

# Can Avatars Sell Faith? The role of Parasocial Interaction in Islamic Higher Education Marketing

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**Abstract.** This study investigates the effects of virtual influencers' (VIs) trustworthiness, expertise, and attractiveness on consumer trust and behavioural intention in the promotion of Islamic-based higher education institutions, with parasocial interaction introduced as a moderating variable in the relationships between VI trustworthiness and expertise and consumer trust. Using a survey of 544 final-year high school students as prospective university enrollees, this study employed an experimental stimulus in the form of a video featuring VIs promoting an Islamic-based higher education institution, and the data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings reveal that VI trustworthiness, expertise, and attractiveness positively influence consumer trust and behavioural intention, while parasocial interaction significantly strengthens the positive relationship between VI trustworthiness and consumer trust but does not significantly moderate the relationship between VI expertise and consumer trust. This study offers practical implications for top management by highlighting the potential of VIs as a promotional tool for Islamic-based products and services, given their consistency, flexibility in message customization, and cost efficiency compared to human influencers. From an originality perspective, this research extends the literature by addressing the underexplored effectiveness of VIs in endorsing Islamic value-based services and demonstrates that parasocial interaction can generate consumer engagement effects comparable to those of real human influencers, despite the inherent limitations of VIs in conveying authentic emotional and religiously grounded interactions.

**Keywords:** Virtual influencer, trustworthiness, expertise, attractiveness, parasocial interaction, higher education  
JEL classifications: M31 M37

## 1. Introduction

Virtual influencers (VIs) represent a significant evolution in marketing strategy, marking a transformative shift in how brands engage with consumers. Unlike human influencers, VI offers brands full creative control over their identity, behaviour, and messaging. This level of control enables brands to maintain a consistent image, tone, and narrative across different platforms and campaigns, without concerns over fatigue, aging, or personal controversies (Zhou, 2023). As their adoption becomes increasingly widespread, VIs are gaining prominence as strategic assets within global marketing ecosystems (Xin *et al.*, 2024). Jain *et al.* (2024) estimate that the global influencer marketing industry, which encompasses the rapidly expanding domain of VIs, was valued at approximately USD 34 billion in 2023. Remarkably, this figure is projected to surge to USD 90 billion by 2030, reflecting a growth rate exceeding 164% within just seven years. This exponential rise signals not only the sector's economic momentum but also its evolving influence on digital consumer engagement. Supporting this trend, Igarashi *et al.* (2024) found that by 2022, nearly 75% of Generation Z consumers in the United States were following VIs on social media platforms, illustrating the deep resonance and cultural relevance these digital personas hold among younger audiences.

While VIs has become an increasingly prominent feature of social media marketing, their reception across various demographic groups, particularly among religiously motivated consumers, remains relatively underexplored. Unlike conventional markets where technological innovation is often readily accepted, the Islamic market operates within a framework guided by shariah principles, where authenticity, trust (TR), and value alignment are fundamental. The very nature of VIs, as computer-generated personas, raises important questions about their compatibility with the moral and spiritual expectations of Muslim consumers (Oliveira and Chimenti, 2021). Due to their lack of emotional depth and lived human experience, VIs are often perceived as unable to form the genuine connections

necessary to foster TR within faith-driven consumer segments (Mouritzen *et al.*, 2023). Although Mouritzen *et al.* (2023) emphasize the growing strategic use of VIs, they also call for further research to understand how audiences influenced by religious values engage with such digital personas. Likewise, while Sands *et al.* (2022) explore the broader application of VI in influencer marketing, their analysis does not explicitly address the impact on the consumers' religious identity. Responding to these calls, the present study investigates the influence of VIs on TR and behavioural intention (BI) among Muslim consumers in the context of shariah-compliant markets.

In the field of marketing communication, a persistent challenge lies in crafting messages that not only capture audience attention but also convey credibility and cultivate trust. Source Credibility Theory (SCT) offers a robust framework for analysing this process, asserting that the effectiveness of a message is largely determined by the perceived credibility of its source. The key dimensions of SCT; trustworthiness (TRW), expertise (EXP), and attractiveness (ATT), have been widely applied in religious communication contexts, particularly those involving real-person influencers (Ibrahim *et al.*, 2024; van der Miesen *et al.*, 2022; Dominic *et al.*, 2023). Nevertheless, further scholarly investigation is needed to examine how these dimensions influence the reinforcement of consumer trust (TR) and behavioural intention (BI) when religiously-framed VIs is utilized. Moreover, recent studies highlight parasocial interaction (PI) as a powerful amplifier of message credibility in the context of virtual VIs. While SCT centres on the influencer's attributes, PI captures the illusion of a reciprocal relationship between the audience and the VI (Um, 2022). This reciprocal bond may facilitate message acceptance by engaging emotionally driven cues, thereby subtly reinforcing the influence of VIs' perceived credibility. Taken together, this present study addresses these following questions:

RQ1: What are the effects of VIs' TRW, EXP, and ATT on TR?

RQ2: Does PI moderate the relationship between VI's TRW, EXP, and ATT on TR?

By addressing those questions, the present study contributes to the existing body of knowledge in the Islamic marketing field in several ways. First, it provides empirical evidence on the influence of VIs credibility in shaping consumers' BI within the context of Islamic-based marketing. Second, it examines PI as a reinforcing factor of VI's credibility, thereby enhancing the overall effectiveness of VI utilization in persuasive communication strategies. From a practical perspective, the findings offer actionable insights for Islamic business decision-makers in utilizing VI as a promotional tool, particularly by taking into account the roles of credibility and authenticity. Compared to human influencers, the use of VIs can reduce promotional costs, maintain message consistency, and be customized to align with the desired brand image and messaging.

The present study is situated within the context of Indonesian public universities that embed Islamic values in their educational frameworks. In light of ongoing government budget efficiency measures affecting the education sector, VIs have emerged as a cost-effective alternative for marketing. This approach enables universities to reach a wider target audience via social media platforms while maintaining consistency with the Islamic-based identity.

