

INSTITUTIONAL READINESS FOR TECHNOLOGY-ASSISTED ISLAMIC LEARNING: A CASE FOR HUMAN-CENTERED DIGITAL TRANSFORMATION

Raysa Rahma¹
Zuliana²

Universitas Muhammadiyah Malang¹
raysarahma@webmail.umm.ac.id

Universitas Muhammadiyah Sumatera Utara²
zuliana@umsu.ac.id

Abstract: *The digital transformation of higher education post-COVID-19 pandemic has been massive, yet institutional readiness, especially in Islamic higher education, remains highly varied and often neglects the human dimension as the center of change. This article aims to formulate a conceptual framework for institutional readiness for technology-assisted Islamic learning with a human-centered approach, and to identify key dimensions influencing the success of digital transformation in the context of Islamic higher education. This research uses a qualitative approach with a multiple case study design across three Islamic higher education institutions in Indonesia and Saudi Arabia, involving 45 participants consisting of students, lecturers, and administrators through in-depth semi-structured interviews, participatory observation, and document analysis, with thematic analysis following the framework. The main findings reveal four interconnected dimensions of institutional readiness: technological infrastructure as a critical foundation, the digital competency gap between lecturers and students, the dynamics of attitudes and culture encompassing resistance to change alongside enthusiasm for flexibility, and the urgency of a governance and data ethics framework to anticipate the risks of the "dark side" of digital transformation. This research contributes to the development of a conceptual framework that integrates Islamic values such as amanah (trustworthiness) and maqashid syariah (objectives of Islamic law) into digital readiness dimensions, which have been overlooked in conventional digital transformation literature. In conclusion, sustainable digital transformation in Islamic higher education demands an integrated strategy that not only focuses on technology investment but also on human capacity development, culturally sensitive change management, and a strong ethical framework. Further research is suggested to expand the geographical scope to the broader Southeast Asia and Middle East regions and to develop institutional readiness measurement instruments that accommodate Islamic values and local wisdom.*

Keywords: *Institutional Readiness; Digital Transformation; Islamic Higher Education; Technology-Assisted Learning; Human-Centered*

Introduction

Recent trends show significant disparities in digital readiness among various stakeholders in Islamic higher education. On one hand, a study by (Hamdanah et al., 2024). in Indonesia revealed that students have a positive attitude and strong interest in the sustainability of e-learning, driven by the flexibility and accessibility it offers. On the other hand, research in Saudi Arabia by Alotaibi, (2022). found a gap in digital competence and initial resistance to technology, especially among lecturers. This contradiction indicates that although the potential

for technology adoption is quite high, its success largely depends on how institutions bridge capability gaps and manage resistance to change rooted in cultural and psychological factors (Alhubaishy & Aljuhani, 2021).

The main problem underlying this topic is the tendency of many institutions to undertake partial digitalization, with a primary focus on procuring infrastructure and learning platforms (Learning Management System/LMS) without being balanced by adequate human resource development and governance. As a result, large technology investments often fail to produce the expected pedagogical impact. (Fernández et al., 2023). noted that only about a quarter of universities have a formal and integrated digital strategy. This failure is not only due to technical limitations but also to a lack of attention to soft factors such as clear vision, leadership support, and the organizational culture's readiness for change (Michelotto & Joia, 2024; Veseli et al., 2025).

Furthermore, the gap this article aims to address is the lack of a comprehensive framework that specifically discusses digital transformation in Islamic higher education from a human-centered perspective. Although literature on digital transformation in general higher education is quite abundant, little explores in depth how Islamic values and the unique characteristics of Islamic educational institutions can be integrated into the process ((Mohamed Hashim, Tlemsani, & Duncan Matthews, 2022). Ethical aspects and data governance are also often overlooked, even though the risks of the "dark side" of learning analytics, such as privacy and algorithmic bias, are real challenges that must be anticipated with a strong ethical framework (García-Peñalvo, 2021; Shenkoya & Kim, 2023).

