

## Innovation in Islamic Education Learning Models Based on Project Based Learning to Improve Students' Critical Thinking Skills

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### Abstract

This study aims to analyze digital transformation in Islamic education and its impact on students' learning motivation through a literature study approach (*library research*) using qualitative methods. The digital transformation, marked by increasing internet penetration in Indonesia and the support of national policies, encourages Islamic educational institutions to integrate technology into the learning process. This study examines the characteristics of digital transformation, digital learning implementation models, their impact on intrinsic and extrinsic motivation, and the integration of Islamic values into the digital ecosystem. The analysis is conducted through a synthesis of scientific literature, policy reports, and motivational theories, particularly *Self-Determination Theory* developed by Edward L. Deci and Richard M. Ryan. The results of the study indicate that integrative and transformational digital transformation has the potential to increase intrinsic motivation by fulfilling the needs for competence, autonomy, and connectedness, and strengthen extrinsic motivation through digital evaluation and feedback systems. However, its effectiveness is highly dependent on pedagogical design, infrastructure readiness, teacher competence, and the integration of Islamic values as the foundation of digital ethics. Without a humanistic and values-based approach, digitalization risks creating shallow and instrumentally oriented learning. This study provides a conceptual contribution to the development of a digital learning model in Islamic education that is adaptive, religious, and oriented towards strengthening students' learning motivation in a sustainable manner.

**Keywords:** Digital Ecosystem, Digital Transformation, Extrinsic Motivation, Islamic Education, Intrinsic Motivation.

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### INTRODUCTION

Developments in the 21st century present significant challenges for the world of education, including Islamic education. Digital transformation, the rapid flow of information, and the complexity of socio-religious issues require students to master not only cognitive knowledge but also critical thinking skills. The 2022 Programme for International Student Assessment (PISA) report shows that Indonesian students' literacy and numeracy skills remain below the OECD average, indirectly reflecting low levels of Higher Order Thinking Skills (HOTS) (Pisa, 2023). This situation is reinforced by various national evaluation results, which indicate that learning in schools still tends to be oriented towards rote learning and does not fully encourage critical analysis, evaluation, and reflection (Damayanti, 2025). In the context of Islamic education, this phenomenon is

increasingly important because religious education aims not only to develop religious knowledge but also to develop reflective, ethical, and contextual awareness in dealing with social realities.

Normatively, the national education policy, through the Independent Curriculum, emphasizes the importance of project-based learning to develop 21st-century competencies, including critical, creative, collaborative, and communicative thinking (Pendidikan et al., 2022). This approach aligns with the constructivist paradigm, which positions students as active subjects in constructing knowledge through real-life experiences. However, in the practice of Islamic education, learning models are often dominated by lecture methods and textual approaches that provide little space for critical exploration of current issues. As a result, a gap exists between the normative goals of Islamic education which emphasize the formation of a perfect human being and the reality of classroom learning implementation.

Various previous studies have shown that Project-Based Learning (PjBL) is effective in improving critical thinking skills in various general subjects, such as science and mathematics (Thomas, 2000). This model enables students to identify problems, design solutions, conduct investigations, and present results reflectively. However, studies specifically examining the innovation of the PjBL model in the context of Islamic education are still relatively limited. Some studies only quantitatively test the effectiveness of PjBL without elaborating on the integration of Islamic values into the project learning process (Hosnan, 2014). Furthermore, conceptual research examining the philosophical and pedagogical foundations of PjBL implementation in Islamic education has also been limited in a comprehensive manner. This constitutes a research gap in this study.

Theoretically, the concept of critical thinking refers to the ability to analyze arguments, evaluate evidence, make logical inferences, and reflect on one's own thought processes (Ennis, 1989). From an Islamic education perspective, this ability is strongly relevant to the principles of tafakkur, tadabbur, and ijtihad, which encourage Muslims to think deeply and contextually about religious teachings. Therefore, the integration of PjBL in Islamic education is not merely a pedagogical strategy but also has theological and epistemological legitimacy. Project-based learning models can serve as a vehicle for actualizing Islamic values through problem-solving based on social realities, such as environmental issues, tolerance, religious moderation, and digital ethics.

