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Digital Media and School Environment as Predictors of Learning Interest in Islamic Education: Evidence from Indonesia's Integrated Islamic Schools

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Abstract: *This study examines how digital learning media and the school environment function as predictors of students' learning interest in Islamic Education within Indonesia's Integrated Islamic Schools. Using a quantitative approach and multiple linear regression analysis, data were collected through a validated and reliable questionnaire administered to all 103 students of SMP IT Permata Probolinggo using saturated sampling. The findings show that digital learning media (p = 0.003; t = 3.018) and the school environment (p = 0.005; t = 2.873) each have a significant partial effect on students' learning interest. Simultaneously, both variables significantly predict learning interest (p = 0.000) with an R^2 value of 0.660, indicating that 66% of the variance in learning interest is explained by the two predictors. These results confirm that the integration of interactive digital media and a conducive school environment is essential for enhancing student engagement and interest in Islamic Education. Schools must therefore optimize technology-supported learning while strengthening an academically supportive environment.*

Abstrak: Penelitian ini mengkaji bagaimana media pembelajaran digital dan lingkungan sekolah berperan sebagai prediktor minat belajar Pendidikan Agama Islam (PAI) di Sekolah Islam Terpadu di Indonesia. Pendekatan kuantitatif digunakan dengan analisis regresi linier berganda. Data dikumpulkan melalui kuesioner yang telah diuji validitas dan reliabilitasnya, melibatkan seluruh 103 siswa SMP IT Permata Probolinggo melalui teknik sampling jenuh. Hasil penelitian menunjukkan bahwa media pembelajaran digital (p = 0,003; t = 3,018) dan lingkungan sekolah (p = 0,005; t = 2,873) berpengaruh signifikan secara parsial terhadap minat belajar siswa. Secara simultan, kedua variabel juga berpengaruh signifikan (p = 0,000) dengan nilai R^2 sebesar 0,660, yang berarti 66% variasi minat belajar dijelaskan oleh kedua prediktor tersebut. Temuan ini menegaskan bahwa integrasi media digital interaktif dan lingkungan sekolah yang kondusif sangat penting untuk meningkatkan keterlibatan dan minat belajar siswa pada mata pelajaran PAI. Sekolah perlu mengoptimalkan pembelajaran berbasis teknologi dan sekaligus memperkuat iklim pembelajaran yang mendukung.

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INTRODUCTION

The rapid development of information and communication technology in the era of Industry 4.0 and Society 5.0 has brought substantial changes to educational practices, including Islamic Education (PAI). Traditional teacher-centered learning models that rely heavily on lectures and textbooks have increasingly become less relevant for today's digital-native students, who are accustomed to interactive, visual, and technology-driven content in their daily lives (Deel, 2024; Fauziyah et al., 2023). This shift has created a significant theoretical and practical gap: while Islamic Education aims to cultivate spiritual, ethical, and moral values, the learning methods used in many schools remain conventional and less engaging for students (Huda, 2021; Arifin & Fadillah, 2025). As a result, there is a growing mismatch between pedagogical approaches and students' actual learning behaviors and preferences, which may reduce their interest in studying PAI.

At the same time, previous studies highlight the crucial role of digital media in enhancing students' engagement and motivation. Digital platforms such as Quizizz, Kahoot, and mobile applications have been found effective in improving students' participation and interest (Tenripada et al., 2025; Nurqozin & Putra, 2023). However, most studies focus on general subjects or elementary-level learners, with limited emphasis on Islamic Education in secondary schools. Moreover, national surveys reveal that although 89% of Indonesian students aged 10–18 access the internet daily, only a small proportion use it for interactive educational purposes, particularly for PAI content (Purwa & Cendekia, 2022). This indicates a research gap regarding how digital learning media specifically contribute to PAI learning interest in Islamic-based school settings.