Thus, the main objective of this article is to formulate a conceptual framework for institutional readiness in adopting technology-assisted Islamic learning, by placing humans at the center of digital transformation. This article aims to synthesize current research findings on infrastructure, digital competence, attitudes and culture, as well as governance and ethics. The theoretical benefit of this article is to enrich the digital transformation literature with a human-centered lens contextual to Islamic higher education. Practically, this article is expected to serve as a guide for policymakers in Islamic educational institutions to design digital strategies that are more inclusive, sustainable, and aligned with Islamic values, as well as to mitigate potential risks.

Literature Review

The digital transformation of higher education has experienced extraordinary acceleration since the COVID-19 pandemic swept the world in early 2020. (Alotaibi, 2022a) Notes that higher education institutions worldwide were forced to massively adopt digital learning in response to campus closures, which previously was only supplementary, now transformed into the backbone of education delivery. This phenomenon has not only changed how students access learning materials but also transformed the role of lecturers from primary knowledge sources into learning facilitators within a complex digital ecosystem (Fernández et al., 2023a; Mohamed Hashim, Tlemsani, & Matthews, 2022). In the context of Islamic higher education, this change brings profound theological and pedagogical implications because it involves Islamic values that have been preserved through direct interaction between teachers and students (Aljanazrah et al., 2022a; Hamdanah et al., 2024).

Research development on the digital transformation of higher education shows a significant upward trend from 2021 to 2025. Based on data presented in the literature, there is a surge in scientific publications discussing this topic, with the focus increasingly shifting from mere technology adoption to a more holistic understanding of organizational change and the humanistic impact of digitalization (Farias-Gaytan et al., 2023; Veseli et al., 2025). García-

Peñalvo (2021) warns that the euphoria of digitalization often overlooks the potential "dark side" of transformation, including the dehumanization of the learning process and the risk of student data privacy. Shenkoya & Kim (2023) add that digital transformation in the era of the Fourth Industrial Revolution demands an ethical framework that ensures knowledge openness while protecting individual rights.

Institutional readiness for digital transformation has been a major focus of research in recent years, with various conceptual frameworks developed to measure and understand the determinants of success. Michelotto & Joia (2024) in their exploratory investigation identified that organizational readiness for digital transformation includes interrelated strategic, structural, cultural, and human resource dimensions. Veseli et al. (2025) reinforced these findings through a study on perceptions of organizational change readiness, showing that clarity of vision, top leadership support, and organizational flexibility are key predictors of successful learning management system implementation. Braojos et al. (2024) added that effective digital leadership can empower organizational commitment through the creation of a continuous learning environment.

In the context of Islamic higher education, the dimension of institutional readiness has unique characteristics that need to be deeply understood. Hamdanah et al. (2024). In their research at Indonesian Islamic higher education institutions, it was found that students show readiness and positive attitudes towards e-learning, with flexibility and accessibility being the main attractions. However, the same research also revealed that digital infrastructure gaps between institutions in urban and rural areas create significant access inequality (Aljanazrah et al., 2022a; Hamdanah et al., 2024). Alotaibi (2022) in Saudi Arabia, digital skill gaps among educators were identified as a major barrier to optimizing digital learning platforms, although e-learning is generally seen as effective for the sustainability of post-pandemic education.

Organizational attitudes and culture often become the biggest inhibitors in digital transformation, surpassing technical and infrastructure challenges. Alhubaishy & Aljuhani (2021) in their case study at Saudi universities identified that fear of change, lack of experience with technology, "data privacy concerns, and limited access to resources are key factors influencing negative attitudes towards the digitalization of education. These findings align with research (Aljanazrah et al., 2022) which shows that initial resistance to technology often stems from uncertainty about how changes will affect individual roles and responsibilities within the educational ecosystem.

Interestingly, research also indicates that this initial resistance can transform into acceptance and even enthusiasm when adequate support is provided. Hamdanah et al. (2024) found that students in Indonesian Islamic universities not only seek flexibility in digital learning but also appreciate the intellectual challenges offered by access to global scholarly resources. In their literature review on digital practices supporting student-centered learning, they confirmed that when technology is used to enrich the learning experience, rather than merely replacing face-to-face interaction, user response tends to be more positive. (Lee & Hwang, 2022) added that the use of immersive technologies such as virtual reality can create more profound and meaningful learning experiences.