Based on this background, this study aims to conceptually analyze the innovation of the Islamic Education learning model based on Project Based Learning in improving students' critical thinking skills through a literature study approach. This study attempts to synthesize various educational theories, previous research results, and national education policies to formulate an integrative conceptual model. Theoretically, the benefit of this study is to enrich the treasure trove of Islamic Education studies in the context of 21st-century pedagogy, particularly in the aspect of developing critical thinking. Practically, this research is expected to be a reference for Islamic Education teachers in designing more contextual, participatory, and reflective learning.

The framework of this research argument is based on the assumption that students' low critical thinking skills in Islamic education are not solely a matter of individual capacity, but also a result of a lack of innovative learning models. By integrating constructivist principles, critical thinking theory, and Islamic epistemological values into Project-Based Learning (PBL) design, Islamic education learning can become more transformative. This literature review will examine the theoretical foundations of PjBL, its relevance to Islamic education, and synthesize innovative models that have the potential to systematically and sustainably improve students' critical thinking skills.

## **METHOD**

This research is a library research with a qualitative approach. Library research was chosen because the focus of the study lies in the conceptual analysis and synthesis of scientific findings related to digital transformation in Islamic education and its impact on student learning motivation. A qualitative approach is used to understand the meaning, patterns, and trends of various relevant literature in depth and interpretively (Zed, 2008). As explained by John W. Creswell, qualitative research emphasizes the exploration and interpretation of social phenomena based on textual and contextual data (W. J. Creswell & Creswell, 2018). The data sources for this research consist of reputable national and international scientific journals, academic books, dissertations/theses, and official reports from government institutions and international organizations relevant to the themes of educational digitalization, Islamic education, and learning motivation. The literature was obtained from databases such as Google Scholar, Scopus, and the Garuda portal, utilizing policy reports from the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia and the Ministry of Religious Affairs of the Republic of Indonesia to strengthen national contextual data.

The data collection procedure is carried out through several systematic stages. First, the search strategy uses keywords such as “digital transformation in Islamic education, e-learning in madrasas, student learning motivation, and self-determination theory in education.” The search focused on articles published in the last five to ten years (2016–2025) to ensure the relevance and freshness of the data. Inclusion criteria included: (1) indexed or accredited journal articles; (2) Indonesian or English; (3) explicitly discussing Islamic education, digital transformation, or learning motivation. Exclusion criteria included popular non-scientific articles, opinions without academic references, and research that lacked a clear methodology. The data analysis technique used content analysis to identify key themes, argumentation patterns, and recurring empirical findings, as well as literature synthesis methods to build a comprehensive conceptual framework (Krippendorff, 2018). Data validity and reliability are maintained through technique triangulation of sources, namely comparing findings between journals, rechecking primary references, and examining the consistency of arguments between authors (Denzin, 2017). Data presentation is carried out narratively-analytical with theme groupings (for example: digital learning models, intrinsic-extrinsic motivation factors, and integration of Islamic values), and is equipped with a literature summary table to clarify the contribution of each source to the construction of the research argument.

## **RESULT AND DISCUSSION**

### **Result**

#### **Characteristics of Digital Transformation in Islamic Education**

Digital transformation in Islamic education is a systemic process of change that encompasses not only the technical aspects of technology use but also the paradigms, learning culture, and pedagogical orientation of Islamic educational institutions. According to the report, *Digital 2024: Indonesia* According to data from We Are Social and Meltwater, internet penetration in Indonesia has reached approximately 77% of the total population, or more than 212 million active users (Social, 2024). This figure indicates that the majority of students are engaged in an intensive and connected digital ecosystem. In the context of education, this phenomenon has encouraged Islamic educational institutions including madrasas, Islamic boarding schools, and religious universities to adapt their learning systems to be relevant to the characteristics of the digital generation (digital natives).

