






“Faith, technology, and gambling: How blockchain awareness shapes anti-gambling behavior in Indonesian Muslim society”

AUTHORS	Sumar'in Sumar'in  Andiyono Andiyono  Sumin Sumin  Mokmin Basri 
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Andiyono, Sumin Sumin, Mokmin
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Sumar'in Sumar'in, Associate Professor,
Faculty of Economics and Business,
University of Sultan Muhammad
Syafiuddin Sambas, Indonesia.
(Corresponding author)

Andiyono Andiyono, Magister, Faculty
of Agribusiness, Politeknik Negeri
Sambas [Sambas State Polytechnic],
Indonesia.

Sumin Sumin, Doctor of Education,
Mathematics Education Program,
Faculty of Tarbiyah and Teacher
Training, Pontianak State Islamic
Institute, Indonesia.

Mokmin Basri, Associate Professor,
Faculty of Creative Multimedia &
Computing, Universitas Islam Selangor
[Islamic University of Selangor],
Malaysia.



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Sumar'in Sumar'in (Indonesia), Andiyono Andiyono (Indonesia),
Sumin Sumin (Indonesia), Mokmin Basri (Malaysia)

FAITH, TECHNOLOGY, AND GAMBLING: HOW BLOCKCHAIN AWARENESS SHAPES ANTI- GAMBLING BEHAVIOR IN INDONESIAN MUSLIM SOCIETY

Abstract

The paper deals with the intersection of technological awareness and moral behavior in the context of online gambling. The study analyzes the influence of blockchain understanding on anti-online gambling attitudes, with religiosity and perceived social impact serving as mediators. The study's object comprises 532 millennial Muslims in Indonesia, selected through simple random sampling, and surveyed from July to October 2024. Respondents met inclusion criteria such as age 17-50 years, Indonesian citizenship, Muslim identity, and knowledge of blockchain. Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) was employed to assess proposed relationships.

The results demonstrate that blockchain understanding has a significant positive direct effect on online gambling attitudes ($T = 3.974$; $p < 0.001$), suggesting that higher blockchain literacy may actually increase openness toward gambling, possibly due to perceived anonymity and security. In contrast, blockchain understanding significantly enhances religiosity ($T = 58.653$; $p < 0.001$) and perceived social impact ($T = 4.929$; $p < 0.001$), both of which positively influence anti-online gambling attitudes ($T = 11.370$ and $T = 11.574$; $p < 0.001$). Furthermore, indirect effects confirm that both religiosity ($T = 9.822$; $p < 0.001$) and perceived social impact ($T = 20.224$; $p < 0.001$) significantly mediate the relationship between blockchain understanding and anti-gambling attitudes. The study concludes that while blockchain knowledge alone may increase gambling engagement, its influence can be redirected toward anti-gambling behavior through enhanced moral and social awareness. The findings offer practical value in designing educational interventions that integrate technological literacy with religious and social ethics.

Keywords

blockchain, religiosity, perceived social impact, anti-online gambling attitude

JEL Classification

O33, Z12, D83, L83

INTRODUCTION

The rapid advancement of digital technology has significantly transformed the way people interact with entertainment and financial services (Gomber et al., 2018). One of the more troubling developments in this digital era is the proliferation of online gambling, which poses complex challenges for social and economic stability, particularly in countries like Indonesia, where gambling is legally prohibited (Griffiths, 2003). Despite legal restrictions, online gambling continues to grow rapidly, often operating through platforms that exploit technological loopholes, such as blockchain-based systems.

The emergence of blockchain technology has introduced a new dimension to the online gambling landscape (Chanda & Choudhary, 2024). Designed for decentralization, transparency, and security, blockchain

systems allow financial transactions to occur anonymously and without centralized control (Zachariadis et al., 2019). While these features serve legitimate purposes in various industries, they also inadvertently support illicit gambling operations by making regulatory oversight and law enforcement increasingly difficult (Berdaliyeva et al., 2023; Wang & Antonopoulos, 2016).

