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Evaluating the Attitude Towards Augmented Reality and its Impact on Customer Perception in the Footwear Industry

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Abstract

To better comprehend the influence of digital technologies on consumers' behavior in the Kurdistan region of Iraq, this study investigates the factors that determine the relationship between Augmented Reality (AR) and the intent to purchase via online platforms. To do so, the study pursues a pragmatic methodological approach where a total sample of 180 random consumers in the city of Erbil in the Kurdistan region, are asked to a) participate in an AR experiment using the Wanna Kicks application, and then b) answer a structured questionnaire about their intentions to buy. Items used to measure consumers' adoption of innovative technologies, particularly AR, are derived from the Technology Acceptance Model (TAM). In accordance with existing literature, the study confirms the effects of AR perceived ease of use (PEOU) on AR perceived usefulness (PU) and those of perceived usefulness (PU) and perceived ease of use (PEOU) on consumers' attitudes toward AR. In their turn, consumers' attitudes were influential in the intention to purchase products and services via AR-supported platforms.

Keywords: Augmented Reality (AR), TAM model, intent of purchase, attitudes, online shopping.

1. Introduction

Undoubtedly, the internet has massively changed the way people perceive, buy, and consume products and services at a global level. Most importantly, the recent advances in internet technology, especially Augmented Reality (AR), have shaped consumers'

perceptions and attitudes toward online shopping. The rapid growth in e-retail and online shopping using technological media such as AR, calls for a further and better understanding of consumers' intention to use such media. Augmented Reality (AR) is not a novel concept per se; in fact, it has been introduced in the previous century and a half (Peddie, 2017). It is known as an "interactive" technology and one that supplements reality by seamlessly overlying the physical environment with integrated digital information (Khan, S. et al., 2024) where the user can see the real world with virtual objects using digital or computer-generated information such as video, audio, images, or touch (Kipper & Rampolla, 2012, p. 1). Moreover, the AR concept has been described as a "disruptive" technology in literature (Philipp & Rauschnabel, 2021) and has a distinguished presence in the fields of destination marketing, retail, customer interactivity, and customer capacity (Javeed, 2024).

Although AR's use in consumer markets is still in its preliminary stages (McLean & Wilson, 2019). In the last decade or so, there has been mounting interest in AR research and its several uses, particularly in Retail (Kang et al., 2023) and E-commerce in which 60-70% of customers reported that they prefer using AR and virtual try-ons before buying (MarketsandMarkets, 2023). In a study by Alves & Luís Reis (2020), consumers found AR to be a more useful medium than other existing channels to buy from the Swedish furniture retailer IKEA. Similarly, AR was also found to be positively influencing consumers' intention to buy online (Watson et al., 2018), and even when not online it can work as a "multisensory" simulation platform that enhances consumers' visual and haptic senses in shopping and entertainment experiences (Robertson, 2024; Saprikis et al., 2020). The role of AR applications in helping consumers visualize their products and experiences prior to buying has been also emphasized in the study of McLean & Wilson (2019). From a retailer perspective, Baytar et al. (2020) affirmed the possibility of increasing consumer interest in products online through the interactive use of AR. Nevertheless, the same study warned of possible risks associated with the reliability of information provided on these platforms (Baytar et al., 2020). On another note, there still exists debate concerning the effects of AR applications on consumers' perceptions (Saleem et al., 2021). Collectively, other studies (Islam & Daud, 2011; Mikalef et al., 2013; Ismagilova et al., 2020) have found that the intention to use technological tools in shopping is influenced by the opinion of people surrounding them either physically or online.

Despite the fact that the use of e-commerce in the Kurdistan Region in Iraq region is in its infancy, online shopping is rapidly becoming a trend (Akoi et al., 2021). Furthermore, the

unavailability of a solid online and reliable banking system, the lack of consumer knowledge of online shopping, in addition to the limited options of available brands online hinder the development of the online shopping sector in the region. Nonetheless, Kurdish consumers still conveyed high interest in online shopping although no reliable data exists on the usage rate of internet platforms and applications (Singh, 2019). Add to that, the global COVID-19 crisis which accelerated the adoption of online shopping for the Kurdish consumer (Ali, 2020).

Few studies have investigated factors affecting consumer behavior and specifically consumer buying intention in the Kurdistan region in Iraq; these include studies on Kurdish consumers' purchase intention in conventional shopping (Tahir & Arije, 2021; Talim et al., 2021), consumers' purchase intention using social networks (Dehdashti Shahrikh et al., 2022), and the influence of perceived technology on consumers' intentions to buy (Ahmed et al., 2021). However, to the knowledge of the author, there exists no research that investigates the Kurdish consumers' purchase intention in terms of use of AR technologies. Consequently, the present study aims at filling this research gap by exploring the several factors affecting the Kurdish consumers' intention to use AR in shopping online using the Technology Acceptance Model (TAM).

