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COMPARISON OF THE DELONE AND MCLEAN MODEL, TAM, AND UTAUT IN ISLAMIC EDUCATION MANAGEMENT INFORMATION SYSTEMS: A COMPARATIVE LITERATURE REVIEW

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Abstract

The development of information technology has encouraged Islamic educational institutions to utilize Management Information Systems (MIS) to improve administrative processes, academic services, and decision-making. However, the success of information systems is not only determined by the availability of technology but also by the level of user acceptance and the benefits provided by the system. This study aims to compare the DeLone and McLean Information Systems Success Model, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT) in the context of Management Information Systems in Islamic education. This study employs a comparative literature review method by examining relevant scientific articles and previous research discussing information systems, technology acceptance, and educational management. The analysis focuses on the main concepts, measurement dimensions, strengths, limitations, and applicability of each model in Islamic educational institutions. The comparative analysis indicates that the DeLone and McLean model is more suitable for evaluating information system quality, user satisfaction, and the benefits generated by system use. TAM focuses on perceived usefulness and perceived ease of use in explaining technology acceptance, while UTAUT provides a broader perspective by considering performance expectations, effort expectations, social influence, and facilitating conditions. These models offer complementary perspectives for understanding information system implementation in Islamic educational management. This study concludes that model selection should be adjusted to the research objectives, institutional conditions, and characteristics of system users. Integrating the three models may also provide a more comprehensive framework for evaluating information system success and technology acceptance in Islamic educational institutions.

Keywords: *DeLone and McLean; Technology Acceptance Model (TAM); UTAUT; Management Information Systems; Islamic Education Management.*

INTRODUCTION

Developments in information technology have changed the management of educational institutions, including Islamic educational institutions. The use of Management Information Systems (MIS) is increasingly important for helping manage learner data, academic administration, educational services, and decision-making. Using information systems is expected to improve the effectiveness and efficiency of educational institution management. However, applying technology does not always guarantee success because there are still various factors that

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need attention, such as system quality, information quality, ease of use, user satisfaction, and the institution's readiness to support technology use. Therefore, the success of MIS implementation needs to be examined through suitable models so that the benefits of technology can be understood in a more focused way.

In information systems research, the DeLone and McLean Information Systems Success Model is one approach used to evaluate the success of a system. The model covers system quality, information quality, service quality, system use, user satisfaction, and the net benefits produced. The study by Rachmat et al. (2022) on evaluating the academic information system at Hasanuddin University shows that system quality and information quality are factors that influence the effectiveness of system use. This finding shows that assessing an MIS is not enough by looking at the existence of technology; attention must also be paid to the quality of the information provided and the system's ability to support users' needs. Thus, the DeLone and McLean model can be used as a basis for examining the success of information systems in supporting administrative and academic activities in Islamic educational institutions.

Besides evaluating system success, research also needs to understand why users accept and use technology. One model widely used to explain technology acceptance is the Technology Acceptance Model (TAM). The model emphasizes two main factors, namely perceived usefulness and perceived ease of use. In the context of Islamic education management, TAM can be used to understand how teachers, education staff, institutional leaders, and students assess the usefulness and ease of use of academic information systems or educational administration applications. The systematic review by Al-Nuaimi and Al-Emran (2021) shows that TAM, the DeLone and McLean information systems success model, and UTAUT are among the models widely used in research on the acceptance and use of Learning Management Systems (LMS). This shows that user acceptance is an important aspect of research on educational information systems.

Another model that can be used is the Unified Theory of Acceptance and Use of Technology (UTAUT), which explains technology acceptance and use through several main factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. Xue et al. (2024), through a systematic review of 162 articles on UTAUT in higher education, show that the model is widely used to study the acceptance of various educational technologies. The review also shows that TAM is often combined with UTAUT in technology acceptance research. In Islamic education management, UTAUT is relevant for examining how perceived usefulness of technology, ease of use, leadership support, the influence of the work environment, and the availability of facilities affect MIS use. Thus, UTAUT offers a broader perspective in understanding the individual and organizational factors related to technology use.