Similarly, research on the school environment consistently demonstrates its influence on students' learning motivation (Cayubit, 2022; Husna, 2020). Studies show that physical infrastructure, academic climate, teacher–student relationships, and parental collaboration form essential components of a conducive environment that stimulates learning interest (Akram & Li, 2024; Jannah, Arifin, & Puspitasari, 2025). However, prior research typically examines the school environment as a background variable and rarely investigates its predictive power when combined with digital learning media, especially in the context of Integrated Islamic Schools, whose educational environment is strongly shaped by religious values. This creates another research gap concerning how these two key variables interact in predicting learning interest in PAI.

Given these gaps, the present study introduces a novelty by examining *simultaneously* the influence of digital learning media and the school environment as predictors of students' interest in learning Islamic Education. Unlike previous studies that focus on either technological or environmental factors separately, this research integrates both variables into a single model and situates the analysis within an Integrated Islamic School, where digital innovation and religious culture intersect. Furthermore, unlike much existing literature that emphasizes learning outcomes, this study foregrounds the *affective dimension* (students' learning interest) which is a critical yet underexplored predictor of learning success.

Therefore, the purpose of this study is to determine (1) the partial effect of digital learning media on students' learning interest in Islamic Education, (2) the partial effect of the school environment on learning interest, and (3) the simultaneous effect of both factors on students' learning interest at SMP IT Permata Probolinggo. These objectives are aligned with the need to generate empirical evidence that explains how technological and environmental factors jointly influence students' affective engagement in PAI.

The argument underlying this study is that students' interest in learning (shaped by motivation, enjoyment, and active engagement) is influenced by both internal and external factors (Burke et al., 2024; Lu et al., 2022; Li et al., 2022). Digital learning media potentially enhance attention and relevance, while a conducive school environment strengthens confidence and satisfaction, forming a holistic motivational system. Thus, both factors are theoretically expected to function as strong predictors of learning interest, especially in subjects like PAI where student engagement often depends on creative media and a supportive learning ecosystem.

This study is important because declining interest in Islamic Education has long-term implications for students' moral, spiritual, and character development. Moreover, the findings provide practical insights for Integrated Islamic Schools in Indonesia that are navigating digital transformation while maintaining religious identity. The results can guide educators, school leaders, and policymakers in designing more effective, technology-supported, and environmentally supportive learning systems that align with the needs of today's digital generation.

METHOD

This study employed a quantitative approach with an associative research design to examine the influence of digital learning media and the school environment on students' learning interest in Islamic Religious Education (PAI). This design was selected because it allows the researcher to determine the relationships and predictive effects between the independent variables (digital learning media and the school environment) and the dependent variable (students' learning interest).

The population of the study consisted of all seventh-, eighth-, and ninth-grade students enrolled at SMP IT Permata, Probolinggo City, during the 2024/2025 academic year, totaling 103 students. Because the population size was relatively small, the study used a saturated sampling technique, in which all members of the population were included as research respondents (Hennink & Kaiser, 2022; Sugiyono, 2021). Consequently, the total sample comprised 103 students, meaning the sample and population were identical.

Data were collected primarily through a closed-ended questionnaire using a 5-point Likert scale to measure students' perceptions of (1) the use of digital learning media, (2) the quality of the school environment, and (3) their learning interest in PAI. To complement the quantitative data, interviews with school personnel, direct classroom observations, and document analysis were also conducted to obtain contextual information related to the teaching–learning process. The instrument's

validity was tested using the Pearson Product–Moment correlation, while reliability was assessed using Cronbach's Alpha, with a minimum acceptable threshold of $\alpha > 0.70$ (Izah et al., 2023; Arikunto, 2019).

Data analysis was conducted in two major stages. First, descriptive statistical analysis was performed to present respondent characteristics and describe the distribution of each research variable. Second, inferential analysis was conducted using multiple linear regression to determine both the partial and simultaneous effects of the independent variables on the dependent variable. Prior to running the regression model, several classical assumption tests were carried out to ensure the adequacy of the statistical model. These included the Kolmogorov–Smirnov test for normality, Tolerance and Variance Inflation Factor (VIF) values for multicollinearity, and the Glejser test for heteroscedasticity (Osemeke et al., 2024; Nastiti et al., 2023).

