

DIGITALLY ECONOMIC INNOVATION IN ISLAMIC BOARDING SCHOOLS: A QUR'ANIC PERSPECTIVE

***Suryani Wardah, Nur Arfiyah Febriani, Patria Yunita**

Doctoral Program in Islamic Studies, Universitas PTIQ Jakarta, Jakarta, Indonesia.

*Correspondence: Tel. + (62) 85211176650, E-mail: wardah.property@gmail.com

ABSTRACT: Digital economic innovation has emerged as a strategic approach to strengthening the economic independence and institutional transformation of Islamic boarding schools (pesantren) in the digital era. This study aims to formulate an implementation strategy for digital economic innovation in pesantren based on Qur'anic values through an investigation of Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani. Employing a qualitative research design, the study adopts a multiple-case study approach supported by library research. Data were collected through field observation, digital observation, documentation, and literature review, and subsequently analyzed using Schumpeter's Innovation Theory, the Diffusion of Innovation Theory, the Unified Theory of Acceptance and Use of Technology (UTAUT), and the framework of *maqāṣid al-sharī'ah*. The findings demonstrate that digital economic innovation in both pesantren extends beyond the adoption of digital technologies to encompass institutional transformation rooted in Qur'anic values, including *ta'āwun* (mutual cooperation), *amānah* (trustworthiness), *'adl* (justice), and *ihsān* (excellence). The successful implementation of digital economic innovation is shaped by institutional readiness, digital literacy, technological infrastructure, leadership commitment, and the integration of Islamic values into innovation practices. Although the two pesantren exhibit different implementation characteristics, both pursue the common objective of strengthening economic self-reliance, empowering students (*santri*), and promoting social welfare (*maṣlahah*). The novelty of this study lies in integrating Schumpeter's Innovation Theory, the Diffusion of Innovation Theory, UTAUT, and *maqāṣid al-sharī'ah* into a comprehensive conceptual framework for formulating implementation strategies and evaluating digital economic innovation from a Qur'anic perspective. This study contributes an adaptive, inclusive, and value-oriented implementation strategy that advances the discourse on digital transformation within Islamic educational institutions.

Keywords: digital economic innovation; implementation strategy; *maqāṣid al-sharī'ah*; pesantren; Qur'anic perspective

I. INTRODUCTION

Digital economic transformation has fundamentally reshaped the ways in which societies conduct production, distribution, marketing, and commercial transactions through the adoption of digital technologies [1,2]. The rapid expansion of e-commerce, financial technology (fintech), artificial intelligence (AI), the Internet of Things (IoT), big data, and other digital platforms has accelerated the emergence of more efficient, adaptive, and interconnected economic models [3]. This transformation has affected not only the industrial and business sectors but also a wide range of educational institutions, including pesantren, which are increasingly expected to strengthen institutional governance and technology-driven economic activities while preserving the Islamic identity and values that constitute the foundation of their educational mission [2]. Therefore, digital economic innovation has become a strategic imperative for pesantren to strengthen institutional economic self-reliance, enhance their organizational competitiveness, and expand their contribution to community economic empowerment in the digital era.

Indonesia's digital economy has continued to demonstrate sustained growth despite the uncertainties of the global economic landscape. According to the e-Conomy SEA 2025 report published by Google, Temasek, and Bain & Company, Indonesia remains the largest digital economy in Southeast Asia, with a Gross Merchandise Value (GMV) of approximately US\$46 billion in 2025, which is projected to increase to approximately US\$100–165 billion by 2030 [4]. The sustained growth has been driven by the rapid expansion of digital commerce, digital financial services, and the increasing adoption of digital technologies across diverse sectors of the economy [3]. This trend indicates that Islamic educational institutions, including pesantren, must adapt to

the evolving digital economy in order to sustain their educational mission while strengthening institutional economic self-reliance through the effective utilization of digital technologies.

According to the 2025 Satu Data of the Ministry of Religious Affairs of the Republic of Indonesia, Indonesia is home to 42,435 pesantren, accommodating a total of 3,164,986 santri [5]. The large number of pesantren underscores their strategic potential as Islamic educational institutions in advancing community-based digital economic development. Nevertheless, the implementation of digital economic innovation across pesantren remains uneven, highlighting the need for implementation strategies that are tailored to their institutional characteristics and the Islamic values that underpin their educational and socio-economic functions. As Islamic educational institutions, pesantren serve not only as centers for religious education and character formation but also as key agents of social and economic empowerment within their surrounding communities [6,7]. The rapid advancement of digital technologies has created significant opportunities for pesantren to enhance institutional governance, develop productive business units, expand product marketing, and strengthen the entrepreneurial competencies of santri [8,2]. However, digital transformation within pesantren should extend beyond the pursuit of efficiency, productivity, and economic gains [9,1]. The implementation of digital innovation must also preserve the distinctive identity of pesantren while integrating Qur'anic values as the ethical foundation of all economic activities, thereby ensuring that technological advancement remains aligned with the broader objectives of Islamic education [10]. These phenomena are evident in Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun

Kaddihaani, which serve as the case studies in this research. Pondok Pesantren Al-Ashriyyah Nurul Iman has implemented various forms of digital transformation through technology-based administrative systems, the utilization of student smart cards (Kartu Santri), the development of digital business units, social media- and marketplace-based marketing, and the enhancement of santri competencies in multimedia and the creative industries. In contrast, Pondok Pesantren Wardatun Kaddihaani has adopted digital innovations tailored to its institutional characteristics by integrating technology into the agricultural, livestock, and fisheries sectors, promoting digital-based learning, and expanding online product marketing. The differing levels of digital readiness observed in the two pesantren indicate that the successful implementation of digital economic innovation is influenced by institutional capacity, the quality of human resources, technological infrastructure, and leadership in managing organizational change. Previous studies have shown that digital transformation in pesantren has contributed to improved institutional governance, the strengthening of business units, and expanded market access through the adoption of digital technologies [8,11,12]. Hamzah et al. (2022) demonstrated that the digitalization of pesantren business units strengthens institutional economic self-reliance through the implementation of digital transaction systems and more efficient business management [8]. Furthermore, studies on the digital transformation of pesantren have emphasized that the success of digitalization depends not only on the adoption of digital technologies but also on the readiness of human resources, institutional leadership, and the capacity of the institution to manage organizational change in a sustainable manner [13]. Research on technology adoption has demonstrated that the successful implementation of innovation is influenced by the characteristics of the innovation and the diffusion process, as well as by factors affecting users' acceptance of technology, including organizational support, human resource readiness, and facilitating conditions for implementation [14,15]. Existing scholarship has primarily concentrated on institutional digitalization, technology adoption, the development of pesantren business units, and human resource readiness as key dimensions of digital transformation within pesantren [8,9]. Despite the growing body of research on pesantren digitalization, limited scholarly attention has been devoted to integrating contemporary innovation theories with a Qur'anic perspective as the conceptual foundation for developing digital economic innovation implementation strategies in pesantren. This condition highlights the need for an implementation framework that not only explains how digital innovation is adopted but also provides normative guidance for its implementation and evaluation based on Qur'anic values. Schumpeter's Innovation Theory conceptualizes innovation as the primary driver of economic transformation [16]. Diffusion of Innovation Theory explains diffusion as the process by which an innovation is communicated through specific communication channels over time among members of a social system [14], whereas the Unified Theory of Acceptance and Use of Technology (UTAUT) explains the key factors that influence users' acceptance and adoption of

technology [15]. However, these three theoretical approaches do not explicitly incorporate the normative dimension of Islam as a criterion for evaluating the success of innovation implementation. Therefore, this study integrates maqāṣid al-sharī'ah as a normative and evaluative framework for assessing the implementation of digital economic innovation based on the principles of maṣlaḥah (public welfare), justice, trustworthiness, knowledge development, and community empowerment [10].

II. Research Objective

Based on the foregoing discussion, it can be identified that the development of digital economic innovation in pesantren has not been accompanied by the availability of a comprehensive implementation framework that integrates contemporary innovation theories with Qur'anic values. Therefore, this study aims to formulate a Qur'an-based implementation strategy for digital economic innovation in pesantren through an analysis of the practices implemented at Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani. The novelty of this study lies in the formulation of an implementation strategy for digital economic innovation from the perspective of the Qur'an through the integration of Schumpeter's Innovation Theory, Diffusion of Innovation Theory, the Unified Theory of Acceptance and Use of Technology (UTAUT), and maqāṣid al-sharī'ah. Unlike previous studies that have predominantly focused on technology adoption or digital economic development, this study proposes an implementation strategy that integrates technological innovation, institutional governance, human resource development, multi-stakeholder collaboration, and the internalization of Qur'anic values in advancing the digital economy within pesantren [8]. Thus, this study contributes to the advancement of digital economic innovation studies within Islamic educational institutions while expanding the application of the Qur'anic perspective in addressing the challenges of digital transformation

III. Research Method

This study employs a qualitative research method using a multiple case study approach, supported by library research as a conceptual foundation and as a basis for analyzing the Qur'anic perspective [17]. This approach was selected to obtain a comprehensive understanding of the implementation of digital economic innovation in pesantren through an analysis of two research sites, namely Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani. These two pesantren were selected due to their distinct characteristics and different levels of digital economic innovation implementation, enabling a comparative analysis of the implementation strategies adopted by each institution [18].

The research data consisted of primary and secondary data. Primary data were obtained through field observations, digital observations of pesantren activities and information media, as well as documentation of various technology-based programs and business units developed by each pesantren [19]. Secondary data were obtained from the Qur'an, hadith, tafsir literature, books, scholarly articles, official documents, and

various academic sources related to innovation, the digital economy, technology, pesantren, and maqāṣid al-sharī'ah.

Data analysis was conducted through the stages of data reduction, data display, and conclusion drawing, as proposed by Miles and Huberman [20]. Furthermore, the findings were interpreted using a descriptive-analytical approach by integrating Schumpeter's Innovation Theory, Diffusion of Innovation Theory, the Unified Theory of Acceptance and Use of Technology (UTAUT), and the maqāṣid al-sharī'ah framework. The analysis of Qur'anic verses was conducted using the tafsīr al-mawḍū'ī (thematic interpretation) method to identify concepts related to innovation, trade, trustworthiness (amanah), justice, and public benefit (maṣlaḥah). This process resulted in the formulation of an implementation strategy for digital economic innovation in pesantren from the Qur'anic perspective [21].

IV. RESULTS AND DISCUSSION

A. Implementation of Digital Economic Innovation in Pesantren

Al-Ashriyyah Nurul Iman

Pondok Pesantren Al-Ashriyyah Nurul Iman demonstrates a relatively more advanced level of digital economic innovation implementation compared to the other research site. Digital transformation has not only been adopted as an administrative tool but has also become an integral part of the pesantren's economic development strategy, supporting institutional self-reliance, santri empowerment, and the improvement of community welfare [8]. This digitalization process is manifested through the development of various productive business units, the utilization of digital media as a marketing platform, and the implementation of technology-based transaction systems. One form of digital innovation implementation is the use of the Santri Card (TABANI), which functions as a student identity card while supporting various digital services, including administrative record-keeping, financial transactions, and the management of activities within the pesantren environment. The utilization of this system enhances service efficiency while strengthening transparency and accountability in the management of both administrative processes and the pesantren's economic activities [9]. These findings indicate that administrative digitalization not only improves operational efficiency but also reflects process innovation, as explained by Schumpeter, referring to the renewal of working mechanisms that generate added value for organizations. Digital transformation is also evident in the development of various technology-based business units, including animation, information technology, digital da'wah media, electronic commerce, agricultural product processing, and creative industries. These business units not only serve as sources of revenue for the pesantren but also function as entrepreneurial laboratories that provide santri with direct experience in managing technology-driven businesses [22]. This condition demonstrates that digital economic innovation in pesantren is not solely oriented toward increasing revenue but also serves as a medium for experiential entrepreneurship learning that strengthens santri competencies in responding to the demands of the digital economy. In the area of human resource development, the