2. Literature Review

2.1.   Augmented Reality in Online Shopping and Purchase Intention

In an attempt to cater to a new uprising tech-savvy, multitasking, and wired generation, organizations all over the world have reoriented their marketing strategies towards millennial markets through innovative and sometimes disruptive technological approaches (Persada et al., 2021). In this regard, innovative technologies have emerged in the context of online shopping as a more viable option for millennials than traditional ones. The so-called term "online shopping" is a form of e-commerce where consumers can select and buy products and services online. This phenomenon has altered consumer behavior and has been on the rise since its introduction to consumers and has especially increased during the recent COVID-19 crisis (Billewar et al., 2021). This is due to the fact online shopping can lead to better user satisfaction due to convenience, timeliness, variety of options to buy and ease of use which made it a practical alternative to consumers of today against conventional shopping methods (Wang et al., 2015).

Recently, various technological advancements have been added to the realm of online shopping. Augmented Reality (AR) has shown high potential in boosting consumer's intent of purchase online (Lixăndroiu et al., 2021) and in-store as well (Riar et al., 2021). Although the AR concept is not new, it has been of considerable research interest. It has been defined as the medium of technology that enhances consumer's experiences through overlaying digital information onto the real world (Berryman, 2012). Whilst AR can be implemented through numerous technological methods such as Global Positioning Systems (GPS) and Geographic Information Systems (GIS), it requires three main components for its successful implementation. These are a) sensor (s) that are necessary to figure out the "state of the physical world", b) a processor that handles sensory data evaluation and signal generation, and c) a display that would give the impression that the physical and the virtual realities are one (Craig, 2013, pp. 39-40). Most notably, AR provides consumers with the opportunity to conveniently access and interact with the virtual world through their mobile phones, tablets, or computers. Hence, the application of AR in online shopping can yield favorable results for consumers in terms of enriching their shopping experience (Bonetti et al., 2018).

Research on the use of AR used in online shopping is far from being limited. For instance, Smink et el. (2019) compared consumers' experiences in an online product presentation using AR versus non-AR product presentation and concluded that consumers' experience was found to be more positive in the AR presentation. In contrast, in another experiment conducted by Baytar et al. (2020), when consumers were asked to try on a dress physically and compare it with an AR try-on experience, consumers preferred the former indicating a crucial differentiation between the benefit of AR in supplementing versus replacing the physical experience of consumers, while Chen et el. (2024) investigated the interaction with AR in the metaverse shopping and reviled that AR interaction is multisensory and can activate the intention to purchase of Metaverse customers. Another study by Sahli, A., & Lichy, J. (2024) examined how augmented reality's (AR) has a role in enhancing customer experience in furniture shopping, showing how interactivity and ease of use positively influence purchasing decisions. Other variables were also discussed including brand attitude, brand advocacy and bran love (Kumar et al., 2023b; Rauschnabel et al., 2024; Zanger et al., 2022)

The positive relation between AR and purchase intention has been evident in literature; for products (Abrar, 2018; Watson et al., 2018; Haumer et al., 2020; Whang et al., 2021)

and services (Chung et al., 2015; He et al., 2018; Saleem et al., 2021) to state a few. Studies have implied that AR's role in increasing consumers' intention to buy or use products or services can be especially enhanced through developing experiential marketing in addition to the role of other mediating variables such as those originating from the theory of planned behaviour (TPB) model including Beliefs, Attitudes, Time Resources, and Subjective Norms (Jung et al., 2020), and value alignment (Alam et al., 2022) among others. As well, various research (Ibili et al., 2018; Oyman et al., 2022) has relied on the Technology Acceptance Model (TAM) model to explain the association between AR and intention to buy.

2.2.   The Technology Acceptance Model (TAM)

As aforementioned, the TAM has been one of the most used models in the literature to understand consumer acceptance and intentions to purchase and use new technologies. The model works by integrating consumers' attitudes and beliefs into the intention to accept novel technologies. It has also shown effectiveness in explaining how AR can induce positive consumer purchase intention towards products and services online. The TAM was firstly introduced by Davis (1989) and uses two salient variables as determinants of intention to buy. These are perceived ease of use and perceived usefulness. According to Davis (1989), the perceived ease of use of a certain technology impacts the perceived usefulness and attitudes toward consumers' behavioural intentions (Silva, 2015). In the context of AR, the technology acceptance model variables can be listed as Perceived Usefulness (PU) which can refer to how AR can improve product visualization and shopping efficiency, while Perceived Ease of Use (PEOU) refer to the question of how intuitive is AR, Attitude (ATT) refer to the feeling of the user towards AR which can be influenced by other TAM variables, lastly, Intention (INT) align with the acceptance of customer and is linked directly to the attitude drawn for the user experience with AR can be The original model has been widely applied in the literature; however, debates persist in research concerning the impacts of perceived ease of use and perceived usefulness. For instance, a study by on Chinese consumers' intent to buy clothing online using the model (Wei et al., 2018) revealed that perceived usefulness can better predict why people would buy online. However, the same study and in contrary of the findings of McCloskey (2004) found that perceived ease of use does not impact consumers' intention to purchase clothing online. Interestingly, to improve the model's applicability, numerous studies have suggested incorporating additional external variables, especially those tailored to specific contexts