The remaining sections of this paper are organized as follows: The next section presents the literature review and hypotheses development, in which relevant prior studies are discussed. This is followed by the methodology section, which outlines the research design, data collection procedures, and data analysis techniques. The subsequent section presents the research findings and discussion. Finally, the paper concludes with a summary of key findings, theoretical and practical contributions, and suggestions for future research.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Source credibility theory and Islamic-based virtual influencers' marketing**

The effectiveness of a persuasive message is strongly influenced by the audience's perception of the credibility of its source. Rather than functioning solely as a channel, the message source plays a central role in shaping how the message is received and whether it achieves its intended impact. In this regard, SCT proposes that credibility is determined by three key dimensions: TRW, EXP, and ATT (Hovland & Weiss, 1952). When a source is

perceived as highly credible, the message is more likely to be accepted and to motivate the audience to respond in alignment with the communicator's goals. Indeed, source credibility often becomes the deciding factor in whether a message resonates with the audience or is dismissed, regardless of its content (Dwivedi *et al.*, 2021). SCT has been extensively applied across various fields to explain how the perceived credibility of a source affects audience reception and behavioural outcomes. In marketing, influencers who are viewed as credible and well-informed have been found to significantly influence consumer purchasing decisions (Angmo *et al.*, 2025; Baudier *et al.*, 2023; Janssen *et al.*, 2021). As such, understanding and enhancing the perceived credibility of message sources remains a critical concern in persuasive communication.

In their development, marketing strategies involving real-person influencers face critical risks, including inconsistent audience engagement, declining performance, and the potential loss of credibility resulting from personal misconduct that may trigger public backlash. Moreover, Grguric Cop *et al.* (2023) highlight that social media influencers often assume different roles depending on the expectations of various stakeholders. This dynamic can lead to ethical dilemmas, as influencers may feel compelled to convey messages, they know to be untrue, thereby concealing certain objective facts. As a result, many organizations have turned to VIs, as they are not only cost-effective but also easily customizable to align with specific brand messages, while offering greater consistency in performance (Zhou, 2023). Unlike human influencers, VIs are fully controlled by the brand management; thus, minimizing reputational risks associated with unpredictable personal behaviour. This level of control allows brands to maintain a consistent narrative and emotional tone across campaigns, enhancing message coherence and strategic alignment.

Despite their advantages, VIs also carries the risk of lacking authenticity, as their computer-generated nature inherently limits their capacity to convey genuine human judgment and objective reasoning. From the consumers' perspective, Lee *et al.* (2024) suggest that machine heuristic tendencies embedded in VIs tend to simplify the decision-making process, making consumers more likely to accept recommendations without making critical evaluation. Instead of engaging in systematic and analytical reasoning, these heuristic leads consumers to rely on quick, affect-driven judgments, often resulting in impulsive decisions. Such tendencies effectively reduce cognitive load and allow consumers to respond swiftly in complex or information-rich environments (Zhang *et al.*, 2024; Igarashi *et al.*, 2024). However, impulsive endorsements may not be effective in the context of religious-based products or services, particularly when such decisions require significant personal sacrifice, such as high financial costs. Thus, this present study aims to fill that void by investigating the effectiveness of VIs in promoting Islamic-based higher education, a domain where trust, credibility, and value alignment are particularly critical.

Furthermore, Febrian (2024) suggests that there has been a fundamental shift in the Islamic religious social structure, marked by the transition of religious influence from traditional *ulema*, who historically held formal religious authority, to broader segments of society. The emerging figures, often social media influencers, construct a Muslim identity through more entertaining and relatable religious content. This shift reflects a democratization of religious expression, where individuals without formal religious training gain visibility and influence by embodying Islamic values in aesthetically engaging ways (Zaid *et al.*, 2022). As a result, this phenomenon fosters greater audience engagement and expands the reach of Islamic-oriented marketing to a wider, more diverse Muslim consumer base. Therefore, this study also addresses the broader shift in societal perceptions, where religious endorsements are no longer exclusively associated with *ulema* or individuals with formal Islamic education. At the same time, it acknowledges the rise of digital influence by examining the role of virtual endorsers in religious-based promotional contexts.

## 2.2. *Virtual influencers' trustworthiness and consumer trust*

Trustworthiness in marketing communication is a critical determinant of whether a message, delivered by either a real person or a virtual influencer, can be perceived as credible and fully trusted by consumers. It encompasses being truthful, adhering to ethical standards, and having no intention to deceive (Angmo *et al.*, 2025; Dwivedi *et al.*, 2021). In Islamic ethics, trustworthiness (Amanah) is a fundamental moral obligation encompassing honesty, integrity, and the fulfilment of responsibilities. It is deeply rooted in the Qur'anic commands and the prophetic tradition, positioning trustworthiness as both a social virtue and a spiritual duty (Smolo, 2024). A trustworthy individual is expected to uphold ethical conduct in personal, professional, and religious contexts, reflecting accountability not only to society but ultimately to Allah. Therefore, virtual influencers perceived as being trustworthy could enhance the consumers' trust.

H1: virtual influencers' trustworthiness positively influences consumers' trust

## 2.3. *Virtual influencers' expertise and consumer trust*

Expertise, within the context of virtual influencers, refers to the perceived knowledge, skill, or competence in a specific domain, which contributes to the audience's evaluation of message credibility. Although VIs are computer-generated personas without real-life experience or education, they can be programmed and curated to appear highly knowledgeable in particular fields (Gambetti and Kozinets, 2024). When audiences believe that a VI demonstrates accurate knowledge and domain-specific competence, they are more likely to view the message as credible and trustworthy. This expertise, in turn, enhances the persuasive impact of the VI and fosters greater audience trust.

H2: virtual influencers' expertise positively influences consumers' trust

## 2.4. *Virtual influencers' attractiveness and consumer trust*

Attractiveness refers to the physical appeal or likability of an individual, often influencing initial impressions and social judgments. In the context of communication and marketing, attractiveness functions as a heuristic cue that can enhance the perceived credibility of a message source (Batres and Shiramizu, 2023). Prior research has demonstrated that the attractiveness of virtual influencers significantly contributes to audience trust, particularly by eliciting favourable affective responses and perceived authenticity (Xan *et al.*, 2024; Sands *et al.*, 2022). This positive evaluation often leads consumers to view attractive virtual influencers as more sincere and relatable, which in turn fosters stronger trust.

H3: virtual influencers' attractiveness positively influences consumers' trust

## *Trust and behavioural intention*

Trust is a critical antecedent that shapes consumers' behavioural intentions toward using a product or service. Consumers with high levels of trust tend to perceive that the product or service will deliver on its promised performance as conveyed through promotional messages. In the context of virtual influencers, prior studies have demonstrated a positive relationship between trust and behavioural intention to purchase the promoted product or service (Belanche *et al.*, 2024; Lee *et al.*, 2024; Igarashi *et al.*, 2024). Interestingly, consumers often treat virtual influencers similarly to real human beings, thereby extending a comparable level of trust; which, in turn, significantly influences their behavioural intentions (Belanche *et al.*, 2024; Igarashi *et al.*, 2024).

