

The Influence of Digital Literacy, Game-Based Methods, and Religiosity Attitude on Zakat Knowledge in Al-Islam and Muhammadiyah Learning

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ARTICLE INFO		ABSTRACT
Keywords:	Zakat Knowledge, Zakat Digital Literacy, Game Methods, Religiosity Attitude	This study analyzes the influence of zakat digital literacy, game methods, and religiosity attitudes on zakat knowledge among Muhammadiyah High School students. Addressing a gap in existing literature, the research explores how digital literacy and gamification enhance zakat understanding in Islamic education. Its novelty lies in examining the interaction between digital literacy, interactive learning, and religious attitudes within Indonesian Islamic schools. The study was conducted at SMA Muhammadiyah South Tangerang, Banten, using a survey method with statistical analyses including correlation tests, simple linear regression, and multiple regression. The population comprised 144 students in class X, with a sample of 106 selected through multistage random sampling. Instruments included zakat knowledge tests, zakat digital literacy, game methods, and religiosity attitudes measures. Results reveal that zakat digital literacy, IZI Game game methods, and religiosity attitudes each have a direct, positive, and significant effect on zakat knowledge. Additionally, zakat digital literacy and game methods positively influence religiosity attitudes. The indirect effect of digital literacy on zakat knowledge through religiosity attitudes is not significant, but game methods do have a significant indirect effect through religiosity attitudes. These findings suggest that enhancing zakat knowledge is most effective via interactive learning approaches combining digital literacy, game-based methods, and fostering students' religiosity attitudes.

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INTRODUCTION

Knowledge about zakat is an important factor in increasing the motivation and compliance of Muslims to pay zakat because individuals who have good knowledge tend to be more willing and sincere in paying and applying it. Knowledge is obtained through the senses, awareness, understanding, and intelligence, so it is the result of the process of comprehending something, including zakat, through learning and experience (Fitriyani & Irkhami, 2022). Currently, the knowledge and implementation of

zakat are generally carried out by parents, while children as students still have limited understanding, although there are sub-chapters about zakat in the subject of Al Islam and Muhammadiyah (AIK). Knowledge of zakat includes an understanding of its purpose, benefits, and impacts, which can influence behavior in paying zakat (Nuraini & Budiandru, 2024). In addition to the religious aspect, zakat should also be seen as a source of economic strength to solve social problems, so zakat knowledge plays a critical role in empowering zakat.

Low knowledge of zakat makes it difficult for individuals to understand the procedures for implementing zakat, such as the amount that must be paid by muzakki, infaq, shadaqah, and those who are entitled to receive zakat (mustahik), so that even simple matters can become problematic for individuals and Muslims in collecting zakat. Canggih (2021) found that among millennials, 44.6% had a low understanding of basic zakat knowledge, while 57% showed low literacy in advanced zakat knowledge. On the other hand, individuals who have a deep understanding of zakat find it easier to carry out Islamic teachings, including paying zakat, infaq, and shadaqah. Canggih (2021) emphasized that understanding the urgency of paying zakat and knowing basic zakat information are important elements that affect zakat payment behavior in society.

Digital literacy is a variable suspected to affect zakat knowledge. Digital literacy refers to a person's ability to understand and adapt to information that can impact their attitudes and decisions. This means that digital literacy is a skill that can be developed through self-learning using digital technology, such as reading books conventionally or browsing information on the internet. Pulungan (2017) stated that the level of literacy is positively related to people's behavior, where high literacy encourages good understanding, while low literacy negatively impacts individual knowledge.

To increase the digital literacy of zakat among students, the role of teachers is very important through teaching during Teaching and Learning Activities (KBM) with fun learning methods, because monotonous methods can cause student boredom (Kruk & Zawodniak, 2020). Mailita et al. (2016) also showed that many teachers teach monotonously, so it is necessary to train fun zakat learning methods, one of which is through the role-playing method using game-based learning media, such as Zakat Game IZI from the Indonesian Zakat Initiative (IZI), to increase students' zakat literacy.

In contrast to previous studies that examined general pedagogical approaches, this research specifically investigates the effectiveness of the IZI Zakat Game as an innovative educational tool. While Mailita et al. (2016) identified the need for engaging teaching methods, our study provides empirical evidence showing how game-based learning specifically enhances zakat knowledge, filling a significant gap in the literature on Islamic educational technology. Furthermore, unlike traditional studies that examined single variables, this research explores the complex interactions between

digital literacy, game methods, and religiosity attitudes, providing a more comprehensive understanding of factors influencing zakat education.

Another factor suspected to increase zakat knowledge is the attitude of religiosity, which refers to the attitude and behavior of obeying one's religious teachings, tolerating religion, and living in harmony with followers of other religions. According to Setiawan (2021), religiosity is a conscious behavior of accepting and practicing the values inherited by society based on faith and belief, reflected in daily actions. Students with high religiosity tend to carry out religious obligations wholeheartedly, including paying zakat fitrah at school, so a positive religious attitude encourages an increase in zakat knowledge. The level of religiosity among students is an indicator of understanding, deepening, and appreciating Islamic teachings applied in worship, such as prayer, fasting, and social activities, including paying zakat. Research by Purwadani and Ridwan (2022) shows that religiosity has a positive and significant effect on the millennial generation's interest in paying zakat.