(Lim & Ting, 2012; Jang et al., 2021). For example, personality traits of consumers were found to be influential in the TAM constructs while adopting a new technology (Svendsen et al., 2013). Technology Acceptance Model (TAM). Badran et al. (2019), for example, show how AR improves perceived usefulness in retail settings. Furthermore, Al-Khamaiseh et al. (2024) highlight how AR's interactive features and user-friendly layout enhance its perceived ease of use. The usefulness of TAM in comprehending user attitudes is further supported by research by Mardiah et al. (2024), which finds that user engagement is a moderating factor affecting AR acceptability. All of these results highlight how crucial usefulness and ease of use are in encouraging the adoption of AR. The influence of AR in emerging markets, especially in places like Kurdistan, has not received much attention despite the fact that its significance in online shopping has been well studied. This research aims to close this gap by looking into the following question and hypotheses: What impact does augmented reality (via the Wanna Kicks app) have on Kurdistan region of Iraq consumers' attitudes and intentions to buy?

H1: The perceived ease of use of AR positively impacts its perceived usefulness.

H2: The perceived usefulness of AR positively impacts users' attitudes toward it.

H3: The perceived ease of use of AR has a positive impact on users' attitudes toward AR.

H4. A positive attitude toward AR impact the intention to use it.

2.3.   Conceptual Model

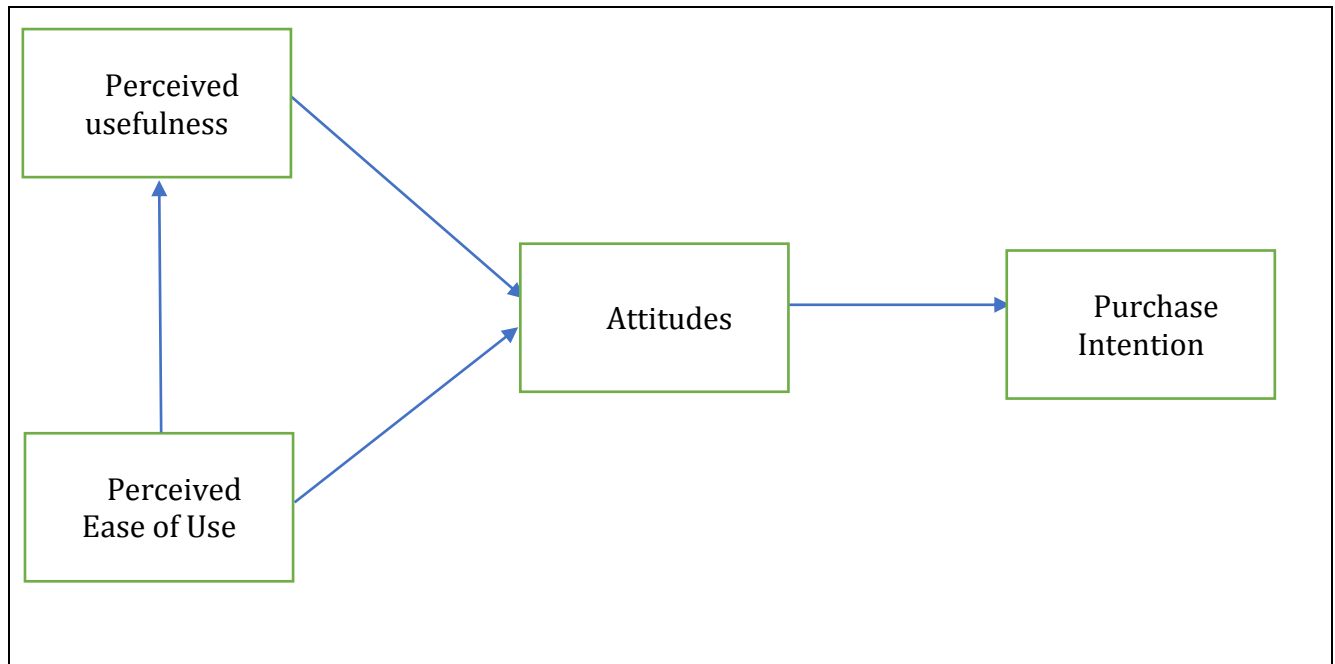Based on the aforementioned literature, the following conceptual model is proposed.

Figure 1. Conceptual Model

3. Methodology

The present study investigates the relationship between AR and online purchase intent in light of the TAM model in the Kurdistan region, in Iraq. Consequently, the study adopts a quantitative approach where a structured questionnaire is purposively distributed on a sample of 180 individuals. In this respect, primary data was collected based on the sample's experience with the Wanna Kicks app which lets shoppers use an AR-based shoe try-on.

