

## MOBILE AUGMENTED REALITY AS E-PROMOTION TO ATTRACT TOURISTS' AWARENESS AND INTENTION TO VISIT HALAL DESTINATIONS

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**Abstract:** This study aims to examine the relationship between mobile augmented reality, promotion-mix elements, destination awareness, and intention to visit halal destinations. By using explanatory research, questionnaires were distributed online (Google form) and offline to tourists visiting Karimunjawa, Indonesia. A total of 110 tourists participated in this study. Data were analyzed using the Partial Least Square-structural equation model. This study found that mobile augmented reality had no positive and significant effect on destination awareness and intention to visit halal destinations. Thus, Augmented reality has not been able to become an important factor in destination awareness and intention to visit halal destinations. Conversely, destination awareness has a positive and significant effect on the intention to visit halal destinations. Then, promotion-mix elements (PME) also have a positive and significant influence on destination awareness and intention to visit halal destinations. This study also found that destination awareness can mediate the relationship between promotion-mix elements and intention to visit halal destinations. Theoretical and empirical implications are also highlighted in this study.

**Key words:** mobile augmented reality, promotion-mix elements, destination awareness, intention to visit, halal destinations

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### INTRODUCTION

The tourism sector is an important component as a driving force for the country's economic growth. Indonesia has a lot of great wealth potential and has policies to support tourism. Comprehensive tourism industry planning is able to create various job opportunities in the tourism industry, increase people's income and especially tourist destinations can become the largest foreign exchange earner for the country (Owusu-Mintah, 2014; Zueva, 2021). The industry also confirms that the role of tourism is getting bigger in economic and social interests in government (Firdaus et al., 2021).

In addition, tourism has become a world concern because it is the center of tertiary attention for the needs of the world community. In increasing the gross domestic product in the tourism sector, the ministry of tourism is also developing halal tourism and making massive efforts to promote it through various technological integration developments, especially with regard to the development of the latest technological discoveries (Adamczyk et al., 2019). At least, there are several technology products commonly used in tourism such as virtual reality-based technology (Idris et al., 2021), augmented reality (Rokhsaritalemi et al., 2022), android-based (Kang and Jwa, 2018), smart tourism (Hamid et al., 2021) and e-marketing promotions (Venugopal and Vishnu Murty, 2019). These various products facilitate the tourism sector in marketing tourism products, especially halal destinations (Battour and Ismail, 2019).

Halal tourism is currently one of the segments that plays an important role in the national and international tourism sector (Battour and Ismail, 2019; Idris et al., 2021). The development of the halal tourism industry is predicted to grow in 2060 by 70% (Indon et al., 2021; Peristiwo, 2020; Wisker et al., 2023). The report also shows that by the end of 2020, 13% of the Muslim population worldwide has grown drastically (Rashid et al., 2021). The rapid development of the Muslim population is one of the significant market potential factors for halal tourism. As a result, the growth of halal tourism has experienced drastic developments which continue to grow significantly. Some literature shows that halal tourism is associated

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with sharia tourism, halal hotels, Muslim-friendly and halal restaurants. The government and tourism destination stakeholders collaborate to develop appropriate halal tourism programs (Pasarela et al., 2022; Sodawan and Hsu, 2022).

Fast growing halal tourism offers new destinations around the world and opens up opportunities to create uniquely attractive and globally competitive places to visit halal destinations (Aliffia and Komaladewi, 2021). Halal tourism is expected to take advantage of technological facilities such as Android-based (Nasution and Mulyadi, 2020), TV (Kim and Kim, 2020; Wen et al., 2018), Website (Wahab et al., 2017) and Augmented Reality (Arena et al., 2022; Pernekulova et al., 2021) as a strategic service through branding and marketing. Thus, exploring the factors that influence the intention to visit halal destinations (IVHD) is vital and urgent (Aliffia and Komaladewi, 2021). Empirically there are many factors that are predictors of IVHD, including Mobile Augmented Reality (AR), Destination awareness (DA) and promotion-mix elements (PME).

Mobile Augmented Reality (Mobile AR) technology, in the rapidly growing digital era, has become one of the innovations that has attracted the attention of many sectors, including tourism (Dieck and Jung, 2018). Using this technology as an e-promotion medium is assumed to have a significant impact on the intention to visit Halal destinations. Effective promotion can increase awareness and interest in halal tourist destinations and increase the likelihood of tourists visiting tourist destinations. Promotional activities such as advertising, social media distribution, and influencer marketing can help create a positive image of a halal tourist destination by highlighting its unique features and attractions (Venugopal and Vishnu Murty, 2019). Hardware-based mobile AR and app-based mobile AR are the two dominant platforms for mobile AR applications (Jamali et al., 2013). However, hardware implementations of Mobile AR are known to be more expensive and less flexible, while application-based implementations require additional up-front downloads and installations and are impractical to use across multiple communication platforms. AR applications are widely used in various fields. One of them is providing an interesting experience for tourists to explore and study halal tourist destinations with more attractive and communicative advertising which is very influential on the development of information and communication technology in the 4.0 era (Qian et al., 2022; Romli et al., 2020; Saputra and Iman, 2020).