H4: Trust in virtual influencers positively influences behavioural intention

## 2.5. *Parasocial interaction*

Parasocial interaction expands the boundaries of traditional interpersonal communication by enabling audiences to form perceived relationships with individuals they do not personally know, such as celebrities, public figures, or influencers. In the context of social media, PI facilitates a sense of closeness and familiarity, allowing users to engage

emotionally with virtual or real personas as if they were part of their social circle. Um (2022) suggest that parasocial relationships are grounded in two key aspects: friendship and understanding. Friendship refers to a mutual relationship marked by intimacy and affection, while understanding denotes the extent to which a fan believes they personally and deeply knows the celebrity, despite the lack of real-life interaction. This personal connection echoes the argument by Vu *et al.* (2024), who contend that the presence of PI amplifies the audience's personal perception of the influencer and, when intensified, can divert attention away from the core message.

The influence of parasocial interaction extends to both attitudinal and behavioural outcomes among audiences. Indeed, some researchers argue that while such interaction may effectively shape consumers' purchase decisions, the degree of loyalty, particularly in terms of repeat purchasing, tends to differ when compared to the impact of real-person influencers. As a result, producers often adopt a careful approach in employing VIs, preferring to combine them with real-person influencer marketing strategies (Dondapati and Dehury, 2024). Furthermore, several studies suggest that purchases influenced by VIs are often impulsive, lacking thorough deliberation, and primarily driven by the lifestyle portrayed by the VIs themselves (Tabari and Ding, 2024; Lacap *et al.*, 2023). Those studies provide insights indicating that parasocial interaction tends to be more effective for low-involvement and utilitarian products, where decision-making requires minimal cognitive effort (Belanche *et al.*, 2024). Nevertheless, some scholars also suggest that parasocial interaction may still encourage repeated purchases, particularly in cases where producers launch new products related to their main product lines (Lacap *et al.*, 2023; Vo *et al.*, 2025). This is largely due to audiences' inclination to emulate the evolving lifestyles of the influencers they follow (Lacap *et al.*, 2023). Therefore, the foregoing discussion highlights that, although parasocial interaction can be an effective means to influence target consumers, its implementation must be carefully considered. Factors such as the type of product or service, the duration of consumer engagement, and the potential negative consequences of unmet expectations must all be taken into account.

In the context of Islamic based product marketing, this emergence of VIs further calls for careful ethical and theological reflection, particularly when contextualized within PI in religious settings. The perceived intimacy fostered through digital platforms may inadvertently elevate the moral authority of individuals whose public credibility is shaped more by curated online personas than by formal religious education. This dynamic carries the potential to simplify or commercialize complex religious teachings in pursuit of audience engagement (Pujianto *et al.*, 2024; Febrian, 2024). Moreover, sustained reliance on PI could gradually shift the locus of religious learning from traditional communal and scholarly frameworks toward more passive, individualized forms of consumption (Febrian, 2024). As Zaid (2022) suggests, such developments may reframe expressions of religious commitment in ways increasingly mediated by algorithmic visibility rather than grounded spiritual judgement.

This study posits that parasocial interaction serves as a moderator that strengthens the influence of trustworthiness and expertise, key predictors of message effectiveness in promoting high-involvement religious services such as Islamic higher education. Trustworthiness in the Islamic context is deeply grounded in the teachings of the Qur'an and Hadith, wherein individuals are obliged to uphold truthfulness and assume responsibility for the consequences of their communicated messages. Meanwhile, expertise refers to the ability of the information source to demonstrate competence in a specific context relevant to the audience's needs. It is developed over an extended period through continuous learning and cognitive investment, thereby forming an objectively grounded perception of credibility (van der Miesen *et al.*, 2022). In contrast, the attractiveness dimension is often perceived as more surface-level, drawing on sensory appeal such as beauty or likability, and contribute to cognitive biases like the halo effect (Batres and Shiramizu, 2023). Such bias can distort rational evaluation, leading individuals to accept messages more readily, even in the absence of expertise or evidence, simply because the communicator appears visually appealing or likable.

To reiterate, we argue that parasocial interaction is an inevitable phenomenon in the engagement between audiences and virtual influencers. In Islamic marketing, particularly within higher education, consumers often engage in complex evaluative processes before making decisions. In such contexts, trustworthiness and expertise remain the primary dimensions that must be critically assessed. Therefore, parasocial interaction should serve as a complementary mechanism that reinforces, rather than replaces, these core elements of credibility.

*Parasocial interaction as moderators*

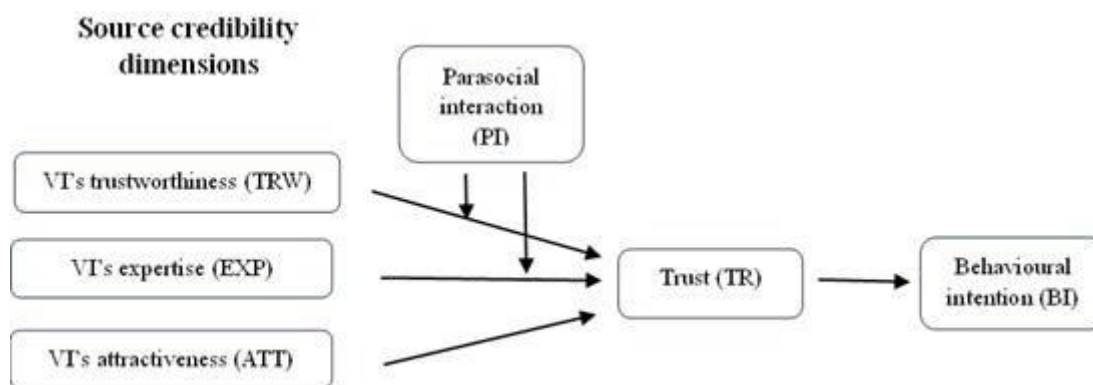
Unidirectional engagement in parasocial interaction fosters feelings of closeness and familiarity, which significantly influence how audiences evaluate virtual influencers' credibility. Recent studies have shown that parasocial interaction intensifies the perception of trustworthiness by fostering emotional bonds and perceived authenticity (Lacap *et al.*, 2024). Through repeated exposure and emotionally charged content, virtual influencers can build long-term parasocial connections that mimic genuine interpersonal trust (Stein *et al.*, 2022). When parasocial interaction is strong, audiences are more inclined to interpret trustworthy cues from virtual influencers as sincere and personally relevant.