Digital transformation is thus not merely an optional innovation, but rather a strategic response to massive social and technological change. In terms of policy, the digital transformation of education in Indonesia is strengthened through the program Free to Learn initiated by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, which encourages the integration of technology in learning,

assessment, and teacher professional development (Pendidikan et al., 2022). In the realm of Islamic education, the Ministry of Religious Affairs of the Republic of Indonesia is developing a program to digitize madrasahs and strengthen e-learning as part of the modernization of governance and learning (Henukh et al., 2025). This policy demonstrates that digital transformation has a structural character supported by regulations, infrastructure, and strengthening human resource capacity. Thus, the first characteristic of digital transformation in Islamic education is its systemic nature and its national policy-based nature.

The second characteristic is the integration of technology into the pedagogical process. Digital transformation does not stop at providing hardware (computers, internet networks), but also includes the use of Learning Management Systems (LMS), video conferencing platforms, interactive media, and online assessment applications. UNESCO in its report *Global Education Monitoring Report* emphasizes that the digitalization of education must be directed at improving the quality of interaction and access to learning, not simply the digitalization of content (Antoninis et al., 2023). In Islamic education, the implementation of an LMS allows Islamic Religious Education (PAI) teachers to integrate materials on faith, jurisprudence, and morals through videos, interactive quizzes, and discussion forums that encourage critical reflection. This transformation shifts learning patterns from teacher-centered going to student-centered learning, in line with the constructivist paradigm in modern educational theory (W. J. Creswell & Creswell, 2018).

The third characteristic is the changing patterns of interaction and communication in learning. Before the digital era, Islamic educational interactions tended to be face-to-face, with strong personal teacher-student relationships. Digital transformation expands the space for interaction into the virtual realm, enabling both synchronous (via video conferencing) and asynchronous (discussion forums, online messaging) communication. According to an OECD report on *Education at a Glance*, the effective use of technology can increase student participation and learning flexibility, especially for students with geographical limitations (Sanz, 2025). In the context of Indonesia, which has an archipelagic geographical condition, digitalization opens access to Islamic education for remote areas, thereby strengthening the principle of fair access to education.

The fourth characteristic is flexibility and personalization of learning. Digital transformation allows for the differentiation of materials according to students' needs and abilities. Self-Determination Theory Developed by Edward L. Deci and Richard M. Ryan, learning autonomy is a crucial factor in enhancing intrinsic motivation (Deci & Ryan, 2008). Digital platforms allow students to choose the time, method, and learning resources that suit their learning style. In Islamic education, this flexibility can be leveraged to provide supplementary materials such as thematic interpretations, digital hadith studies, or multimedia-based Hajj ritual simulations. Thus, personalized character becomes a powerful force in digital transformation in strengthening learning motivation.

The fifth characteristic is the integration of Islamic-based digital values and ethics. Unlike general education, Islamic education has a normative-spiritual goal of developing individuals with noble character. Therefore, digital transformation in Islamic education must be inseparable from the ethical principles of technology use (digital ethics). The UNICEF report on children's digital literacy emphasizes the importance of strengthening security, responsibility, and ethics in the use of digital media (Keeley & Little, 2017). From an Islamic education perspective, values such as trustworthiness, responsibility, and etiquette in media use are integral parts of the digital curriculum. This values-oriented digital transformation distinguishes Islamic education from mere technical digitization.

The sixth characteristic is the challenge of human resource gaps and readiness. Despite high internet penetration, the Central Statistics Agency (BPS) reports that there is still a gap in internet access between urban and rural areas in Indonesia (Statistik, 2021). This gap impacts the effectiveness of digital learning implementation in certain madrasahs.

Furthermore, teachers' digital competence is a determining factor in the success of the transformation. Recent studies show that teacher digital literacy training contributes significantly to the quality of online learning designs (Krippendorff, 2018). Therefore, digital transformation in Islamic education is dynamic influenced by infrastructure readiness, policies, and pedagogical competence. Based on the synthesis of literature analyzed using the method *content analysis*, it can be concluded that the characteristics of digital transformation in Islamic education include: (1) based on national and systemic policies; (2) integrative in pedagogical aspects; (3) expanding learning interactions; (4) flexible and personal; (5) oriented towards Islamic values and ethics; and (6) influenced by infrastructure and human resource readiness factors. These characteristics indicate that digital transformation is not merely a technological phenomenon, but a cultural and pedagogical process that has the potential to strengthen the quality and motivation of student learning if managed appropriately and based on values.