Mobile AR in the tourism sector can enrich visitor knowledge and experience by displaying digital content such as audio guides, interactive maps, historical information, 3D animations and more (Ariffin et al., 2022). Tourists can access this information using a mobile device such as a smartphone or tablet equipped with the Mobile AR application. One of the advantages of electronic e-promotion is its ability to help tourists see destinations better before they visit so that it influences the intention to visit halal destinations (Hawkinson, 2018; Kannaiah and Shanthi, 2015). This technology allows tourists to see a visual preview of a tourist attraction before visiting it. This allows tourists to make better decisions about the destinations they want to visit. In the context of halal tourism, Mobile AR can be used to provide information according to the needs of Muslim tourists who offer halal-friendly services, and information about cultural and religious activities that take place according to their beliefs (Abidin et al., 2018). In addition, Mobile AR can also increase tourist awareness of the attractiveness of unique destinations. For example through the Mobile AR application, tourists can reconstruct or visual representation of objects that cannot be found in the real world. This can arouse tourists' curiosity and curiosity to encourage visiting destinations. Destination awareness (DA) is associated with understanding and awareness and experience of a particular destination (Sharifpour et al., 2014a, 2014b). This requires an understanding of the culture, environment, history and other aspects related to the destination. Safira and Salsabilia (2022) indicated that destination awareness refers to the understanding of the community in carrying out tourist activities.

In the tourism concept, DA is often understood as a dimension based on previous visits or the number of previous visits (Ghaffari and Monfared, 2021; Ruzzier, 2010). The higher the awareness of halal tourism, the more likely tourists are to visit halal destinations (Idris et al., 2022; Sodawan and Hsu, 2022). Meanwhile, IVHD refers to the intention of tourists to visit halal destinations (Izza et al., 2021). Factors that influence the intention to visit halal destinations include halal awareness, destination image, and destination trust (Jeon, 2022). In addition, the positive image of destinations related to halal tourism can also increase the desire to visit destinations (Han et al., 2019). Tourists generally intend to revisit halal destinations that have been visited if they are satisfied with their tourist experience (Muawanah et al., 2021). Therefore, the development of attractive, valuable halal tourist destinations and halal tourism education can increase the interest of tourists to visit halal tourist destinations so as to strengthen the desire of tourists to visit halal tourist destinations.

Promotion-mix elements (PME) are a collection of all promotional variables used to create, maintain and increase product demand or supply (Aldebi and Aljboory, 2017). Promotional activities can help dispel misunderstandings or negative stereotypes about halal tourism and provide assurance to potential tourists about the quality and safety of destinations. Overall, effective promotion can play an important role in shaping tourist intentions in halal tourism destinations. AR provides an alternative way to use applied information and communication technology as a way to enhance tourism development (Chung et al., 2015a; Song et al., 2021). Several promotion-mix elements that can be used to promote halal tourism by utilizing technology include advertising (Kristanto et al., 2021), sales promotion (Puspasari, 2022), personal selling and public relations (Yi et al., 2021). To increase the interest of tourists visiting halal destinations, the use of appropriate and effective promotions can be an important factor in promoting halal tourism.

AR, empirically, is also generally associated with visualization of destinations, interactive experiences, and the level of awareness of tourists (Carmigniani et al., 2011; Chung et al., 2015a, 2015b; Elmqaddem, 2019). Meanwhile, DA is associated with travel decisions, awareness of tourist destinations, differentiating destinations from other similar destinations, and recognizing some of the characteristics of destinations (Manurung and Astini, 2020a). AR has relationships with tourist satisfaction, DA, destination loyalty and promotions that result in academic contributions, implications of the findings for tourism marketers, and destination boundaries (Lai and Vinh, 2013; Rončević et al., 2019a). However, on the other hand, DA also affects brand loyalty to halal destinations and the attributes of halal destinations affect the attractiveness of destinations

(Jeon, 2022; Muawanah et al., 2021; Safira and Salsabilia, 2022). From the empirical studies above, it can be concluded that studies on the relationship between augmented reality, promotion and destination awareness are still rare in the context of IVHD. Thus, the purpose of this study is to analyze the relationship between Augmented Reality (AR), Promotion-Mix Elements (PME), and Destination Awareness (DA) on tourist intentions to visit halal destinations (IVHD).