H5: Parasocial interaction moderates (strengthens) the positive influence of virtual influencers' trustworthiness on consumer's trust

Parasocial interaction may play a significant role in enhancing the positive link between perceived virtual influencer's expertise and audience trust. When individuals feel a sense of personal connection with a virtual influencer, they tend to view the influencer's expertise as more credible and convincing (Belanche *et al.*, 2024; Yang *et al.*, 2022). This emotional bond can increase the perceived authenticity of the influencer's knowledge or skills, which in turn fosters greater trust. (Yang *et al.*, 2022). As such, the presence of parasocial interaction appears to intensify the influence of expertise on trust.

H6: Parasocial interaction moderates (strengthens) the positive influence of virtual influencers' expertise on consumer's trust

Figure 1 displays the conceptual model while table 1 displays the operational definition of each construct



**Figure 1** conceptual model

**Table 1** Operational definition

Variables	Operational definition	Sources
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Trustworthiness	The quality or disposition of a person, system, or institution to act competently, reliably, and with integrity so that others have reasonable grounds to place trust in them	Alarcon et al. (2024)
Expertise	A high level of domain-specific competence and reliably superior performance on tasks within a well-defined domain, produced by the accumulation of structured knowledge, situation-sensitive skills, and quality practice	Köhler & Rausch (2022)
Attractiveness	The degree to which an individual's physical features are perceived as aesthetically pleasing or desirable	Kleisner et al. (2024)
Trust	A belief about an individual's or group's trustworthiness under conditions of unknown outcomes	Belanche et al., 2024
Behavioral intention	Behavioral intention refers to an individual's subjective likelihood or readiness to perform a specific behavior	Belanche et al., 2024
Parasocial interaction	a one-sided, illusory psychological relationship in which media audiences perceive a sense of connection, intimacy, or friendship with a media persona	Um (2022)

### 3. Methodology

#### 3.1. Study design and ethical clearance

In accordance with the aim of the present study, which is to examine the relationship between predictor and outcome variables, a cross-sectional research design was employed. This approach is appropriate for testing associations between variables and, therefore, suitable for validating the proposed hypotheses. Since the study involved human participants, ethical clearance was sought to ensure that the research was conducted ethically, responsibly, and with due respect for the rights, safety, and well-being of the participants. Ethical approval was granted by the Ethics Committee of the National Research and Innovation Agency of the Republic of Indonesia, under the decree No: 330/KE.01/SK/04/2025 dated April 22, 2025. This study is part of a larger research project entitled Assessing Financial Autonomy of Legal Entity State Universities Using the KPMG Evaluation Framework. This study is relevant to that larger project as it investigates current marketing strategies aimed at increasing revenue sources and strengthening higher education's financial autonomy.

### 3.2. Population and sample

In alignment with the objectives of the present study, final-year high school students preparing to enrol in higher education institutions were selected as respondents. We collaborated with a prominent educational institution based in Jakarta, Indonesia, which specializes in preparing high school students for university admission. According to internal records, the total number of final-year high school students enrolled was 8,552. Using the Lemeshow sampling formula, and assuming a 95% confidence level with a 5% margin of error, the minimum required sample size was calculated to be 368 respondents (Levy and Lemeshow, 2013).

### 3.3. Data collection procedure and informed consent

An official letter was submitted to the management of the selected educational institutions to obtain permission to administer the survey during the class sessions. Additionally, access to the student database was requested, and approval was granted to contact students via the phone numbers provided in order to invite their participation. A screening question was included in the initial communication to ensure respondent eligibility. The inclusion criteria specified that participants must: (1) identify as Muslim, (2) intend to apply to a higher education institution in the current academic year, (3) consider an Islamic university as one of their options, and (4) be actively using at least one social media platform. Respondents were asked to indicate which platform(s) they used by selecting from options such as Facebook, Instagram, TikTok, or other social media. Individuals who did not meet all four criteria were not followed up for participation in the survey.

The survey was conducted in classrooms, each consisting of approximately 18 to 20 students. A team of trained enumerators was deployed to assist with the data collection process. The survey was administered through face-to-face interviews to ensure that all questionnaire items were clearly understood by the respondents. Enumerators were instructed to provide assistance to participants who encountered difficulties in completing the questionnaire. Prior commencing the survey, the enumerators introduced themselves and provided a brief explanation of the background and objectives of the study. Detailed instructions on how to complete the questionnaire were also conveyed. Participants were informed that their participation was entirely voluntary; they had the right to decline participation or withdraw from the survey at any time without facing any consequences. Furthermore, respondents were assured that all data collected would be treated with strict confidentiality and used solely for research purposes. No personally identifiable information would appear in any publications resulting from this study. After receiving this information, participants were asked to sign an informed consent form indicating that they had fully understood the information provided, were aware of their rights, and voluntarily agreed to take part in the survey.

Following the introductory session and the completion of the preliminary questionnaire, we presented a 30-second video developed using artificial intelligence (AI) software. The video promoted a faith-based university, emphasizing an Islamic-based teaching approach and highlighting extracurricular activities designed to instil Islamic values outside the classroom. Two versions of the video were shown, each featuring a VI, male and female, both designed with Islamic appearances. The use of both genders aimed to minimize gender-related bias in respondents' perception of the message. Screenshots from the videos and the full narration are provided in Appendix I. After watching the video, respondents were asked to proceed with the questionnaire.

### 3.4. Measure

The measurements consisted of five-item Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). All scales employed in this study were adapted from prior research involving virtual influencers and were modified to align with the context of the present study. The scales for trustworthiness, expertise, and attractiveness were adapted from King and Wang (2024), which were originally developed based on the conceptualization of Ohanian (1990) investigating the influence of celebrities. The trust scale was adapted from

Ameen *et al.* (2024), whereas the scales for behavioral intention and parasocial relationship were adapted from Dondapati and Dehury (2024). Initially, expert feedback in the field of marketing was sought to assess the face validity of the scales. A pre-test was subsequently conducted with 30 respondents to examine their comprehension of the questionnaire items. Based on the feedback received, wording revisions were made to enhance clarity and ensure respondent understanding. Table 3 presents the final indicators along with their corresponding variables.