Indonesia, as the country with the largest Muslim population in the world, has huge potential for zakat, estimated to reach around Rp. 327.6 trillion annually according to the Center for Strategic Studies of the National Amil Zakat Agency (Puskas BAZNAS). However, the zakat collected through BAZNAS, and the Amil Zakat Institute (LAZ) only reached Rp. 14.12 trillion in 2021, Rp. 22.48 trillion in 2022, Rp. 32.32 trillion in 2023 and is projected to reach Rp. 41.00 trillion in 2024 (BAZNAS Puskas, 2021). This amount is still far below its true potential due to low public awareness to pay zakat, even though zakat can improve the economy of the people. Aisyah (2019) stated that obstacles in optimizing the absorption of zakat funds include aspects of collection, management, and utilization, with the main causes of low collection being the low awareness of zakat and lack of public knowledge about zakat, especially zakat maal and professional zakat.

Looking at the situation above, various factors cause zakat collection in Indonesia to be suboptimal. Nugraha et al. (2018) stated that the difference between the potential of zakat and the realization of its collection is due to low public attention or concern for zakat, which means that an increase is necessary. Hasan (2021) stated that the obstacles to minimal zakat receipts in Indonesia relate to education and literacy. Ascarya and Yumanita (2018) added that one reason for the low collection of zakat is the lack of literacy or public knowledge about zakat, both in general and regarding the importance of paying zakat. Tias et al. (2024) revealed that the main factors limiting zakat collection are low literacy and inadequate quality of human resources, including a lack of public knowledge, a tendency to distribute personally, and low awareness of zakat obligations.

Regarding the results of research by the BAZNAS Strategic Study Center (Puskas) on the Zakat Literacy Index (ILZ), it is known that zakat literacy among Indonesian students is still relatively low (puskasbaznas.com,

September 26, 2020). Likewise, zakat knowledge and zakat realization remain limited based on the research results of Zaenal & Saoqi (2022).

The study suggests that the government and zakat provider institutions such as BAZNAS, LAZ, and similar bodies should educate and socialize zakat awareness to the wider community (Puskas BAZNAS, 2019), including students in schools. This is important because research by BAZNAS Puskas in 2020 revealed that zakat literacy among Indonesian students is still relatively low, reaching only 45.41% at the high school education level.

Muhammadiyah, as one of the largest Islamic organizations in Indonesia, plays an important role in national progress through education, economy, and community empowerment (Elhady, 2017). In the issue of zakat and Islamic philanthropy, philanthropy is understood as a form of care, solidarity, and social relations between the rich and the poor, which is not only material donations but also an effort to encourage collective change in society (Latief, 2013). Religious motivation is the dominant factor in Islamic philanthropic activities, emphasizing charitable and service elements with limited policy advocacy. The economic crisis in Indonesia has encouraged Muslims to use Islamic philanthropy such as zakat, alms, and waqf for social change, reflected in the emergence of Islamic philanthropic institutions managing social funds for activities benefiting the underprivileged. The growth of these institutions in the past decade shows strong community enthusiasm, as seen in institutional transformation, dynamic distribution of funds through social programs, and innovation in Islamic philanthropy concepts supporting social fund collection from the wider community (Latief et al., 2015).

Education plays an important role for Muhammadiyah because through education, the understanding of Islamic teachings can be instilled and inherited by the next generation, especially through Al-Islam and Muhammadiyah (AIK) education, which is a characteristic and solution to overcome spiritual emptiness at various Muhammadiyah educational levels (Setyawan & Wantini, 2018). The implementation of AIK must be carried out in all Muhammadiyah charity units (AUM) to support the goal of creating a superior and prosperous society (Khairu Ummat). AIK lessons also form the backbone of Muhammadiyah in conveying the organization's da'wah mission and supporting regeneration through its ideological content (Kandarisman, 2021). One effort to optimize AIK in schools is to improve teachers' competence in Islamic philanthropic education, including zakat digital literacy, by utilizing interactive learning media such as Zakat Game IZI, considering that Islamic philanthropy is an important update for Muhammadiyah in advancing the welfare of the ummah (Fauzia, 2016).

The reason for choosing SMA Muhammadiyah Tangerang Selatan Banten as the research site includes: (1) easy access to conduct research and reach the location, (2) the research problem or theme is present in this Muhammadiyah school, and (3) relevant issues because the theme of zakat

knowledge is within the scope of AIK (Al Islam and Muhammadiyah), facilitating problem identification in the school.

Based on the results of the daily review of zakat knowledge in the sub-subject of zakat material for grade X students of Muhammadiyah High School in South Tangerang, Banten, the scores obtained by students are still below the KKM (Minimum Completeness Criteria) = 65. This means students have not reached the minimum criteria set by their respective schools. Based on this explanation, the author is interested in further research titled: "The Influence of Digital Literacy, Game Methods and Religiosity Attitudes on Zakat Knowledge in Al Islam and Muhammadiyah Learning (Path Analysis Study at Muhammadiyah High School in South Tangerang Banten)".