The growing integration of blockchain in online gambling raises a critical scientific problem: how does the public's understanding of this complex technology influence their moral and social attitudes toward gambling? Furthermore, given that attitudes toward gambling are often shaped by cultural, religious, and social values, it becomes essential to examine the intersection between technological literacy and these societal norms. This problem is particularly relevant in Indonesia, where religiosity and collective social values remain strong, and where the tension between technological freedom and moral regulation is increasingly evident.

Understanding the mechanisms through which technology like blockchain impacts behavioral attitudes, particularly toward ethically controversial practices such as gambling, constitutes an urgent and underexplored area of research. The problem, therefore, lies not merely in the technological capability of blockchain to enable online gambling but in how individual and societal responses are formed based on moral reasoning, religious influence, and perceived social consequences. Addressing this issue is crucial for informing public discourse, educational strategies, and policymaking in digital governance.

1. LITERATURE REVIEW

Gambling has become an increasingly prominent social phenomenon, particularly in the digital sphere, driven by the rapid advancement of information technology. The swift growth of online gambling cannot be separated from the emergence of new technologies such as blockchain, which offers convenience, anonymity, and high accessibility. At the same time, religion remains a powerful social force in regulating deviant behaviors, including gambling. In Indonesia, a country characterized by high religiosity alongside rapid technological adoption, it is particularly important to examine how religious values and technological awareness interact in shaping gambling behaviors. This literature review aims to comprehensively analyze the current body of research on the influence of religion and blockchain on gambling behavior.

Numerous studies have emphasized that religiosity plays a significant protective role against gambling. Dimensions of religiosity, such as regular participation in religious activities, involvement in religious communities, and internalization of moral religious values, have consistently been shown to reduce the risk of problematic gambling behavior (Calado et al., 2024; Mutti-Packer et al., 2017a). Hoffmann (2000) found that individuals who regularly attend religious services

are less likely to engage in problematic gambling compared to those who rarely attend. Similarly, Beyerlein and Sallaz (2017) demonstrated that religious tradition and frequency of worship attendance effectively reduce tendencies toward casino and lottery gambling, whereas personal religious salience plays a more substantial role in discouraging online gambling. In Muslim contexts, the protective effect of religion appears even stronger. A study conducted in Lebanon revealed that Muslim university students exhibited a lower prevalence of gambling compared to their Christian peers, with more pronounced protective effects among Muslims who actively practice their faith (Ghandour & El Sayed, 2013). Similar findings were reported in the United States, where young adults raised in conservative Protestant or Mormon communities were less likely to engage in gambling (Uecker & Stokes, 2016). In addition, Ellison et al. (2011) found that religion-based social networks play a key role in reducing the frequency of gambling among religious adherents in the United States. Similarly, Eitle (2011) emphasized that the protective effect of religion is stronger in areas with a high concentration of conservative religious communities, due to the presence of stricter collective norms against gambling. This suggests that the effectiveness of religion in curbing gambling behavior does not solely depend on individual religiosity, but also on the surrounding

social ecosystem. Religion serves as a more effective social instrument for preventing gambling in environments where religious norms are collectively upheld.

However, the relationship between religion and gambling is not always purely protective. Several studies have uncovered paradoxical effects, whereby certain religious beliefs may actually reinforce gambling-related cognitive distortions, such as the illusion of control or beliefs in divinely granted luck. Delfabbro et al. (2021) found that the supernatural dimension of religiosity, including beliefs in divine power, could increase susceptibility to gambling fallacies, although other dimensions, such as participation in religious rituals, continued to offer protective effects. This highlights the complex and multifaceted nature of the relationship between religion and gambling, which depends on the specific dimensions of religiosity internalized by individuals (Grant Weinandy & Grubbs, 2021).

Meanwhile, blockchain has emerged as a revolutionary technology that is reshaping the landscape of online gambling. It offers various advantages, including transparency, decentralization, and immutable data security, which are increasingly utilized by gambling platforms through decentralized applications (DApps). Mills (2024) argued that blockchain facilitates the implementation of automatic betting limits through smart contracts and provides universal self-exclusion mechanisms across platforms, thereby offering new opportunities for technological harm reduction in gambling. Furthermore, Meng and Fu (2020) demonstrated that blockchain allows for real-time analysis of gambling behavior through openly accessible transaction data.