Although all three models can be used in information systems research, each has a different focus. DeLone and McLean place more emphasis on evaluating system success based on quality, user satisfaction, and the benefits produced. TAM focuses more on perceived usefulness and ease of use as factors in technology acceptance, while UTAUT considers performance expectancy, effort expectancy, social influence, and facilitating conditions. These differences in focus are an important basis for comparing the three so that researchers can determine the model most suited to the research objectives and problems. However, using these models needs to consider the characteristics of Islamic educational institutions, the needs of their users, and the available technological and organizational conditions.

Based on this description, this study aims to compare the DeLone and McLean Information Systems Success Model, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT) in Management Information Systems research in Islamic education management. The comparison is carried out by examining the main concepts, measurement dimensions, strengths, limitations, and relevance of applying each model in the Islamic education environment. The results are expected to provide an understanding of the differences and links among the three models and to serve as considerations for researchers in choosing an appropriate approach to examine information system success and technology acceptance in Islamic educational institutions.

METHODS

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This study uses a qualitative approach with the *comparative literature review* method. The method was chosen because the study aims to compare the DeLone and McLean Information Systems Success Model, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT) in Management Information Systems research in Islamic education management. According to Barry et al. (2022), a literature review can be carried out through structured stages to collect, examine, and synthesize various previous studies so as to produce a more thorough understanding of a topic. Therefore, this study was carried out by examining scholarly sources that discuss the concepts, dimensions, strengths, limitations, and application of the three models in the fields of information systems and education.

Data were collected by searching scholarly journal articles available on Google Scholar, Crossref, and academic journal publishers. The keywords used included "DeLone and McLean Information Systems Success Model", "Technology Acceptance Model", "UTAUT", "Management Information Systems", and "Islamic Education Management".

The literature prioritized was scholarly articles published in 2021–2026, relevant to the research focus, and having information that can be traced and verified. Articles that discuss the three models in the context of educational information systems, technology acceptance, and the management of educational institutions were of primary concern. Sources that were not relevant to the research question, lacked clear bibliographic information, or did not provide adequate information for analysis were not included in the review.

This study did not use a field research location because all data were obtained from library sources. The research process was planned and carried out in 2026 through the stages of determining the focus of the review, searching the literature, screening sources, recording important information, and analyzing and compiling the results. The data used were secondary data from scholarly journal articles and relevant academic publications. The literature review process was carried out in a structured way with attention to transparency in searching and selecting sources, as emphasized by Paul et al. (2023) in their discussion of conducting systematic literature reviews in management research.

The data analysis technique used *content analysis* and comparative analysis. Information from each selected article was grouped by basic concept, measurement dimensions, purpose of use, strengths, limitations, and relevance to Management Information Systems in Islamic educational institutions. Next, the grouped results were compared to identify similarities, differences, and the possible complementarity among the DeLone and McLean model, TAM, and UTAUT. The analysis results were then synthesized descriptively to determine the characteristics of each model and its fit with the needs of information systems research in Islamic education management. Thus, the results are expected to provide a basis for choosing the right model to evaluate information system success and technology acceptance in Islamic educational institutions.

DISCUSSION

The DeLone and McLean Model in Measuring Management Information System Success

The DeLone and McLean Information Systems Success Model is one of the models used to assess the success of information system implementation in an organization. The model emphasizes that the success of an information system cannot be measured merely by the availability of technology but also needs to be seen through system quality, information quality, service quality, system use, user satisfaction, and the net benefits produced. These six dimensions are interrelated in giving a picture of an information system's ability to support organizational activities. Therefore, the DeLone and McLean model can be used to evaluate whether an information system truly helps users' work and provides benefits to the institution.

The study by Ojo et al. (2022) on evaluating an e-learning system using the DeLone and McLean model shows that system quality, information quality, and service quality are important aspects in understanding user satisfaction and learning benefits. The study also shows that system success is related not only to technology use but also needs to consider the system's ability to meet users' needs. This finding shows that a system that is easy to access, provides accurate information, and has adequate support services can help improve users' experience in using educational technology.