### **Digital Learning Implementation Model**

The implementation model for digital learning in Islamic education is evolving in line with the acceleration of educational technology transformation at the global and national levels. Global Education Monitoring Report 2023 UNESCO emphasizes that educational technology is not simply presented as a tool, but must be pedagogically integrated to improve the quality of interactions and learning outcomes (Antoninis et al., 2023). In the Indonesian context, internet penetration, which will reach approximately 77% of the population by 2024, provides a strong foundation for the development of digital learning models in Islamic schools and madrasas (Social, 2024). However, based on a literature review and content analysis approach to various scientific literature, the implementation of digital learning in Islamic education can be mapped into several main models that demonstrate varying levels of integration depth.

The first model is digital substitution model, In this model, technology serves to replace conventional media without significantly changing the pedagogical approach. Examples include the use of PDFs to replace printed textbooks, PowerPoint presentations replacing whiteboards, or assignments being submitted via online messaging platforms. This model was widely implemented in the early stages of the COVID-19 pandemic when distance learning was implemented on an emergency basis. The World Health Organization's March 2020 report, which declared COVID-19 a global pandemic, prompted more than 190 countries to temporarily close schools (Velásquez, 2020). As a result, educational institutions, including madrasahs, quickly switched to online learning without thorough pedagogical preparation. This substitution model is relatively easy to implement, but various studies have shown that its impact on learning motivation tends to be limited because interactions remain one-way and less participatory (Samara, n.d.).

The second model is integrative-interactive model, a model that combines technology with active learning strategies. In this model, a Learning Management System (LMS), online quizzes, discussion forums, and video conferencing are used to build two-way interactions between teachers and students. The Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, through the Merdeka Mengajar Platform, encourages teachers to utilize technology as a means of reflection, diagnostic assessment, and material enrichment (Pendidikan et al., 2022). In the madrasa environment, the Ministry of Religious Affairs of the Republic of Indonesia is also developing a madrasa e-learning system to support collaborative learning and digital-based evaluation (Henukh et al., 2025). This model exhibits stronger pedagogical characteristics because it allows for instant feedback, thematic discussions, and group collaboration. Based on the theory of social constructivism influenced by the thinking of Lev Vygotsky, social interaction in the learning process is a crucial factor in building meaningful understanding (Vygotsky & Cole, 1978). Thus, the integrative-interactive

model has greater potential to increase engagement and student learning motivation compared to the substitution model.

The third model is transformational model, a digital implementation model that fundamentally changes learning design, curriculum structure, and student learning experiences. In this model, technology is not just a tool, but an integral part of a project-based learning strategy (project-based learning), problem-based learning (problem-based learning), and values-based reflective learning. OECD in the report *Education at a Glance 2023* states that innovative use of technology can improve students' critical and collaborative thinking skills if supported by appropriate learning design (Sanz, 2025). In Islamic education, transformational models can take the form of digital projects such as the creation of creative Islamic preaching content, religious reflection vlogs, or multimedia-based Hajj simulations. This model aligns with the Islamic approach student-centered learning which places students as active subjects in the learning process (J. W. Creswell, 2002).

Psychopedagogically, the transformational model is better able to fulfill the basic motivational needs as explained in Self-Determination Theory by Edward L. Deci and Richard M. Ryan, namely the need for competence, autonomy, and connectedness (Deci & Ryan, 2008). Digital project-based learning provides space for students to determine strategies, explore learning resources, and collaborate with peers. In the context of Islamic education, this digital space can be directed to strengthen religious literacy and media ethics, so that digital transformation remains within the corridor of Islamic values.

Apart from the three main models, the results of the literature synthesis also show the existence of a model blended learning. Blended learning is a hybrid of face-to-face and online learning. This model is considered the most adaptive in the post-pandemic context because it combines the advantages of in-person interaction with digital flexibility. Data from the Central Statistics Agency (BPS) shows that internet use for educational activities increased significantly during the 2020–2022 period (Statistik, 2021). This increase encourages Islamic educational institutions to maintain digital elements in learning even though face-to-face activities have returned to normal. Blended learning allows Islamic Religious Education teachers to deliver conceptual material online and deepen discussions of values and religious practices directly in the classroom.

