Empirical History of Local Wisdom in Digital Learning Within Islamic Education Management

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Abstract:

This study aims to explore the influence of local wisdom on the formation of Islamic character through digital learning. Participants were 285 madrasah teachers in DKI Jakarta, West Java, and Banten, Indonesia. Data were collected through a Likert-type questionnaire. Partial least squares-based structural Equation modeling was used in data analysis, along with descriptive and correlational analyses. The results indicate that local wisdom and digital learning influence Islamic character formation; local wisdom influences digital learning; and digital learning mediates the influence of local wisdom on Islamic character formation. Local wisdom has a greater influence on Islamic character formation than digital learning. Consequently, local wisdom deserves greater attention than digital learning in the context of developing Islamic character formation. These findings introduce an empirical model of how local wisdom influences Islamic character formation through digital learning. This model demonstrates that digital learning, as a management strategy, can act as a medium for transmitting local wisdom in education and character formation. Therefore, its presence needs to be discussed critically before being adopted by researchers for future research and by practitioners, especially in Islamic education management, to optimize the formation of Islamic character based on local wisdom.

Keywords: *Local Wisdom, Character Building, Digital Learning, Management Strategy*

Abstrak:

Penelitian ini bertujuan untuk mengeksplorasi pengaruh kearifan lokal terhadap pembentukan karakter Islam melalui pembelajaran digital. Partisipan dalam penelitian ini adalah 285 guru madrasah di Indonesia, khususnya di Provinsi DKI Jakarta, Jawa Barat, dan Banten. Data penelitian dikumpulkan menggunakan kuesioner dengan format skala Likert. Pemodelan persamaan struktural berbasis partial least squares (PLS) digunakan dalam analisis data, bersama dengan analisis deskriptif dan korelasional. Hasil penelitian menunjukkan bahwa kearifan lokal dan pembelajaran digital memengaruhi pembentukan karakter Islam. Kearifan lokal juga memengaruhi pembelajaran digital, yang pada gilirannya memediasi pengaruh kearifan lokal terhadap pembentukan karakter Islam. Kearifan lokal memiliki pengaruh yang lebih besar terhadap pembentukan karakter Islam dibandingkan dengan pembelajaran digital. Oleh karena itu, kearifan lokal perlu diberi perhatian lebih besar dibandingkan dengan pembelajaran digital dalam konteks pengembangan pembentukan karakter Islam. Temuan ini memperkenalkan sebuah model empiris mengenai pengaruh kearifan lokal terhadap pembentukan karakter Islam melalui mediasi pembelajaran digital. Model ini menunjukkan bahwa pembelajaran digital, sebagai strategi manajemen, dapat berperan sebagai media untuk mentransmisikan kearifan lokal dalam pendidikan dan pembentukan karakter. Dengan demikian, kehadirannya perlu didiskusikan secara kritis

sebelum diadopsi oleh peneliti untuk penelitian mendatang, serta oleh praktisi, khususnya manajemen pendidikan Islam, untuk mengoptimalkan pembentukan karakter Islam berbasis kearifan lokal.

Kata Kunci: *Kearifan Lokal, Pembentukan Karakter, Pembelajaran Digital, Strategi Manajemen*

INTRODUCTION

Islamic character building is crucial to education, particularly in Islamic educational institutions, and it involves Islamic education management—the strategic organization and administration of educational institutions that integrate Islamic values, principles, and ethics into planning, leadership, and resource allocation (Suyanto et al., 2022). This crucial role arises from the emergence of digital learning, which can potentially transmit local wisdom into character education practices in Indonesia, including Islamic character-building as the process of instilling values such as integrity, compassion, justice, and piety, which are essential for developing individuals who embody Islamic principles in their daily lives (Hidayat & Syahid, 2023). This process is essential to prepare students to face modern challenges while remaining rooted in Islamic ethics. However, empirical evidence indicates that forming an optimal Islamic character remains challenging for schools. Empirically, Islamic character-building is influenced by several factors, including local wisdom and digital learning (Khoiroh, 2025). Local wisdom includes cultural values, traditions, and indigenous knowledge, providing a contextual foundation for character education by aligning Islamic teachings with local cultural practices (Hermawan & Sulastri, 2023; Abas, 2024)).