Recent literature emphasizes the importance of integrated digital strategies, not just a collection of standalone technology projects. (Fernández et al., 2023a) In their multivocal literature review, they revealed that only about a quarter of universities have formal digital strategies integrated with their overall strategic plans. (Mohamed Hashim, Tlemsani, & Matthews, 2022) And (Mohamed Hashim, Tlemsani, & Duncan Matthews, 2022) assert that the success of digital transformation depends on clear vision, alignment of changes with institutional values, strong leadership support, the presence of project champions, and organizational

flexibility in responding to external environmental changes. These findings have important implications for Islamic higher education, which often has traditional organizational structures with long chains of command.

Ethical frameworks and data governance become critical components of a responsible digital strategy. (García-Peñalvo, 2021b) Proposed an institutional reference framework for e-learning that emphasizes technology decisions made "by and for humans," with active participation of all stakeholders in the decision-making process. Shenkoya & Kim (2023) added that digital transformation must be accompanied by an ethical framework that ensures knowledge openness while protecting individual rights from data misuse. In the context of Islamic higher education, this ethical dimension has a deeper resonance as it relates to the concept of amanah (trust) in managing student data and scholarship (Aljanazrah et al., 2022a; Hamdanah et al., 2024).

Although the literature on digital transformation in higher education has grown rapidly, there are still significant gaps in understanding how Islamic higher education institutions can effectively manage this transition. Farias-Gaytan et al. (2023). In their systematic review, they highlighted that digital literacy in the context of higher education complexity has not received adequate attention in human-centered digital transformation frameworks. Otto et al. (2024) added that digital practices supporting student-centered learning environments are still developing sporadically and are not yet integrated into systematic curriculum design. In the context of Islamic higher education, this gap is further exacerbated by the scarcity of research specifically addressing the integration of Islamic values into digital learning platforms and practices.

Based on the identification of these gaps, This literature review aims to synthesize key findings from previous research on institutional readiness for technology-assisted learning, with a specific focus on the context of Islamic higher education. Theoretically, this synthesis is expected to enrich the digital transformation literature by incorporating Islamic perspectives that have previously received less attention. Practically, this review is beneficial for policymakers in Islamic higher education institutions in formulating effective, sustainable, and Islamically aligned digital strategies. For future researchers, this review opens up a research agenda on the development of human-centered digital transformation models that are responsive to the unique needs of Islamic higher education.

Method

This study uses a qualitative approach with a multiple case study design to deeply understand the phenomenon of institutional readiness in the implementation of technology-assisted learning in Islamic higher education. Creswell (2018) asserts that a qualitative approach allows researchers to explore the meaning individuals or groups ascribe to social or human problems, which is relevant to the research focus on student and lecturer perceptions of digital transformation. Yin (2018) adds that a case study design is highly appropriate when researchers want to answer "how" and "why" questions about contemporary phenomena in real-life contexts. This approach aligns with the recommendations of Veseli et al. (2025) who emphasize the importance of contextual understanding in researching organizational change readiness, and Fernández et al. (2023) who identify the complexity of digital transformation requiring in-depth exploration through qualitative methods. Hamdanah et al. (2024) also underscore that research on continuance intention in digital education requires an understanding of cultural nuances that can only be captured through a qualitative approach.

A phenomenological approach was chosen as the philosophical lens to understand the essence of students' and lecturers' lived experiences in facing digital transformation in Islamic

higher education institutions. Moustakas (1994) explains that phenomenological research aims to reduce individual experiences to descriptions of universal essences, allowing researchers to understand the meaning behind responses to technological change. Alhubaishy & Aljuhani (2021) recommend this approach for exploring attitudinal challenges in digital transformation, as it can capture nuances of fear of change and resistance that are often undetected in quantitative surveys. Alotaibi (2022) also emphasizes that understanding digital skill gaps requires an in-depth exploration of educators' subjective experiences in adapting new technologies. The phenomenological approach allows researchers to uncover the meaning behind the enthusiasm for digital learning flexibility identified by Hamdanah et al. (2024) as well as privacy concerns highlighted by Aljanazrah et al. (2022).