pesantren places significant attention on improving digital literacy through computer training, internet utilization, and the enhancement of information technology skills facilitated by various educational and training programs. These efforts aim to develop santri who not only possess religious competencies but are also capable of adapting to technological advancements and an increasingly digitalized business environment. Therefore, strengthening digital literacy becomes a strategic factor that determines the success of digital economic innovation implementation within the pesantren environment.

The implementation of digital economic innovation at Pondok Pesantren Al-Ashriyyah Nurul Iman demonstrates that the success of digital transformation is not solely determined by technological availability but also by pesantren leadership, the strengthening of human resource capacity, adaptive institutional management, and the integration of Islamic values into every economic activity. Digitalization is positioned as an instrument to enhance public benefit (maṣlaḥah), strengthen the economic self-reliance of the pesantren, and expand the pesantren's contribution to community economic empowerment. In this study the population is determined based on the use of electronic transactions. 300 respondents were selected as the sample selected based on the Simple Random Sampling method. If the observation exceeds 200 respondents, it is assumed that the normal distribution has been met [28].

Wardatun Kaddihaani

The implementation of digital economic innovation at Pondok Pesantren Wardatun Kaddihaani demonstrates that digital transformation can develop gradually according to the characteristics, needs, and institutional capacity of the pesantren. Unlike Pondok Pesantren Al-Ashriyyah Nurul Iman, which has established a more comprehensive digital ecosystem, Pondok Pesantren Wardatun Kaddihaani directs digital innovation toward strengthening the agricultural, livestock, fisheries, and santri entrepreneurship sectors as the primary foundation for the pesantren's economic empowerment. The implementation of digital innovation is manifested through the utilization of electronic-based learning media (e-books), the use of digital platforms in the learning process, the development of pesantren product marketing through social media and e-commerce platforms, and the application of appropriate technology in the livestock and agricultural sectors. These innovations demonstrate that digitalization is not always realized through complex technological systems but can also be achieved through the adoption of technologies that are aligned with local needs and capable of improving the productivity of pesantren business units [14]. These findings indicate that the implementation of digital innovation can be adapted to local needs, demonstrating that digital transformation does not always depend on the adoption of complex technologies. To support the development of productive economic activities, the pesantren has also developed various innovations in the agribusiness sector, including the utilization of automatic egg incubator machines, Black Soldier Fly (BSF) cultivation for organic waste management and alternative feed production, as well as the development of agricultural commodities with

economic value. The utilization of these technologies not only improves production process efficiency but also serves as a learning medium for santri in developing technology-based entrepreneurial skills [23]. Nevertheless, the implementation of digital economic innovation at Pondok Pesantren Wardatun Kaddihaani still encounters several challenges. Limited internet infrastructure, restricted access to technological devices, and variations in digital literacy levels among educators and santri are factors that influence the pace of digital transformation. These conditions indicate that the successful implementation of innovation depends not only on technological availability but also requires institutional policy support, human resource capacity building, and the provision of adequate infrastructure [24]. These conditions indicate that the success of innovation is determined not only by technological factors but also by organizational readiness to manage change sustainably. Despite facing various limitations, the findings indicate that Pondok Pesantren Wardatun Kaddihaani demonstrates a strong commitment to developing digital economic innovation in a sustainable manner. Digitalization is perceived as an instrument to strengthen the economic self-reliance of the pesantren, enhance santri competencies, and expand access to markets and information. Through an approach adapted to local conditions, the pesantren seeks to establish a digital transformation process that remains grounded in Islamic values, the spirit of self-reliance, and community empowerment.

Comparison of the Implementation of Digital Economic Innovation

The findings reveal that both Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani have actively pursued the development of digital economic innovation as an integral component of their economic empowerment strategies. Both pesantren perceive digital transformation not merely as the adoption of information technology but as a strategic instrument for enhancing educational quality, strengthening economic self-reliance, and expanding the contribution of pesantren to community economic empowerment [1]. This similarity indicates that digitalization has become an integral part of the evolving role of pesantren in responding to social and economic changes in the digital era. Despite pursuing the same overarching objective, the implementation of digital economic innovation differs considerably between the two pesantren. Pondok Pesantren Al-Ashriyyah Nurul Iman has established a relatively more integrated digital ecosystem through the digitalization of administrative processes, the development of technology-based business units, the adoption of digital payment systems, and the enhancement of human resource capacity in information technology. In contrast, Pondok Pesantren Wardatun Kaddihaani has adopted a more gradual approach to digital innovation by aligning its initiatives with local needs and institutional potential, particularly in the areas of agriculture, livestock, digital learning, and product marketing through digital platforms [14,25]. These differences can be attributed to variations in institutional readiness, the availability of technological infrastructure, human resource capacity, and the level of support for the