Meanwhile, digital learning serves as a modern pedagogical tool that enhances the delivery of character education through interactive, easily accessible platforms (Fawait et al., 2024). The study by Andanti et al. (2024) also found that local wisdom influences learning. Several pieces of empirical evidence highlight the role of digital learning as a mediator of the causal link between local wisdom and Islamic character-building. However, it remains a challenge to find research results that specifically investigate the effect of local wisdom on Islamic character-building mediated by digital learning. Additionally, inconsistent research results regarding the relationship between these variables were also found. For example, Sulhan and Hakim's (2023) study reported a significant effect of Islamic character-building on the preservation of local wisdom. Agustin and Nuha (2024) also claimed that local wisdom did not significantly affect Islamic character-building. The scarcity of studies on the role of digital learning as a mediator between local wisdom and Islamic character-building, along with contradictory findings and gaps in research on the variables that arise, requires scientific clarification. Based on this urgency, this study aims to explore the influence of local wisdom on Islamic character-building through digital learning.

Conceptually, local wisdom refers to the knowledge, values, and practices embedded in a community's cultural, customary, and environmental contexts,

passed down from one generation to the next to promote sustainable living and social harmony (Sari & Pratama, 2022). It encompasses traditional cultural knowledge, beliefs, and practices that promote community resilience and sustainable resource management, reflecting a profound connection with the local environment (Hidayat & Nugroho, 2024). Local wisdom enhances character education by fostering values such as tolerance and cooperation, and supports sustainable environmental practices (Yusuf et al., 2024; Pratama et al., 2024). Fatmawati (2021) mentions several indicators of local wisdom, including local knowledge, local values, local skills, resource management skills, local decision-making mechanisms, and local group solidarity. Local wisdom is a vital catalyst in shaping authentic Islamic character. Empirical evidence demonstrates the significant impact of local wisdom on the development of Islamic character. Studies by Arif et al. (2023) and Baderiah and Munawir (2024) confirmed that local wisdom enhances the development of Islamic moral and ethical values. Similarly, Idris and Suroto (2023) and Qutni et al. (2023) demonstrate the role of local wisdom in fostering Islamic character traits, such as tolerance, responsibility, and compassion. These findings suggest that local wisdom provides a contextual foundation for instilling Islamic values, increasing their relevance and effectiveness in character development. Therefore, the first hypothesis can be formulated as follows: Local wisdom directly affects Islamic character-building (H$_1$).

Digital learning is the acquisition of knowledge and skills through digital technologies, including online platforms, multimedia resources, and interactive tools, enabling flexible and personalized learning experiences (Nguyen & Tuamsuk, 2022). Digital learning encompasses the use of digital tools, platforms, and resources to deliver educational content, encouraging interactive and collaborative learning tailored to learners' diverse needs in a global digital context (Wang et al., 2024). Digital learning facilitates broader, more varied learning opportunities, allowing learners to engage anytime, anywhere, without being limited by distance, space, or time, through a variety of content formats, including text, visuals, audio, and movement. It encourages interactive communication and data sharing, creating an engaging learning environment that encourages active knowledge creation, inquiry, and exploration (Rachmadtullah et al., 2022). Digital learning was once a tool for shaping Islamic character, which involves cultivating moral and ethical values grounded in Islamic teachings. Studies by Adnan (2022) and Al Ihwanah et al. (2024) revealed that digital platforms enhance the integration of Islamic teachings, which encourages moral and spiritual development. Karimullah et al. (2022) and Muhtifah et al. (2022) also demonstrate that digital learning enables the delivery of Islamic concepts in an interactive and accessible manner, cultivating qualities such as compassion and responsibility. It means that digital learning can help teachers provide varied and engaging content that supports Islamic character-building. Hence, the second hypothesis can be proposed as follows: Digital learning directly affects Islamic character-building (H$_2$).