3.1. Instrument and data collection

As previously noted, primary data was obtained through a structured questionnaire in order to confirm or reject the developed research hypotheses. The distribution of the questionnaire was carried out face-to-face where a representative sample of the study were a) first asked to use the Wanna Kicks AR mobile application, and later, b) complete the questionnaire. The Wanna Kicks AR smartphone app is an Augmented Reality (AR) try-on app that uses augmented reality to assist users find new releases and vintage shoes. The Wanna Kicks app was selected due to its interactive augmented reality capabilities and suitability for the footwear industry, both of which support the objectives of the study. Regardless of where they are, participants are asked if they plan to purchase the product or take a picture to surprise friends after trying the augmented kicks right away on their feet. In the augmented reality experiment, participants would try on the shoes by selecting a model and click on the try-on button. We inquired about participants' knowledge of augmented

reality and if they had ever used AR-enabled apps like Snapchat filters—a well-known app in the Kurdistan region—before they began using the app. After that, if they didn't already have it, the participants would download the Wanna Kicks app and utilize it to virtually put on sneakers. as a result, participants will comprehend augmented reality applications in a better way. The participants then completed the questionnaire. It was completely voluntary to participate. Each survey was accompanied by a cover letter to guarantee the ethical collecting of data. The research objectives, data protection protocol, confidentiality, and voluntariness of participation were all explained in the cover letter.

The survey results were analyzed using the SPSS statistical software (v. 25). Frequency and percentage tables were used to perform descriptive statistics. The relationships between the items and the direction of each association were then ascertained using inferential statistics. Regression analysis was then used to determine the connections between the variable being measured and the desired result (Ryan, 2008).

3.2.   Sampling

The aim of the study was to distribute the questionnaire to a sample of 250 participants who represent young shoppers from the Kurdistan Region of Iraq (KRI). When asked about AR, only 28% of the sample agreed to try the Wanna Kicks app. This may have been attributed to the way they perceive AR (as a sophisticated technology), the lack of time, or the lack of familiarity with such technology. Thus, out of the 250, only 180 were willing to try the Wanna Kick application and answer the questionnaire.

3.3.   Variables and Measurement

As aforementioned, to study consumers' intention to purchase using AR applications, the TAM model (Davis, 1989) was used and measured by fourteen statements using a 5-point Likert scale where 1 is strongly disagree and 5 is strongly agree. In addition, the demographic characteristics of the sample were obtained through three questions about age, gender, and education. Finally, consumers' overall knowledge and perception of AR technology were measured using three general questions.

4. Results and Discussion

To ensure that the items used to measure the variables of the study are internally consistent, Cronbach's alpha coefficient was computed. As table 1 shows, the items are

considered reliable since they show values greater than 0.7 as per Nunnally & Bernstein (1994).

Table 1: Reliability analysis

Variable	Number of items	Cronbach Alpha
PU	4	0.916
PEOU	4	0.853
ATT	3	0.89
INT	3	0.876
Total	14	0.961

The demographics of the study reported a 60% participation of females against 40% of males. Most of the participants 82% were between the ages of 20 and 29 years old. The sample also constitutes of university students 54%. When asked about whether they were familiar with the AR technology, 96% of the participants reported unfamiliarity with AR (Table 2).

Table 1: AR Knowledge

Are you familiar with augmented reality (AR)?

	Percent
Yes	4%
No	96%

Surprisingly, when asked about camera filters, 100% of the sample reported that they are familiar with the filters used in social media (Table 3).

Table 2: Use of Camera Filters

Have you ever used social media camera filters?

	Percent
Yes	100%

After using the Wanna Kicks app and getting familiar with the technology, the question of ever using the technology in a marketing context reported that only (10%) have used it in their shopping (Table 4).

Table 3: The use of AR in marketing

Do you have any experience using this technology for marketing purposes?

	Percent
Yes	10%
No	90%

4.1.   Model testing

To test our model and confirm or reject the study's hypotheses, we have used a linear regression. The results confirm our first hypothesis which tests if AR perceived ease of use (PEOU) carries a significant impact on AR perceived usefulness (PU). It was reported that PEOU significantly predicted PU, $F_{(1, 178)} = 251.971$, $p < 0.001$, which indicates that the PEOU can play a significant role in shaping PU ($b = .886$, $p < .001$) and that the increase of the perceived ease of use by one unit is increasing the perceived usefulness by 0.886. Such results clearly direct the positive effect of the PEOU thus supporting H_1. Moreover, the R2 = .764 depicts that PEOU explains 76.4% of the variance in PU.