digital transformation process [1]. Pondok Pesantren Al-Ashriyyah Nurul Iman benefits from more mature digital infrastructure and a well-established digital ecosystem, enabling digital innovation to be implemented more comprehensively across various institutional functions. In contrast, Pondok Pesantren Wardatun Kaddihaani continues to face several challenges, including limited internet connectivity, restricted access to technological devices, and varying levels of digital literacy. Nevertheless, these constraints have not diminished the pesantren's commitment to developing innovations that are aligned with the characteristics and needs of the surrounding community. These differences demonstrate that the implementation strategy for digital economic innovation cannot be standardized. Rather, each pesantren requires a context-specific approach that reflects its institutional characteristics, human resource capacity, and local economic potential. The findings further demonstrate that the successful implementation of digital economic innovation is not determined solely by the sophistication of the technologies employed, but rather by the ability of the pesantren to integrate technology with institutional governance, human resource development, and the Islamic values that underpin its educational system. Accordingly, digitalization within pesantren is oriented not only toward improving economic efficiency but also toward strengthening amanah (trustworthiness), economic self-reliance, *maṣlahah* (public benefit), and community empowerment. The comparison of the two pesantren demonstrates that there is no universally applicable model of digital transformation. Instead, each pesantren develops its own implementation strategy, shaped by its institutional conditions, economic potential, and social environment. Therefore, the development of digital economic innovation requires an adaptive and context-sensitive approach to ensure that technology can be implemented effectively without compromising the identity and core values of the pesantren. These comparative findings provide the foundation for the subsequent theoretical analysis of the innovation process, innovation diffusion, technology acceptance, and the evaluation of digital economic innovation implementation.

B. Theoretical Analysis of Digital Economic Innovation Implementation from Schumpeter's Perspective **Economic Transformation of Pesantren through the Lens of Creative Destruction**

The findings demonstrate that the implementation of digital economic innovation at Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani reflects the process of economic transformation as conceptualized in Joseph A. Schumpeter's theory of innovation. Within this perspective, innovation is understood not merely as the adoption of new technologies but as a transformative process that reshapes how pesantren manage their resources, develop business units, and establish economic systems that are more adaptive to changing environmental conditions [16,26]. At Pondok Pesantren Al-Ashriyyah Nurul Iman, this transformation is reflected in the digitalization of a wide range of economic activities, encompassing administrative processes, transaction systems,

the development of technology-based business units, and the utilization of digital media for marketing and communication. Rather than replacing the traditional functions of the pesantren, these transformations have reconfigured them into a more effective and efficient system capable of responding to the demands of the digital economy [1,2]. The innovations undertaken reflect the renewal of the pesantren's business model without compromising the fundamental values of Islamic education. In contrast, Pondok Pesantren Wardatun Kaddihaani exhibits a different pattern of transformation. Digitalization has been developed incrementally through the adoption of technologies that are aligned with the pesantren's local characteristics and economic potential, particularly in the agricultural, livestock, educational, and product marketing sectors. Although its level of digitalization is not yet as comprehensive as that of Pondok Pesantren Al-Ashriyyah Nurul Iman, this innovation process nevertheless reflects the pesantren's capacity to create new approaches for enhancing productivity and generating greater value from its economic activities [24]. The findings further suggest that the concept of creative destruction should not necessarily be interpreted as the complete replacement of existing systems. Rather, it represents a process of institutional reconstruction through the integration of traditional pesantren practices with digital technologies [27]. The educational traditions, religious values, and cultural heritage of the pesantren are preserved as its defining identity, while digital technologies function as strategic instruments for enhancing institutional management, expanding market access, and strengthening the pesantren's economic competitiveness. Consequently, the innovation process is transformational in nature without compromising the fundamental character of the pesantren as an Islamic educational institution.

This analysis demonstrates that Schumpeter's theory of innovation remains highly relevant for explaining the dynamics of digital economic innovation within the pesantren context. However, the findings also reveal that the innovation process in pesantren exhibits characteristics that distinguish it from those of conventional business organizations. The primary objective of innovation extends beyond economic gain to encompass the promotion of *maṣlahah* (public benefit), the strengthening of institutional self-reliance, the enhancement of the quality of santri education, and the empowerment of local communities [10,28]. Therefore, digital economic innovation in pesantren represents a transformative model that integrates economic objectives with social and religious values, positioning these values as the fundamental foundation for institutional development.

Analysis of the Implementation of Digital Economic Innovation Based on the Diffusion of Innovation Theory

The implementation of digital economic innovation at Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani demonstrates that the success of digital transformation is determined not only by the availability of technology but also by the diffusion process through which innovation is introduced, communicated, and adopted within the pesantren environment. According to Everett M. Rogers' Diffusion of Innovation Theory, the diffusion of innovation is shaped by

four key dimensions: the characteristics of the innovation, communication channels, time, and the social system in which the innovation is implemented [14]. From the perspective of innovation, both pesantren have developed various forms of innovation that are tailored to their institutional needs and local potential. Pondok Pesantren Al-Ashriyyah Nurul Iman has introduced innovations through the digitalization of administrative processes, digital transaction systems, technology-based business units, and the enhancement of santri digital literacy. In contrast, Pondok Pesantren Wardatun Kaddihaani has focused its innovation efforts on strengthening the agricultural and livestock sectors, promoting digital learning, and expanding product marketing through digital platforms. These findings indicate that innovation within pesantren is not homogeneous but evolves in a context-specific manner, reflecting the distinctive characteristics, capacities, and needs of each institution [29]. From the perspective of communication channels, the diffusion of digital economic innovation occurs through multiple formal and informal communication mechanisms that facilitate the dissemination of knowledge, the exchange of experiences, and the adoption of innovative practices within the pesantren community [14,29]. The leadership role of the *kiai*, the involvement of teachers, business unit managers, and interactions among santri serve as primary channels for communicating new ideas, fostering understanding, and encouraging participation in the utilization of digital technologies. Furthermore, social media, digital platforms, and collaborative networks involving government institutions, higher education institutions, and local communities contribute to expanding information dissemination and accelerating the adoption process of innovation within the pesantren environment [30]. In the time dimension, the findings indicate that innovation adoption occurs through a gradual process. Pondok Pesantren Al-Ashriyyah Nurul Iman demonstrates a more mature level of adoption, as its digital transformation process has been implemented over a longer period and supported by the development of adequate infrastructure. In contrast, Pondok Pesantren Wardatun Kaddihaani remains in the stage of strengthening and further development, where innovation implementation is carried out progressively in accordance with human resource readiness and the availability of supporting facilities [24]. From the perspective of the social system, pesantren culture plays a crucial role in shaping the acceptance and adoption of innovation. The leadership of the *kiai*, communal values, deliberative practices, and the spirit of community empowerment create a social environment that supports the implementation of digital technologies. At the same time, religious norms function as a selective mechanism, ensuring that every innovation introduced remains aligned with Islamic values and the educational objectives of the pesantren [31,14]. The analysis of innovation characteristics further reveals that digital economic innovation implemented in both pesantren reflects the five attributes of innovation identified by Rogers [14]. The innovation provides relative advantage through improved management efficiency, expanded market access, and strengthened economic self-reliance of the pesantren.