## LITERATURE REVIEW AND HYPHOTHESES

### Augmented Reality (AR) and Destination Awareness (DA)

Digital tourism has become a significant demand for tourists nowadays. The emergence of Augmented reality can be an enlightening breakthrough not only for tourism managers, but also for tourists (Idris et al., 2021). AR blends virtual content into the real world, AR provides a unique and immersive experience that allows tourists to gain a more real understanding of the destinations visited (Ariffin et al., 2022; Saputra and Iman, 2020). With AR, tourists can see additional information such as history, interesting facts, and stories about these places directly from the device. This allows tourists to gain richer, deeper insights and increase understanding of destinations. AR can also be used to visualize destinations before a visit allowing travelers to better plan their trips and have realistic expectations (Chung et al., 2015b, 2015a). Thus, the use of AR in the context of tourism destinations can significantly increase tourists' level of awareness and appreciation of the destinations they visit. AR is becoming a powerful technology in increasing awareness of tourist destinations. The use of AR can also provide travelers with immersive and interactive experiences, enabling them to develop a deeper understanding of the destinations they visit (Weng et al., 2021). Thus, empirically, it can be concluded that AR has been a predictor of tourist destination awareness from various aspects such as experiencing (Khalil et al., 2023; Trunfio et al., 2022; Zhu et al., 2023), marketing (Wu et al., 2023), motivating and inspiring (Ahmad et al., 2022), and satisfying (Anand et al., 2023; Trunfio et al., 2022).

**H1.** There is a positive and significant effect between AR and DA

### Destination Awareness (DA) and Intention to Visit Halal Destination (IVHD)

The concept of DA is important in the tourism context as it influences tourists' perceptions, decisions and behavior. A high level of destination awareness can help tourists better plan their trips, choose destinations that suit their interests and preferences, and maximize the tourist experience they get (Alam et al., 2022a; Sharifpour et al., 2014b; Zhu et al., 2023). The level of Destination Awareness significantly influences tourist satisfaction and intention to return to halal destinations in the future (Amalia and Gunawan, 2022; Lada et al., 2022; Safira and Salsabilia, 2022). In-depth knowledge and experience of a destination can increase traveler satisfaction, as they can make better decisions and utilize a destination's potential more effectively (Anand et al., 2023; Trunfio et al., 2022). Several studies have shown that there is a positive relationship between DA and IVHD (Chen et al., 2014; Tsaor et al., 2016). DA has an important role to increase tourist interest in visiting a destination (Amalia and Gunawan, 2022).

**H2.** There is a positive and significant effect between DA and IVHD

### Augmented Reality (AR), Destination Awareness (DA) and Intention to Visit Halal Destination (IVHD)

The use of AR studies the impact in strengthening the intention of Muslim tourists to visit halal destinations (Lestari et al., 2023; Sodawan and Hsu, 2022; Ulfy et al., 2021). Experience in using AR exploring halal destinations virtually can increase the interest and intention of Muslim tourists to visit these destinations in real terms (Amalia and Gunawan, 2022). Tourists can use AR technology to view information regarding access to mobilization, halal food and facilities (Bakar et al., 2020; Lestari et al., 2023; Sudarsono et al., 2021). This gives them the confidence and comfort to plan trips to halal destinations that suit their needs. Study of Ramadhani and Mochklas (2019) showed that the use of AR can provide an interactive and informative experience to Muslim tourists, strengthen their intention to visit halal destinations and access services that comply with halal requirements. Thus, the use of AR in the context of halal destinations can play an important role in influencing Muslim tourists' intentions to explore halal destinations. This also shows that the use of AR can play an important role in influencing the intention of Muslim tourists to visit halal destinations. AR can increase the interest, confidence and comfort of Muslim tourists in exploring destinations that meet religious and cultural needs. In this case, AR has the potential to enrich the experience of Muslim tourists and increase awareness (DA) and tourist participation in the halal tourism industry. The tourism industry is characterized by increasingly fierce competition, leading destinations to find new ways to attract tourists (Chen et al., 2014; Idris et al., 2021).

**H3.** There is a positive and significant effect between DA and IVHD

**H6.** DA mediates the relationship between AR and IVHD

### Promotion-Mix Elements (PME), Destination Awareness (DA) and Intention to Visit Halal Destination (IVHD)

Tourism promotion is characterized by a unique human touch. This is because tourism services require human intervention that treats tourists as people who seek fun, authenticity and innovation. That is why tourism promotion is also known as creative promotion (Aldebi and Aljboory, 2017). Marketing promotion is one of the media considered, technology that helps promotion with respect to social media. Email marketing and digital marketing techniques have now played an important role with effective reach and impact in religious tourism (Venugopal and Murty, 2019). Promotion-mix elements consist of advertising, sales promotion, public relations, and direct marketing, on destination awareness and tourist intentions to visit halal destinations. The results showed that PME elements significantly contributed to increasing DA on IVHD. Effective advertising and well-targeted sales promotions can increase tourists' knowledge and awareness about Halal destinations, creating greater interest in visiting them (Garabinović and Milićević, 2021).