Multiple linear regression analysis was selected because it aligns with the research objective of examining the influence of more than one independent variable on a single dependent variable (Roustaei, 2024; Jihaoui et al., 2025). The classical assumption tests ensured that the regression model met the required statistical criteria, enabling the results to be interpreted accurately and enhancing the reliability of the conclusions and recommendations produced by the study.

RESULT AND DISCUSSION

RESULT

Respondent Characteristics

Based on the distribution of the questionnaires, a total of 103 students of SMP IT Permata, Probolinggo City, participated as respondents. Their characteristics are categorized by gender, age, and religious affiliation across different grade levels.

Table 1. Respondent Characteristics Based on Gender

Level of Education	M	F	Total
Class 9	21	13	34
Class 8	25	12	37
Class 7	20	12	32
Total	**66**	**37**	**103**

Source: Profile of IT Middle School, Probolinggo City

Based on Table 1, the respondents are distributed across three grade levels (VII, VIII, IX), totaling 103 students. In Grade VII, there are 32 respondents (20 male, 12 female). Grade VIII consists of 37 respondents (25 male, 12 female), while Grade IX consists of 34 respondents (21 male, 13 female).

Overall, male students constitute the majority, with 66 respondents (64.1%), compared to 37 female respondents (35.9%). Although the distribution is imbalanced, the difference remains within a reasonable proportion typical of the school's demographic characteristics.

Table 2. Respondent Characteristics Based on Age

Age	M	F	Total
< 6 years	0	0	0
6–12 years	10	4	14
13–15 years	56	33	89
16–20 years	0	0	0
> 20 years	0	0	0
Total	66	37	103

Source: Profile of IT Middle School, Probolinggo City

As shown in Table 2, the majority of respondents (89 students or 86.4%) fall within the 13–15 age group, representing typical junior-high-school-aged learners. Fourteen respondents (13.6%) are in the age category of 6–12 years. No respondents fall within the age categories below 6, above 16, or over 20 years old.

All 103 respondents are identified as Muslims, reflecting the Islamic foundation and identity of SMP IT Permata. This religious homogeneity is typical of Islamic-based educational institutions and is relevant when interpreting the findings in the context of Islamic Religious Education (PAI).

Figure 1. Distribution of Questionnaires to Students

During data collection, questionnaires were distributed directly to students in their classrooms. This approach ensured that respondents understood each item clearly and were able to provide accurate and honest responses based on their personal experiences.

As part of the data collection process, a face-to-face interview was conducted with the school principal in the principal's office. The interview aimed to obtain detailed information regarding school policies, classroom practices, environmental support, and factors influencing students' learning interest. The interview also served to validate observational and questionnaire data, thereby strengthening the contextual understanding of the research findings.

Figure 2. Interview with the Principal of SMP IT Permata Probolinggo

Validity Testing

Before the questionnaire instruments were used for data collection, validity and reliability tests were conducted for each variable: digital-based learning media, school environment, and students' learning interest. The validity test used the Pearson Product-Moment correlation with N = 103 – 2 = 101, resulting in an r-table value of 0.193. The complete results are presented in Tables 4, 5, and 6.

Table 3. Results of the Validity Test for the Technology-Based Learning Media Variable (X1)

Question Item	r-count	r-table	Validity
1	0.556	0.193	Valid
2	0.820	0.193	Valid
3	0.794	0.193	Valid
4	0.801	0.193	Valid
5	0.898	0.193	Valid
6	0.894	0.193	Valid
7	0.894	0.193	Valid
8	0.892	0.193	Valid
9	0.865	0.193	Valid
10	0.898	0.193	Valid
11	0.894	0.193	Valid
12	0.894	0.193	Valid
13	0.892	0.193	Valid
14	0.865	0.193	Valid
15	0.865	0.193	Valid
16	0.729	0.193	Valid

All 16 items for the digital learning media variable have r-count values higher than r-table, indicating that every item successfully measures the intended aspects of digital-based learning media according to the instrument's conceptual indicators.