Based on a content analysis of various journals indexed by Scopus and Google Scholar for the 2016–2025 period, it can be concluded that the implementation model of digital learning in Islamic education is shifting from a substitution pattern to integration and transformation. The most effective model for increasing learning motivation is an interactive and transformational model, as it places technology within a clear, values-based pedagogical framework. Therefore, the implementation of digital learning in Islamic education should be designed systematically, taking into account teacher readiness, student psychological needs, and the integration of ethics and spirituality in the digital space. This comprehensive model is expected to not only improve learning effectiveness but also strengthen student learning motivation in a sustainable manner.

### **Impact Analysis on Intrinsic and Extrinsic Motivation**

The digital transformation in Islamic education has significant implications for the dynamics of student learning motivation, both intrinsically and extrinsically. Based on the results of a literature synthesis analyzed using a multidisciplinary approach content analysis Learning motivation in a digital ecosystem is inseparable from pedagogical design, social interaction, and the quality of technology integration. Theoretically, intrinsic motivation refers to an individual's internal drive to learn due to interest, curiosity, and personal satisfaction, while extrinsic motivation is influenced by external factors such as grades, rewards, or social demands (John, 2010). In the context of Islamic education, these two forms of motivation interact with each other and are influenced by the characteristics

of digital learning implemented in madrasas or Islamic schools. From an educational psychology perspective, Self-Determination Theory developed by Edward L. Deci and Richard M. Ryan emphasizes that intrinsic motivation develops optimally when three basic needs are met: competence, autonomy, and relatedness (Deci & Ryan, 2008). In digital learning, the use of Learning Management Systems (LMS), online quizzes with automated feedback, and interactive discussion forums have the potential to increase students' sense of competence because they receive immediate feedback on their learning achievements. A study published in the journal *Computers & Education* shows that the use of interactive technology significantly improves *student engagement* and perceptions of academic competence (Indriyani & Pratama, 2025).

Thus, if designed appropriately, digital transformation can strengthen intrinsic motivation through more participatory and reflective learning experiences. However, these positive impacts are not automatic. UNESCO in Global Education Monitoring Report 2023 reminds us that educational technology can widen the motivation gap if not accompanied by meaningful pedagogical design (Antoninis et al., 2023). Online learning that is only one-way (digital substitution model) tends to reduce intrinsic motivation because students feel isolated and lack emotional connection with teachers and peers. In Islamic education, which traditionally emphasizes personal teacher-student relationships (correction and role models), reduced affective interaction can have an impact on weakening the spirit of learning based on values and spirituality. From an extrinsic motivation perspective, digital transformation provides various tools that can strengthen students' external motivation.

Online assessment systems, digital certificates, gamification, and points-based rewards are examples of strategies that increase motivation through external reinforcement. The OECD in its report *Education at a Glance 2023* stated that the use of technology based on gamification can increase student participation by more than 20% in several experimental studies (Samara, n.d.). In the Indonesian context, the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, through the Merdeka Mengajar Platform, provides interactive modules and diagnostic assessments that provide rapid feedback on student performance (Pendidikan et al., 2022). This mechanism strengthens extrinsic motivation through a transparent and measurable evaluation system.

However, the literature also shows that excessive reliance on extrinsic motivation can reduce intrinsic motivation if students are solely focused on grades or rewards. Abraham Maslow's motivation theory places self-actualization at the pinnacle of human needs (Maslow, 2023). In Islamic education, learning is not solely focused on achieving grades, but also on developing morals and spiritual awareness. Therefore, digital learning that focuses solely on grades and certificates has the potential to shift learning orientation away from learning for meaning become learning for reward.