RESEARCH METHOD

This study employed a survey method to investigate its subject, with the population consisting of students from Muhammadiyah High Schools in South Tangerang, Banten. A multistage random sampling technique was utilized to ensure a representative sample, which involved systematically selecting three schools and then randomly choosing students within them. The total sample size of 106 students was determined using the Slovin formula, distributed proportionally across the schools, while an additional 50 students from one school were designated for instrument testing. To mitigate potential participant bias, the researchers adopted a personal approach to ensure respondents were comfortable and acted naturally.

The research was conducted over five months, from March to July 2025, at three specific schools: SMA Muhammadiyah 25 Pamulang, SMA Muhammadiyah 8 Ciputat, and SMK Muhammadiyah 3 Ciputat. The process encompassed several stages, including preliminary research, literature study, instrument testing, data collection, and analysis. For data processing, the study applied both descriptive and inferential statistical techniques, specifically employing normality tests, homogeneity tests, regression tests, and correlation tests to analyze the gathered information.

The distribution of the number of samples in each Muhammadiyah High School in South Tangerang Banten is shown in the following table:

Table 1. Determination of Sample Quantity

No.	School	Σ Students	Σ Research Sample	Σ Trial Sample
1	High School Muh 25	72	$(106/144) \times 72 = 53$	
2	Muh 8 High School	72	$(106/144) \times 72 = 53$	
3	SMK Muh 3 Ciputat			50 students
				106

Based on the table above, the sample for the study was 106 people and the instrument trial sample was 50 people.

RESULTS AND DISCUSSION

Testing Data Analysis Requirements

This research is causal, the data obtained comes from question instruments and anglet in the form of questionnaires that have been tested for validity and reliability. Before conducting a path analysis, there are several requirements that must be met, namely:

Normality of Assessment Error Test

The normality test is carried out to find out whether the research data is distributed normally or not. This analysis uses the normality test of estimation error using the Liliefors method, where the hypothesis of zero (H_0) is accepted if it is calculated $\leq L_{table}$ and rejected if it is calculated $> L_{table}$. If H_0 is accepted, the data is considered to be from a normally distributed population. In contrast, if H_0 is rejected, the data comes from a population that is not normally distributed. The results of the normality test of estimation errors for the research variables can be summarized as shown in the following table.

Table 2. Summary of Normality Test of Assessment Errors (*Liliefors*)

No.	Assessment Error	Count	Table		Decision
			0,01	0,05	
1	Y tops X1	0,066	0,100	0,086	Usual
2	Y top X2	0,057	0,100	0,086	Usual
3	Y above Z	0,053	0,100	0,086	Usual
4	Z over X1	0,044	0,100	0,086	Usual
5	Z over X2	0,038	0,100	0,086	Usual

Normal, if the Count $< L_{table}$

The results of the normality test using the Liliefors method showed that all the variable data of zakat knowledge (Y) on digital literacy of zakat (X1), game method (X2), and attitude of religiosity (Z), as well as variable data of religiosity attitude (Z) on digital literacy of zakat (X1) and game method (X2) were distributed normally. This is shown by a L_{cal} value that is smaller than L_{table} at a significance level of $\alpha = 0.05$, so H_0 is accepted for the entire test. A summary of the normality test is presented in Table 4.9, which confirms that all estimation errors meet the normal distribution criteria

Homogeneity Test

The homogeneity test is used to test the distribution of data from two or more variants from homogeneous populations or not. The homogeneity test in this study was calculated using *the Bartlett homogeneity assumption test*. Based on the elaboration of the research variables, the results of the homogeneity test can be summarized using the barlett formula contained in the following table.

Table 3. Homogeneity Test Summary (*Barlett*)

No.	Homogeneity Test	Count	Table		Decision
			0,01	0,05	
1	Y tops X1	6,533	118,236	107,522	Homogeneous
2	Y top X2	20,740	76,154	67,505	Homogeneous
3	Y above Z	23,246	78,616	69,832	Homogeneous

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No.	Homogeneity Test	Count	Table		Decision
			0,01	0,05	
4	Z over X1	14,65	118,236	107,522	Homogeneous
5	Z over X2	31,095	76,154	67,505	Homogeneous

Homogeneous, if $\chi^2_{\text{count}} < \chi^2_{\text{table}}$

The variance homogeneity test aims to evaluate the uniformity of variance between groups of bound variable scores grouped based on independent variables, using the Bartlett test with the criteria: Ho is accepted, if $\chi^2_{\text{count}} < \chi^2_{\text{tables}}$ (homogeneous) and Ha is accepted, if $\chi^2_{\text{count}} > \chi^2_{\text{tables}}$ (non-homogeneous).

The results of the variance homogeneity test with the Bartlett test showed that all group variances were homogeneous. This is shown by the value $\chi^2_{\text{of 2 calculations}}$ which is smaller than the value $\chi^2_{\text{of 2 tables}}$ at a significance level of 0.05, both in the relationship of zakat digital literacy to zakat knowledge ($\chi^2_{\text{count}} = 6,533 < \chi^2_{\text{table}} = 107,522$), game methods to zakat knowledge ($20,740 < 67,505$), religiosity attitudes towards zakat knowledge ($23,246 < 69,832$), zakat digital literacy to religiosity attitudes ($14,650 < 107,522$), and game methods on religiosity attitudes ($31,095 < 67,505$). Thus, all research data meet the assumption of homogeneity of variance between groups

Regression Significance Test

The regression significance test hypothesis in this study states that H0: independent variable data (X) with bound variables (Y) is insignificant if the significance value is $> \alpha$ (0.05 or 0.01), while Ha: independent variable data (X) with bound variable (Y) is significant if the significance value is $< \alpha$ (0.05 or 0.01).