In addition, good public relations with Muslim tourists and effective direct marketing efforts also play a role in increasing DA. According to Tsaur et al. (2016) in exploring strong promotions through social media, websites, and brochures of halal destinations can significantly increase the level of destination awareness. Appropriate and interesting information about halal attractions, halal food, and facilities available at destinations can influence Muslim tourists' intentions to visit them (Lai and Vinh, 2013; Wu et al., 2023). Effective direct marketing is an important factor in increasing the knowledge and understanding of tourists about halal destinations (Ahmad et al., 2022; Bartolucci and Omrcen, 2003; Idris et al., 2021; Rončević et al., 2019b). By increasing DA, destinations can attract more Muslim tourists who are interested in visiting halal destinations and make a positive contribution to halal tourism, as well as create a satisfying tourist experience for Muslim tourists.

**H4.** There is a positive and significant effect between PME and DA

**H5.** There is a positive and significant effect between PME and IVHD

**H7.** DA mediates between PME and IVHD

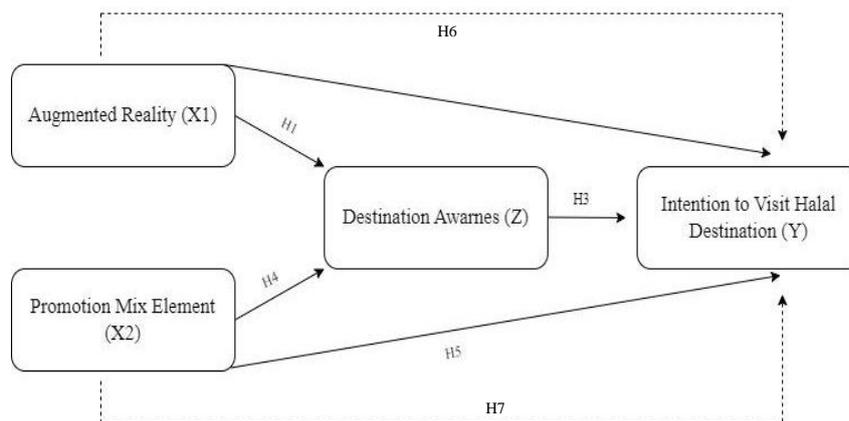


Figure 1. Conceptual framework Source: Created by author

**METHODS**

**Research design**

This study used a quantitative approach with an explanatory research design. The study was conducted at a tourist destination in Central Java, Indonesia with an unknown population. Meanwhile, the research process, in detail, can be seen in the flowchart as follows:

**Sample Design and Data Collection**

This study used a quantitative method with an unknown population of tourists because the numbers keep changing. So, the sample technique used the lemeshow formula (Syah

et al., 2023), as follows:  $n = \frac{Z^2 \times P \times Q}{d^2}$  Info: n = minimum number of samples required; Z = Confidence score level 95% = 1.96; P = maximum estimate = 0.5; d = alpha of margin error 10%; Q = 1-P

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.1^2} \quad n = 96.04$$

Based on calculations using the Lemeshow formula (Syah et al., 2023), it is known that the number of samples is 96.04 or 100, so there must be at least 100 respondents. So, the sample of this study is 110 respondents. This research was conducted in Karimunjawa District, Jepara Regency, Indonesia. After obtaining permission directly from the Department of Tourism. Survey questionnaires were distributed online and offline between July and September 2022 to tourists. As an experiment, tourists try one of the SIPARTY application products (augmented reality tourism application system). After trying the SIPARTY application, 110 respondents filled out a questionnaire. Most of the respondents are male (68%), aged between 17-24 years (55%), work as students (45%), and their education is high school/vocational school level (45%) (Table 1).