Table 4. Results of the Validity Test for the School Environment Variable (X2)

Question Item	r-count	r-table	Validity
1	0.213	0.193	Valid
2	0.213	0.193	Valid
3	0.793	0.193	Valid
4	0.735	0.193	Valid
5	0.699	0.193	Valid
6	0.264	0.193	Valid
7	0.269	0.193	Valid
8	0.591	0.193	Valid
9	0.769	0.193	Valid
10	0.872	0.193	Valid
11	0.912	0.193	Valid
12	0.869	0.193	Valid
13	0.872	0.193	Valid
14	0.757	0.193	Valid
15	0.779	0.193	Valid
16	0.754	0.193	Valid

All items in this instrument also show significant correlations exceeding the r-table value, meeting both construct validity and content validity criteria. This confirms that the instrument adequately captures the dimensions of the school environment.

Table 5. Results of the Validity Test for the Student Learning Interest Variable (Y)

Question Item	r-count	r-table	Validity
1	0.681	0.193	Valid
2	0.704	0.193	Valid
3	0.399	0.193	Valid
4	0.414	0.193	Valid
5	0.236	0.193	Valid
6	0.722	0.193	Valid
7	0.664	0.193	Valid
8	0.706	0.193	Valid
9	0.699	0.193	Valid
10	0.673	0.193	Valid
11	0.399	0.193	Valid
12	0.399	0.193	Valid
13	0.508	0.193	Valid
14	0.735	0.193	Valid
15	0.431	0.193	Valid
16	0.322	0.193	Valid

All 16 items measuring student learning interest exceed the minimum threshold for validity, demonstrating that the instrument consistently captures the construct of learning interest.

Conclusion of Validity Testing

Overall, the results confirm that every item across the three instruments—digital learning media, school environment, and student learning interest—meets the required validity standards for quantitative research. This ensures that the questionnaires used are accurate, representative, and suitable for the data analysis process that follows.

Reliability Testing

Reliability testing was conducted using Cronbach's Alpha to determine the internal consistency of the instruments. A variable is considered reliable if it has a Cronbach's Alpha value greater than 0.70. The results of the reliability testing for each variable are presented in Table 7.

Table 6. Reliability Test Results

Variable	Cronbach's Alpha	N of Items
Digital Learning Media	0.969	16
School Environment	0.917	16
Student Learning Interest	0.843	16

All three variables demonstrate excellent reliability. The Digital Learning Media variable shows a Cronbach's Alpha of 0.969, indicating exceptionally strong internal consistency. The School Environment variable records a value of 0.917, also demonstrating high reliability. The Student Learning Interest variable yields a Cronbach's Alpha of 0.843, categorizing it as reliable and consistent.

Overall, the results confirm that all instruments meet the reliability standards required for quantitative research. Therefore, they are appropriate for data collection and provide dependable measurements of each construct.

Data Analysis Prerequisite Testing

Before performing the regression analysis, several prerequisite tests were carried out to ensure that the dataset fulfilled the assumptions required for parametric statistical procedures.

1. Normality Test

The normality test was conducted using the Kolmogorov–Smirnov method, complemented by the Monte Carlo Sig. (2-tailed) Upper Bound approach to enhance the precision of the results.

Table 7. Results of the Normality Test

One-Sample Kolmogorov–Smirnov Test	Unstandardized Residual
N	103
Normal Parameters	
Mean	0.0000000
Std. Deviation	2.81905819
Most Extreme Differences	
Absolute	0.239
Positive	0.164

Negative	-0.239
Monte Carlo Sig. (2-tailed)	
Sig.	0.000d
99.9% Confidence Interval – Upper Bound	0.065

The Monte Carlo Sig. (2-tailed) Upper Bound value is 0.065, which exceeds the significance threshold of 0.05. This indicates that the data are normally distributed, satisfying the normality assumption required for further analysis.