The results of the calculation of the significant test of the variables X1 with Y are presented in the following table.

Table 4. Anova Significance Test

ANOVA						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2027.460	1	2027.460	180.060	.000b
	Residual	1171.031	104	11.260		
	Total	3198.491	105			
a. Dependent Variable: Knowledge of Zakat						
b. Predictors: (Constant), Digital Literacy of Zakat						

Based on the calculation results, the probability value (sig.) is $0.00 < 0.05$ and $F_{\text{cal}} (180.060) > F_{\text{table}} (3.93)$, so that the regression equation $\hat{Y} = 4.175 + 0.783X1$ is declared significant and can be used to predict zakat knowledge based on zakat digital literacy.

The results of the calculation of the significance (significant) test of the variables X2 with Y are shown in the following table:

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Table 5. Anova Significance Test

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2370.229	1	2370.229	297.616	.000b
	Residual	828.262	104	7.964		
	Total	3198.491	105			

a. Dependent Variable: Knowledge of Zakat

b. Predictors: (Constant), Game Method

Based on the calculation results, the probability value (sig.) is $0.00 < 0.05$ and $F_{cal} (297.616) > F_{table} (3.93)$, so that the regression equation $\hat{Y} = -10.674 + 0.314X_2$ is declared significant and can be used to predict zakat knowledge based on the game method.

The results of the calculation of the significance test (significant) of variables Z with Y are shown in the following table:

Table 6. Anova Significance Test

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2256.282	1	2256.282	249.046	.000b
	Residual	942.209	104	9.060		
	Total	3198.491	105			

a. Dependent Variable: Knowledge of Zakat

b. Predictors: (Constant), Attitude of Religiosity

Based on the calculation results, the probability value (sig.) is $0.00 < 0.05$ and $F_{cal} (249.046) > F_{table} (3.93)$, so that the regression equation $\hat{Y} = -13.579 + 0.317Z$ is declared significant and can be used to predict zakat knowledge based on religiosity.

The results of the calculation of the significance test of variables X_1 with Z are shown in the following table:

Table 7. Anova Significance Test

ANOVA					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1Regression	11652.639	1	11652.639	112.027	.000b
Residual	10817.739	104	104.017		
Total	22470.377	105			

a. Dependent Variable: Attitude of Religiosity

b. Predictors: (Constant), Digital Literacy of Zakat

Based on the calculation results, the probability value (sig.) is $0.00 < 0.05$ and $F_{cal} (112.027) > F_{table} (3.93)$, so that the regression equation $Z =$

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$63.866 + 1.877X_1$ is declared significant and can be used to predict religiosity attitudes based on zakat digital literacy.

The results of the calculation of the significance test of the variables X_2 with Z are shown in the following table:

Table 8. Anova Significance Test

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14137.206	1	14137.206	176.436	.000b
	Residual	8333.171	104	80.127		
	Total	22470.377	105			
a. Dependent Variable: Attitude of Religiosity						
b. Predictors: (Constant), Game Method						

Based on the calculations, the probability value (sig.) is $0.00 < 0.05$ and $F_{cal} (176.436) > F_{table} (3.93)$, so that the regression equation $Z = 27.139 + 0.768X_2$ is declared significant and can be used to predict religiosity attitudes based on the game method.

Model Testing

Model fit testing is performed to assess whether a hypothetical model matches empirical data by comparing theoretical and empirical correlation matrices; if the two are identical, the model is considered fit and accepted.

Calculation of Path Coefficients in Sub-Structure-1

The results of data processing using the SPSS program can be seen in the following table:

Table 9. Determining the Path Coefficient

Coefficient					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-12.244	1.673		.000
	Digital Literacy of Zakat	.214	.069	.218	.002
	Game Method	.145	.029	.397	.000
	Attitude of Religiosity	.139	.027	.368	.000
a. Dependent Variable: Knowledge of Zakat					

Based on the results of sub-structure-1 analysis with *the Backward* method, the path coefficients are shown by the *Standardized Coefficients* (Beta) column, then the *table of Coefficients* obtained consecutively is as follows:

- A. $\beta_{y1} = 0.218$ ($t_{count} = 3.119 > t_{table} = 1.980$ and significance level (sig.) = $0.002 < 0.05$; with H_0 rejected), which means that there is a direct

positive and significant influence of zakat digital literacy (X1) on the zakat knowledge variable (Y)

- B. $\beta_{y2} = 0.397$ (tcount = 4.989 > ttable = 1.980 and significance level (sig.) = 0.000 < 0.05; with H0 minus), which means that there is a direct positive and significant influence of the game method (X2) on the variable of zakat expenditure (Y)
- C. $\beta_{y3} = 0.368$ (tcount = 5.230 > ttable = 1.980 and significance level (sig.) = 0.000 < 0.05; with H0 minus), which means that there is a direct positive and significant influence of religiosity attitude (Z) on the variable of zakat knowledge (Y)