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In the context of Islamic education management, the DeLone and McLean model can be applied to evaluate various information systems, such as madrasah academic information systems, the *Education Management Information System* (EMIS), pesantren administration systems, and Islamic higher education information systems. For example, the success of an academic information system is not seen only from users' ability to log in to the application or enter learner data. Evaluation also needs to consider data accuracy, access speed, information security, ease of use, and the system's benefits in helping the work of education staff.

If an information system can provide accurate data but often experiences disruptions, its system quality still needs improvement. Conversely, a system that runs well but presents incomplete data cannot be said to be fully successful either. This condition shows that system quality and information quality must be considered together. In addition, technical support and user service are needed so that obstacles in using the system can be resolved promptly.

Nevertheless, the DeLone and McLean model has limitations when used to explain all the factors that influence technology acceptance. The model emphasizes system success and the benefits produced, while the reasons users are willing or reluctant to use technology cannot always be explained in depth through the system quality dimension alone. In an Islamic educational institution, for example, a teacher may have access to a high-quality information system but may not be willing to use it if they find it difficult or do not yet understand its benefits. Thus, the DeLone and McLean model is more appropriate when the research focus is to evaluate the quality and success of an information system, while user acceptance factors can be examined further through TAM and UTAUT.

The Technology Acceptance Model (TAM) in Educational Technology Acceptance

The Technology Acceptance Model (TAM) is a model used to understand a person's acceptance of technology use. The model focuses on two main factors: perceived usefulness and perceived ease of use. Perceived usefulness relates to the belief that using technology can help improve performance, while perceived ease of use relates to the belief that technology can be used without excessive effort. These two factors help explain why a person is or is not interested in using an information system.

In educational research, TAM can be used to understand technology acceptance by teachers, education staff, students, and institutional leaders. Xue et al. (2024), in a systematic review of 162 articles on UTAUT applications in higher education, found that TAM is among the models most often combined with UTAUT. This finding shows that perceived usefulness and ease of use remain relevant aspects in explaining technology acceptance in the educational environment. Although the review focused on UTAUT, its results give a picture of the link between TAM and educational technology acceptance research.

In Islamic education management, TAM can be used to examine users' acceptance of academic information systems, school administration applications, digital learning platforms, and educational data management systems. For example, teachers will tend to accept the use of an administration application if it is considered able to speed up work completion, ease grade processing, and reduce recording errors. Besides usefulness, ease of use is also an important consideration. If an application has a complicated display or data-entry procedures that are hard to understand, users may feel burdened even though the system actually benefits the institution.

The strength of TAM lies in its clear focus, which helps researchers understand users' perceptions of a technology. The model can also be used to identify whether technology acceptance is more related to perceived benefits or to ease of use. The results of such a study can be considered by managers of educational institutions in providing training, improving application interfaces, and explaining the benefits of information systems to their users.

TAM has limitations because it does not directly cover all the organizational and social environment factors that can influence technology use. The acceptance of information systems in Islamic educational institutions is not always determined by perceived usefulness and ease of use. The availability of internet networks, computer facilities, leadership support, institutional policy, and technical assistance can also influence users' ability to use the system. Therefore, TAM is suitable for research that focuses on individual perceptions but needs to be considered together with other approaches if the research aims to explain the influence of the environment and organizational support more broadly.

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The Unified Theory of Acceptance and Use of Technology (UTAUT) in Information System Use

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a model used to explain technology acceptance and use through several main factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy relates to the belief that technology can help improve work results. Effort expectancy relates to the ease of using technology. Social influence shows the role of people around the user in shaping the decision to use technology, while facilitating conditions relate to the availability of facilities, knowledge, and assistance needed to use the system.

Xue et al. (2024) conducted a systematic review of 162 articles on the application of UTAUT in higher education. The results show that UTAUT research focuses largely on students and mobile-device-based learning technology. The review also found that performance expectancy has a strong influence on the intention to use technology in the studies reviewed. In addition, TAM is one of the models most often combined with UTAUT. This finding shows that technology acceptance in education can be influenced by perceived usefulness as well as other factors related to the environment and conditions of use.