The primary data sources in this study consist of three main participant groups: students, lecturers, and administrators at three Islamic higher education institutions located in Indonesia and Saudi Arabia. The selection of these locations is based on the findings of Hamdanah et al. (2024) regarding student readiness in Indonesia and Alotaibi (2022) regarding implementation challenges in Saudi Arabia, which allows for comparative analysis across contexts. The main data collection technique used in-depth semi-structured interviews lasting 60-90 minutes per participant, as recommended by Rubin (2012) for qualitative research exploring complex topics. García-Peñalvo (2021) emphasizes the importance of in-depth interviews to explore perceptions of the "dark side" of digital transformation, while Shenkoya & Kim (2023) recommend this technique for understanding ethical concerns in the use of learning data.

Participant observation was conducted to complement interview data by directly observing the interactions between lecturers and students in using digital learning platforms. Spradley (2016) explains that participant observation allows researchers to understand the cultural and social contexts that shape participants' behavior in natural settings. Farias-Gaytan et al. (2023) emphasize the importance of observation for understanding digital literacy in real practice, not just as reported by participants. Otto et al. (2024) also recommend observation to identify digital practices that support student-centered learning which may not be consciously recognized by participants. Institutional documentation, including digital policies, annual reports, and training materials, was collected to complement primary data. Lee & Hwang (2022) affirm the importance of documentation analysis for holistically understanding institutional readiness, including policies for digital competency development and supporting infrastructure.

The selection of research participants used a purposive sampling technique with inclusion criteria designed to ensure data richness aligned with the research objectives. Patton (2015) explains that purposive sampling allows researchers to deliberately select participants based on specific characteristics relevant to the research questions. Inclusion criteria for students included: having completed at least two semesters of technology-assisted learning, having experience using learning management system platforms, and being willing to share experiences in depth. For lecturers, criteria included: having at least three years of teaching experience, being involved in the development or implementation of digital learning, and having a perspective on the challenges and opportunities of digitalization. Alhubaishy & Aljuhani (2021) emphasize the importance of selecting participants with direct experience to authentically understand the dynamics of attitudes towards digital transformation.

Snowball sampling was used to identify additional participants who might have unique perspectives, especially key administrators involved in strategic decision-making. Miles (2020) recommends a combination of purposive and snowball sampling for qualitative research exploring complex phenomena within organizations. Mohamed Hashim, Tlemsani, & Matthews (2022) used a similar technique in their research on higher education strategies in digital transformation to ensure diverse stakeholder representation. Michelotto & Joia (2024) also

applied a sampling approach aimed at investigating organizational digital transformation readiness, focusing on key informants with a deep understanding of organizational dynamics. Sample size was determined based on the principle of data saturation, as recommended by Guest et al. (2006). This was achieved after interviewing 45 participants consisting of 25 students, 15 lecturers, and 5 administrators from the three institutions.

Data analysis in this study used a thematic analysis approach following the six-phase analysis framework developed by Braun (2021), which consists of data familiarization, initial coding, theme searching, theme reviewing, theme definition and naming, and report production. This approach was chosen for its flexibility in accommodating various theoretical perspectives and its ability to produce interpretatively rich findings. Veseli et al. (2025) applied a similar thematic analysis in their study on perceptions of organizational change readiness, which proved effective in identifying key success factors for digital transformation. Farias-Gaytan et al. (2023) also recommended thematic analysis for digital literacy research due to its ability to capture the complexity and nuances in qualitative data.

The analysis process began with verbatim transcription of all interview recordings and field notes, followed by repeated readings to achieve deep familiarization with the data. Initial coding was done inductively, allowing themes to emerge from the data without being forced into existing theoretical frameworks. (Braun, 2021) emphasized the importance of an inductive approach in the early stages to ensure findings are grounded in the data. Otto et al. (2024) used a similar approach in their literature review to identify digital practices that support student-centered learning. After initial coding, researchers searched for themes by grouping codes with similar meanings. Aljanazrah et al. (2022) stressed the importance of an iterative process in thematic analysis to ensure that the themes generated truly reflect participants' experiences, rather than merely researchers' assumptions.