**Table 2** variables and indicators

Variables	Indicators	Sources
Trustworthines s (TRW)	TRW1 The VIs are dependendable	Kim & Wang (2024)
	TRW2 The VIs are honest	
	TRW3 The VIs are reliable	
	TRW4 The VIs are trustworthy	
Expertise (EXP)	EXP1 The VIs are experts in Islamic education	Kim & Wang (2024)
	EXP2 The VIs are experienced in Islamic education	
	EXP3 The VIs are knowledgeable in Islamic education	
	EXP4 The VIs are qualified as an Islamic educators	
	EXP5 The VIs are skilled in Islamic education	
Attractiveness (ATT)	ATT1 The VIs look Islamic	Kim & Wang (2024)
	ATT2 The VIs are attractive	
	ATT3 The VIs are elegant	
Trust (TR)	TR1 I believe the Islamic higher education promoted by VIs will meet my expectation	Ameen et al. (2024),
	TR2 I feel confident about Islamic higher education being promoted by VIs	
	TR3 I believe the Islamic higher education promoted by VIs will not dissapoint me	
	TR4 The Islamic higher education promoted by VIs will guarantee satisfaction	
Behavioral intention (BI)	BI1 I will likely enroll in the Islamic higher education institution recommended by the Vis	Dondapati & Dehury (2024)
	BI2 I will definitely enroll in the Islamic higher education institution recommended by the Vis	
	BI3 I intend to enroll in the Islamic higher education institution recommended by the VIs.	
Parasocial interaction (PI)	PI1 I feel close enough to the Vis	Dondapati & Dehury (2024)
	PI2 I feel comfortable with the Vis	
	PI3 I feel tascinated with the Vis	

### 3.5. Data analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed for data analysis, as it is appropriate for the research objective of testing hypothesized relationships among construct (Sarstedt *et al.*, 2022). To ensure adequate sampling before the main analysis, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity were conducted. To minimize systematic measurement errors that could potentially result in spurious correlations among variables, common method bias (CMB) was assessed using both the full collinearity assessment and Harman's Single-factor test (Zeng *et al.*, 2021). Also, multicollinearity assessment was also performed by calculating the Variance Inflation Factor (VIF) for each construct.

The analysis comprises two main stages: measurement model assessment and structural model assessment. During the measurement model stage, tests for reliability, convergent validity, and discriminant validity are conducted to ensure the adequacy of the measurement instruments. In the structural model assessment, regression and moderation analyses are performed to test the hypothesized relationships. Furthermore, to evaluate the overall model quality, several criteria are assessed, including the coefficient of determination ( $r^2$ ), effect size ( $f^2$ ), and goodness of fit (GoF). A simple slope analysis is also conducted to further explore the nature of the moderation effects.

## 4. Results

### 4.1. Sampling adequacy, common method bias, and multicollinearity

The KMO test for sampling adequacy indicated a value of 0.867, which can be categorized as meritorious, suggesting the data is suitable for factor analysis (Kaiser, 1974). This confirms the absence of underlying factors beyond the proposed variables. Bartlett's test of sphericity yielded a significant result ( $p = 0.000$ ), further confirming that the data was not an identity matrix, making it appropriate for factor analysis. To assess CMB, a multicollinearity assessment was conducted by regressing all constructs both endogenous and exogenous on all other constructs as predictors. The results indicated that all VIF values were below the conservative threshold of 3.3, suggesting that CMB was not a significant concern (Kock, 2015). In addition, Harman's single-factor test was carried out using rotated principal component analysis (PCA). The analysis showed that the first component with the highest eigenvalue accounted for 34.5% of the total variance, which is below the recommended cutoff of 50%. Therefore, CMB was deemed unlikely to bias the results (Kock, 2015). Also, a multicollinearity assessment was conducted for all the predictors. The tolerance values were all above the minimum threshold of 0.2, and VIF were below the critical value of 5, indicating no multicollinearity issues in the study (Lindner *et al.*, 2022).

### 4.2. Measurement model assessment

To confirm the validity and reliability of the outer model, a confirmatory factor analysis (CFA) was conducted. The factor loadings of each indicator were examined to assess their strength and statistical significance. In addition, internal consistency and convergent validity were evaluated using Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE). This assessment helps validate the latent variable structure and its associated indicators. As presented in Table 4, all factor loadings exceeded the recommended threshold of 0.50. Likewise, the values of CA, CR, and AVE were above the acceptable cutoff points of 0.60, 0.70, and 0.50, respectively (Sarstedt *et al.*, 2022). These results indicate strong internal consistency and high correlations among indicators, confirming that they adequately represent their respective constructs; therefore, convergent validity was established. Table 3 displays the confirmatory factor analysis.

**Table 3** confirmatory factor analysis

Variables	Indicators	Loadings	CA	CR	AVE
TRW	TRW1	0.854	0.908	0.935	0.782
	TRW2	0.884			
	TRW3	0.896			
	TRW4	0.903			
EXP	EXP1	0.823	0.885	0.915	0.684
	EXP2	0.820			
	EXP3	0.832			
	EXP4	0.849			

	EXP5	0.811			
	ATT1	0.883			
ATT	ATT2	0.855	0.858	0.913	0.778
	ATT3	0.906			
	TR1	0.89			
TR	TR2	0.912	0.925	0.947	0.817
	TR3	0.910			
	TR4	0.904			
	BI1	0.817			
BI	BI2	0.845	0.798	0.879	0.708
	BI3	0.862			
	PI1	0.936			
PI	PI2	0.935	0.935	0.959	0.885
	PI3	0.952			

Next, discriminant validity was evaluated using the Fornell and Larcker criteria, loadings, cross-loadings, and HTMT ratio. According to the Fornell and Larcker criterion, the square root of the AVE for each variable exceeded the inter-construct correlations (Table 4), indicating that each item was more strongly associated with its corresponding variable than with the others (Fornell and Larcker, 1981). The analysis of loadings and cross-loadings confirmed that the loadings of each variable were greater than the cross-loadings (see Table 5). Furthermore, as displayed in Table 6, the HTMT ratio was below the acceptable threshold of 0.85 (Henseler *et al.* 2015). These results confirm the discriminant validity.