As for the second hypothesis which tests if AR perceived usefulness (PU) carries a significant impact on AR attitude (AR_ATT), our results reflect that PU significantly predicted AR_ATT, F (1, 178) = 95.694, p < 0.001, which indicates that the PU can play a significant role in shaping AR_ATT (b = .613, p < .001) and that the increase of the perceived usefulness by one unit is increasing the attitude towards AR by 0.613. These results clearly direct the positive effect of the PU thus supporting H2. Furthermore, the R^2 = .551 depicts that the PU successfully explains 55.1% of the variance in AR_ATT.

The third hypothesis tests, if AR perceived ease of use (PEOU), carries a significant impact on AR attitude (AR_ATT). The regression results show that PEOU significantly predicted AR_ATT, F (1, 178) = 100.725, p < 0.001, which indicates that the PEOU can play a significant role in shaping AR_ATT (b = .629, p < .001) and increasing the perceived ease of use by one unit will create a 0.629 increase in the attitude towards AR. Such results clearly state a positive effect of the PEOU leading to the support of H3. Moreover, the R^2 = .564 depicts that PEOU explains 56.4% of the variance in AR_ATT.

The fourth hypothesis tests if AR Attitude (AR_ATT) carries a significant impact on AR Intention to use (AR_INT). The dependent variable AR_INT was regressed on predicting variable AR_ATT to test hypothesis H4. AR_ATT significantly predicted AR_INT, F (1, 178) = 130.016, p < 0.001, which indicates that the AR_ATT can play a significant role in shaping AR_INT (b = .733, p < .001) and increasing the attitude towards AR by one unit will create a 0.733 increase in the intention to use AR. These results clearly direct the positive effect of the AR_ATT, thus supporting H4. In addition, the R2 = .625 depicts that the attitude towards AR explains 62.5% of the variance in intention to use AR. The tables below represent the statistical data.

Table 4: Summary of findings

Hypothesis	Regression weights	Beta coefficient	R Square	P-value	Support
H_1	PEOU--------->PU	0.886	0.764	0.00	Yes
H_2	PU------------> AR_ATT	0.613	0.551	0.00	Yes
H_3	PEOU--------> AR_ATT	0.629	0.564	0.00	Yes

| H_4 | AR_ATT-----> AR_INT | 0.733 | 0.625 | 0.00 | Yes |

5. Discussion

This study used the TAM model to investigate factors that might affect the intention of consumers to buy online via AR-supported applications in the region of Kurdistan, in Iraq. Interestingly, the study hinted at a distinction between consumers' subjective and objective knowledge. In other words, although consumers in Kurdistan reported high usage of AR-supported applications (objective), when asked whether they know what AR means, they said they don't know (subjective). The discrepancies between consumers' objective and subjective knowledge and their consequent effects on attitudes and intention to purchase have been reported several times in literature as moderating variables (Han, 2019; Pucci et al., 2019; Fatha, & Ayoubi, 2021) As well, in agreement with existing literature (Elkaseh et al., 2016; Prakosa & Sumantika, 2021), it has been found that AR's perceived ease of use positively affects AR's perceived usefulness under the TAM model. Similarly, in line with other studies on the TAM model (Munoz-Leiva et al., 2017), the second and third hypotheses claiming a positive effect of the AR's perceived usefulness and AR's perceived ease of use on consumers' attitude were confirmed. Following Ajzen's 1985 theory of planned behaviour, the classic relationship between attitudes and intention to purchase, in the context of AR use, the study by Lin, K. Y., & Huang, T. K. (2024) reveals that augmented reality (AR) enhances customer engagement and buying interest by creating immersive experiences like virtual try-ons, which was asserted once again in our study. Albeit a known notion, consumers' attitudes have the power of increasing the willingness and intentions to purchase online (Gosal et al., 2020).

6. Conclusions

The recent calamities that faced the world of business including the COVID-19 pandemic along with its associated drastic measures, has forced these businesses to shift their marketing mindset towards more flexible and convenient channels. In this regard, digital technologies have provided businesses with opportunities to reach a wider base of consumers, worldwide, while at the same time, simulating their satisfactory in-store experiences. This study aims at investigating consumers' willingness to use AR supported platforms to buy online in the Kurdish market. For this purpose, an experiment followed by a questionnaire tested the acceptance of such technology through the TAM model. The study reported a positive and significant attitude and intention to use such technologies, and

that ease of use plays an important role to determine the perceived usefulness of AR which justify the decline of some of the prospects to use the app and fill the survey as they had the assumption that it is a complicated technology.

5.1 Implications

The importance of AR in commerce and marketing has been reported in the last years yet, there is scarcity in the research conducted. This study provided an added value to the current literature which tackles the attitude towards AR and the intention to use it. Furthermore, the study is important as it provides insight into consumers in the Kurdistan of Iraq and reports their attitude and intention to use such important technology. Surprisingly, the study can be considered as the first study in Iraq which discusses AR technology in marketing and can serve as a good resource for business owners, policymakers and educational institutions in Iraq in order to be up to date with the current trends in the market and to utilize the high-end equipment (smartphones) that the consumers are possessing and be ready for the new reality (metaverse).