Nevertheless, blockchain-based gambling also introduces significant risks and challenges. Scholten et al. (2020) revealed that although average spending per player on Ethereum-based gambling platforms tends to be lower than that on conventional online casinos, a small group of players exhibited extreme gambling behaviors with substantial financial losses. Additionally, the anonymity inherent in blockchain systems presents opportunities for illegal gambling activities, money laundering, and fraud (Campbell-Verduyn, 2018; Wronka, 2022). From an industry perspective, Chagas et

al. (2024) noted that the adoption of blockchain in the gambling sector faces regulatory challenges, high implementation costs, and limited managerial understanding of the technology.

In a broader context, the impact of blockchain on gambling practices is highly dependent on the regulatory readiness and social structures of each country or community. A study by Meng and Fu (2020) highlighted that blockchain holds great potential for enhancing transparency in gambling through openly accessible transaction data. However, this also presents significant challenges if not supported by strict regulatory frameworks. Tyagi (2025) further argued that while blockchain could be used to automate betting limits and enable cross-platform monitoring, major legal hurdles and scalability issues continue to hinder its implementation. Moreover, Milkau (2023) pointed out that many European and global regulators have begun to treat activities involving unbacked digital assets as forms of gambling, requiring similarly stringent risk controls and regulatory oversight as conventional gambling activities.

This analysis clearly demonstrates that the effects of blockchain cannot be separated from the surrounding social, economic, and institutional conditions. In countries with robust legal systems and strict regulatory enforcement, blockchain has the potential to serve as a new monitoring tool that fosters transparency and reduces gambling-related risks. Conversely, in countries with weak regulatory environments, the same technology could exacerbate risks related to illegal gambling, money laundering, and consumer exploitation. Therefore, the effectiveness of blockchain in the gambling context strongly depends on the capacity of governments and regulators to design responsive and adaptive legal frameworks tailored to this evolving technology.

Despite the growing body of research on religion and blockchain in relation to gambling, studies that integrate both factors remain scarce, particularly in Muslim-majority countries such as Indonesia. Given Indonesia's high levels of religiosity alongside its rapid technological advancements, there is a pressing need for integrative studies that examine how blockchain awareness and religious values jointly influence gambling behaviors.

This literature review concludes that religion generally serves as a strong deterrent against gambling, although its effects may vary across religious dimensions and cultural contexts. Meanwhile, blockchain offers innovative technological solutions for mitigating gambling risks, but also introduces new challenges, such as illegal gambling and gambling addiction. The lack of studies exploring the interaction between these two factors in Indonesia highlights a critical research gap.

Therefore, this study aims to analyze how awareness of blockchain technology affects anti-gambling behaviors and to investigate the moderating role of religious values in shaping attitudes and behaviors toward online gambling among Indonesian Muslim communities.

2. METHODOLOGY

This study adopts a quantitative and cross-sectional survey design to examine how awareness of blockchain technology influences anti-online gambling attitudes among Indonesian Muslim millennials. The model incorporates religiosity and perceived social impact as mediating variables to explore both individual and societal dimensions of influence. The research was conducted nationwide in Indonesia between July and October 2024. This period was strategically selected due to the rising public concern over online gambling and increasing public discourse around blockchain adoption in Indonesia, making it a timely moment to assess societal perceptions and attitudes.

A survey is employed as one of the main research methods. The population in this study comprises millennial Muslim communities across Indonesia in 2024. The survey was conducted over a four-month period, from July to October 2024. A simple random sampling technique was used to select 532 respondents, ensuring that each member of the population had an equal chance of being included in the sample.

Respondents were selected based on the following inclusion criteria: they had to be millennial Muslims aged between 17 and 50 years, Indonesian citizens, currently residing in Indonesia, have access to and an understanding of blockchain technology, and be willing and able to participate in

the survey. Individuals who did not meet these criteria, such as those outside the age range, non-Muslims, those without sufficient knowledge of blockchain, or those not living in Indonesia, were excluded. The survey data were collected quantitatively, with each response contributing to a broader statistical analysis of the findings. This approach ensures the relevance and accuracy of the data in representing the target population. This data displays some characteristics of respondents in statistical form. The description of respondent data provides concise information about the respondents in this study.