In Islamic education management, UTAUT can be used to understand the factors that influence the use of information systems by madrasah heads, teachers, administrative staff, students, and pesantren managers. For example, an administrative staff member may be willing to use an information system if it is considered able to speed up the processing of learner data. However, that intention can be hindered if the institution does not provide adequate computers, the internet network is often disrupted, or users have not received sufficient training. This example shows that technology acceptance relates not only to users' personal views but also to the support available in the work environment.

The strength of UTAUT is its ability to give a broader explanation of technology acceptance and use than TAM. UTAUT considers individual factors, social influence, and facilitating conditions, so it can help researchers identify barriers to information system use in educational organizations. For Islamic educational institutions, the results of analysis using this model can be considered for improving user training, providing adequate facilities, and strengthening leadership support for information system implementation.

Nevertheless, using UTAUT also has limitations. The many factors analyzed can make research more complex, especially if researchers want to measure relationships among variables quantitatively. In addition, the factors that influence technology acceptance can differ by user characteristics, type of system, and institutional conditions. Research results on students using learning applications, for example, cannot necessarily be applied directly to madrasah administrative staff who use data management systems. Therefore, applying UTAUT still needs to be adjusted to the research objectives and the characteristics of the educational environment studied.

Comparison of the DeLone and McLean Model, TAM, and UTAUT

The DeLone and McLean model, TAM, and UTAUT can all be used in information systems research but have different analytical focuses. DeLone and McLean emphasize information system success based on system quality, information quality, service quality, use, user satisfaction, and net benefits. TAM focuses on perceived usefulness and ease of use as factors related to technology acceptance. Meanwhile, UTAUT explains technology acceptance and use through performance expectancy, effort expectancy, social influence, and facilitating conditions.

These differences show that the three models cannot entirely substitute for one another. If research aims to find out whether an academic information system has provided benefits to the institution, the DeLone and McLean model can be an appropriate choice. If research aims to find out why teachers or education staff accept an application based on perceived benefits and ease, TAM can be used. Meanwhile, if research wants to examine the role of leadership support, peer influence, facilities, and environmental conditions on information system use, UTAUT can provide a broader perspective.

Xue et al. (2024) found that TAM is often combined with UTAUT in technology acceptance research in higher education. This finding provides a basis for considering the use of both models together if researchers want to examine technology acceptance through several complementary factors. However, combining models does not mean that all variables must always

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be used. Researchers still need to determine variables based on the research question, the context of system use, and relevant theoretical support.

In the context of Islamic education management, comparing the three models can help researchers distinguish problems of system quality from problems of user acceptance. For example, low use of an information system in a madrasah may be caused by a system that is hard to access, inaccurate information, or users who do not yet understand the benefits of technology. These problems require different explanations. DeLone and McLean can help evaluate system quality and benefits, TAM can explain perceived usefulness and ease, and UTAUT can help analyze environmental support and conditions of use.

Therefore, model selection should be based not only on popularity in previous research but also on the fit of the model with the problem to be studied. Researchers need to ensure that each dimension used is truly related to the research objectives. In this way, comparing the three models can produce a clearer understanding of the appropriate approach for examining information systems in the management of Islamic educational institutions.

The Relevance of the Three Models in Islamic Education Management

Implementing information systems in Islamic education management relates to institutions' need to manage data, improve services, support academic activities, and help decision-making. Technology use can provide benefits if the system fits the institution's needs and can be used by its users. However, the existence of applications or digital platforms does not automatically guarantee an improvement in the quality of educational management. The success of technology implementation still needs to be reviewed in terms of system quality, user acceptance, and organizational support.

The DeLone and McLean model is relevant when an institution wants to evaluate whether the information system it uses is functioning well and giving real benefits. Evaluation can cover the accuracy of learner information, the reliability of administration systems, the quality of technical services, user satisfaction, and the benefits of using the system to complete work. These evaluation results can help institutions determine which parts of the system need improvement so that data management and academic services run more effectively.

TAM is relevant when the main problem relates to user acceptance. For example, an institution has provided an information system, but some teachers or administrative staff still find it difficult to use. In such conditions, researchers can examine whether users see the system as useful and easy to use. The results can become a basis for improving application design, simplifying usage procedures, and providing training according to users' needs.