2. Multicollinearity Test

After confirming normality, a multicollinearity test was conducted to determine whether any independent variables exhibited high correlation with one another.

Table 8. Results of the Multicollinearity Test

Model	Tolerance	VIF
Digital Learning Media	0.171	5.861
School Environment	0.171	5.861

Dependent Variable: Student Learning Interest

Tolerance values greater than 0.10 and VIF values less than 10.00 indicate that multicollinearity is not present in the model. Thus, the two independent variables (digital learning media and school environment) can be included in the regression analysis without violating multicollinearity assumptions.

3. Heteroscedasticity Test

The heteroscedasticity test was carried out to determine whether the residuals had constant variance. The Glejser method was used to detect the presence of heteroscedasticity (Nastiti, Damayanti, & Madina, 2023).

Table 9. Results of the Heteroscedasticity Test

Model	Unstandardized Coefficients (B)	Std. Error	Sig.
Constant	7.387	2.832	0.010
Digital Learning Media	-0.020	0.049	0.685
School Environment	-0.049	0.075	0.510

Dependent Variable: ABS

Both independent variables show significance values greater than 0.05 (0.685 and 0.510), indicating the absence of heteroscedasticity. Therefore, the assumption of homoscedasticity is met, and the regression model is valid for further analysis.

Multiple Linear Regression Analysis

The multiple linear regression analysis was conducted to examine the influence of digital learning media (X_1) and the school environment (X_2) on students' learning interest (Y). The regression coefficients and statistical outputs are presented in Table 10.

Table 10. Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)
Constant	32.894	4.476	—
Digital Learning Media	0.232	0.077	0.426
School Environment	0.338	0.118	0.405

Dependent Variable: Student Learning Interest

Regression Equation

Based on the results shown in Table 11, the regression model can be formulated as follows:

$$Y = a + b_1X_1 + b_2X_2$$
$$Y = 32.894 + 0.232X_1 + 0.338X_2$$

a = Constant

X_1 = Digital Learning Media

X_2 = School Environment

Y = Students' Learning Interest

Interpretation of Regression Coefficients

a. Constant (a = 32.894)

The constant value indicates that if both independent variables (digital learning media and school environment) are assumed to be zero, students' learning interest would still be at 32.894. This baseline reflects the inherent interest students have even without external influences.

b. Digital Learning Media (b_1 = 0.232)

The regression coefficient for digital learning media is positive (0.232), meaning that: (1) For every one-unit increase in the effective use of digital learning media, students' learning interest increases by 0.232 units, assuming all other variables remain constant; (2) This suggests that digital media enhances engagement, improves access to Islamic Religious Education (PAI) materials, and enriches learning experiences.

c. School Environment (b_2 = 0.338)

The coefficient for the school environment (0.338) is also positive and higher than the coefficient for digital learning media. This indicates that: (1) A one-unit improvement in the school environment increases learning interest by 0.338 units, assuming other variables remain constant; (2) This demonstrates that a conducive school environment (supportive climate, adequate facilities, and positive interpersonal relationships) has a greater effect on learning interest than digital media alone.

d. Implications of the Regression Model

The positive coefficients for both independent variables show that: (1) Digital learning media and the school environment both significantly contribute to

increasing students' interest in learning Islamic Religious Education; (2) The school environment has a stronger influence, reflected in its higher coefficient (0.338 > 0.232). Therefore, schools aiming to enhance student learning interest should: (1) Strengthen the use of interactive digital learning tools; (2) Simultaneously build a supportive and motivating school environment.

e. Partial Conclusion

Individually, each independent variable positively contributes to learning interest. This reinforces existing learning theories that highlight the importance of: (1) External factors (learning environment), and (2) Technological supports (digital media), as critical drivers of student motivation and engagement in learning.