Table 1. Profile of the respondents

Criteria	Description	Frequency	Percent (%)
Gender	Male	249	46,80 %
	Female	283	53,20 %
	Total	532	100%
Age	17-25 age	185	34,78
	26-33 age	147	27,63
	34-41 age	122	22,94
	42-50 age	78	14,65
	Total	532	100%
Education Level	Senior high school or equivalent	151	28,38
	Diploma	92	17,29
	Bachelor (S1)	165	31,03
	Master (S2)	90	16,92
	Doctorate (S3)	34	6,39
	Total	532	100

Based on the data presented, the research participants consisted of 532 respondents with a relatively balanced gender distribution. A total of 249 respondents or around 46.80% were male, while 283 respondents or 53.20% were female. This shows that female participation is slightly more dominant in this study. In addition, the age distribution shows that the majority of respondents are in the age range of 17-25 years, with a total of 185 people or 34.78%. The 26-33 years age group followed with 147 people (27.63%), followed by respondents aged 34-41 years with 122 people (22.94%), and the 42-50 years age group with 78 people (14.65%).

This study was reviewed and approved by the Research Ethics Committee of Sultan Muhammad Syafiuddin Sambas University, under Approval Number: 131/Kep-LP2M/06/2024, issued on June 6, 2024. The ethical approval ensured that all research procedures adhered to national and international standards for research involving human participants.

Digital informed consent was obtained from all participants after they were informed about the purpose of the study, their right to withdraw at any time, and the confidentiality of their data. No personally identifiable information was collected, and all data were coded and securely stored to ensure anonymity. The questionnaire was designed using neutral, culturally sensitive, and non-leading language to maintain the objectivity of the study.

This research relies on primary data collected directly from respondents through an online survey. The tool used for data collection is an online questionnaire (Google Form). The questionnaire used a 5-point Likert scale, ranging from “Disagree” to “Strongly Agree.” This scale, developed by Rensis Likert, is widely recognized in social research for its ease of interpretation and its ability to capture the nuances of attitudes more accurately.

The full version of the questionnaire is provided in Appendix A and has also been uploaded to Zenodo for public access. The questionnaire can be accessed through the following link: <https://doi.org/10.5281/zenodo.15260500>.

3. RESULTS

The SEM-PLS analysis using SmartPLS 4.0 examines complex relationships between latent variables by assessing the measurement model’s valid-

ity and reliability, following thresholds from Hair et al. (2019) and relevant literature. The results, shown in the table below, present factor loadings, T-statistics, and p-values, with loadings above 0.7 indicating adequate convergent validity.

Table 3. Outer loading

Latent Variable	Blockchain	Online Gambling	Religiosity	Social Impact
X1.1	0.785			
X1.3	0.750			
X1.4	0.825			
X1.5	0.817			
X1.6	0.742			
X2.1			0.832	
X2.2			0.772	
X2.4			0.772	
X2.5			0.836	
X2.6			0.828	
X3.3				0.900
X3.4				0.911
X3.5				0.910
X3.6				0.832
Y.2		0.744		
Y.3		0.816		
Y.4		0.837		
Y.5		0.738		
Y.6		0.902		
Y.7		0.895		
Y.8		0.887		

Based on the test results from table 3 above, this analysis highlights several important aspects regarding blockchain understanding, religiosity,