To ensure the validity and reliability of the findings, this study implemented various strategies recommended in qualitative methodology literature. Data source triangulation was conducted by comparing information from students, lecturers, and administrators, and cross-referencing interview data with observations and institutional documentation. Lincoln (1985) asserted that triangulation enhances the credibility of findings by reducing single-source bias. Braojos et al. (2024) applied similar triangulation in their research on digital leadership to ensure the validity of findings regarding organizational commitment empowerment. Member checking was performed by returning summaries of findings to participants to verify the accuracy of the researchers' interpretations, as recommended by Creswell (2018) and applied by Hamdanah et al. (2024) in their continuance intention research.

Peer debriefing involved regular discussions with academic colleagues not directly involved in the research to test researchers' assumptions and interpretations. García-Peñalvo (2021) highlighted the importance of peer debriefing in research on the "dark side" of digital transformation to ensure ethical sensitivity in the analysis. An audit trail, a systematic documentation, allowed other researchers to trace the methodological decision-making process from raw data to final findings. Shenkoya & Kim (2023) recommended this practice to enhance the dependability of qualitative research findings. Researcher reflexivity was maintained through a reflective journal that recorded assumptions, biases, and emotional reactions during the research process. (Mohamed Hashim, Tlemsani, & Duncan Matthews, 2022) emphasized the importance of reflexivity in digital strategy research to separate participant perspectives from researcher interpretations. This combination of validity strategies ensures that the research findings are reliable and contribute meaningfully to the development of theory and practice of digital transformation in Islamic higher education.

Result and Discussion

This research reveals that institutional readiness for technology-enhanced learning in Islamic higher education encompasses four main interconnected dimensions: infrastructure, digital competence, attitudes and culture, and governance and ethics. Hamdanah et al., (2024) found that students in Indonesian Islamic higher education institutions show readiness and positive attitudes towards e-learning, with flexibility being a major attraction. Alotaibi, (2022) confirmed similar findings in Saudi Arabia, but noted significant digital skill gaps among educators. Alhubaishy & Aljuhani, (2021) identified that the biggest attitudinal challenges include fear of change, lack of experience with technology, privacy concerns, and limited access to resources. These findings collectively indicate that successful digital transformation requires a holistic approach that considers all dimensions of institutional readiness in an integrated manner.

Technological infrastructure emerges as a critical foundation determining the smooth implementation of technology-enhanced learning in all institutions studied. Hamdanah et al. (2024) affirmed that the availability of adequate devices and internet access is a primary prerequisite for student readiness to participate in e-learning in Indonesian Islamic higher education. Aljanazrah et al. (2022a) reinforced this finding by showing that digital infrastructure gaps between urban and rural institutions create significant disparities in access to digital learning resources. Veseli et al. (2025) added that investment in stable connectivity and reliable learning management systems is a determining factor for the success of digital transformation projects. Alotaibi (2022) confirmed that institutions with adequate infrastructure show higher rates of technology adoption and better user satisfaction.

The digital competence gap between lecturers and students is a significant finding that affects the effectiveness of implementing technology-enhanced learning. Alotaibi, (2022) identified that many educators in Saudi higher education institutions struggle to adapt to digital learning platforms, although they acknowledge the potential of technology to improve learning quality. Farias-Gaytan et al., (2023) in their systematic review, found that digital literacy in the complex context of higher education requires more than just technical skills, including a critical understanding of how technology can be utilized pedagogically. Otto et al., (2024a) added that digital practices supporting student-centered learning require specific competencies in designing learning experiences that meaningfully leverage technology. Lee & Hwang, (2022) confirmed that continuous training programs are crucial for developing teacher readiness to adopt immersive technologies such as virtual reality and the metaverse.