Digital learning has an exclusive position. Besides influencing Islamic character building, it is also affected by local wisdom. Several studies prove that incorporating local wisdom into digital learning platforms increases educational relevance and engagement by presenting culturally important content (Adiatmana & Hasan, 2022; Andriani et al., 2023). Tressyalina et al. (2023) and Werdistira (2023) also emphasized the crucial role of local wisdom in enhancing the inclusivity and cultural resonance of digital learning, ultimately improving learning outcomes. These findings suggest that local wisdom enriches digital learning by providing culturally relevant content and creating a more meaningful educational experience. Therefore, the third hypothesis can be promoted as follows: Local wisdom directly influences digital learning (H_3).

Several previous studies on the relationship between local wisdom, digital learning, and Islamic character building offer unique and interesting empirical data on the role of digital learning. In addition to influencing Islamic character building (e.g., Al Ihwanah et al., 2024; Syarif & Sahidin, 2024), local wisdom also impacts digital learning. For example, studies by Andriani et al. (2023) and Werdistira (2023) prove the effect of local wisdom on digital learning. The results of these studies suggest that digital learning serves as a mediating factor in the causal relationship between local wisdom and Islamic character-building. However, to date, it remains challenging to find prior research that demonstrates the significant role of digital learning in mediating the influence of local wisdom on Islamic character development. Therefore, it is urgent and important to explore the mediating role of digital learning. The relevant hypothesis proposed to address this issue is that local wisdom indirectly impacts Islamic character-building through digital learning (H_4).

RESEARCH METHOD

This study employs a quantitative approach, a survey method, and a causal design. This method focuses on research with large and small populations, using carefully selected samples to determine the relative incidence, distribution, and correlation between variables. The variables consist of local wisdom as exogenous and digital learning and Islamic character building as endogenous. The conceptual research framework of causal relationships between variables is visualized in Figure 1.
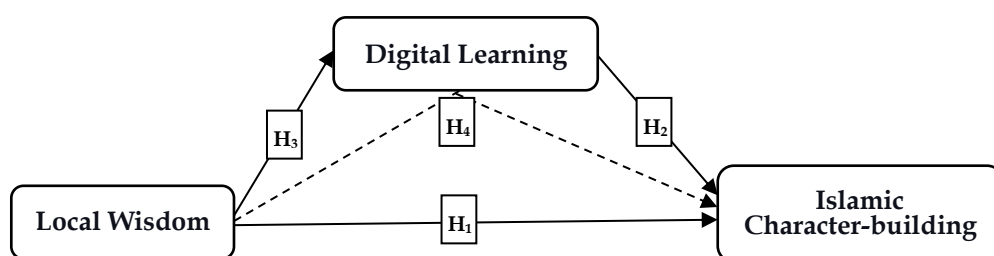
Figure 1. The conceptual research framework

The research sample comprised 285 teachers from private junior madrasah and senior madrasah schools in three provinces in Indonesia. The sample was

selected through accidental sampling, based on respondents' willingness to complete the questionnaire during the study (Widodo, 2021). As shown in Table 1, most samples (respondents) came from West Java province (34%). Taught at the MTs (42%), female (74%), aged 26-35 years (29%), last education was Bachelor's degree (88.2%), married (74%), and had a teaching period of less than or equal to 5 years (34%).

Table 1. Profile of research participants

Characteristics	Frequency	Percentage (%)
Provinces		
DKI Jakarta	95	33,33
West Java	97	34,03
Banten	93	32.64
Educational Level		
MI	77	27,02
MTs	120	42,10
MA	88	30,88
Gender		
Male	74	25,96
Female	211	74,04
Age		
≤ 25 years	52	18.25
26 – 35 years	83	29.12
36 – 45 years	71	24.91
46 – 55 years	67	23.51
> 55 years	12	4.21
Education		
Diploma	12	4.21
Bachelor (S1)	251	88.07
Master (S2)	20	7.02
Doctoral (S3)	2	0.70
Status		
Married	210	73.69
Unmarried	75	26.31
Experience		
≤ 5 years	97	34.04
6 – 10 years	91	31.93
11 – 15 years	60	21.05
> 15 years	37	12.98