Table 2. Variables and indicators

Variables	Conceptual Definition	Operational Definition	Indicators
Understanding Blockchain	An individual’s level of knowledge regarding blockchain technology and how it operates in online gambling (Meng & Fu, 2020)	A person’s level of knowledge about how blockchain technology works, and its use in online gambling transactions	1. Knowledge of blockchain technology 2. Understanding of decentralized digital transactions 3. Blockchain security
Religiosity	A person’s level of commitment to religious teachings and its influence in making ethical decisions (Mutti-Packer et al., 2017b)	The level of religious beliefs and practices that influence one’s attitude toward behaviors that are considered moral or not	1. Frequency of religious activities 2. Religious moral values 3. Influence of religion on moral decisions
Perceptions of Social Impact	Individuals’ views on the social impact of online gambling on society and communities (Yani-de-Soriano et al., 2012)	How individuals perceive the impact of online gambling, in terms of social, economic, and human relationships	1. Perception of social damage due to online gambling 2. Financial impact on family 3. Increased social addiction
Anti-Online Gambling Attitudes	Individual’s negative attitude towards participating in online gambling activities (Volberg & Wray, 2007)	The tendency of individuals to reject participation in online gambling based on moral, social, and religious factors	1. Opposition to online gambling 2. Concern about the impact of online gambling 3. Involvement in anti-gambling campaigns

perceived social impact, and anti-online gambling attitudes. After removing the dimensions whose value is less than 0.7, namely indicators X1. 2, X2. 3 as well as X3.1, X3.2 and Y.1, it can be seen that first, on the blockchain dimension (X1), the coefficient results on indicators X1.1 to X1.6 show quite strong values, with coefficients between 0.742 and 0.825. This shows that these indicators have good internal consistency in measuring respondents' understanding of blockchain technology in the context of online gambling. Indicator X1.4 (value 0.825) has the highest influence, which means that understanding the risks and security of blockchain in online gambling strongly influences respondents' attitudes.

On the Religiosity dimension (X2), the coefficients ranged from 0.772 to 0.836, with indicator X2.5 (0.836) being the strongest. This indicates that respondents' religious values and practices strongly influence their attitudes towards online gambling. Meanwhile, on the Perceived Social Impact dimension (X3), the indicator coefficients are very high, with the highest value of 0.911 on indicator X3.4, which indicates that the negative perception of the social impact of online gambling is very strong in shaping anti-online gambling attitudes.

3.1. Discriminant validity

Construct validity can be assessed using Average Variance Extracted (AVE) and the Fornell-Larcker criterion. AVE evaluates the proportion of variance explained by the construct relative to measurement error, with values ≥ 0.5 indicating good validity, while the Fornell-Larcker criterion compares the square root of AVE to in-

ter-construct correlations, requiring the square root of AVE to exceed these correlations for adequate validity. Construct reliability is measured using Cronbach's alpha, Composite Reliability (rho_a), and Composite Reliability (rho_c), where Cronbach's alpha ≥ 0.7 is acceptable for exploratory research and ≥ 0.8 for established studies. Both rho_a and rho_c assess reliability considering factor loadings and explained variance, with ≥ 0.7 seen as adequate and ≥ 0.8 as preferable for more complex models. Together, these measures ensure the research model is robust, consistent, and capable of accurately describing the relationships between variables.

The results in Table 4 show that the AVE (Average Variance Extracted) value for each variable meets the discriminant validity requirements, where the root AVE value for each variable is greater than the correlation between other variables. For example, Blockchain has a value of 0.785, which is higher than the correlation with other variables such as Online Gambling (0.752), Religiosity (0.880), and Social Impact (0.707). This shows that each construct is more strongly correlated with its own indicators than with other variables, which means that discriminant validity is well met in this model.

The results in Table 5, the Cronbach's Alpha values for each variable, show excellent internal consistency, with all values above 0.8, indicating high reliability. For example, Blockchain has a Cronbach's Alpha value of 0.844, while the Online Gambling variable reaches 0.926, indicating that the measurement scale for each variable is highly reliable. The AVE (Average Variance Extracted) values

Table 4. Fornell-Larcker criterion

Latent Variable	Blockchain	Online Gambling	Religiosity	Social Impact
Blockchain	0,785			
Online Gambling	0,752	0,834		
Religiosity	0,880	0,931	0,809	
Social Impact	0,707	0,930	0,880	0,889

Table 5. Average Variance Extracted (AVE)

Latent Variable	Cronbach's alpha	Average variance extracted (AVE)
Blockchain	0,844	0,616
Online Gambling	0,926	0,695
Religiosity	0,867	0,654
Social Impact	0,911	0,790

Table 6. Reliability and validity

Latent Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
Blockchain	0,844	0,849	0,889
Online Gambling	0,926	0,934	0,941
Religiosity	0,867	0,869	0,904
Social Impact	0,911	0,913	0,938

also show good convergent validity, where each variable has an AVE value above 0.5, with Social Impact having the highest value of 0.790. This indicates that most of the variance is explained by the constructs compared to the error.