Regarding compatibility, digital innovation is integrated with the cultural values and educational system of the pesantren without compromising its Islamic identity. In terms of complexity, several challenges remain, particularly those related to limited digital literacy and technological infrastructure, especially at Pondok Pesantren Wardatun Kaddihaani. Furthermore, trialability is reflected in the gradual implementation of innovation through pilot applications across various business units and educational programs before broader adoption. Meanwhile, observability is demonstrated through improved management efficiency, the growth of business units, enhanced santri competencies, and the expanding utilization of digital technologies in pesantren economic activities. Based on this analysis, the study demonstrates that the successful diffusion of innovation in pesantren is determined not only by the technological advantages offered but also by the institution's ability to establish effective communication channels, develop human resource capacity, and foster a social system that supports innovation acceptance.

Analysis of Digital Economic Innovation Implementation Based on the Unified Theory of Acceptance and Use of Technology (UTAUT)

The findings indicate that the acceptance of digital economic innovation at Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani is influenced by various factors explained within the framework of the Unified Theory of Acceptance and Use of Technology (UTAUT). This theory posits that the successful implementation of technology is determined not only by technological availability but also by users' perceptions of technological benefits, ease of use, social influence, and the availability of institutional support [15,31]. The dimension of performance expectancy is reflected in the perception that the adoption of digital technologies enhances the effectiveness of pesantren management and increases the productivity of economic units [2]. At Pondok Pesantren Al-Ashriyyah Nurul Iman, the digitalization of administrative processes, payment systems, business unit management, and digital-based marketing provides tangible benefits in the form of improved operational efficiency, enhanced management transparency, and expanded market access. Meanwhile, at Pondok Pesantren Wardatun Kaddihaani, the utilization of technology in the agricultural sector, livestock management, digital learning, and product marketing creates opportunities to increase productivity while expanding access to information and marketing networks [32]. These findings demonstrate that perceived technological benefits play a crucial role in driving innovation acceptance. Regarding effort expectancy, the perceived ease of technology use also influences the innovation adoption process. Pondok Pesantren Al-Ashriyyah Nurul Iman demonstrates a relatively higher level of acceptance due to its greater experience in technology utilization, digital literacy training programs, and the availability of more prepared human resources. In contrast, Pondok Pesantren Wardatun Kaddihaani continues to encounter challenges related to limited technological skills and the lack of digital experience among some users. Therefore, enhancing digital competencies through training

and continuous assistance becomes an essential factor in accelerating innovation acceptance [1]. The social influence dimension indicates that technology acceptance within the pesantren environment is strongly influenced by the leadership of the *kiai*, support from teachers, business unit managers, and the collective culture developed within the pesantren community [15]. When pesantren leaders provide exemplary support and demonstrate commitment to the utilization of digital technologies, the level of trust and participation among members of the pesantren community in adopting innovation also increases. Therefore, technology acceptance is not solely based on individual considerations but is also shaped by the values, norms, and social relationships developed within the pesantren community. Furthermore, the facilitating conditions dimension relates to the availability of infrastructure, technological devices, internet access, institutional policies, and organizational support in implementing digital innovation. Pondok Pesantren Al-Ashriyyah Nurul Iman demonstrates a relatively higher level of readiness due to its established digital infrastructure and more developed institutional systems. In contrast, Pondok Pesantren Wardatun Kaddihaani continues to face limitations in technological facilities and internet accessibility, requiring the strengthening of infrastructure and support from various stakeholders to ensure that digital transformation can proceed effectively. The UTAUT-based analysis indicates that the successful implementation of digital economic innovation in pesantren results from the interaction among perceived technological benefits, ease of use, social support, and institutional readiness. Nevertheless, this study finds that the four UTAUT constructs do not fully explain the distinctive characteristics of technology acceptance within the pesantren context [1,2]. Technology adoption decisions are not solely based on considerations of efficiency and productivity but also involve the alignment of innovation with Islamic values, pesantren culture, and the pursuit of *maṣlaḥah* (public benefit). Therefore, technology acceptance in pesantren encompasses a normative dimension that complements the UTAUT approach and provides the foundation for further evaluation through the perspective of *maqāṣid al-sharī'ah* in the following section.