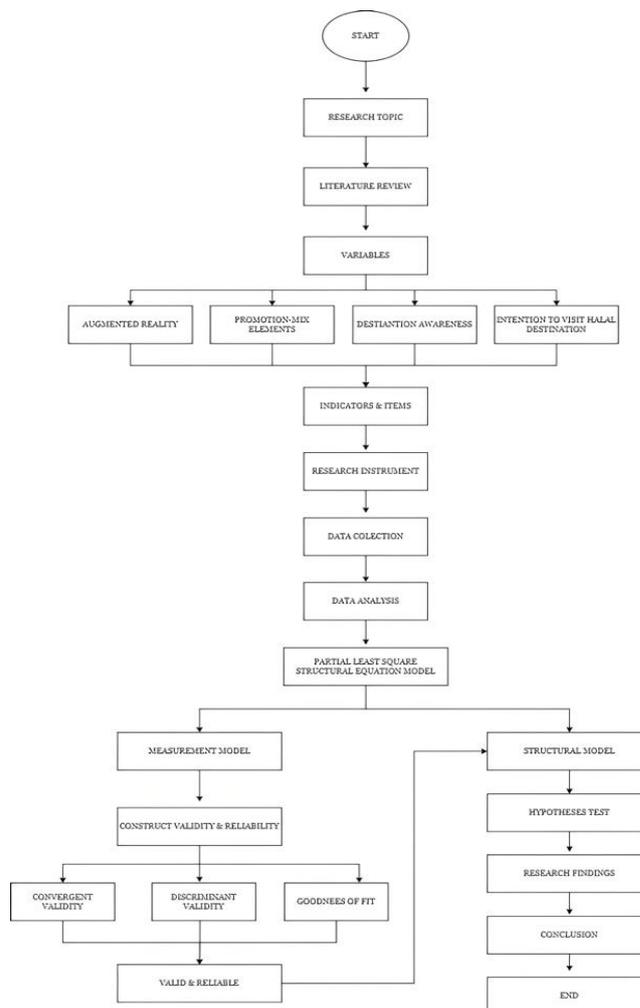


Figure 2. Flowchart of research method

**Measures**

This study used a correlation test with variables including AR, PME, DA, and IVHD. Assessment of instrument measurements through reliability and validity tests with the aim of identifying the level of accuracy and consistency of the tools used with the criteria of a loading factor value of more than 0.6 and an average variance extract (AVE) value of more than 0.5 in construct validity. Then, the composite reliability (CR) and Cronbach Alpha (CA) values must be above 0.7 and 0.6 respectively to review the reliability of the construct (Beckett et al., 2017; Hair et al., 2022). Empirical research from reliable and valid measurements has been published before being used which aims to operationalize the variables used in the research. Augmented Reality (AR) items are used to modify and find sources that are relevant to this research. There are 18 items in developing an instrument that measures AR which includes five indicators, namely information quality, system quality, personal innovativeness, risk and attitude (Chung et al., 2015a; Dieck and Jung, 2018). From this scale, 14 items were selected according to the provisions in the context of research on augmented

reality. So, each item in the construct is measured and rated using a 5-point Likert scale from 1 "Strongly disagree" to 5 "Strongly agree". One example is "AR apps help me get important information". Table 2 shows that the AVE value is 0.851, CR is 0.957 and CA is 0.951. This indicates that the requirements of the reliability and construct validity criteria have been met.

Table 1. Distribution of respondent characteristics

Category	Info	n	Percentage
Gender	Male	68	62%
	Female	42	38%
Age	17-24	61	55%
	25-34	32	29%
	35-50	15	14%
	>50	2	2%
Education	Elementary	18	16%
	Junior School	17	15%
	Senior School	49	45%
	Bachelor/Master	26	24%
Job	Student	50	45%
	Private sector	23	21%
	Civil servant	1	1%
	Self-employed	29	26%
	Housewife	1	1%
	Others	6	5%

Table 2. Value of loading, AVE, composite reliability (CR) and cronbach alpha (CA)

Variabel	Indikator	Item	Loading	AVE	CR	CA	
Augmented Reality (X1)	AR Information Quality	AR1	AR apps help me get important information	0.721	0.851	0.957	0.951
		AR2	AR applications present interesting information	0.782			
		AR3	The information displayed is in accordance with the original	0.724			
	AR System quality	AR4	The AR application provides various types of languages and the language used is easy to understand	0.784			
		AR5	Display quality (design) appeals to me	0.749			
		AR6	AR applications contain complete features (e.g: tourist locations)	0.772			
	AR Personalinnov ativeness	AR7	I feel excited and happy to use AR applications	0.838			
		AR8	This app is innovative and fun	0.869			
		AR9	AR applications pay attention to the user's personal information	0.813			
	AR Risk	AR10	I feel safe while exploring and using AR applications	0.832			
		AR11	The risk of theft of the user's mobile number is low	0.835			
		AR12	Using AR apps while visiting tourist attractions is a great idea	0.742			
	AR attitude	AR13	AR applications make my travel experience more interesting and enjoyable	0.747			
		AR14	I love using AR apps as part of a sightseeing tour	0.738			
Destination Awareness (Z)		DA1	With the AR application, I am familiar with this tourist destination	0.851	0.838	0.902	0.856
		DA2	This tourist destination is very famous and the AR application helps me find this tourist destination	0.838			
		DA3	This is the first destination that came to my mind	0.841			
		DA4	It's easier for me to get to know tourist destinations because they are in the application, compared to other destinations that are not in the AR application	0.811			
Intention to VIsit Halal Destination (Y)		IVHD1	If I get the chance to travel, I intend to visit the tourist destinations mentioned on the AR app	0.868	0.841	0.938	0.917
		IVHD2	When I travel, it's likely that I visit tourist destinations mentioned in the AR app	0.872			
		IVHD3	I intend to visit this tourist destination after using the AR application	0.843			
		IVHD4	I will continue to visit this tourist spot in the future after exploring it on the AR app	0.880			
		IVHD5	I want to recommend this tourist destination to others after my experience using the AR application	0.868			
Promotion-Mix Elements (X2)	Advertisement	PME1	I had the opportunity to see various tourist destinations because of the AR application feature	0.773	0.811	0.900	0.876
		PME2	AR applications in transmitting/providing information on tourist destinations look interesting and complete	0.772			
	Publicity	PME3	Promotions and advertising offered in AR applications are free of charge	0.776			
		PME4	Tourist destinations provide modern and sophisticated promotional tools	0.757			
	Tourists' mental image	PME5	The current tourist destination has tourist attraction requirements and is better than I expected	0.738			
		PME6	I will suggest my colleagues, friends, relatives and family members to visit the tourist spots that I have visited this year	0.773			
		PME7	The costs incurred during visits on this tour are reasonable and appropriate	0.707			