**Table 4** Fornell and Larcker criterion

	TRW	EXP	ATT	TR	BI	PI
<b>TRW</b>	<b>0.884</b>					
<b>EXP</b>	0.136	<b>0.827</b>				
<b>ATT</b>	0.078	0.091	<b>0.882</b>			
<b>TR</b>	0.196	0.322	0.226	<b>0.904</b>		
<b>BI</b>	0.124	0.296	0.197	0.737	<b>0.842</b>	
<b>PI</b>	0.069	0.188	0.247	0.296	0.238	<b>0.941</b>

**Table 5** Loadings and cross-loadings

	TRW	EXP	ATT	TR	BI	PI
<b>TRW1</b>	<b>0.854</b>	0.099	0.063	0.125	0.074	0.061
<b>TRW2</b>	<b>0.884</b>	0.104	0.076	0.157	0.116	0.042
<b>TRW3</b>	<b>0.896</b>	0.103	0.028	0.187	0.124	0.087
<b>TRW4</b>	<b>0.903</b>	0.165	0.104	0.205	0.128	0.052
<b>EXP1</b>	0.158	<b>0.823</b>	0.054	0.290	0.279	0.199
<b>EXP2</b>	0.083	<b>0.820</b>	0.058	0.305	0.286	0.148
<b>EXP3</b>	0.122	<b>0.832</b>	0.090	0.233	0.253	0.127
<b>EXP4</b>	0.162	<b>0.849</b>	0.083	0.258	0.272	0.142
<b>EXP5</b>	0.029	<b>0.811</b>	0.101	0.223	0.219	0.156
<b>ATT1</b>	0.103	0.037	<b>0.883</b>	0.175	0.202	0.204
<b>ATT2</b>	0.068	0.135	<b>0.855</b>	0.190	0.209	0.198
<b>ATT3</b>	0.043	0.068	<b>0.906</b>	0.226	0.245	0.246
<b>TR1</b>	0.148	0.305	0.206	<b>0.891</b>	0.716	0.258

<b>TR2</b>	0.184	0.350	0.237	<b>0.912</b>	0.759	0.285
<b>TR3</b>	0.203	0.274	0.178	<b>0.910</b>	0.710	0.266
<b>TR4</b>	0.173	0.232	0.194	<b>0.903</b>	0.808	0.261
<b>BI1</b>	0.060	0.342	0.229	0.576	<b>0.817</b>	0.227
<b>BI2</b>	0.145	0.210	0.207	0.592	<b>0.845</b>	0.170
<b>BI3</b>	0.112	0.254	0.195	0.838	<b>0.862</b>	0.287
<b>PI1</b>	0.059	0.149	0.223	0.276	0.253	<b>0.936</b>
<b>PI2</b>	0.059	0.178	0.241	0.266	0.257	<b>0.935</b>
	0.076	0.203	0.234	0.293	0.287	<b>0.952</b>

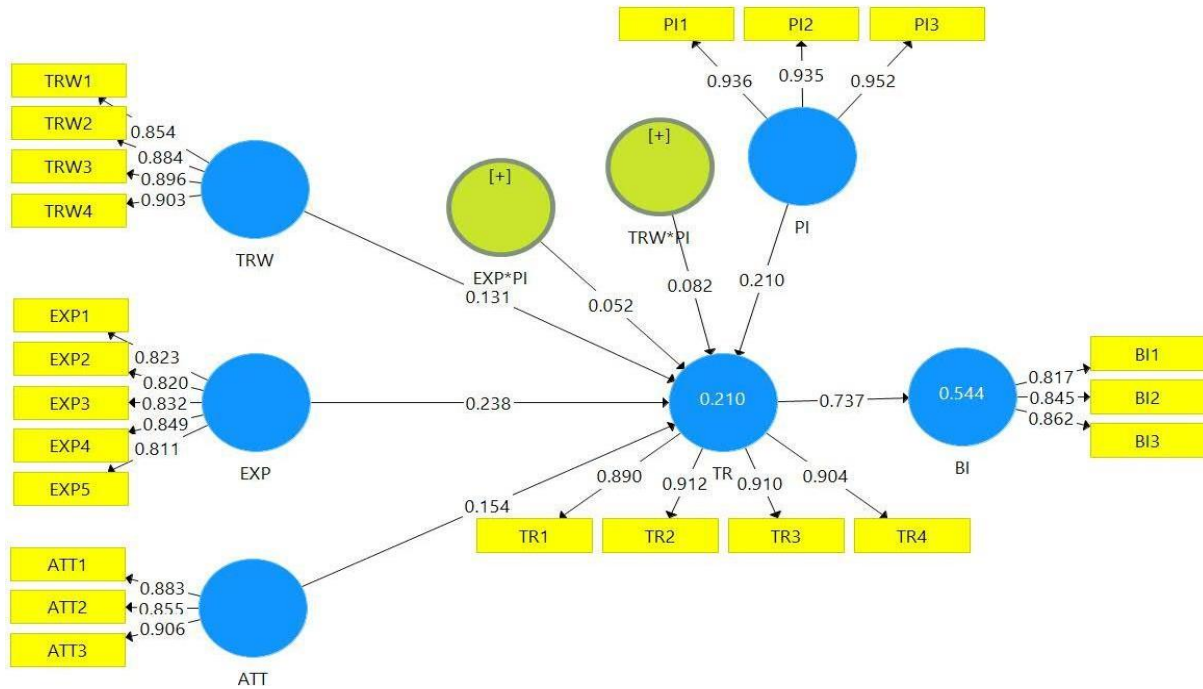
**Table 6** HTMT

	<b>ATT</b>	<b>BI</b>	<b>EXP</b>	<b>PI</b>	<b>TR</b>
<b>BI</b>	0.242				
<b>EXP</b>	0.107	0.351			
<b>PI</b>	0.273	0.268	0.205		
<b>TR</b>	0.250	0.832	0.349	0.318	
<b>TRW</b>	0.090	0.138	0.146	0.074	0.208

#### 4.2. Regression analysis

The regression analysis showed that VI's trustworthiness had a significant positive effect on consumers' trust ( $\beta = 0.131$ ,  $t = 3.374$ ,  $p = 0.001$ ,  $f^2 = 0.021$ ), as did VI's expertise ( $\beta = 0.237$ ,  $t = 5.649$ ,  $p < 0.000$ ,  $f^2 = 0.066$ ), and attractiveness (ATT) ( $\beta = 0.154$ ,  $t=3.684$ ,  $p<0.000$ ,  $f^2 = 0.028$ ). Additionally, consumers' trust strongly influenced behavioural intention (BI) ( $\beta = 0.829$ ,  $t=52.59$ ,  $p<0.000$ ;  $f^2 = 2.201$ ). Therefore, H1, H2, H3, and H4 were accepted.