This table shows three important metrics for measuring reliability and construct validity, namely Cronbach's Alpha and Composite Reliability (rho_a). The Cronbach's Alpha value indicates how well the indicators have internal consistency. Values above 0.8, as seen for all variables (Blockchain: 0.844, Online Gambling: 0.926, Religiousness: 0.867, Social Impact: 0.911), indicate that the constructs are well measured and consistent. Composite Reliability (rho_a) is also used to see the overall reliability of the constructs. With all values above 0.85, this confirms that the constructs have strong validity and the indicators can be relied upon to measure the intended variables.

3.2. Evaluation model

In SEM-PLS structural model evaluation, key aspects include assessing model fit, R-square, effect size (f-square), and hypothesis testing of direct, indirect, and total effects. This process evaluates how well the model explains data variation and supports the study's hypotheses. Common fit indices include SRMR, d_ULS, d_G, Chi-square, and NFI, where SRMR < 0.08 indicates good fit and NFI values near 1 reflect strong model fit and accurate representation of variable relationships.

Table 7. Fit indices

Criteria	Saturated model	Estimated model
SRMR	0,100	0,100
d_ULS	2,296	2,296
d_G	4,967	4,967
Chi-square	9211,617	9211,617
NFI	0,486	0,486

The results in Table 7 show that the SRMR (Standardized Root Mean Square Residual) value of 0.100 indicates the fit between the model and

the actual data. Although this value is higher than expected (ideally below 0.08), it is still acceptable in the context of social research with complex data. The NFI (Normed Fit Index) of 0.486 indicates that the model could be further improved to achieve a better fit, but overall, the model still has good predictive ability and is reliable in analysing the relationship between the variables under study.

Table 8. Coefficient of determination

PLS-SEM Models	R-square	R-square adjusted
Online Gambling	0,926	0,926
Religiosity	0,774	0,773
Social Impact	0,794	0,794

Table 8 also displays the results of the R-Square analyses for the three main dependent variables, namely Online Gambling, Religiosity, and Social Impact. The high R-Square values, especially for Online Gambling (0.926), indicate that the model used has a very strong predictive ability, where almost 93% of the variation in attitudes towards online gambling can be explained by this model. The same is true for the Religiosity (0.774) and Social Impact (0.794) variables, indicating that the model is also able to explain most of the variability in both constructs.

3.3. Hypothesis test

Hypothesis testing in SEM-PLS is an important process used to test the relationship between latent variables in a structural model. This process involves testing the direct and indirect effects between variables using path *coefficients*, which are then assessed based on statistical significance values, such as *t-statistic* or *p-value*. Table 9 further explains the results of the direct hypothesis test.

Indirect hypothesis testing in SEM-PLS aims to evaluate the effect of mediation, namely the effect of a latent construct on other latent constructs that occur through mediator constructs. In this test, researchers not only assess the direct effect

Table 9. Direct effect

Latent Variables	T-statistics (O/STDEV)	P values	Description
Blockchain → Online Gambling	3,974	0,000	H1 Accepted
Blockchain → Religiosity	58,653	0,000	H2 Accepted
Blockchain → Social Impact	4,929	0,000	H3 Accepted
Religiosity → Online Gambling	11,370	0,000	H4 Accepted
Religiosity → Social Impact	22,258	0,000	H5 Accepted
Social Impact → Online Gambling	11,574	0,000	H6 Accepted

between two variables, but also see how a variable affects another variable indirectly through an intermediate variable. This process is important to identify complex pathways in the model that may not be apparent from direct analysis alone.