C. Evaluation of Digital Economic Innovation Implementation Based on Maqāṣid al-Sharī'ah

The findings indicate that the success of digital economic innovation implementation within the pesantren environment cannot be measured solely by improvements in efficiency, productivity, or levels of technology acceptance. From an Islamic perspective, the success of innovation must also be assessed based on its ability to realize *maṣlaḥah* (public benefit) as the primary objective of *maqāṣid al-sharī'ah* [10,28]. Therefore, this study employs *maqāṣid al-sharī'ah* as an evaluative framework to assess the extent to which digital economic innovation contributes to the realization of the protection of religion, intellect, life, progeny, wealth, and the environment within the pesantren context. The implementation of digital economic innovation in both pesantren demonstrates its contribution to *ḥifẓ al-dīn* (the preservation of religion) through the utilization of technology as a means of strengthening Islamic preaching (*da'wah*),

Islamic education, and the dissemination of Qur'anic values [28]. Digitalization is not positioned as an ultimate goal but rather as a means to enhance educational effectiveness, expand access to learning opportunities, and strengthen the internalization of Islamic values among santri and the broader community. Therefore, digital transformation remains within the framework of Islamic ethics and teachings. Regarding *ḥifz al-ʿaql* (the preservation of intellect), digital economic innovation contributes to the enhancement of digital literacy, the development of information technology competencies, and the strengthening of santri entrepreneurial capabilities [10,23]. Various training programs, the utilization of digital media, and the development of technology-based business units demonstrate that digital transformation serves as a means of enhancing intellectual capacity in response to contemporary societal needs while maintaining the cultivation of character and moral values. From the perspective of *ḥifz al-māl* (the preservation of wealth), the implementation of digital innovation supports more effective, transparent, and accountable economic management [28,32]. The digitalization of administrative processes, payment systems, product marketing, and technology-based business units enhances the efficiency of resource management while expanding economic opportunities for pesantren and the broader community. However, the study also highlights the importance of ensuring that all digital transactions comply with Islamic principles by avoiding practices that may involve *riba* (usury), *gharar* (excessive uncertainty), or other forms of injustice. The contributions to *ḥifz al-nafs* (the preservation of life) and *ḥifz al-nasl* (the preservation of progeny) are reflected in improved community welfare, the creation of employment opportunities, the strengthening of santri family economic self-reliance, and the provision of an educational environment capable of preparing younger generations to face the challenges of the digital economy [33]. Through the development of technology-based entrepreneurship, pesantren not only produce graduates with religious competencies but also equip them with economic and digital skills that support their future livelihood sustainability.

Furthermore, the implementation of digital economic innovation demonstrates relevance to *ḥifz al-bi'ah* (the preservation of the environment) through the development of innovations that support sustainable natural resource management, such as the application of technology in agriculture, livestock, and organic waste management. These findings indicate that digital innovation can be directed toward supporting development that is not solely oriented toward economic growth but also toward environmental preservation as part of human responsibility as *khalīfah* (steward) on earth.

The analysis based on *maqāṣid al-sharī'ah* reveals that the success of digital economic innovation in pesantren cannot be assessed solely through efficiency and productivity indicators commonly used in modern technological approaches. This study demonstrates that innovation success is also determined by its ability to promote justice (*ʿadl*), trustworthiness (*amanah*), cooperation (*taʾāwun*), excellence (*iḥsān*), and *maṣlaḥah* (public benefit) for institutions, santri, and

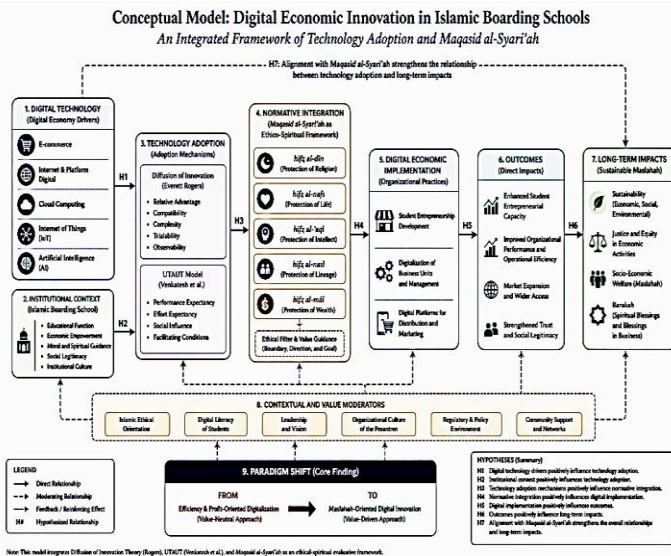
communities [10,33]. Therefore, *maqāṣid al-sharī'ah* functions not only as an evaluative framework but also as a normative foundation for designing, implementing, and developing digital economic innovation within the pesantren environment.

Strategy for Implementing Digital Economic Innovation in Pesantren from the Perspective of the Qur'an

Based on the findings from Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani, the analysis employing Schumpeter's Theory of Innovation, Diffusion of Innovation Theory, the Unified Theory of Acceptance and Use of Technology (UTAUT), and the evaluation framework of *maqāṣid al-sharī'ah* demonstrates that the implementation of digital economic innovation in pesantren requires an integrative approach [10,34]. Digital transformation should not be understood merely as a process of technology adoption but rather as an integral part of institutional development strategies that incorporate technological advancement, human resource capacity, governance systems, and Qur'anic values. The implementation strategy formulated in this study consists of five main components. First, strengthening institutional leadership and governance, which refers to the commitment of pesantren leaders to establish policies that support digital transformation, enhance administrative systems, and develop governance practices that are transparent, accountable, and adaptive to technological developments. Visionary leadership serves as a key driving force in fostering a culture of innovation within the pesantren environment [9]. Second, strengthening human resource capacity through continuous digital literacy development, technology-based entrepreneurship education, managerial competence, and innovation-oriented training. Enhancing human resource quality is a prerequisite to ensure that digital innovation is not only adopted but also continuously developed in accordance with evolving societal needs. Third, strengthening the digital economic ecosystem of pesantren, which is realized through the digitalization of business units, the utilization of e-commerce platforms, digital payment systems, social media-based marketing, and the development of competitive products and services [8]. This strategy is directed toward expanding market access, improving business management efficiency, and strengthening the economic self-reliance of pesantren. Fourth, fostering collaboration with various stakeholders, including government institutions, higher education institutions, business sectors, Islamic financial institutions, and communities. Such collaboration is essential to strengthen support for infrastructure provision, innovation development, human resource capacity building, and the expansion of partnership networks in advancing pesantren-based digital economic development [34]. Fifth, internalizing Qur'anic values as the foundation for innovation implementation. The entire digital transformation process is directed toward alignment with the principles of *taʾāwun* (cooperation), *amānah* (trustworthiness and responsibility), *ʿadl* (justice), and *iḥsān* (excellence and professionalism), while being evaluated through the objectives of *maqāṣid al-sharī'ah*. Therefore, the success of innovation is not measured solely by economic efficiency or the level of technology