According to Cohen (1992), the effect sizes ( $f^2$ ) of VI's trustworthiness, expertise, and attractiveness on consumer trust are considered small; yet, they remain meaningful and indicate that these variables still contribute to the development of consumer trust. Importantly, consumer trust demonstrates a large effect on behavioural intention ( $f^2 = 2.201$ ). This finding highlights that VI's trustworthiness, expertise, and attractiveness, though exhibiting small effects, serve as critical antecedents that ultimately foster stronger behavioural intention. The coefficient of determination ( $r^2$ ) shows that VI's trustworthiness, expertise, and attractiveness collectively explain 21% of the variance in consumer trust ( $r^2 = 0.21$ ). This suggests that these three antecedents jointly contribute substantially to trust formation. The model fit, as indicated by the normed fit index (NFI = 0.827) and standardized root mean square residual (SRMR = 0.052), also falls within the acceptable range (Aghimien *et al.*, 2024; Dash and Paul, 2021). Therefore, the overall explanatory power of the proposed model was adequate. Figure 2 displays the overall regression power.



**Figure 2** overall regression power on structural model

#### 4.3. Moderation analysis

Next, we conducted a moderation analysis with parasocial interaction as a moderator of the relationships between VI's trustworthiness and expertise and consumer trust. The results revealed that parasocial interaction significantly strengthened the positive effect of VI's trustworthiness on consumer trust ( $\beta = 0.082$ ,  $t = 1.986$ ,  $p = 0.048$ ,  $f^2 = 0.08$ ). Although the p-value is slightly above the conventional threshold, the effect size indicates a small but meaningful moderation effect (Kenny, 2018). In contrast, parasocial interaction did not significantly moderate the relationship between VI's expertise and consumer trust ( $\beta = 0.052$ ,  $t = 1.27$ ,  $p = 0.562$ ,  $f^2 = 0.003$ ). Therefore, H5 was accepted while H6 was rejected. Table 7 displays the regression results.

**Table 7** Regression results

	Hypotesis	$\beta$	t	p	$f^2$	Remarks
H1	TRW-->TR	0.131	3.305	0.001*	0.021	Accepted
H2	EXP-->TR	0.238	1.33	0.000*	0.066	Accepted
H3	ATT-->TR	0.154	3.73	0.000*	0.028	Accepted
H4	TR-->BI	0.737	28.604	0.000*	1.19	Accepted
H5	TRW*PI-->BI	0.082	1.922	0.055**	0.008	Accepted
H6	EXP*PI-->BI	0.052	1.33	0.184***	0.003	Rejected

Note : \* significant at  $p < 0.001$ ; \*\* significant at  $p < 0.1$ ; \*\*\* not significant

To further examine the contribution of the moderation effect, we compared the explained variance ( $r^2$ ) of the model with and without the moderator. The model without parasocial interaction produced an  $r^2$  value of 20.2%, which is 0.8% lower than the  $r^2$  of 21% in the model including the moderator. This suggests that the inclusion of parasocial interaction increased the explanatory power of the predictor variables on consumer trust by 0.8%.

Further, we conducted a simple slope analysis to illustrate the moderating effect of parasocial interaction. As shown in Figure 3, the slope of the relationship between VI's trustworthiness and consumer trust is steeper at a high level of parasocial interaction (+1 SD) compared to the slope at the mean and at a low level (-1 SD). This figure indicates that when parasocial interaction is high, VI's trustworthiness exerts a stronger positive influence on consumer trust. Conversely, at lower levels of parasocial interaction, the slope becomes flatter, suggesting a weaker moderating effect of parasocial interaction.

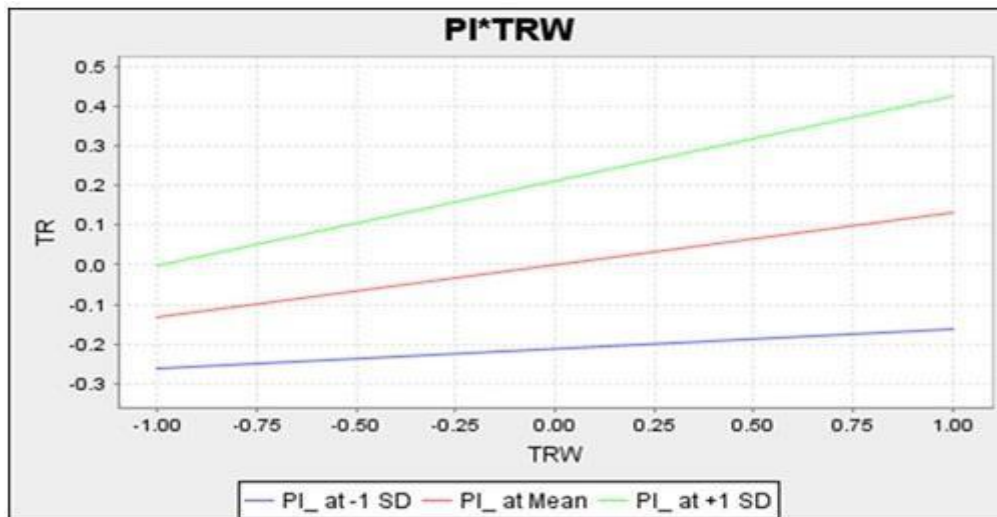


Figure 3 simple slope analysis

## 5. Discussion

The findings reveal that VI's trustworthiness positively influences consumer trust. This suggests that consumers tend to perceive VI as real persons when delivering information about products or services, in this case, Islamic higher education. This finding aligns with prior studies by Belanche *et al.* (2024) and Igarashi *et al.* (2024), which assert that consumers often treat virtual influencers similarly to real human beings, particularly in evaluating their trustworthiness. In the context of this study, the VI was presented with Islamic attributes. This portrayal led consumers to compare the VI with real individuals who share similar appearances or characteristics when promoting Islamic higher education institutions. If consumers perceive compatibility with a real Muslim person, this perceived alignment further enhances the VI's credibility and strengthens consumer trust.

Next, VI's expertise was found to positively influence consumers' trust. Therefore, when the VI is perceived as knowledgeable in Islamic higher education, or in this study, appears academically credible, this perception can enhance consumer trust. These findings are in line with Gambetti and Kozinets (2024), who state that a VI's perceived expertise can be conveyed by forming associations with the expertise of real individuals in relevant fields. We reinforced this association by presenting the VI with an academic appearance and using a narrative that emphasized the teaching and learning process. Furthermore, we used a video stimulus featuring a library and classroom background to enhance the academic atmosphere of the VI's message. When the VI's appearance, narration, and surrounding environment align with the context of the product or service, they are more likely to increase the relevance and clarity of the communication. This alignment ultimately enhances the message's authenticity and, in turn, strengthens consumer trust.