DA variable instrument adapted from Lai and Vinh (2013) and Tsaur et al., (2016) to measure destination awareness with 4 items. All of these four items were used in this study because they were in accordance with the research context. All question instrument items are given a rating based on a 5-point Likert scale from 1 “Strongly disagree” to 5 “Strongly agree”. The following is an example of "With the VR application, I am familiar with this tourist destination". This can be seen in table 2 which shows the reliability and validity of DA items with an AVE value of 0.838 meaning that it has been fulfilled, CR and CA respectively of 0.902 and 0.856 which means that it has exceeded the requirements.

Variable Intention to Visit Halal Destination (IVHD) uses 5 measurement items: "If I get the opportunity to travel, I intend to visit the tourist attractions mentioned in the VR application; When I travel, it is likely that I will visit the tourist destinations mentioned in the VR application; I intend to visit this tourist destination after using the VR application; I will continue to visit this tourist spot in the future after exploring it in the VR application; I want to recommend this tourist destination to others after my experience using the VR application." These five items have been modified based on previous studies (Chen et al., 2014; Chung et al., 2015b). IVHD item measurement uses a 5-point Likert scale, ranging from 1 "Strongly disagree" to 5 "Strongly agree". The instrument shows that the AVE value is 0.841, each CR is 0.938 and CA is 0.917. Thus, the variables in the instrument are stated to be consistent in measuring the construct.

Variable Promotion-Mix Elements (PME) for each item is measured on a 5-point Likert scale from 1 “Strongly disagree” to 5 “Strongly agree”. PME items are based on study of Aldebi and Aljboory (2017) with 9 items. However, only 7 items were taken which contained three indicators consisting of advertisement, publicity and tourists' mental image. One example is "I have the opportunity to see various tourist destinations because of the features of the AR application, the AR application in transmitting/providing information on tourist destinations looks interesting and complete and the promotions and advertisements offered in the AR application are free of charge." Table 2 explains that the AVE value is 0.811 , CR and CA are 0.900 and 0.876, respectively. So, it can be interpreted that the instrument used is in accordance with the requirements.

Table 3. Hypothesis testing using PLS (Catatan: AR, Augmented Reality; DA, Destination Awareness; IVHD, Intention to Visit Halal Destination; PME, Promotion-Mix Elements)

Hypothesis	Variables	(β)	SE	sig.	Decision
1	AR (X1) -> DA (Z)	0.026	0.099	0.791	Not Supported
2	AR (X1) -> IVHD (Y)	-0.060	0.064	0.351	Not Supported
3	DA (Z2) -> IVHD (Y)	0.713	0.074	0.000	Supported
4	PME (X2) -> DA (Z)	0.568	0.103	0.000	Supported
5	PME (X2) -> IVHD (Y)	0.211	0.093	0.024	Supported
6	AR (X1) -> DA (Z) -> IVHD (Y)	0.019	0.071	0.792	Not Supported
7	PME (X2) -> DA (Z) -> IVHD (Y)	0.405	0.083	0.000	Supported