5.2 Limitations

The study tried to collect data about the use of AR applications by shoppers, one of the major challenges was the lack of local applications which utilize the AR technology in the Kurdistan or Iraqi market. Such absence combined with the poor online payment infrastructure in Iraq, limited the sample of the study as some considered the technology as "complicated and futuristic technology". Such a lack of interest can be investigated by other scholars to help and support novel AR applications in the Iraqi market. Lastly, the study used the TAM model to test people's attitudes and intentions toward AR which needs further investigation by using other models such as the UTAUT (unified theory of acceptance and use of technology) or testing the effect of other factors such as risk, trust, wellbeing, or any other factor which can be associated with the use of AR technology.

References:

Abrar, K. (2018). Impact of augmented reality on consumer purchase intention with the mediating role of customer brand engagement: Moderating role of interactivity in online shopping. *Bahria University Journal of Management & Technology*, *1*(2), 64-80.

Ahmed, S. Y., Ali, B. J., & Top, C. (2021). Understanding the impact of trust, perceived risk, and perceived technology on the online shopping intentions: case study in Kurdistan Region of Iraq. *Ahmed, SY, Ali, BJ, Top, C. (2021). Understanding the Impact of Trust, Perceived Risk, and Perceived Technology on the Online Shopping Intentions: Case Study in Kurdistan Region of Iraq. Journal of Contemporary Issues in Business and Government*, 27(3), 2136-2153.

Akoi, S., Jamal Ali, B., Fadel Saleh, P., Najmalddin, B., Sabah Mustafa, R., Rzgar Abdulmajid, M., & Rebwar Hama, A. (2021). Elaborating the Characteristics that Affect Buyers in Online Shopping: The Case of Generation Z Girls in Kurdistan Region of Iraq. *Black Sea Journal of Management and Marketing*.

Alam, S. S., Masukujjaman, M., Susmit, S., Susmit, S., & Abd Aziz, H. (2022). Augmented reality adoption intention among travel and tour operators in Malaysia: mediation effect of value alignment. *Journal of Tourism Futures*.

Ali, B. J. (2020). Impact of COVID-19 on consumer buying behavior toward online shopping in Iraq. *Economic Studies Journal, 18*(42), 267–280.

Al-Khamaiseh, A., Al-Hawari, M., & Shaltoni, A. (2024). The role of augmented reality in enhancing brand equity: Evidence from the retail sector. International Journal of Organizational Analysis, 32(1), 30-48. https://doi.org/10.1108/IJOA-02-2024-4300

Alves, C., & Luís Reis, J. (2020, February). The intention to use E-commerce using augmented reality-the case of IKEA place. In *International conference on information technology & systems* (pp. 114-123). Springer.

Badran, A., El-Haddadeh, R., & Ameen, A. (2019). Investigating the impact of augmented reality on customer engagement and purchase intentions in retail. International Journal of Retail & Distribution Management, 47(11), 1259-1279. https://doi.org/10.1108/IJRDM-02-2019-0063

Baytar, F., Chung, T., & Shin, E. (2020). Evaluating garments in augmented reality when shopping online. *Journal of Fashion Marketing and Management: An International Journal*, 24(4), 667-683.

Berryman, D. R. (2012). Augmented reality: a review. *Medical reference services quarterly*, 31(2), 212-218.

Billewar, S. R., Jadhav, K., Sriram, V. P., Arun, A., Abdul, S. M., Gulati, K., & Bhasin, N. K. K. (2021). The rise of 3D E-Commerce: the online shopping gets real with virtual reality and augmented reality during COVID-19. *World Journal of Engineering*.

Bonetti, F., Warnaby, G., & Quinn, L. (2018). Augmented reality and virtual reality in physical and online retailing: A review, synthesis and research agenda. *Augmented reality and virtual reality*, 119-132.

Chen, C., Zhang, K. Z., Chu, Z., & Lee, M. (2024). Augmented reality in the metaverse market: the role of multimodal sensory interaction. *Internet Research*, *34*(1), 9-38.

Chung, N., Han, H., & Joun, Y. (2015). Tourists' intention to visit a destination: The role of augmented reality (AR) application for a heritage site. *Computers in Human Behavior*, *50*, 588-599.

Craig, A. B. (2013). Understanding augmented reality: Concepts and applications.

Davis, F.D. (1989), Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, *13*(3), 319-340

Dehdashti Shahrikh, Z., Tabesh Moghadam, M., & Fatah Naserabad, S. (2022). The Effect of Customer Word of Mouth Advertising on Purchase Intention In Social Networks. *Consumer Behavior Studies Journal*, *8*(4), 160-190.

Haumer, F., Kolo, C., & Reiners, S. (2020). The impact of augmented reality experiential marketing on brand equity and buying intention. *Journal of Brand Strategy*, *8*(4), 368-387.