VI's attractiveness was also found to positively influence consumers' trust. In addition to presenting an Islamic and scholarly appearance, the VI's physical attractiveness contributed to enhancing consumer trust. In this study, the VI was designed to be visually appealing in order to increase likeability and stimulate affective responses among consumers. These emotional factors play a key role in building a connection with the

audience and enhancing the persuasiveness of the message. This finding aligns with the study by Xan *et al.* (2024), which suggests that attractiveness stimulates consumers' affective responses. In turn, these affective responses strengthen more objective evaluations such as perceived expertise, ultimately reinforcing consumer trust (Sands *et al.*, 2022).

Those three antecedents strengthen consumer trust in the message delivered by the VI and, eventually, enhance behavioural intention. In the context of this study, the trust formed encourages consumers' intention to enrol in the Islamic higher education institution promoted by the VI. These findings support the results of Belanche *et al.* (2024) and Lee *et al.* (2024), and Igarashi *et al.* (2024), who found that trust in the VI strengthens the behavioural intention of target consumers. Moreover, this study reveals that the trust built can drive behavioural intention even in the context of promoting services based on Islamic values. This indicates that VI-driven persuasion can exert a similar behavioural impact as real-person persuasion, even when the promoted product or service relates to individuals' beliefs in religious teachings.

The moderation analysis revealed that parasocial interaction strengthens the positive effect of the VI's trustworthiness on consumers' trust. The findings suggest that respondents with higher levels of parasocial interaction experience a sense of intimacy and perceived friendship with the VI. In the context of Islamic higher education selection, this result also indicates that parasocial interaction functions effectively within high-involvement product categories. One possible explanation is that parasocial interaction shifts consumer evaluation toward a more subjective orientation, leading consumers to perceive the VI's message as more credible. These findings are consistent with those of Um (2022) and Vu *et al.* (2024), who argued that high-intensity parasocial interaction fosters a strong sense of familiarity with the VI. Moreover, parasocial interaction enhances the perception of the VI as being similar to a real person. In this study's context, the VI's Islamic appearance was perceived as that of a trusted Islamic figure, which in turn encouraged the intention to enrol in the promoted university.

However, parasocial interaction did not significantly moderate the positive effect of the VI's expertise on consumer trust. This finding contradicts the results of Belanche *et al.* (2024) and Yang *et al.* (2022), who found that parasocial relationships can enhance perceptions of virtual influencers' expertise. A possible explanation lies in the nature of parasocial relationships, which are primarily based on perceived friendliness and emotional closeness. Thus, the affective dimension tends to contribute more to consumer perceptions than cognitive evaluations. In the context of this study, the VI promoted an Islamic higher education institution, a product category that requires an objective and thoughtful rational decision-making. Therefore, the emotional and subjective characteristics of parasocial interaction may not significantly contribute to such decisions. Consumers are likely to evaluate the VI's perceived expertise objectively, independent of any emotional bond formed through parasocial interaction.

## 6. Conclusions, theoretical, and practical contributions

Communication through VIs has become a prominent marketing strategy due to several advantages that real person influencers do not possess, such as message consistency, cost efficiency, and immunity from external factors that could harm their reputation. Although the use of VIs has been widely adopted across various product and service categories, there remains a research gap regarding their effectiveness in promoting religion-based products and services. This study employs source credibility theory by examining the dimensions of trustworthiness, expertise, and attractiveness of VIs and their influence on consumers' trust and behavioural intention. In addition, parasocial interaction is introduced as a moderating variable to investigate its role in the relationships between VIs' trustworthiness and expertise and consumer trust. The findings reveal that all three dimensions, trustworthiness, expertise, and attractiveness, positively affect consumer trust. Moreover, parasocial interaction is found to significantly strengthen the positive effect of VIs' trustworthiness on consumer trust. However, it does not significantly moderate the

relationship between VIs' expertise and consumer trust.

This present study contributes to the body of knowledge in Islamic marketing in several ways. First, it introduces the application of source credibility theory dimensions and examines their impact on consumer trust toward VIs in the context of Islamic-based promotion. This provides empirical evidence that religious values can also be effectively communicated through virtual personas. Second, it explores the moderating role of parasocial interaction in the relationship between VIs' trustworthiness and expertise and consumer trust. Therefore, the parasocial relationships formed between audiences and VIs have been shown to enhance feelings of friendship and closeness, resembling real human connections. Third, the study offers insights into the evolving social structure within Islamic communities, where communication of Islamic values, once dominated by religious figures, is now expanding to include not only real human actors but also virtual personas. As a result, opportunities for religion-based marketing are becoming broader, allowing for more diverse actors beyond traditional religious leaders.

On the practical front, this study provides valuable insights for various stakeholders involved in religious marketing. Within the context of this study, Islamic higher education institutions can formulate promotional strategies by utilizing VIs, taking into account factors such as trustworthiness, expertise, and attractiveness. The use of VIs offers several advantages, including customizable messaging, wide reach through multiple social media platforms, and consistent performance and image, issues that often pose challenges when using real human influencers. In the broader context, this present study also offers practical recommendations for business practitioners, particularly small and medium enterprises offering Islamic-based products. Employing VIs as a promotional medium may significantly reduce marketing costs compared to hiring real person influencers, which is especially beneficial for small businesses with limited financial resources.

## 7. Limitations and direction for further studies

This study has several limitations that can serve as guidance for future research. First, the present study used only Islamic higher education cues without explicitly mentioning the name of a specific university. As a result, the potential influence of university brand strength was not considered. Future studies could incorporate brand cues from an Islamic higher education institution to further examine their impact on consumer trust. Second, although this study provides evidence of the effectiveness of VIs in the context of Islamic-based products and services, the product scope is limited to higher education. Hence, the generalizability of these findings should be approached with careful consideration. Future research could compare a broader range of product contexts, such as utilitarian versus luxury products, or high- versus low-involvement products, to identify potential differences in VI persuasion effects. Third, the sample was restricted to late-teen respondents who were about to enrol in university. The influence of VIs on Islamic products may vary with age. Accordingly, future studies could explore variations in VI influence across a wider range of age groups.

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