Hypothesis Testing

Hypothesis testing was carried out through the t-test (partial test) and the F-test (simultaneous test) to determine the significance of the effects of each independent variable.

1. Results of the t-test (Partial Test)

The t-test examines whether digital learning media and the school environment individually have a significant influence on learning interest.

Table 11. Results of the t-test (Partial Test)

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	32.894	4.476	—	7.348	0.000
Digital Learning Media	0.232	0.077	0.426	3.018	0.003
School Environment	0.338	0.118	0.405	2.873	0.005

Dependent Variable: Student Learning Interest

Digital Learning Media ($p = 0.003$): Since $p < 0.05$, digital learning media significantly affects students' learning interest. More effective digital media usage leads to higher learning interest. School Environment ($p = 0.005$) Since $p < 0.05$, the school environment also significantly affects learning interest. The more conducive the school environment, the higher the students' motivation and involvement. Both hypotheses (H1 and H2) are accepted.

2. Results of the F-test (Simultaneous Test)

The F-test evaluates whether the independent variables jointly influence the dependent variable.

Table 12. Results of the F-test (Simultaneous Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1575.261	2	787.630	97.166	0.000
Residual	810.603	100	8.106	—	—
Total	2385.864	102	—	—	—

Dependent Variable: Student Learning Interest
Predictors: Digital Learning Media, School Environment

The significance value is 0.000, which is < 0.05. Therefore: Digital learning media and school environment jointly have a significant effect on learning interest. When combined, they strongly explain variations in students' motivation. This confirms that an integrated approach (technology-enhanced learning supported by a positive school climate) is highly effective in increasing students' engagement.

Results of the Determination Coefficient (R^2 Test)

The R^2 test measures how much the independent variables collectively explain the dependent variable.

Table 13. Results of the Determination Coefficient (R^2 Test)

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin-Watson
1	0.813a	0.660	0.653	2.847	1.567

Predictors: Digital Learning Media, School Environment
Dependent Variable: Student Learning Interest

The R^2 value of 0.660 indicates that 66% of the variation in students' learning interest can be explained by digital learning media and the school environment. The remaining 34% is influenced by other factors not examined in this study. An R^2 of 0.660 is considered moderately strong, showing good predictive capability of the regression model.

DISCUSSION

Partial Effect of Digital Learning Media on Students' Learning Interest

The results of the analysis show that digital learning media have a statistically significant effect on students' learning interest. This is demonstrated by a significance value of 0.003 ($p < 0.05$) and a t-value of 3.018, which exceeds the t-table value of 1.983. These quantitative findings indicate that the integration of digital learning media at SMP IT Permata Probolinggo effectively enhances students' motivation, engagement, and interest in learning. Digital media, characterized by interactive features, attractive visuals, and flexible accessibility, makes learning more appealing and reduces monotony, motivating students to participate actively in Islamic Religious Education learning activities.

These findings reinforce Keller's ARCS Motivation Model, which posits that instructional media that successfully capture Attention, establish Relevance, build Confidence, and foster Satisfaction will enhance students' learning motivation (Chang, 2021; Zhou & Zhang, 2025). In this study, digital learning media were particularly effective in fulfilling the elements of Attention and Relevance. The contextual presentation of PAI content, supported by multimedia visualization, enabled students to relate learning materials to their lived experiences, thus making learning more meaningful.

This study is in line with findings from Alenezi (2023) and Nurqozin and Putra (2023), who confirmed the effectiveness of digital media in increasing learning interest, and with the insights of Slameto (2015) and Yan & Li (2024), who emphasized the role of external learning resources in shaping student motivation. Furthermore, Liu et al., (2023) and Li (2022) demonstrated that the integration of

educational technology could strengthen emotional and cognitive engagement in both online and offline learning environments.