Research data collection was conducted through a Likert-scale questionnaire with five response options: strongly disagree (score 1), disagree (score 2), neutral (score 3), agree (score 4), and strongly agree (score 5). The researcher compiled the questionnaire himself, referring to indicators provided by experts. The questionnaire was designed in Google Forms and distributed via email and WhatsApp. This approach is convenient and efficient because it can quickly reach research participants. The local wisdom variable comprises six indicators, including local knowledge, local values, local skills, resource skills, local decision-making mechanisms, and local group solidarity (Fatmawati, 2021). Digital learning indicators consist of the use of digital tools, platforms, and

resources (Nguyen & Tuamsuk, 2022; Wang et al., 2024). Finally, Islamic character-building includes honesty, discipline, compassion, integrity, responsibility, and respect (Trifauzi et al., 2022; Syah, 2022). Local wisdom comprises 12 items, with a correlation coefficient (CC) ranging from 0.493 to 0.760 and a Cronbach's Alpha coefficient (CA) of 0.908. Digital learning consists of 9 items, with a CC of 0.525-0.834 and a CA of 0.846. Finally, Islamic character building comprises 12 items, with a CC of 0.507-0.768 and a CA of 0.856. All items have a CC > 0.361 and a CA > 0.7, indicating that all questionnaires are valid and reliable (Widodo, 2021).

Data analysis employs the Structural Equation Modeling approach based on Partial Least Squares (PLS). This approach is used because it can be relied upon to test both direct and indirect (mediation) influence hypotheses and to measure research variables. This study uses descriptive and correlational analyses. SEM-PLS analysis is used to test the hypothesis and assess model fit, while descriptive and correlational analyses describe the variables' conditions and their relationships. SEM-PLS is operationalized with SmartPLS 4.0, while descriptive and correlational analyses are conducted with SPSS version 26.

RESULT AND DISCUSSION
Result

As shown in Table 2, the descriptive statistics for three research variables indicate that the standard deviation (SD) values (4.092-5.548) are smaller than the average (mean) values (38.47-55.35). With these results, the data can be presented thoroughly and reliably. At the $p < 0.01$ significance level, the correlation analysis indicates a significant relationship between the variables. However, the obtained correlation coefficient is less than 0.8, indicating that there is no multicollinearity (Widodo et al., 2023).

Table 2. Descriptive and Correlation Analysis

Variables	Mean	SD	1	2
1. Local Wisdom	51.11	5.548	1.00	
2. Digital Learning	38.47	4.092	0.534**	1.00
3. Islamic Character-building	55.35	5.013	0.504**	0.541**

** p < 0.01

The validity and reliability of the indicators were assessed using the outer model measurement test, as presented in Table 3. Validity in this context refers to whether the indicator can serve as a variable, while reliability refers to whether the indicator is consistent in performing its role. In general, the loading factor, Cronbach Alpha (CA), and Composite Reliability (RA) values are more than 0.7, and the Average Variance Extracted (AVE) value is more than 0.5 (Hair et al., 2022). Overall, the loading factor for each indicator across all variables – local wisdom, digital learning, and Islamic character-building – meets the convergent validity requirements, as it ranges from 0.786 to 0.928 and exceeds 0.7. All variables with CA and CR values > 0.7, with a range of CA = 0.894 - 0.942 and CR = 0.934 - 0.954, and AVE values > 0.5, with a range of 0.714 - 0.825. Thus, convergent validity is demonstrated for all latent variables in the estimation model (Hair et al., 2022; Widodo et al., 2024).

Table 3. The Measurement Model Results

| Variables	Indicators	Factor Loading	CA	CR	AVE
Local wisdom	a. Local knowledge	0.862			
	b. Local value	0.846			
	c. Local skills	0.786			
	d. Resources skills	0.879	0.920	0.937	0.714
	e. Local decision-making mechanism	0.835			
	f. Solidaritas kelompok lokal	0.858			
Digital learning	a. Use of tools.	0.900			
	b. Use of platforms.	0.928	0.894	0.934	0.825
	c. Use of digital resources.	0.896			
Islamic character-building	a. Honesty	0.834			
	b. Discipline	0.898			
	c. Compassion	0.866	0.942	0.954	0.775
	d. Integrity	0.864			
	e. Responsibility	0.912			
	f. Respect	0.907			

The results of the fit model test also show a Normed Fit Index (NFI) value of 0.906. This value falls within the range of 0 to 1. The model has a high fit when it approaches 1. Then, the Standardized Root Mean Square Residual (SRMR) value = 0.050 < 0.08, and the Chi-squared value = 335.872 > 0.9. The three criteria are met, thus indicating a fit model. It means that the theoretical model hypothesized in this study aligns with, or is consistent with, the empirical model derived from the data.