From the test results, it can be seen that the direct effect of Blockchain on Online Gambling has a T-statistic value of 3.974 and a P-value of 0.0000. This indicates that the relationship is significant. Although the initial hypothesis stated that blockchain understanding would have a negative effect on anti-online gambling attitudes, this result shows that blockchain understanding actually has a significant positive effect on these attitudes. The test results show that the relationship between Blockchain and Religiosity is highly significant, with a T-Statistic value of 58.653 and a P-value of 0.0000. This supports the second hypothesis, where a higher understanding of blockchain positively affects the level of religiosity. This may be because individuals with a higher understanding of blockchain can realise the moral risks associated with online gambling, which in turn increases their level of religiosity.

The test results also support the third hypothesis, with a T-statistic value of 4.929 and a P-value of 0.0000 for the relationship between Blockchain and Social Impact. This suggests that the higher one's understanding of blockchain, the greater their perception of the negative social impact of online gambling. The relationship between Religiosity and Online Gambling is also significant, with a T-statistic value of 11.370 and a P-value of 0.0000. This supports the hypothesis

that religiosity significantly influences anti-online gambling attitudes. Individuals with high levels of religiosity are more likely to reject online gambling, in accordance with moral values and religious teachings against such behaviour.

The results for the relationship between Social Impact and Online Gambling show a T-Statistic value of 11.574 and a P-value of 0.0000. This supports the hypothesis that the perceived negative social impact of online gambling has a positive effect on anti-gambling attitudes. The higher a person's awareness of the negative social impact of online gambling, such as social and economic damage, the greater their resistance to the activity.

For the indirect effect, the relationship between Blockchain and Online Gambling through Religiosity has a T-statistic value of 9.822 and a P-value of 0.0000. This indicates that religiosity significantly mediates the relationship between blockchain understanding and anti-online gambling attitudes. For the indirect effect through Social Impact, the relationship between Blockchain and Online Gambling is also significant, with a T-statistic value of 20.224 and a P-value of 0.0000. This supports the hypothesis that perceived social impact mediates the relationship between blockchain understanding and anti-online gambling attitudes. The higher the understanding of blockchain, the greater one's awareness of the negative social impact of online gambling, which then encourages anti-online gambling attitudes.

Based on the test results, it can be concluded that most of the hypotheses in this study are

Table 10. Indirect effect

Latent Variables	T-statistics (O/STDEV)	P values	Description
Blockchain → Online Gambling	24,746	0,000	H7 Accepted
Blockchain → Social Impact	20,224	0,000	H8 Accepted
Religiosity → Online Gambling	9,822	0,000	H9 Accepted

proven correct. Blockchain understanding significantly influences religiosity and perceived social impact, which then mediate the relationship with anti-online gambling attitudes. These two mediating factors play an important role in explaining how technological understanding can influence one's moral and social attitudes towards online gambling activities.

4. DISCUSSION

The results of this study show that understanding of blockchain has a significant influence on attitudes towards online gambling, but contradicts Hypothesis 1, which states a negative influence. Understanding blockchain actually increases the likelihood of engaging in online gambling. This is thought to be because blockchain offers anonymity and facilitates transactions, making users feel more secure and encouraged to take greater risks in online gambling activities (Yang et al., 2021). Other research corroborates these findings, suggesting that blockchain technology in the context of gambling does provide anonymity and flexibility, making it attractive to users seeking security in high-risk activities (Meng & Fu, 2020).

Religiosity was shown to be an important mediator in the relationship between blockchain understanding and attitudes towards online gambling, supporting Hypotheses 2 and 6. The higher the level of religiosity, the stronger the anti-online gambling attitude. Studies show that religiosity often serves as a protective factor that reduces the risk of deviant behaviour, including gambling, through stricter moral and ethical views (Dasgupta & Sen, 2024; Kim et al., 2018). Moreover, perceived social impact also mediates this relationship (Hypotheses 3 and 7). Perceived negative impacts of online gambling, such as addiction and economic damage, reinforce anti-gambling attitudes. This is in line with research that emphasises the importance of perceived social impact as a deterrent to risky behaviour (Russell et al., 2018).

This study also supports Hypotheses 4 and 5 that both religiosity and perceived social impact have a significant positive influence on anti-on-

line gambling attitudes. Individuals with high religiosity and a negative perceived social impact are more likely to reject online gambling. Previous research suggests that social factors such as moral norms and religious influences have an important role in inhibiting gambling behaviour, especially in highly religious societies (Dobbie et al., 2018).