adoption but also by its contribution to maṣlaḥah (public benefit), community empowerment, and the sustainability of pesantren institutions. To synthesize the findings of this study, an integrated conceptual model is proposed. The model illustrates the relationships among digital technology drivers, institutional context, technology adoption mechanisms, maqāṣid al-sharī'ah as the normative framework, digital economic innovation implementation, organizational outcomes, and long-term societal impacts. This conceptual model represents the main contribution of the present study by integrating contemporary innovation theories with the Qur'anic perspective.

Figure 1. Conceptual Model of Digital Economic



Innovation in Islamic Boarding Schools. Source: Authors' conceptualization based on Schumpeter (1934), Rogers (2003), Venkatesh et al. (2003), Auda (2008), and empirical findings from this study.

Figure 7 demonstrates that digital economic innovation in pesantren is driven by the interaction between digital technology, institutional readiness, and technology adoption mechanisms. Unlike conventional innovation models, this framework positions maqāṣid al-sharī'ah as a normative guide that shapes the implementation process and strengthens the relationship between technology adoption and sustainable outcomes. The model further shows that successful implementation enhances entrepreneurial capacity, organizational performance, and market expansion while ultimately contributing to sustainable maṣlaḥah through economic, social, and spiritual benefit. The implementation strategy developed in this study demonstrates that digital economic transformation in pesantren represents a multidimensional process that integrates technological innovation with Islamic values [25]. Unlike technology-oriented approaches that primarily emphasize the effectiveness of system utilization, the strategy formulated in this study positions the Qur'an and maqāṣid al-sharī'ah as normative foundations guiding every stage of innovation implementation. Therefore, this study produces an implementation strategy that is not only relevant for the development of digital economic innovation in pesantren but

also provides a conceptual framework for other Islamic educational institutions in developing digital transformation that is adaptive, inclusive, and oriented toward maṣlaḥah (public benefit).

VI. Conclusion and Recommendation

This study concludes that the implementation of digital economic innovation at Pondok Pesantren Al-Ashriyyah Nurul Iman and Pondok Pesantren Wardatun Kaddihaani demonstrates that digital transformation can be aligned with Qur'anic values and the objectives of maqāṣid al-sharī'ah. This transformation is reflected in the utilization of digital technologies that enhance administrative effectiveness, business unit development, marketing activities, and pesantren economic empowerment without compromising the institutional identity, cultural values, and Islamic principles of pesantren. The differences in digital readiness between the two pesantren indicate that the success of digital economic innovation is not determined solely by technological sophistication but also by leadership capacity, human resource quality, institutional governance, and the ability to integrate technology with societal needs and sharia principles. This study further demonstrates that Schumpeter's Theory of Innovation, Diffusion of Innovation Theory, and the Unified Theory of Acceptance and Use of Technology (UTAUT) effectively explain the emergence of innovation, diffusion processes, and technology acceptance within the pesantren context. However, these three approaches do not fully capture the normative dimension that characterizes Islamic educational institutions. Therefore, this study proposes the integration of maqāṣid al-sharī'ah as an evaluative framework for assessing the success of digital economic innovation based on the principles of maṣlaḥah (public benefit), justice, trustworthiness (amānah), professionalism (iḥsān), and community empowerment.

The main contribution of this study lies in the formulation of a Qur'an-based digital economic innovation implementation strategy that integrates technological innovation, institutional strengthening, human resource development, multi-stakeholder collaboration, and the internalization of Islamic values as the foundation for developing adaptive, inclusive, and sustainable digital economies within pesantren institutions. This strategy is expected to serve as both a conceptual model and a practical reference for pesantren in developing digital economic innovation oriented toward maṣlaḥah and institutional sustainability. Future research is encouraged to examine and validate this implementation strategy across a wider range of pesantren with diverse characteristics to further assess its applicability and generalizability in broader contexts.

VII. REFERENCES

- [1] G. Vial, "Understanding Digital Transformation: A Review and a Research Agenda," *The Journal of Strategic Information Systems*, vol. 28, no. 2, pp. 118–144, 2019.
- [2] P. C. Verhoef, T. Broekhuizen, Y. Bart, A. Bhattacharya, J. Q. Dong, N. Fabian, and M. Haenlein, "Digital Transformation: A Multidisciplinary Reflection and Research Agenda," *Journal of Business Research*,