Table 4 and Figure 2 summarize and visualize the results of hypothesis testing. With a calculated t value greater than the t table at $\alpha = 0.01$ (1.96), all hypotheses are supported (significant). In detail, local wisdom and digital learning affect Islamic character-building, with factor loadings (γ/β) of 0.534 and 0.380, respectively. Then, local wisdom has an impact on digital learning, with a factor loading (γ) of 0.306. Finally, local wisdom influences Islamic character-building through digital learning, with factor loadings (β) of 0.203. Local wisdom has a broader influence on Islamic character-building than digital learning. Consequently, local wisdom needs to be given more attention than digital learning in the context of developing Islamic character-building.

Table 4. Hypothesis Testing Results

Hypothesis	γ/β	t_{value}	t_{table}	Decision
H₁: Local wisdom directly affects Islamic character-building	0.534	9.142**	1.96	Significant
H₂: Digital learning directly affects Islamic character-building	0.380	8.217**	1.96	Significant
H₃: Local wisdom directly impacts digital learning	0.306	6.068**	1.96	Significant
H₄: Local wisdom indirectly influences Islamic character-building through digital learning	0.203	6.565**	1.96	Significant

** $p < 0.01$
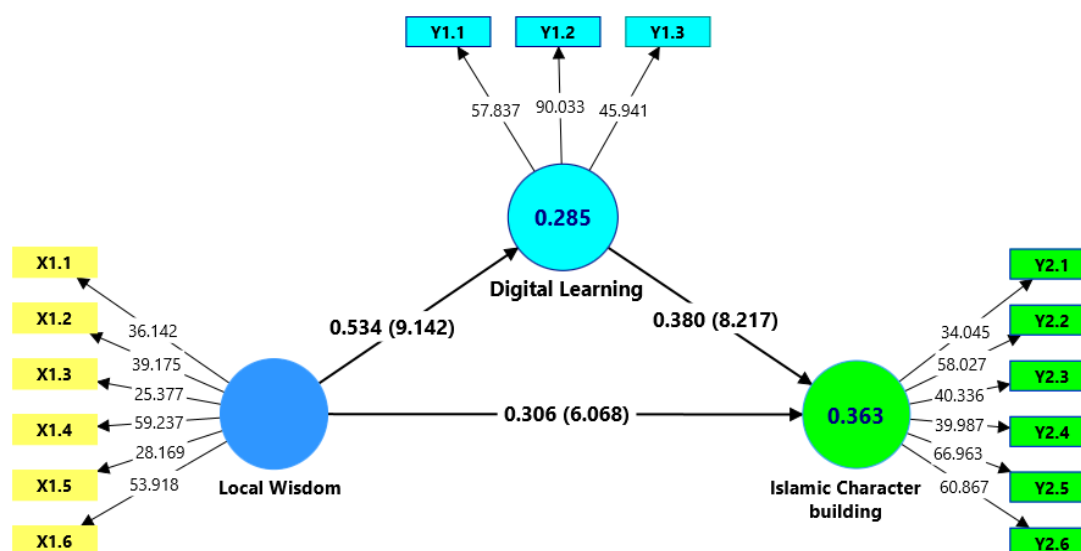
Figure 2. Path coefficient and T-value structural model

Discussion

In general, this study's results indicate that digital learning plays a significant role in mediating the influence of local wisdom on Islamic character-building. Specifically, local wisdom has a significant effect on Islamic character-building. It suggests that local wisdom is a crucial predictor of Islamic character-building, implying that incorporating it into the school curriculum will have significant implications for Islamic character-building. For example, when knowledge, values, skills, decision-making mechanisms, and local group solidarity become part of the dynamics of school life, they can stimulate Islamic character building, reflected in honesty, discipline, compassion, integrity, responsibility, and respect. This finding is consistent and affirms several previous studies that prove that local wisdom provides a positive contribution to Islamic character-building (e.g., Arif et al., 2023; Baderiah & Munawir, 2024; Qutni et al., 2023) and negates the results of Agustin and Nuha's (2024) study, which revealed that local wisdom had no significant effect on the Islamic character-building, and the study of Sulhan and Hakim (2023), which reported a significant effect of Islamic character-building on the preservation of local wisdom. Thus, there is no need to doubt the contribution of local wisdom to the Islamic character-building.

This study also reveals empirical findings about the impact of digital learning on Islamic character-building. This evidence confirms the substantial role of digital learning as an important determinant of Islamic character-building and, at the same time, suggests a tendency: when digital learning is widely implemented, it will encourage better Islamic character-building. For example, the extensive use of digital tools, platforms, and resources in the learning process can help enhance Islamic character building, reflected in honesty, discipline, integrity, responsibility, and respect. This finding aligns with previous studies that demonstrate the significant influence of digital learning on Islamic character development (e.g., Al Ihwanah et al., 2024; Syarif & Sahidin, 2024). This finding provides insight that digital learning, which can utilize various content, including Islamic values, can help accelerate Islamic character building.