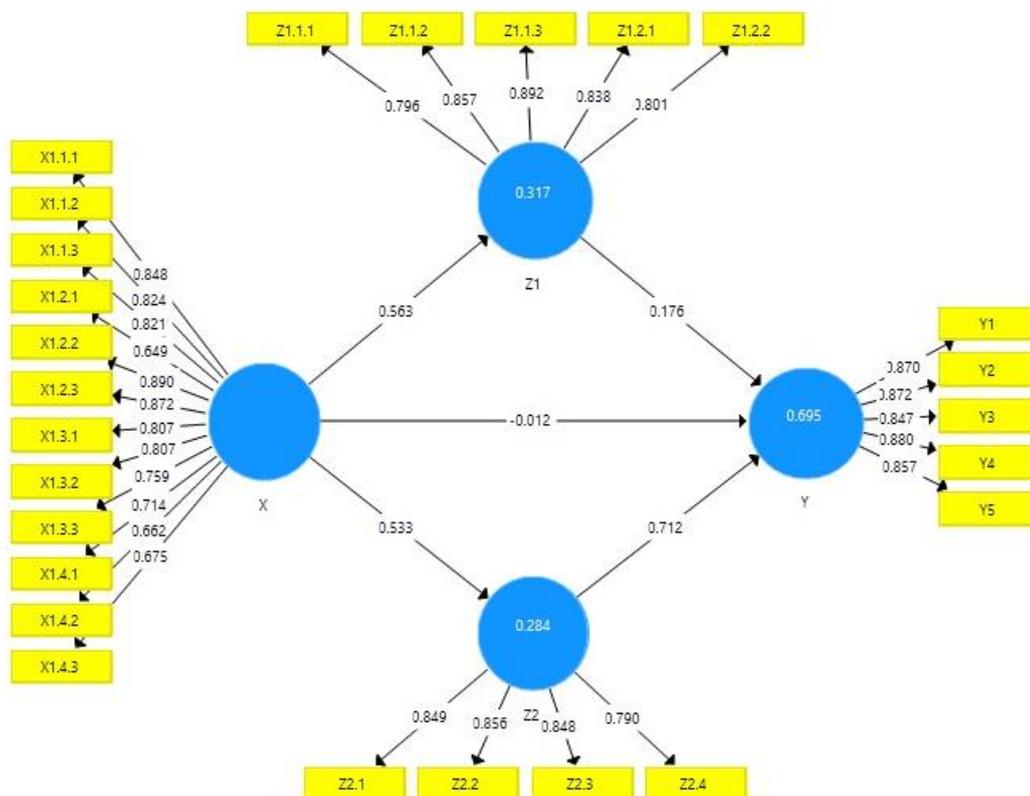


Figure 3. Path analysis

### RESULTS AND DISCUSSION

This study used Partial Least Square (PLS) as data analysis with bootstrapping method of 500 sub-samples. The aim is to test the hypotheses that have been formulated previously. The development of the hypothesis is accepted if the results

show that the significance level of the relationship between variables is less than 0.005. Table 3 presents the results of testing the relationship between variables. Table 3 and Figure 3 show that the relationship between AR and DA is negative with a value of  $\beta = 0.026$ , sig. = 0.791. This means that AR does not directly affect DA. Thus, H1 is rejected. Furthermore, AR ( $\beta = -0.060$ , sig. = 0.351) also showed no positive and significant effect on IVHD. This means H2 is rejected. Meanwhile, DA showed a positive and significant effect on IVD with a value of  $\beta = 0.713$ , sig. = 0.000. Thus, H3 is accepted. Furthermore, the value of the relationship between PME and DA is  $\beta = 0.568$ , sig. = 0.000, and PME and IVHD are  $\beta = 0.211$ , sig. = 0.024 respectively. This means that PME shows a positive and significant effect on DA and IVHD. Thus, H4 and H5 are accepted. Meanwhile, the results of the DA mediation test in the relationship between AR and IVHD showed that there was no effect between the two ( $\beta = 0.019$ , sig. = 0.792). Therefore, H6 is rejected. Furthermore, DA was shown to be a mediator between PME and IVHD with a value of  $\beta = 0.405$ , sig. = 0.000. So H7 is accepted.

### **AR, DA, and IVHD**

The results of this study indicate that AR has a negative effect on DA. Although most of the previous studies showed significant results, the findings of this study show different results. AR, in this study, did not show a positive relationship with AD. This finding does not support previous studies (Chung et al., 2015a; Guazzaroni and Pillai, 2020; Maestro and Dumlao, 2019; Weng et al., 2021), but supports the research of Özkul and Kumlu (2019) which indicates that AR does not directly have a significant relationship with DA. Tourists' lack of understanding of the use of technology (Perry, 2020) and the existence of other more interesting media such as websites, android, and youtube is one of the rational reasons related to this finding (Qin et al., 2021; Sural, 2018). Several previous studies have shown positive and significant results related to the effect of AR on IVHD (Abidin et al., 2018; Chung et al., 2015a; Guazzaroni and Pillai, 2020; Weng et al., 2021).