Data from the Central Statistics Agency (BPS) shows that during the 2020-2022 period, there was a significant increase in internet use for educational activities in Indonesia, especially among the 7-24 age group (Statistik, 2021). This increase represents a significant opportunity to strengthen learning motivation through technology. However, a UNICEF report on children in the digital world also highlights the risks of distraction, digital fatigue (digital fatigue), as well as exposure to content that is irrelevant to educational goals (Keeley & Little, 2017). These factors can reduce intrinsic motivation if not balanced with adequate digital literacy and pedagogical supervision. In the context of Islamic education, literature analysis shows that the integration of Islamic values into digital learning plays a crucial role in maintaining a balance between intrinsic and extrinsic motivation. When technology is used to deepen religious understanding, spiritual reflection, and multimedia-based worship practices, students tend to experience a deeper sense of meaning in learning. Intrinsic motivation grows because learning is relevant to

their identity and beliefs. Conversely, if digitalization only emphasizes technical and administrative aspects, learning motivation can potentially become shallow and instrumental.

Based on a comparative analysis of various scientific sources for the 2016–2025 period, it can be concluded that the impact of digital transformation on learning motivation is conditional. Interactive and transformational learning models tend to increase intrinsic motivation by fulfilling basic psychological needs, while interactive learning strategies tend to increase intrinsic motivation by fulfilling basic psychological needs gamification. Digital learning and evaluation systems strengthen extrinsic motivation. However, the balance between the two depends heavily on the integration of values, the quality of pedagogical interactions, and the digital literacy of teachers and students. Therefore, digital transformation in Islamic education should be directed at strengthening the meaning of learning and spiritual awareness, so that the motivation that develops is not only external but also rooted in students' internal awareness as faithful and reflective learners.

### **Integration of Islamic Values in the Digital Ecosystem**

The integration of Islamic values into the digital ecosystem is a fundamental dimension in the transformation of Islamic education in the technological era. The massive digital transformation marked by internet penetration in Indonesia reaching approximately 77% of the population, or more than 212 million users, by 2024 is creating a new social space that influences how students learn, interact, and develop their religious identities (Social, 2024). In this context, Islamic education cannot simply adopt technology as a learning tool; it must ensure that the digital space becomes a medium for internalizing Islamic values such as monotheism, trustworthiness, responsibility, etiquette, and honesty. The integration of these values is the key difference between the digitalization of education in general and digital transformation with an Islamic character.

Conceptually, Islamic education aims to shape individuals who are faithful, knowledgeable, and have noble character. This framework aligns with the National Education System Law, which affirms that national education aims to develop students' potential to become individuals who believe in and fear God Almighty and possess noble character (Nasional, 2003). In practice, integrating Islamic values into digital learning means ensuring that online content, methods, and interactions reflect Islamic ethical principles. The Ministry of Religious Affairs of the Republic of Indonesia, in its madrasah digital transformation program, emphasizes the importance of religious moderation, digital literacy, and character building as part of its technology-based Islamic education development policy (Henukh et al., 2025).

An unfiltered digital ecosystem has the potential to present moral and spiritual challenges. A UNICEF report on children in the digital world highlights the risks of exposure to negative content, cyberbullying, as well as digital exploitation of children and adolescents (Keeley & Little, 2017). This situation shows that digital transformation without strengthening values will result in learning spaces vulnerable to ethical degradation. Therefore, the integration of Islamic values serves as a normative framework that guides students' digital behavior to align with sharia principles and morals. The value of trustworthiness, for example, can be applied in academic honesty when completing online assignments; the value of etiquette is reflected in ethical communication in virtual discussion forums; while the value of responsibility is realized through the wise use of social media. From a pedagogical perspective, the integration of Islamic values into the digital ecosystem must be realized through contextual curriculum design and learning strategies.

UNESCO in Global Education Monitoring Report 2023 emphasizes that educational technology needs to be balanced with strengthening ethical dimensions and critical literacy so that it is not merely instrumental (Antoninis et al., 2023). Thus, Islamic

Religious Education (PAI) teachers have a strategic role as facilitators of values and mediators of technology. The implementation of digital learning that integrates thematic interpretation, multimedia-based hadith studies, and online religious reflection can strengthen students' spiritual dimensions in virtual spaces. Furthermore, the integration of Islamic values is also related to the formation of morally based digital literacy. The OECD in its report *Education in the Digital Age* states that digital literacy does not only include technical skills, but also the ability to think critically and ethically in using digital information (Velásquez, 2020). In the context of Islamic education, digital literacy must be based on the principle *tabayyun* (clarifying information), avoiding the spread of hoaxes, and protecting the honor and privacy of others.