Moreover, this study found empirical evidence of the significant influence of local wisdom on digital learning. It confirms the vital role of local wisdom in the development of digital learning. Resource skills, decision-making mechanisms, and local group solidarity are proxies of local wisdom that can be utilized as capital to build digital learning. This finding aligns with and supports previous studies that demonstrate the essential role of local wisdom in making digital learning more inclusive and resonant (e.g., Tressyalina et al., 2023; Werdistira, 2023).

Finally, this study presents an empirical model of how local wisdom influences Islamic character-building through digital learning. This finding confirms the role of digital learning intermediation in transmitting local wisdom on Islamic character-building. Also, it validates previous partial studies that demonstrate the influence of local wisdom on digital learning and the impact of digital learning on Islamic character-building. This model not only provides theoretical contributions to educational science, especially those inherent in the causal relationship between local wisdom and Islamic character-building through the mechanism of digital learning mediation, but also has practical implications for Islamic education management in Indonesia, such as junior madrasah school, and senior madrasah school teachers in Indonesia, especially to accelerate and optimize Islamic character-building based on local wisdom via digital learning. Therefore, Islamic education management (madrasah school management) needs to issue strategic policies to implement this, starting with planning, implementation, monitoring, and evaluation, leading to continuous improvement to align curriculum, teaching methods, and institutional policies with Islamic teachings to foster students' spiritual, intellectual, and moral development while meeting contemporary educational standards (Suyanto et al., 2022). The focus is on optimally utilizing local wisdom and digital learning to support Islamic character building. It can be achieved through a school management model that adopts, internalizes, and applies local cultural values holistically throughout the school's education system, both inside and outside the classroom. Furthermore, school management needs to adopt, internalize, and apply various digital learning tools, platforms, and resources more extensively for learning purposes, and even more to help students discover new resources that support the development of their Islamic character.

CONCLUSION

This study focuses on Islamic character-building as a crucial aspect of education, particularly in Islamic education, including its management. The results of this study indicate that local wisdom digital learning influences Islamic character building, local wisdom has an impact on digital learning, and local wisdom influences Islamic character building through digital learning. Local wisdom has a broader influence on Islamic character-building than digital learning. Consequently, local wisdom needs to be given more attention than digital learning in the context of developing Islamic character-building. This finding introduces an empirical model regarding the influence of local wisdom on Islamic character-building through digital learning. It is not only worthy of critical and in-depth discussion but also of adoption by researchers to improve

their future work. However, Islamic education management practitioners (madrasah schools) can also adapt, adopt, and modify it to accelerate and optimize Islamic character-building through digital learning, grounded in local wisdom. Any use of the results of this research should acknowledge its limitations, including: a relatively small sample size, the use of only a subset of available theoretical indicators from the literature, and reliance on a single data source (teachers).

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