However, this study also offers a distinctive contribution compared to previous research, such as Tran-Duong (2023) and Xu et al (2025), which predominantly examined digital media in the context of cognitive learning outcomes and conceptual mastery. In contrast, the present research focuses on the affective domain (specifically learning interest) which has received relatively limited attention in technology-based education studies. This confirms that the success of digital media in education should not be measured solely through academic achievement but also through its impact on learners' emotional engagement and intrinsic motivation.

The novelty of this study lies in (1) its explicit emphasis on the affective dimension of learning, and (2) its contextual grounding in Islamic Religious Education within an Islamic school environment. Few studies have explored how digital learning media influence learning interest in PAI subjects, making this research particularly relevant for Islamic educational institutions that aim to modernize pedagogy while maintaining religious values.

Partial Effect of the School Environment on Students' Learning Interest

The school environment also significantly influences students' learning interest, with a significance value of 0.005 ($p < 0.05$) and a t-value of 2.873, which exceeds the t-table value of 1.983. This indicates that both physical aspects, such as learning facilities and infrastructure (and non-physical aspects) such as academic climate, religious culture, discipline, and teacher–student relationships, play an essential role in shaping students' enthusiasm for learning PAI.

The findings align with Bronfenbrenner's ecological systems theory, which recognizes the microsystem (including the school environment) as a primary sphere influencing students' development (El Zaatari & Maalouf, 2022; Sekarsari & Fauziah, 2025). A conducive school environment not only facilitates learning activities but also shapes students' psychological readiness, emotional security, and motivation to learn. In the context of Islamic education, a school atmosphere embedded with religious values reinforces moral and spiritual development while simultaneously motivating students' engagement (Aseery, 2024; Purwaningsih & Ridha, 2024).

This study also strengthens the argument presented by Neher-Asylbekov & Wagner (2023) that the school environment is a key determinant of learning interest and aligns with the findings of Abdul Latip et al (2025), who concluded that supportive physical and psychosocial environments enhance student motivation. Similarly, Sari et al. (2024) and Edgerton & McKechnie (2023) highlighted that school climate and interpersonal relationships often exert a stronger influence on learning motivation than instructional media alone.

A critical contribution of this study is its challenge to reductionist perspectives that frame digital technology as the primary driver of learning outcomes. Instead, the findings demonstrate that technology must coexist with a supportive learning ecosystem. Using a saturated sampling method involving all students of SMP IT

Permata, this research also strengthens external validity by capturing school-wide environmental influences shaped by Islamic culture.

The novelty of this study is its emphasis on the school environment as a dominant factor affecting PAI learning interest, surpassing even digital media. Many previous studies positioned the school environment merely as a background factor, whereas this study identifies it as a central determinant. This contributes to the literature by highlighting the ecological dimension of education as crucial to affective engagement in Islamic schools.

Simultaneous Effect of Digital Learning Media and the School Environment on Students' Learning Interest

The simultaneous influence of digital learning media and the school environment was also found to be significant, with an F-value of 97.166 (greater than the F-table value of 3.090) and a significance of 0.000 ($p < 0.05$). These results indicate that the interaction between digital media and a supportive school environment contributes substantially to students' learning interest.

This synergy suggests that learning interest is not shaped by digital technology alone but is strengthened when digital tools operate within an organized, motivating, and values-based learning environment. Teachers play a strategic role in designing digital-rich learning activities, while school administrators are responsible for providing technological resources and creating a conducive academic atmosphere.

These findings are theoretically aligned with Vygotsky's social constructivism, which posits that learning emerges through interactions between learners and their socio-cultural environment (Daramola et al., 2024; Nithideechaiwarachok & Chano, 2024). Digital media act as cognitive tools, while the school environment provides the social context for interaction, collaboration, and motivation. The results also reinforce views from Slameto (2015) that learning interest is determined by a combination of internal and external factors.