These values are relevant to the reality of high social media usage in Indonesia, which, according to DataReportal 2024, reached over 139 million active users (Tewu et al., 2025). Without value integration, digital spaces have the potential to become a source of distraction and social conflict, which can actually weaken learning motivation. From an educational psychology perspective, integrating Islamic values into digital learning can strengthen students' intrinsic motivation. *Self-Determination Theory* by Edward L. Deci and Richard M. Ryan emphasizes the importance of meaning and connectedness in the learning process (Deci & Ryan, 2008). When digital learning is linked to students' spiritual values and religious identity, the need for *relatedness* and the meaning of life will be more fulfilled. This encourages students to learn not just for grades, but as part of their worship and self-development. Thus, the integration of Islamic values serves as a transcendental reinforcement of intrinsic motivation.

However, the literature analysis also points to implementation challenges. The gap in teachers' digital literacy and limited training are factors hindering optimal value integration. Data from the Central Statistics Agency (BPS) from 2023 shows that despite increasing internet access, significant disparities remain between urban and rural areas in the use of technology for education (Statistik, 2021). This situation requires a sustainable policy strategy so that digital transformation is not merely symbolic but truly strengthens students' character and motivation to learn. Based on a synthesis of various scientific literature for the 2016–2025 period, it can be concluded that the integration of Islamic values in the digital ecosystem has several main characteristics: (1) it functions as a normative framework in the use of technology; (2) it is realized through the design of a value-based curriculum and learning methods; (3) it strengthens ethical and responsible digital literacy; and (4) it contributes to increasing students' intrinsic motivation through spiritual meaning in learning. Digital transformation that is not integrated with Islamic values has the potential to produce shallow and purely technically oriented learning. Conversely, systematic integration of values will make the digital ecosystem a space for character and spirituality formation that is adaptive to current developments.

## **Discussion**

Based on the literature review presented previously, digital transformation in Islamic education can be understood as a multidimensional process encompassing structural, pedagogical, psychological, and normative aspects. Analysis of various literature shows that digital transformation cannot be reduced simply to the use of technological devices, but rather represents a shift in learning paradigms oriented toward flexibility, interactivity, and value integration. *Digital 2024: Indonesia* shows that more than 212 million Indonesians have been connected to the internet or around 77% of the national population (Social, 2024). This fact confirms that Islamic education students currently live in an intensive digital ecosystem, so that Islamic educational institutions are required to carry out systemic adaptations to remain relevant and effective. From a policy perspective, the analysis shows that there is regulatory support for the digitalization of education through programs. *Free to Learn* by the Ministry of Education, Culture,

Research, and Technology of the Republic of Indonesia, and the digital transformation program for madrasas by the Ministry of Religious Affairs of the Republic of Indonesia (Pendidikan et al., 2022).

These policies demonstrate that digital transformation is both top-down and strategic in human resource development. However, as the UNESCO report points out, Global Education Monitoring Report 2023, the success of educational digitalization depends heavily on the quality of pedagogical implementation and not solely on the provision of infrastructure (Antoninis et al., 2023). This analysis reinforces the finding that substitutional implementation models (simply transferring material to digital format) are less effective in increasing learning motivation than integrative and transformational models.

Pedagogically, integrative-interactive and transformational models have been shown to have greater potential for increasing student engagement. The social constructivism theory pioneered by Lev Vygotsky emphasizes the importance of social interaction in constructing knowledge (Vygotsky & Cole, 1978). In the context of digital learning in Islamic education, online discussion forums, collaborative multimedia-based religious projects, and virtual reflections enable the formation of dialogue spaces that enrich students' understanding. The OECD in Education at a Glance 2023 also emphasized that the innovative use of technology is positively correlated with increased student participation and critical thinking skills (Pisa, 2023). Thus, participatory digital learning not only improves cognitive aspects, but also strengthens the affective and social dimensions in Islamic education.

