attractive and valuable to users, increasing the likelihood of adoption and continued use. In this context, these results are essential to understanding the factors that influence users' intentions to use information systems. The suitability of the findings with previous literature can provide a solid basis for designing more effective strategies for increasing the acceptance and use of information systems.

By accepting hypothesis one (H10), which states that PEU positively influences ITU, the analysis results show that users' positive assessment of the ease of use of the information system has a positive impact on their interest in using or accepting the system. The significant path coefficient value, namely 0.35, indicates that perceived ease of use strongly influences the intention to use in the structural model. This understanding can be interpreted as saying that the greater the user's upbeat assessment of the ease of use of an information system, the higher their interest in adopting and using the system. Ease of use is essential to users' intentions to embrace technology. These results yield several practical implications. First, increasing users' perception of the ease of use of an

information system can be considered a key strategy to improve users' intention to adopt the system. Achieving this can be done by designing an intuitive user interface, providing clear user guidance, or simplifying the process of using the system. Second, understanding that perceived ease of use positively impacts intention to use can also help system developers design and optimize features that support ease of use. Emphasizing these aspects can make the system more acceptable to users, increase the likelihood of adoption, and reduce barriers related to inconvenience or difficulty of use. These results are essential to understanding the factors influencing users' intentions to use information systems. The suitability of the findings with previous literature can provide a solid basis for designing more effective strategies for increasing the acceptance and use of information systems.

From these results, it is known that optimism and a sense of innovativeness positively influence assessments of the benefits and ease of use of information systems. This factor encourages users' interest in accepting or continuing to use the information system so that it will have a good influence on its implementation. On the other hand, user discomfort in using information systems tends to negatively influence assessments of the benefits and ease of use of information systems. User discomfort in using information systems hinders users' interest in using the information system, which impedes implementing the information system. The insecurity factor did not influence the assessment of the benefits and ease of use of information systems. These findings have several differences from previous research. Several factors, including differences in objects, samples, and research instruments, influence the differences between the findings of this research and previous research.

4. Conclusion

The path coefficient analysis results indicate agreement with previous research on H3 despite its overall rejection. However, differences in results between this research and previous research can be caused by variations in the research objects, samples, and instruments used. Seven other hypotheses were accepted, indicating several significant influences within the scope of Sharia microfinance institutions. The user's optimistic view (H1) and innovative thinking (H2) positively influence the assessment of the benefits and ease of use of information systems, encourage user acceptance, and become a driving factor in implementing IS. On the other hand, users' discomfort with IS (H7) harms the assessment of the ease of use of information systems, becoming an inhibiting factor in implementing information systems. Perceived usefulness (H9) and perceived ease (H10) of using information systems are positive factors that influence users' interest in using information systems, contribute to user acceptance, and are determining factors in implementing information systems. Thus, these findings provide a complete picture of the factors that influence user acceptance and intention to adopt information systems in the context of Sharia microfinance institutions. Practical implications include the importance of paying attention to optimistic views, innovative thinking, and mitigating feelings of discomfort in the design and implementation of information systems to increase acceptance and successful use in the work environment.

For practitioners, educational institutions, and associations involved in implementing information systems, paying particular attention to users' feelings of optimism, innovation, and discomfort is recommended. These things have been proven to be key factors influencing the acceptance and successful use of information systems. Managers are expected to create implementation strategies that can increase the sense of optimism and innovation of system users while proactively minimizing inconvenience when using the system. Students and future researchers interested in similar studies should consider several suggestions. First, this research has limited regional coverage of Sharia microfinance institutions. Therefore, further research should expand the regional coverage to enrich the number of respondents and provide more representative results. Second, related to the data collection process, direct assistance to respondents can increase their understanding of the questions asked. Finally, it is recommended that future research analyze and interpret data based on position to provide a more comprehensive perspective from the various layers of respondents involved. Thus, future research is expected to further contribute to understanding the factors influencing the acceptance of information systems in various contexts.

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