Empirically, these findings extend previous research by Alalwan (2022) and Suryadi et al (2020), who emphasized the role of digital media in enhancing engagement, and by Schweder & Raufelder (2022), who examined the influence of school climate on learning interest. However, most prior studies examined these factors separately, whereas this study demonstrates that the integrated effect of both variables is more substantial.

The novelty of this analysis lies in its identification of the simultaneous associative relationship between digital media and the school environment. This integrative approach highlights that successful learning requires both technological enrichment and a conducive school setting as complementary components of the learning system.

This study provides several important contributions to the field of Islamic education and digital learning integration. First, it brings a significant shift in scholarly attention from predominantly cognitive learning outcomes to the affective domain, particularly learning interest, which is essential for long-term learner engagement yet remains underexplored in technology-based education research.

Second, this study enriches the literature by situating its findings within the context of Islamic Religious Education in Islamic-based schools (an educational setting that has received limited empirical focus) thus offering new insights into how digital media and school environments jointly shape students' learning motivation in value-oriented learning contexts. Third, by examining digital learning media and the school environment simultaneously within a single analytical model, this study introduces an integrated explanatory framework that demonstrates the synergistic relationship between technological tools and ecological learning conditions, an approach that surpasses previous studies that typically examined these factors separately. Fourth, through the use of saturated sampling involving the entire student population, the study strengthens the external validity of its findings, making them more applicable to similar Islamic educational settings. Finally, the study offers practical pedagogical implications for teachers, school leaders, and policymakers by emphasizing that effective enhancement of learning interest requires not only the adoption of digital technology but also the creation of a conducive, supportive, and religiously grounded school environment. Together, these contributions position the study as a meaningful advancement in understanding how technological and environmental factors interact to foster students' motivation and engagement in contemporary Islamic education.

CONCLUSION

This study concludes that both digital learning media and the school environment serve as significant predictors of students' learning interest in Islamic Religious Education. The results demonstrate that digital learning media have a strong and statistically significant partial influence on learning interest, indicating that interactive, visually appealing, and flexible digital tools are effective in capturing students' attention, increasing their engagement, and making PAI learning more meaningful and motivating. The affective impact of digital media (particularly in fostering attention and relevance) confirms that technology integration in Islamic education is not merely a pedagogical trend but an essential component for strengthening students' intrinsic motivation.

The school environment also shows a significant partial effect on learning interest. A conducive school setting, characterized by adequate facilities, a positive academic climate, harmonious teacher–student relationships, and a strong religious culture, plays a critical role in enhancing students' enthusiasm for learning. This finding validates theoretical perspectives that emphasize the ecological dimension of learning, where physical and psychosocial conditions contribute substantially to students' psychological readiness and motivation.

Furthermore, the simultaneous analysis reveals that digital learning media and the school environment collectively exert a stronger influence on learning interest than when examined individually. This synergy confirms that technological innovation must be supported by a conducive school ecosystem to maximize its educational impact. Thus, effective learning in Islamic schools requires both digital enrichment and an environment that nurtures emotional security, discipline, and religious values.

Despite its contributions, this study has several limitations. The research was conducted in a single Islamic school with a saturated sample of 103 students, which restricts the generalizability of the findings. The use of self-report instruments (questionnaires, observations, and interviews) also limits the depth of psychological insights that could be captured. Therefore, future studies should expand the sample across multiple Islamic schools, adopt mixed-method designs combining quantitative and qualitative approaches, and incorporate additional variables such as parental support, school culture, and emerging AI-based learning technologies. These extensions would provide a more comprehensive understanding of the multifaceted factors shaping learning interest in Islamic education.

Overall, this study contributes new empirical evidence that learning interest in PAI is shaped not only by digital instructional tools but also by the ecological and cultural atmosphere of Islamic schools. The combination of these factors forms a more holistic foundation for designing effective, motivating, and contextually relevant learning strategies in the digital era.

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