Meanwhile, UTAUT is relevant when information system use is influenced by environmental and organizational conditions. Leadership support, peer influence, device availability, internet networks, and technical assistance can be factors that need attention. In Islamic educational institutions with limited facilities or varied technological capabilities, these factors can determine whether an information system can be used sustainably. Thus, UTAUT helps broaden analysis from individual perceptions to the conditions that support technology use.

The three models can also be considered in an integrated way if research wants a more thorough understanding. DeLone and McLean can be used to evaluate system success, TAM to understand perceived usefulness and ease, and UTAUT to analyze social factors and facilitating conditions. Nevertheless, combining the three needs to be done carefully because some concepts are close to one another, especially perceived usefulness in TAM and performance expectancy in UTAUT. Researchers need to set the limits of each variable so that measurement does not overlap and the results of analysis can still be explained logically.

Besides technical and organizational aspects, applying information systems in Islamic educational institutions also needs to consider responsibility in data management, information security, accuracy of recording, and fair service for all users. These aspects are contextual considerations in Islamic education management, not dimensions that are automatically contained in the three models. Therefore, if these values are to be part of a research framework, researchers need to provide additional suitable theoretical grounding.

Critical Synthesis and Research Implications

Based on the comparison of the three models, it can be understood that information system success and technology acceptance are two interrelated but different matters. A high-quality

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system will not necessarily be used optimally if users do not understand its benefits or do not receive adequate support. Conversely, technology that users accept well will not necessarily give maximum results if the system produces inaccurate information or cannot meet organizational needs. Thus, the evaluation of information systems should consider the relationships among system quality, user perceptions, and the conditions of the environment of use.

The review by Xue et al. (2024) gives a picture that UTAUT is widely used in higher education research and often combined with TAM. However, this finding does not directly prove that combining TAM and UTAUT is the best choice for all Islamic educational institutions. The characteristics of academic information systems, madrasah administration applications, and pesantren management systems can differ from the learning technologies used by students. Therefore, results of previous research need to be interpreted according to context and not applied directly without considering differences in user needs.

Critically, the DeLone and McLean model is more appropriate to choose when the research focus is on the success and benefits of an information system. TAM is more suitable when the research aim is to understand users' perceptions of the benefits and ease of technology. UTAUT can be chosen when the research wants to analyze technology acceptance by considering social factors and facilitating conditions. If research focuses on several problems at once, combining models can be considered while paying attention to conceptual fit, variable clarity, and the limits of the available data.

Based on the results of this synthesis, no single model can be declared the most superior for all research needs in Management Information Systems in Islamic education management. The accuracy of model selection depends on the problem studied, the research objectives, user characteristics, and the type of information system evaluated. Future research can develop more specific studies on madrasahs, pesantren, or Islamic universities by examining empirical evidence on system quality, technology acceptance, and organizational support. Thus, this comparative review can serve as an initial basis for choosing a suitable research approach and for identifying the needs for developing information systems research in Islamic education management.

CONCLUSION

Based on the comparative literature review, it can be concluded that the DeLone and McLean model, the Technology Acceptance Model (TAM), and the Unified Theory of Acceptance and Use of Technology (UTAUT) have different focuses but complement one another in Management Information Systems research in Islamic education management. The DeLone and McLean model focuses on information system success through system quality, information quality, service quality, use, user satisfaction, and the benefits produced. TAM emphasizes perceived usefulness and ease of use in explaining technology acceptance, while UTAUT covers broader factors, such as performance expectancy, effort expectancy, social influence, and facilitating conditions. These differences show that each model has strengths and limitations according to the research objectives.

In their application in Islamic educational institutions, the three models can be used to examine the quality of academic information systems, technology acceptance by teachers and education staff, and organizational support for information system use. The DeLone and McLean model is more suitable for evaluating system success, TAM for understanding user perceptions, and UTAUT for analyzing the individual, social, and environmental factors that influence technology use. Therefore, model selection needs to be adjusted to the research problem, user characteristics, and institutional conditions. The three models can also be combined selectively to obtain a more thorough understanding, while paying attention to conceptual differences and avoiding overlapping variables. This review is expected to serve as a consideration for researchers and managers of Islamic educational institutions in determining the right approach to evaluate information system success and improve technology use in educational management.

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