The result of the probability value (sig.) is 0.000 < 0.05; then the model of the relationship model of sub-structure-1 (X1, X2, and Z to Y) in the image does not need to be corrected because the ais smaller than 0.05, thus X1 (digital literacy zakat), X2 (game method) and Z (religiosity) have a direct positive and significant effect on the knowledge of zakat (Y). Thus the equation of the structure and the path diagram for substructure-1 is as follows:

$$\hat{Y} = 0.218 X1 + 0.397 X2 + 0.368 Z + \varepsilon_1$$

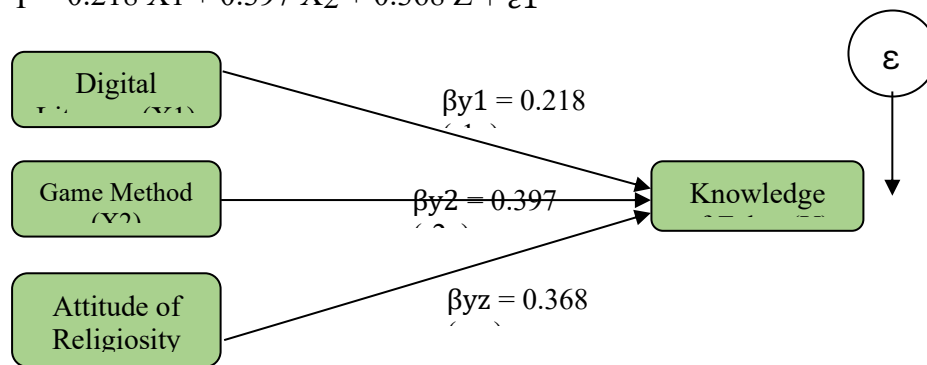


Figure 1. Causal Relationships in Substructure-1

Table 10. Determining the Significance of Influence
ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2636.627	3	878.876	159.550	.000b
	Residual	561.864	102	5.508		
	Total	3198.491	105			

a. Dependent Variable: Knowledge of Zakat

b. Predictors: (Constant), Attitude of Religiosity, Digital Literacy of Zakat, Game Method

Based on the table above, showing a probability value (sig.) of 0.000 < 0.05, then the regression equation $\hat{Y} = 0.218X1 + 0.397X2 + 0.368Z + \varepsilon_1$ is

significant. The results of this test confirm that the equation can be used to predict zakat knowledge based on zakat digital literacy scores, game methods and religiosity attitudes.

Based on the results of the calculation using the SPSS program, the results for sub-structure-1 are obtained as follows:

Table 11. Determining the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908a	.824	.819	2.347

a. Predictors: (Constant), Attitude of Religiosity, Digital Literation of Zakat, Game Method

It can be seen in the table above that the determination coefficient (R^2) is 0.824, meaning that it is 82.40%; the variability of the variable of zakat knowledge can be explained by the variables of digital literacy of zakat, game method and attitude of religiosity, so that $(\epsilon_1) = 1 - R^2 = 1 - 0.824 = 0.176$. Thus, the equation for substructure-1 is $\hat{Y} = 0.218 X_1 + 0.397 X_2 + 0.368 Z + 0.176$.

Calculation of Path Coefficients in Sub-Structure-2

The results of data processing using the SPSS program can be seen in the following table:

Table 12. Determining the Significance of Influence

Coefficient					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	33.826	5.235		6.461	.000
1 Digital Literacy of Zakat	.651	.246	.250	2.640	.010
Game Method	.577	.092	.596	6.305	.000

a. Dependent Variable: Attitude of Religiosity

Based on the results of the SPSS analysis in the table above with *the Backward* method, the path coefficients are shown by the Beta column (*Standardized Coefficients*). From the table *the Coefficients* on model 2 are obtained in succession:

Based on the table *the coefficients* in model 2 are obtained in a row:

- $\beta_{z1} = 0.250$ ($t_{count} = 2.640 > t_{table} = 1.980$ and significance level ($sig.$) = $0.000 < 0.05$; with H_0 rejected), which means that there is a direct positive and significant influence of zakat digital literacy (X_1) on the religiosity attitude variable (Z).
- $\beta_{z2} = 0.596$ ($t_{count} = 6.305 > t_{table} = 1.980$ and significance level ($sig.$) = $0.000 < 0.05$; with H_0 minus), which means that there is a direct positive and significant influence of the game method (X_2) on the religiosity attitude variable (Z).

The result of the probability value (sig.) is $0.000 < 0.05$; then the sub-structure-2 relationship model (X_1 , and X_2 , against Z) in the image does not need to be corrected because the number is smaller than 0.05, thus X_1 (zakat digital literacy), and X_2 (game method) have a direct positive and significant effect on religiosity (Z). Thus, the structural equation and path diagram for substructure-2 are as follows:

$$Z = 0.250X_1 + 0.596X_2 + \varepsilon_2$$

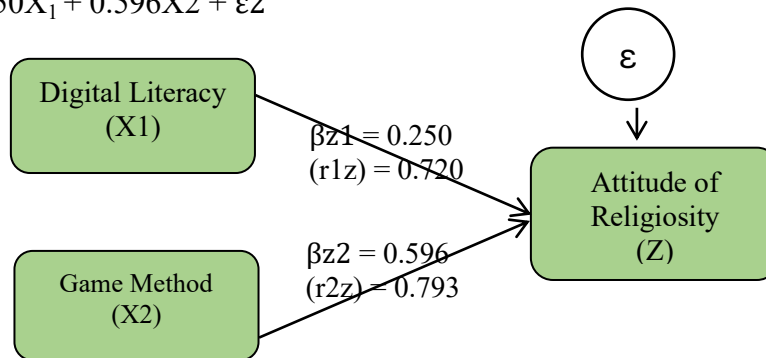


Figure 2. Causal Relationships on Substructure-2

Table 13. Determining the Significance of Influence

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14665.362	2	7332.681	96.767	.000b
	Residual	7805.015	103	75.777		
	Total	22470.377	105			

a. Dependent Variable: Attitude of Religiosity

b. Predictors: (Constant), Game Method, Digital Zakat Literation

Based on the table above, it shows a probability value (sig.) of $0.000 < 0.05$, thus the regression equation $Z = 0.250 X_1 + 0.596 X_2$ is significant. The results of this test confirm that the equation can be used to predict religiosity attitudes based on zakat's digital literacy score, and game method.

Based on the results of the calculation using the SPSS program, the results for sub-structure-2 are obtained as follows:

Table 14. Determining the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808a	.653	.646	8.705

a. Predictors: (Constant), Game Method, Digital Literacy of Zakat

It can be seen in the table above that the determination coefficient (R^2) of 0.653 means that it is 65.30%; the variability of the variable of religiosity attitude can be explained by the variable of digital literacy of zakat, and the method of the game, so that $(\varepsilon_2) = 1 - R^2 = 1 - 0.653 = 0.347$. Thus, the

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equation for substructure-2 is $Z = 0.250 X_1 + 0.596 X_2 + \varepsilon_2$ so that the equation becomes as follows: $Z = 0.250 X_1 + 0.596 X_2 + 0.347$

Based on the results of the calculation of the path analysis in Substructure-1, and Substructure-2, the values of the path coefficient that show the causal relationship in the analyzed structural model are obtained as shown in the figure below:

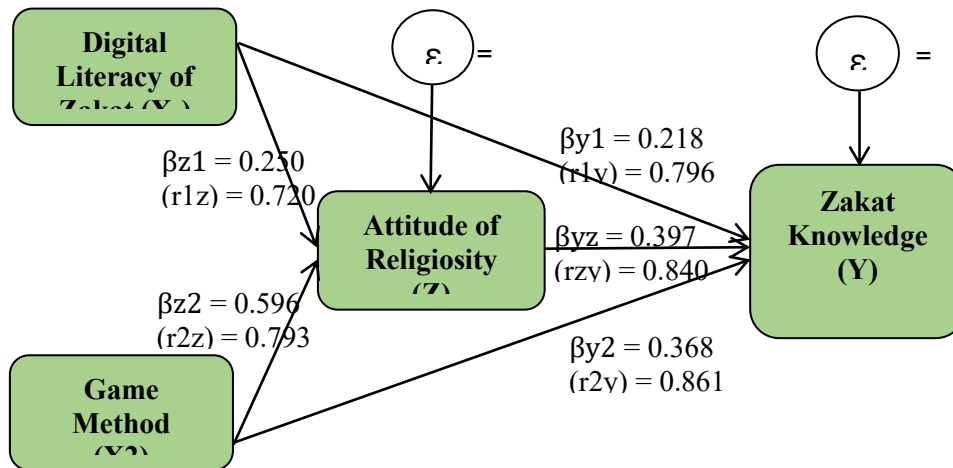


Figure 3. Causal Relationship Model

The calculation above explains that the diversity of data can be explained by the model in this study is 0.996 or 99.60% which means that the information contained in the data of 99.60% can be explained by the model, while the remaining 0.4% is explained by other variables that are not yet contained in this research model, because all hypotheses in this study are accepted, the indirect influence of zakat digital literacy (X1) can be calculated. and the game method (X2) towards the knowledge of zakat (Y) through the attitude of religiosity (Z). The indirect influence in this study can be described in the following table.

Table 15. Calculation of Direct Influence (PL) and Indirect Influence (PTL)

Path	Beta		PL Value	PTL Calculation	Value <i>p</i>
	β_1 / β_2	β_3			
$X_1 \rightarrow Y$	0,218	-	0,218	-	0,002
$X_2 \rightarrow Y$	0,397	-	0,397	-	0,000
$Z \rightarrow Y$	0,368	-	0,368	-	0,000
$X_1 \rightarrow Z$	0,250	-	0,250	-	0,010
$X_2 \rightarrow Z$	0,596	-	0,596	-	0,000
$X_1 \rightarrow Z \rightarrow Y$	0,250	0,368	-	$0.250 \times 0.368 = 0.092$	0,1554*
$X_2 \rightarrow Z \rightarrow Y$	0,596	0,368	-	$0.596 \times 0.368 = 0.219$	0,0085*

*) the *p* value is calculated by the Sobel test (Calculation attached), if the *p* value > 0.05; then the intervening variable functions ineffectively, on the contrary the *p* value < 0.05; then the intervening variable functions effectively

The data shows the magnitude of the contribution of each variable directly or through the intervening path of religiosity in influencing zakat knowledge:

1. The direct effect of zakat digital literacy (X1) on zakat knowledge (Y) of $\beta_{y1} = 0.218$ with a significance of $0.002 < 0.05$, shows a positive and significant influence, meaning that increasing zakat knowledge can be achieved through strengthening zakat digital literacy.
2. The direct influence of the game method (X2) on zakat knowledge (Y) of $\beta_{y2} = 0.397$ with a significance of $0.000 < 0.05$, shows a positive and significant influence, so that the increase in zakat knowledge can be achieved through strengthening the game method.
3. The direct influence of religiosity (Z) on zakat knowledge (Y) of $\beta_{yz} = 0.368$ with a significance of $0.000 < 0.05$, shows a positive and significant influence, so that the increase in zakat knowledge can be achieved through strengthening religiosity.
4. The direct influence of zakat digital literacy (X1) on religiosity attitudes (Z) of $\beta_{z1} = 0.250$ with a significance of $0.010 < 0.05$, shows a positive and significant influence, so that an increase in religiosity attitudes can be achieved through strengthening zakat digital literacy.
5. The direct influence of the game method (X2) on the attitude of religiosity (Z) of $\beta_{z2} = 0.596$ with a significance of $0.000 < 0.05$, shows a positive and significant influence, so that the increase in religiosity can be achieved through strengthening the game method.
6. The indirect effect of zakat digital literacy on zakat knowledge through religiosity attitudes of $\beta_{y1z} = 0.1554 > 0.05$, shows that religiosity attitudes are not effective as an intervening variable. In other words, increasing zakat knowledge can only be done directly through digital literacy of zakat or religious attitudes separately.
7. The indirect influence of the game method on zakat knowledge through the attitude of religiosity of $\beta_{y2z} = 0.0085 < 0.05$, shows that the attitude of religiosity is effective as an intervening variable. This means that increasing zakat knowledge can be done together through game methods and religiosity, or directly through each variable.

Hypothesis Testing

The following is presented the results of the analysis of the direct and indirect influence of zakat digital literacy (X1), game methods (X2), and religiosity attitudes (Z) on students' zakat knowledge (Y). Digital literacy of zakat (X1), game methods (X2), and attitude of religiosity (Z) had a direct positive and significant effect on zakat knowledge (Y), with $\beta = 0.218$; 0.397 ; and 0.368 . X1 and X2 also had a significant positive effect on Z ($\beta = 0.250$ and 0.596). For indirect influences, digital literacy of zakat through Z is not effective ($\beta = 0.1554$), while the game method through Z is effective ($\beta = 0.0085$), showing that the game method can increase zakat knowledge both

directly and through religiosity. So all research hypotheses, namely H1 to H7, are accepted.

Discussion

The Positive Direct Influence of Zakat Digital Literacy on Zakat Knowledge

The results of the study show that zakat digital literacy has a positive and significant effect on zakat knowledge with a coefficient $\beta_{y1} = 0.218$ (sig. $0.002 < 0.05$), where every increase in zakat digital literacy score is estimated to increase zakat knowledge by 0.783 times, as well as a determination coefficient of 63.40% which means that most of the variation in zakat knowledge is explained by research variables. These findings are in line with the view of Pangrazio (2020) emphasizing the importance of standardizing the concept of digital literacy as a relevant skill in global education. Digital literacy is not only instrumental, but also includes cultural, informational, and intellectual dimensions. Thus, it can be concluded that strengthening zakat digital literacy is an effective strategy in increasing students' zakat knowledge.

The Positive Direct Influence of Game Methods on Zakat Knowledge

The results showed that the game method had a positive and significant effect on zakat knowledge with a coefficient $\beta_{y2} = 0.397$ (sig. $0.000 < 0.05$), where each increase in the score of the game method was estimated to increase zakat knowledge by 0.314 times, as well as a determination coefficient of 74.10% which means that most of the variation in zakat knowledge was explained by the research variable. Field findings also show that students are very enthusiastic about participating in the simulation of IZI games based on monopoly games so that learning activities become fun, interactive, and trigger discussions related to zakat. These results are in line with the research of Rondon & Furquin (2013) which showed the effectiveness of game-based learning in knowledge retention although it is not significantly different from traditional methods. In line with Mardiah's (2015) view, the play method emphasizes cooperation, task structure, goals, and rewards. So, the results of this study confirm that strengthening game methods is an effective strategy to increase students' zakat knowledge.

The Positive Direct Influence of Religiosity on Zakat Knowledge

The results of the study show that the attitude of religiosity has a direct positive and significant influence on zakat knowledge with a coefficient value $\beta_{yz} = 0.368$ (sig. $0.000 < 0.05$), so it can be concluded that the higher the attitude of religiosity of students, the higher the knowledge of zakat they have. The regression equation $\hat{Y} = -13.579 + 0.317Z$ shows that each increase in the score of religiosity attitude is able to increase zakat knowledge by 0.317 times, with a determination coefficient of 70.50% which shows that most of the variation in zakat knowledge can be explained by the religiosity attitude variable, while the rest is influenced by other factors outside the study. The results of the observation also show that students with high religiosity attitudes are more enthusiastic in understanding zakat material, are able to relate

learning to daily worship practices, and show sensitivity to zakat obligations as part of their religious responsibilities.