He, Z., Wu, L., & Li, X. R. (2018). When art meets tech: The role of augmented reality in enhancing museum experiences and purchase intentions. *Tourism Management*, *68*, 127-139.

Ibili, E., Resnyansky, D., & Billinghurst, M. (2019). Applying the technology acceptance model to understand maths teachers' perceptions towards an augmented reality tutoring system. *Education and Information Technologies*, *24*(5), 2653-2675.

Islam, M. A., & Daud, K. A. K. (2011). Factors that influence customers' buying intention on shopping online. *International Journal of marketing studies*, *3*(1), 128.

Ismagilova, E., Slade, E. L., Rana, N. P., & Dwivedi, Y. K. (2020). The effect of electronic word of mouth communications on intention to buy: A meta-analysis. *Information Systems Frontiers*, *22*(5), 1203-1226.

Jang, J., Ko, Y., Shin, W. S., & Han, I. (2021). Augmented reality and virtual reality for learning: An examination using an extended technology acceptance model. *IEEE Access*, *9*, 6798-6809.

Jung, T., Tom Dieck, M. C., Lee, H., & Chung, N. (2020). Relationships among beliefs, attitudes, time resources, subjective norms, and intentions to use wearable augmented reality in art galleries. *Sustainability*, *12*(20), 8628.

Javeed, S., Rasool, G., & Pathania, A. (2024). Augmented reality in marketing: a close look at the current landscape and future possibilities. *Marketing Intelligence & Planning*, *42*(4), 725-745.

Kan, F., & Wibowo, A. (2021). The influence of augmented reality on customer experience and engagement in online shopping. Kybernetes, 50(9), 2506-2522. https://doi.org/10.1108/K-12-2021-1346

Kang, J.-Y.M., Kim, J.-E., Lee, J.Y. and Lin, S.H. (2023), "How mobile augmented reality digitally transforms the retail sector: examining trust in augmented reality apps and online/offline store patronage intention", Journal of Fashion Marketing and Management: An International Journal, Vol. 27 No. 1, pp. 161-181, doi: 10.1108/jfmm-12-2020-0273.

Khan, S., Zhang, Q., Khan, S. U., Khan, I. U., & Khan, R. U. (2024). Understanding mobile augmented reality apps in Pakistan: an extended mobile technology acceptance model. *Journal of Tourism Futures*.

Kipper, G., & Rampolla, J. (2012). *Augmented reality: An emerging technologies guide to AR*. Elsevier.

Kumar, H., Tuli, N., Singh, R. K., Arya, V., & Srivastava, R. (2023b). Exploring the role of augmented reality as a new brand advocate. *Journal of Consumer Behavior*, 1–19. **https://doi.org/10.1002/cb.222**

Lee, H. H., Fiore, A. M., & Kim, J. (2006). The role of the technology acceptance model in explaining effects of image interactivity technology on consumer responses. *International Journal of Retail & Distribution Management*.

Lin, K. Y., & Huang, T. K. (2024). Shopping in the digital world: How augmented reality mobile applications trigger customer engagement. *Technology in Society*, *77*, 102540.

Lim, W. M., & Ting, D. H. (2012). E-shopping: an Analysis of the Technology Acceptance Model. *Modern Applied Science*, *6*(4), 49.

Lixăndroiu, R., Cazan, A. M., & Maican, C. I. (2021). An analysis of the impact of personality traits towards augmented reality in online shopping. *Symmetry*, *13*(3), 416.

Mardiah, I., Kusumawati, R., & Nurjanah, A. (2024). Augmented reality, consumer experience, and purchase intention: The moderating role of consumer involvement. Asia Pacific Journal of Marketing and Logistics, 36(1), 155-172. https://doi.org/10.1108/APJML-03-2024-0386

Markets and Markets. (2023). *Augmented Reality and Virtual Reality Market by Offering, Device Type, Application, and Region – Global Forecast to 2028*. MarketsandMarkets. Retrieved from https://www.marketsandmarkets.com/

Marzouk, A., & Elsayed, H. (2022). Exploring the impact of augmented reality on consumers' purchasing behavior: A TAM approach. Internet Research, 32(5), 1432-1453. https://doi.org/10.1108/INTR-05-2022-0334

McCloskey, D. (2004). Evaluating electronic commerce acceptance with the technology acceptance model. *Journal of Computer Information Systems*, *44*(2), 49-57.

McLean, G., & Wilson, A. (2019). Shopping in the digital world: Examining customer engagement through augmented reality mobile applications. *Computers in Human Behavior*, *101*, 210-224.

Mikalef, P., Giannakos, M., & Pateli, A. (2013). Shopping and word-of-mouth intentions on social media. *Journal of theoretical and applied electronic commerce research*, *8*(1), 17-34.

Oyman, M., Bal, D., & Ozer, S. (2022). Extending the technology acceptance model to explain how perceived augmented reality affects consumers' perceptions. *Computers in Human Behavior*, *128*, 107127.