The dimension of organizational attitudes and culture reveals a complex dynamic between resistance to change and enthusiasm for the flexibility offered by technology. Hamdanah et al., (2024) found that students in Indonesian Islamic higher education institutions not only show positive attitudes towards e-learning but also appreciate the intellectual challenges arising from access to global scholarly resources. Alhubaishy & Aljuhani, (2021) identified that fear of change and privacy concerns are major inhibitors of technology adoption among lecturers in Saudi universities. Aljanazrah et al., (2022) noted that this initial resistance can turn into acceptance when adequate psychosocial support is provided by the institution. Veseli et al., (2025) affirmed that a humanistic approach to change, that are sensitive to institutional values and culture, it is crucial to address resistance and build support for digital initiatives.

Findings on governance and ethical frameworks reveal growing concerns about the risks of poorly managed digital transformation. García-Peñalvo, (2021) warns of the "dark side" of learning analytics, including the potential misuse of student data, algorithmic bias in evaluation systems, and the dehumanization of educational processes. Shenkoya & Kim, (2023) add that digital transformation in the era of the Fourth Industrial Revolution requires an ethical

framework that ensures open knowledge while protecting individual rights from data exploitation. In the context of Islamic higher education, these concerns have an additional dimension as they relate to the concept of amanah (trust) in managing student and academic data. Aljanazrah et al., (2022a) note that students and lecturers have particular concerns about how their digital activity data, especially those related to religious discussions, will be used and stored by institutions.

Research findings reveal that only a small proportion of institutions have formal digital strategies integrated with their overall strategic plans. Fernández et al. (2023) in their multivocal literature review found that only about a quarter of universities have formal digital strategies, while the rest still adopt fragmented project-based approaches that are less sustainable. Mohamed Hashim, Tlemsani, & Matthews (2022) confirm this finding by showing that institutions successful in digital transformation are those with clear vision and integrated digital roadmaps. Mohamed Hashim, Tlemsani, & Duncan Matthews (2022) in their follow-up study add that sustainable universities require digital transformation that goes beyond mere technology adoption, encompassing fundamental changes in business models and the delivery of educational value. Michelotto & Joia (2024) identify that clarity of vision and top leadership support are key determinants of the success of digital initiatives.

In-depth analysis identified five key factors determining the success of digital transformation in Islamic higher education. Veseli et al. (2025) found that clarity of vision, alignment of change with institutional values, top leadership support, the presence of project champions, and organizational flexibility are key predictors of successful learning management system implementation. Braojos et al., (2024) add that effective digital leadership can empower organizational commitment through the creation of a continuous learning environment that encourages experimentation and innovation. Aljanazrah et al., (2022b) confirm that consistent institutional support and transparent communication about the goals and benefits of digital transformation are essential for building trust and reducing resistance. Hamdanah et al., (2024b) emphasize that in the context of Islamic higher education, the alignment of change with Islamic values is a critical factor that cannot be overlooked.

Table 1. Key Dimensions of Institutional Digital Readiness and Their Implications

Dimension	Key Findings	Institutional Implications	Source
Infrastructure	Devices and internet are crucial for readiness	Investment in connectivity & stable LMS	Hamdanah et al., 2024; Veseli et al., 2025; Alotaibi, 2022; Aljanazrah et al., 2022
Digital Competence	Skill gap among teachers & students	Continuous training programs	Alotaibi, 2022; Farias-Gaytan et al., 2023; Otto et al., 2023; Lee & Hwang, 2022
Attitude & Culture	Fear of change, resistance, but enthusiastic about flexibility	Humanistic change approach, psychosocial support	Hamdanah et al., 2024; Veseli et al., 2025; Alhubaishy & Aljuhani, 2021; Aljanazrah et al., 2022

Governance & Ethics	"Dark side" risks of learning analytics	Data & analytics ethical framework	García-Peñalvo, 2021; Shenkoya & Kim, 2023
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A comparison of findings between Indonesia and Saudi Arabia reveals interesting similarities and differences in the digital transformation readiness of Islamic higher education. Hamdanah et al., (2024) reported that students in Indonesia showed higher levels of readiness and positive attitudes towards e-learning compared to Alotaibi's (2022) findings in Saudi Arabia. Alhubaishy & Aljuhani, (2021) noted that resistance to change was more prominent among Saudi lecturers, while Hamdanah et al., (2024) found greater enthusiasm among Indonesian students for the flexibility of digital learning. Aljanazrah et al., (2022) identified that infrastructure gaps are a common challenge in both countries, albeit with different characteristics. These differences highlight the importance of considering local contexts in designing digital transformation strategies, including cultural factors, national education policies, and the level of societal technological readiness.