These findings are in line with the research of Indrawan & Winarno (2022) who stated that religiosity attitudes have a positive effect on student learning outcomes, and Pitaloka et al. (2022) who emphasized that religious practices, especially reading the Qur'an, play a dominant role in improving learning achievement. Conceptually, Ajzen (2020) through the Theory of Planned Behavior explains that attitudes towards behavior are formed by individual beliefs about the consequences arising from this behavior, so that the stronger the religious beliefs of students, the greater the motivation to increase zakat knowledge. Thus, strengthening religiosity can be an important strategy that can foster spiritual character and be effective in increasing students' understanding of zakat.

The Positive Direct Influence of Zakat Digital Literacy on Religiosity Attitudes

The results of this study show that zakat digital literacy has a direct positive effect on religiosity, with a coefficient value of $\beta_{z1} = 0.250$ (sig. $0.010 < 0.05$), so that every increase in the zakat digital literacy score can increase religiosity attitudes by 0.177 times through the regression equation $Z = 63.866 + 0.177X_1$. The determination coefficient of 51.90% showed that more than half of the variation in religiosity attitudes could be explained by zakat digital literacy, while the rest were influenced by other factors outside the study. These findings are in line with the results of Tias et al.'s research, 2024 (2024) which emphasizes that digital literacy together with technology acceptance models, consumer trust, and brand awareness have a significant effect on infaq and shadaqah decisions, thereby strengthening the role of digital literacy in encouraging religious behavior in the realm of religious economics. Then, digital literacy is not just a technical skill, but a form of cultural understanding and practice in utilizing digital technology for daily life, including in religious aspects. Thus, it can be concluded that strengthening zakat digital literacy is an important strategy to increase students' religiosity attitudes while strengthening worship practices in the digital era.

The Positive Direct Influence of Game Methods on Religiosity Attitudes

The results showed that the game method had a direct positive effect on religiosity, with a coefficient value $\beta_{z2} = 0.596$ (sig. $0.000 < 0.05$), so that each increase in the score of the game method could increase the attitude of religiosity by 0.768 times through the regression equation $Z = 27.139 + 0.768X_2$. The determination coefficient of 62.90% indicates that more than half of the variation in religiosity attitudes is influenced by the method of the game, while the rest is determined by other factors. These findings are in line with the research of Suluwi & Ismail (2017) which shows that the SUKATA educational game method significantly improves students' knowledge, attitudes, and actions related to the prevention of worm disease, thus strengthening the evidence that the game approach is able to have a positive

impact on student behavior. However, it is reminded that the effectiveness of educational games depends heavily on the compatibility between the learning content and the game design, because without this combination games are potentially uninteresting or boring. So, strengthening game methods that are designed appropriately and relevant to the teaching material is an important strategy to increase students' religiosity.

The Indirect Positive Influence of Zakat Digital Literacy on Zakat Knowledge through Religiosity

The results of the study showed that zakat digital literacy had a direct positive influence on both zakat knowledge and religiosity attitudes, but the indirect influence through the intervening variable of religiosity attitude was declared insignificant (Sobel p-value $0.1554 > 0.05$). This result means that increasing zakat knowledge is more effectively done directly through digital literacy of zakat or religiosity attitudes separately, rather than simultaneously. These findings confirm that digital literacy has an important contribution in increasing zakat knowledge, although the role of religiosity as a mediator is not effective in this relationship.

The Indirect Positive Influence of Game Methods on Zakat Knowledge through Religiosity Attitudes

The results of the study showed that the game method had a direct positive influence on zakat knowledge as well as on religiosity, with an indirect influence through religiosity attitudes proven to be significant (Sobel p-value $0.0085 < 0.05$). These results show that the increase in zakat knowledge can be done simultaneously through the method of play and the attitude of religiosity, or separately for each variable. These findings are in line with the research of Haji-Othman et al. (2017) which affirms the role of Islamic religiosity in moderating the relationship between moral obligations, intentions, and obedience behaviors, and shows that attitudes and religiosity have a significant impact on zakat compliance behavior. In addition, the importance of the centrality of religiosity, which includes the dimensions of ideology, intellectuality, experience, as well as public and private practices, as factors influencing individual decision-making. Thus, it can be concluded that the game method not only increases zakat knowledge directly but also effectively through strengthening religiosity, making these two variables strategic in learning zakat.

CONCLUSION

The study shows that digital zakat literacy, game methods, and religiosity attitudes each have a positive and significant direct effect on the zakat knowledge of Muhammadiyah High School students in South Tangerang, Banten. Digital literacy and game methods also positively influence religiosity, with religiosity serving as a significant mediating variable between game methods and zakat knowledge, but not between digital literacy and zakat knowledge. These findings suggest that enhancing zakat knowledge can occur

both directly through improving digital literacy, game-based learning, and religiosity attitudes, and indirectly by optimizing game methods combined with religiosity. The study highlights the importance of strengthening digital literacy by providing school internet facilities, applying innovative game methods, and encouraging students' religiosity to boost zakat knowledge. Thus, collaboration among the government, Muhammadiyah organizations, and teachers is crucial to enhance policies, learning resources, and pedagogical skills for more effective zakat education. Future research could explore the long-term effects of integrated digital and game-based interventions on zakat behavior and examine additional factors such as socio-economic background or community engagement to further deepen understanding of zakat education outcomes.

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