Analysis of the motivational impacts shows that digital transformation has significant implications for students' intrinsic and extrinsic motivation. Self-Determination Theory Developed by Edward L. Deci and Richard M. Ryan, intrinsic motivation develops when the needs for competence, autonomy, and relatedness are met (Deci & Ryan, 2008). Digital learning that provides instant feedback, flexible learning times, and online collaboration can meet these three needs when designed appropriately. However, if technology is only used as a one-way communication tool, the need for relatedness is not met and intrinsic motivation tends to decline. In the extrinsic motivation dimension, the online evaluation system, gamification, and digital certification has been shown to increase student participation. The OECD reports that digital-based strategies gamification Several experimental studies have shown increased participation by more than 20% (Pisa, 2023). However, literature analysis also shows the risk of excessive dominance of extrinsic motivation, shifting the learning orientation to merely achieving grades. The hierarchy of needs perspective formulated by Abraham Maslow emphasizes that self-actualization is the pinnacle of human motivation (Maslow, 2023). In Islamic education, self-actualization is not only interpreted as academic achievement, but also as the development of morals and spiritual awareness. Therefore, a balance between intrinsic and extrinsic motivation is an important prerequisite in digital learning design.

The normative-spiritual dimension is a key differentiator between Islamic education and general education in the context of digitalization. The integration of Islamic values into the digital ecosystem serves as an ethical framework that guides students' behavior in the virtual space. A UNICEF report on children in the digital world highlights the risks of cyberbullying and exposure to negative content that can impact children's psychological development (Keeley & Little, 2017). In the Indonesian context, with social media users projected to reach more than 139 million by 2024, these risks are particularly relevant for students in Islamic schools and madrasas (Tewu et al., 2025). Analysis shows that the integration of values such as trustworthiness, etiquette, and digital responsibility acts as a moral filter that maintains the quality of student interactions and motivation to learn.

Furthermore, disparities in access and digital literacy also influence the effectiveness of transformation. Data from the Central Statistics Agency (BPS) in 2023 showed a disparity in internet usage between urban and rural areas (Statistik, 2021). This gap has implications for the quality of digital learning in Islamic educational institutions. Therefore, digital transformation cannot be separated from affirmative action policies for equitable infrastructure and improving teacher competency. Without such support, digitalization has the potential to widen the gap in motivation and learning outcomes.

Overall, the analysis of the research results shows that digital transformation in Islamic education has great potential to increase student learning motivation if it meets three main prerequisites: (1) interactive and participatory pedagogical design; (2) integration of Islamic values as the foundation of digital ethics; and (3) policy support and readiness of infrastructure and human resources. Technocentric digital transformation without a value orientation and pedagogy will result in shallow learning and risk reducing intrinsic motivation. Conversely, a humanistic and religious transformation can make technology a means of strengthening the meaning of learning, increasing engagement, and forming Islamic character in the digital era. Thus, these findings confirm that the future of Islamic education in the digital era depends on the ability to integrate technological innovation with spiritual values and solid pedagogical principles.

## CONCLUSION

Based on the results of the literature review and conceptual analysis conducted, it can be concluded that digital transformation in Islamic education is a systemic process that includes changes in pedagogical paradigms, strengthening institutional policies, and integrating Islamic values into a technology-based learning ecosystem. Digitalization, supported by national policies and high internet penetration in Indonesia, presents a significant opportunity to increase student learning motivation, both intrinsic and extrinsic, especially when learning is designed to be interactive, participatory, and oriented towards fulfilling students' psychological needs, as explained by Edward L. Deci and Richard M. Ryan. However, without the integration of Islamic values as the foundation of digital ethics and without the readiness of infrastructure and teacher competency, this transformation risks producing shallow and instrumental learning. Therefore, the future of Islamic education in the digital era depends heavily on the ability to harmonize technological innovation with Islamic pedagogical principles and spirituality in a balanced and sustainable manner.

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