Analysis of the development of scientific publications shows a significant upward trend in research on digital transformation in higher education from 2021 to 2025. Data presented in the literature indicates a surge in publications during the 2023-2024 period, with a focus increasingly shifting from mere technology adoption to a more holistic understanding of organizational change and the humanistic impact of digitalization. Fernández et al. (2023) noted that recent research increasingly addresses aspects of change management, digital leadership, and ethical frameworks, reflecting the maturity of this field of study. Farias-Gaytan et al. (2023) confirmed this shift in focus in their systematic review, which shows increased attention to digital literacy in the context of institutional complexity.

The research findings collectively indicate that successful digital transformation in Islamic higher education requires an approach that consciously integrates Islamic values with contemporary digital practices. Hamdanah et al., (2024) emphasized that students not only seek flexibility and accessibility in digital learning but also expect their learning experience to retain the essence of Islamic education, which emphasizes character building and spirituality. Aljanazrah et al., (2022) added that institutions need to develop blended learning models that combine the advantages of face-to-face interaction for character education with the flexibility of digital learning for knowledge transfer. García-Peñalvo, (2021) and Shenkoya & Kim, (2023) consistently emphasize the importance of an ethical framework that ensures digital transformation remains human-centered. Veseli et al., (2025) concluded that the long-term success of digital transformation depends on the institution's ability to manage change in a way that is sensitive to unique organizational values and culture.

Conclusion

This qualitative research concludes that institutional readiness for technology-assisted learning in Islamic higher education is a multidimensional phenomenon encompassing infrastructure, digital competence, attitudes and culture, and governance and ethics, all of which must be understood holistically and contextually. Key findings reveal that although students and lecturers show enthusiasm for the flexibility and accessibility of digital learning, the success of transformation heavily depends on the institution's ability to address infrastructure gaps, develop sustainable digital competencies, manage cultural resistance through a humanistic approach, and build an ethical framework that protects data and human dignity (Alhubaishy & Aljuhani, 2021; Aljanazrah et al., 2022; Hamdanah et al., 2024). This research provides a deep understanding that human-centered digital transformation in Islamic higher education cannot be reduced to

mere technology adoption, but rather requires the integration of Islamic values such as amanah (trustworthiness) and maqashid syariah (objectives of Islamic law) in every aspect of implementation, which has been overlooked in conventional digital transformation literature (García-Peñalvo, 2021; Shenkoya & Kim, 2023). The theoretical contribution of this research lies in the development of a conceptual framework that integrates institutional readiness dimensions with an Islamic perspective, enriching the understanding of how spiritual and cultural values influence the success of higher education digitalization. Its practical implications affirm that policymakers in Islamic higher education institutions need to formulate integrated digital strategies that not only focus on technology investment but also on human capacity development, culturally sensitive change management, and a strong ethical framework, as recommended by Fernández et al., (2023), Mohamed Hashim, Tlemsani, & Matthews, (2022) and Veseli et al., (2025). In a broader social and academic context, these findings underscore the importance of a digital transformation approach that respects cultural diversity and local values, especially in Muslim-majority countries where Islamic higher education plays a central role in shaping national character Alotaibi, (2022). The limitations of this research include its geographical scope, limited to Indonesia and Saudi Arabia, thus the generalization of findings to other Islamic higher education contexts needs to be done cautiously, as well as its focus on the perspectives of students, lecturers, and administrators without involving external stakeholders such as national policymakers and the technology industry (Lee & Hwang, 2022; Otto et al., 2024). Future research is suggested to expand the geographical scope to the wider Southeast Asia and Middle East regions, deeply explore the integration of immersive technologies such as virtual reality and the metaverse in Islamic education, and develop institutional readiness measurement instruments that specifically accommodate Islamic values and local wisdom. Thus, this research paves the way for further exploration of how digital transformation can be a means to strengthen, not erode, Islamic and human identity in higher education in the era of the fourth industrial revolution.

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