Peddie, J. (2017). *Augmented reality: Where we will all live*. Springer.

Persada, S. F., Dalimunte, I., Nadlifatin, R., Miraja, B. A., Redi, A. A. N. P., Prasetyo, Y. T., ... & Lin, S. C. (2021). Revealing the behavior intention of tech-savvy generation Z to use electronic wallet usage: A theory of planned behavior based measurement. *International Journal of Business and Society*, *22*(1), 213-226.

Rauschnabel, P. A. (2021). Augmented reality is eating the real-world! The substitution of physical products by holograms. *International Journal of Information Management*, *57*, 102279.

Rauschnabel, P. A., Hüttl-Maack, V., Ahuvia, A. C., & Schein, K. E. (2024). Augmented reality marketing and consumer–brand relationships: How closeness drives brand love. *Psychology & Marketing*, *41*(4), 819-837.

Riar, M., Korbel, J. J., Xi, N., Zarnekow, R., & Hamari, J. (2021, January). The use of augmented reality in retail: A review of literature. In Proceedings of the 54th Hawaii International Conference on System Sciences (p. 638).

Robertson, J., Ferreira, C., Kietzmann, J., & Botha, E. (2024). Message on a bottle: the use of augmented reality as a form of disruptive rhetoric in wine marketing. *Journal of Wine Research*, *35*(2), 119-138.

Sahli, A., & Lichy, J. (2024). The role of augmented reality in the customer shopping experience. *International Journal of Organizational Analysis*.

Saleem, M., Kamarudin, S., Shoaib, H. M., & Nasar, A. (2021). Influence of augmented reality app on intention towards e-learning amidst COVID-19 pandemic. *Interactive Learning Environments*, 1-15.

Saleem, M., Kamarudin, S., Shoaib, H. M., & Nasar, A. (2021). Retail consumers' behavioral intention to use augmented reality mobile apps in Pakistan. *Journal of Internet Commerce*, 1-29.

Saprikis, V., Avlogiaris, G., & Katarachia, A. (2020). Determinants of the intention to adopt mobile augmented reality apps in shopping malls among university students. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(3), 491-512.

Silva, P. (2015). Davis' technology acceptance model (TAM)(1989). *Information seeking behavior and technology adoption: Theories and trends*, 205-219.

Smink, A. R., Frowijn, S., van Reijmersdal, E. A., van Noort, G., & Neijens, P. C. (2019). Try online before you buy: How does shopping with augmented reality affect brand responses and personal data disclosure. *Electronic Commerce Research and Applications*, *35*, 100854.

Svendsen, G. B., Johnsen, J. A. K., Almås-Sørensen, L., & Vittersø, J. (2013). Personality and technology acceptance: the influence of personality factors on the core constructs of the Technology Acceptance Model. *Behaviour & Information Technology, 32*(4), 323-334.

Tahir, J. M., & Arije, U. M. (2021). Factors influencing consumer purchase intention: A study of bookstores in Kurdistan Region of Iraq. International *Fellowship Journal of Interdisciplinary Research, 1*(1), 19-35.

Talim, S. R., Ali, B. J., & Top, C. (2021). Elaborating the Antecedents of Purchase Intentions in Second-Hand Car Industry: Case Study in Kurdistan Region of Iraq. *Talim, SR, Ali, BJ, Top, C.(2021). Elaborating the Antecedents of Purchase Intentions in Second-Hand Car Industry: Case Study in Kurdistan Region of Iraq. Journal of Contemporary Issues in Business and Government*, *27*(3), 1526-1547.

Wang, C. H., Chiang, Y. C., & Wang, M. J. (2015). Evaluation of an augmented reality embedded on-line shopping system. *Procedia Manufacturing*, *3*, 5624-5630.

Watson, A., Alexander, B., & Salavati, L. (2018). The impact of experiential augmented reality applications on fashion purchase intention. *International Journal of Retail & Distribution Management*.

Watson, A., Alexander, B., & Salavati, L. (2018). The impact of experiential augmented reality applications on fashion purchase intention. *International Journal of Retail & Distribution Management*.

Wei, Z., Lee, M. Y., & Shen, H. (2018). What drives consumers in China to buy clothing online? Application of the technology acceptance model. *Journal of Textiles and Fibrous Materials*, *1*, 2515221118756791.

Whang, J. B., Song, J. H., Choi, B., & Lee, J. H. (2021). The effect of augmented reality on purchase intention of beauty products: The roles of consumers' control. *Journal of Business Research*, *133*, 275-284.

Zanger, V., Meißner, M., & Rauschnabel, P. (2022). Beyond the Gimmick: How affective responses drive brand attitudes and intentions in Augmented Reality Marketing. *Psychology & Marketing*, **39**(7), 1285–1301. **https://doi.org/10.1002/mar.21641**