- vol. 122, pp. 889–901, 2021.
- [3] Organisation for Economic Co-operation and Development (OECD), *OECD Digital Economy Outlook 2024*, Volume 2: Strengthening Connectivity, Innovation and Trust. Paris: OECD Publishing, 2024. doi:10.1787/3adf705b-en.
 - [4] Google, Temasek, and Bain & Company, *e-Conomy SEA 2025*. Singapore: Google, Temasek, and Bain & Company, 2025.
 - [5] Kementerian Agama Republik Indonesia, *Jumlah Pondok Pesantren, Ustadz, dan Santri Menurut Provinsi Tahun 2025*. Jakarta: Satu Data Kementerian Agama RI, 2025.
 - [6] A. Azra, *Pendidikan Islam: Tradisi dan Modernisasi Menuju Milenium Baru*. Jakarta: Logos Wacana Ilmu, 1999.
 - [7] M. D. Nafi', *Praxis Pembelajaran Pesantren*. Yogyakarta: PT LKiS Pelangi Aksara, 2007.
 - [8] M. Hamzah, A. Febrianto, A. Yakin, S. Nurbayah, and S. F. Riyantoro, "Penguatan Ekonomi Pesantren melalui Digitalisasi Unit Usaha Pesantren," *Jurnal Ilmiah Ekonomi Islam*, vol. 8, no. 1, pp. 1040–1047, 2022.
 - [9] T. Yuwanda, A. Fadhlan, and M. Bundo, "Digitalization of Pesantren: A Perspective From Human Capital," *DAYAH: Journal of Islamic Education*, vol. 6, no. 1, pp. 29–40, 2023.
 - [10] J. Auda, *Maqasid Al-Shariah as Philosophy of Islamic Law: A Systems Approach*. London: International Institute of Islamic Thought (IIIT), 2008.
 - [11] H. Kusairi and C. Abady, "Efektifitas Program Digitalisasi untuk UMKM Pesantren dan Umum," *Benchmark*, vol. 5, no. 1, pp. 32–33, 2024. doi:10.46821/benchmark.v5i1.525.
 - [12] Mukhlisah, I. Kurniasih, Muhtadin, and Y. Mulyani, "Implementasi Strategi Pemasaran Digital untuk Pengembangan UMKM di Pesantren Khalifa: Pendekatan Halal dan Digitalisasi Pasar," *Bayani Jurnal Studi Islam*, vol. 4, no. 2, pp. 213–222, 2024. doi:10.52496/bayaniV.4I.2pp213-222.
 - [13] Supriyono, "Pesantren, the COVID-19 Pandemic and Digital Transformation: A Global Development Perspective," *Muslim Education Review*, vol. 1, no. 1, pp. 37–58, 2022.
 - [14] E. M. Rogers, *Diffusion of Innovations*, 5th ed. New York: Free Press, 2003.
 - [15] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User Acceptance of Information Technology: Toward a Unified View," *MIS Quarterly*, vol. 27, no. 3, pp. 425–478, 2003.
 - [16] J. A. Schumpeter, *The Theory of Economic Development*. Cambridge, MA: Harvard University Press, 1934.
 - [17] J. W. Creswell and J. D. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. Thousand Oaks, CA: SAGE Publications, 2018.
 - [18] R. K. Yin, *Case Study Research and Applications: Design and Methods*, 6th ed. Thousand Oaks, CA: SAGE Publications, 2018.
 - [19] Sugiyono, *Metode Penelitian Kualitatif*. Bandung: Alfabeta, 2022.
 - [20] M. B. Miles, A. M. Huberman, and J. Saldaña, *Qualitative Data Analysis: A Methods Sourcebook*, 3rd ed. Thousand Oaks, CA: SAGE Publications, 2014.
 - [21] A. H. Al-Farmawi, *Al-Bidāyah fī al-Tafsīr al-Mawḍūʿī*. Cairo: Dār al-Ṭibāʿah wa al-Nashr al-Islāmiyyah, 1977.
 - [22] W. Astuti and N. Saefudin, "Pemberdayaan Kewirausahaan Santri di Era Digital untuk Pengembangan Ekonomi Kreatif di Pondok Pesantren," *JASIE: Journal of Aswaja and Islamic Economics*, vol. 3, no. 2, pp. 118–120, 2024.
 - [23] D. A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall, 1984.
 - [24] K. S. R. Warner and M. Wäger, "Building Dynamic Capabilities for Digital Transformation: An Ongoing Process of Strategic Renewal," *Long Range Planning*, vol. 52, no. 3, pp. 326–339, 2019.
 - [25] Y. Yoo, O. Henfridsson, and K. Lyytinen, "Research Commentary—The New Organizing Logic of Digital Innovation," *Information Systems Research*, vol. 21, no. 4, pp. 724–735, 2010.
 - [26] S. Nambisan, K. Lyytinen, A. Majchrzak, and M. Song, "Digital Innovation Management: Reinventing Innovation Management Research in a Digital World," *MIS Quarterly*, vol. 41, no. 1, pp. 223–238, 2017.
 - [27] J. A. Schumpeter, *Capitalism, Socialism and Democracy*. New York: Harper & Brothers, 1942.
 - [28] M. U. Chapra, *The Future of Economics: An Islamic Perspective*. Leicester: The Islamic Foundation, 2000.
 - [29] T. Greenhalgh, G. Robert, F. Macfarlane, P. Bate, and O. Kyriakidou, "Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations," *The Milbank Quarterly*, vol. 82, no. 4, pp. 581–629, 2004.
 - [30] J. H. Kietzmann, K. Hermkens, I. P. McCarthy, and B. S. Silvestre, "Social Media? Get Serious! Understanding the Functional Building Blocks of Social Media," *Business Horizons*, vol. 54, no. 3, pp. 241–251, 2011.
 - [31] W. R. Scott, *Institutions and Organizations: Ideas, Interests, and Identities*, 4th ed. Thousand Oaks, CA: SAGE Publications, 2014.
 - [32] H. Ahmed, *Maqasid al-Shariah and Islamic Financial Products: A Framework for Assessment*. Edinburgh: Edinburgh University Press, 2011.
 - [33] M. H. Kamali, *Maqasid al-Shariah Made Simple*. Kuala Lumpur: IAIS Malaysia, 2008.
 - [34] G. Westerman, D. Bonnet, and A. McAfee, *Leading Digital: Turning Technology into Business Transformation*. Boston, MA: Harvard Business Review Press, 2014.