The overall results of this study corroborate the importance of understanding blockchain, religiosity, and perceived social impact in shaping anti-online gambling attitudes. Blockchain technology, while providing significant benefits in terms of digital transactions, also carries risks, especially in the context of online gambling. The anonymity and ease of transactions that blockchain provides may increase one's propensity to engage in risky activities if not accompanied by strong social and moral awareness (Delfabbro & King, 2023).

This research also highlights the importance of education on digital ethics and the social impact of online gambling in mitigating the risks posed by blockchain technology. Effective education on the potential negative impacts of online gambling and blockchain can help raise individuals' awareness of the risks of deviant behaviour (Savolainen et al., 2022; Yadav et al., 2022). Other studies have shown that moral and digital education can play an important role in reducing the propensity to engage in illegal activities such as online gambling, as well as increasing individual self-control in the use of new technologies (Koroma et al., 2022)

Overall, this research provides new insights into how blockchain technology can be a double-edged sword, providing technological benefits but also facilitating illegal activities such as online gambling. Religiosity and perceived social impact play an important role in shaping individuals' attitudes towards the use of this technology in the context of gambling (Beyerlein & Sallaz, 2017). Therefore, comprehensive policies and strong moral education are needed to address the negative impacts of these technological developments (Delfabbro & King, 2023; Karim et al., 2023).

CONCLUSIONS

This study provides empirical evidence on the complex relationship between blockchain understanding, religiosity, perceived social impact, and attitudes toward online gambling within the Indonesian Muslim context. Contrary to the initial hypothesis predicting a negative association, the findings reveal that higher blockchain understanding significantly increases the likelihood of participating in online gambling, suggesting that the perceived benefits of blockchain technology, particularly anonymity and security, may enhance the appeal of gambling platforms. However, the study also demonstrates that religiosity and perceived social impact serve as crucial mediating variables that can mitigate this effect. Individuals with higher levels of religiosity and greater awareness of the social consequences of gambling exhibit stronger anti-gambling attitudes, highlighting the importance of moral and social factors in shaping behavioral responses to technological innovations.

Theoretically, this study advances the understanding of blockchain literacy as a driver of online behavior, contributing to the emerging body of literature that explores the ethical implications of digital technologies. It further underscores the role of religiosity and perceived social impact as moral safeguards that can counterbalance the potentially adverse effects of advanced technologies on individual decision-making. From a practical perspective, the findings offer valuable insights for policymakers and regulators, suggesting that efforts to promote public awareness of blockchain-related risks, combined with initiatives to strengthen religious and social values, may effectively reduce engagement in online gambling.

In sum, this study enriches the academic discourse on the intersection of technology, morality, and social behavior, offering both theoretical contributions and practical recommendations. Future research may build on these findings by exploring longitudinal effects, cross-cultural comparisons, and the role of additional mediating factors, thereby providing a more comprehensive understanding of how emerging technologies shape ethical and social outcomes.

AUTHOR CONTRIBUTIONS

Conceptualization: Sumar'in Sumar'in.

Data curation: Sumar'in Sumar'in, Sumin Sumin.

Formal analysis: Sumar'in Sumar'in, Andiyono Andiyono, Sumin Sumin, Mokmin Basri.

Investigation: Andiyono Andiyono.

Methodology: Sumar'in Sumar'in, Andiyono Andiyono, Sumin Sumin, Mokmin Basri.

Project administration: Sumar'in Sumar'in.

Resources: Sumin Sumin, Mokmin Basri.

Software: Sumin Sumin.

Supervision: Sumar'in Sumar'in, Andiyono Andiyono, Sumin Sumin, Mokmin Basri.

Validation: Sumar'in Sumar'in.

Visualization: Sumin Sumin.

Writing – original draft: Sumar'in Sumar'in, Andiyono Andiyono, Sumin Sumin, Mokmin Basri.

Writing – review & editing: Sumar'in Sumar'in, Andiyono Andiyono, Sumin Sumin, Mokmin Basri.

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