The study of Özkul and Kumlu (2019) also shows that AR with the identification of halal products is positively related. Meanwhile, Arshad et al. (2017) and Çalışkan and Sevim (2021) examined between AR and accessibility of technology found that there is a positive effect between AR and IVHD. Although several previous studies showed significant results, in this study the results were different. AR and IVHD test results showed no positive and significant relationship between the two. Alam et al. (2022b) indicated that AR experiences felt by tourists distract from the actual environment and reduce the ability to navigate so that the desire or intention to visit halal tourism weakens. The experience provided by AR can create a real feeling and can reduce the authenticity of the tourist experience so that they feel bored and the intention to visit halal tourism is reduced. DA usually tends to have a less important role in influencing AR. However, Sharifpour (2014b) shows that DA has a positive and significant effect on IVHD. The findings of this study show the same thing. Puspitasari (1970) and Sodawan (2022) stated that halal destinations that have an awareness of the needs of Muslim tourists can attract interest in visiting these destinations. Halal tourist destinations that properly apply the concept of halal tourism can increase the loyalty of visiting Muslim tourists by providing halal principles. Thus, this can increase trust, loyalty, and intention to visit halal tourism (Lada et al., 2022; Wisker et al., 2023).

### **PME, DA, and IVHD**

This study found that PME positively affects AD directly. This finding supports the research of Aldebi and Aljboory (2017), Kadir et al. (2020) and Astuti (2021) that the use of advertising, sales promotion, experiences, public relations and sophistication of technology can affect the level of awareness of tourists and the level of destination visits. In addition, advertising can be used to highlight the features of the elements as destination attractiveness. This can increase the awareness and interest of tourists (Mkumbo, 2018). Therefore, by using a combination of promotional elements, tourism marketing can effectively communicate the unique features of a destination, increase awareness and interest in tourist destinations (Bonelli and Leotta, 2021; Florido-Benítez, 2022; Sakshi et al., 2018).

Apart from having an effect on DA, PME also has a link with IVHD. Promotion-mixed elements can influence tourists' intentions to visit halal destinations. The results of this study also reveal that PME has a positive and significant effect on IVHD. These findings support a study of Yusuf et al., (2021) that tourist satisfaction influences their intention to visit halal destinations. Factors such as service quality, cleanliness, access, and promotion strategies can influence tourists' intentions to visit halal destinations (Giao et al., 2021; Lenggogeni and Febrianni, 2020; Yusendra and Paramitasari, 2018).

### **Indirect effect of AR and PME on IVHD through DA**

This study also verified that there is no relationship between AR and IVHD through AD. For AR, the ability to master technology has an important role to use destination features (Magdi Orabi, 2022; Zagorc and Bernik, 2022). Kanwel et al., (2019) stated that tourists' lack of understanding of using technology would reduce their intention to return to halal destinations. The lack of experience, interaction and satisfaction of tourists distracts them from considering their intention to return (An and Lee, 2019; Manurung and Astini, 2020b). Therefore, DA does not mediate the relationship between AR and IVHD.

Lastly, this study proves that DA is shown to conclusively mediate the relationship between PME and IVHD. The study of Battour (2018) stated that marketing tourist destinations needs an understanding of Muslim travel behavior in meeting their needs, especially in the halal tourism industry. Promoting halal tourist destinations can increase tourist awareness of the availability of halal products and services at these destinations. This can help attract more Muslim tourists looking for Halal-friendly destinations. Thus, DA positively and significantly mediates the relationship between PME and IVHD (Bartoluci and Omrcen, 2003; Lai and Vinh, 2013; Tsaur et al., 2016). In addition, PME also has a positive and significant effect on DA and IVHD (Tangvitoontham and Sattayanuwat, 2022). These findings support the finding that awareness, perception, intention to visit, satisfaction, and loyalty are affected by PME (Yusuf et al., 2021). Apart from that, PME can also attract more Muslim tourists and create a positive image of the destination (Musa et al., 2021; Puad et al., 2016).

## CONCLUSION

This study found that AR does not affect DA and IVHD nor did it indirectly affect IVHD through DA. Meanwhile, PME has a positive and significant effect both directly on DA and IVHD, and indirectly on IVHD through DA. In addition, DA, as a mediating variable, has been shown to have a direct effect on IVHD and can mediate the relationship between PME and IVHD. In contrast, DA does not mediate the relationship between AR and IVHD. These findings show that PME is able to increase the attractiveness of tourist awareness of a halal destination. If tourists understand and know information about a destination through promotion, it will affect the intention of tourists to visit the destination. Thus, the use of technology in the form of augmented reality with promotions must be utilized optimally. The existence of proper and effective promotion will attract awareness about the existence of halal destinations and will attract tourists' intention to visit halal destinations.

## Limitation and Future Research

This research has several limitations, including because the use of AR in the promotion of halal destinations is still relatively new and still limited, so many tourists are not proficient in accessing it. This can affect the effectiveness of using AR in increasing DA and IVHD. Further research can be conducted to evaluate the effect of using augmented reality on awareness of halal tourist destinations. This can help in determining the effectiveness of using AR in the promotion of halal destinations. Therefore, it is important for marketers and tourism stakeholders to consider the positive and negative impacts of using AR in destination promotion and ensure that its use does not reduce the intention of tourists to return to halal destinations.

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