Cultural Transformations of E-commerce Consumer Behavior and Intention Toward Using Artificial Intelligence (AI) Assistants

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Abstract

The growth of Artificial Intelligence (AI) applications has been explosive in recent years. More AI assistants are emerging, causing cultural transformation to change consumer habits and behaviors. Culture influences how consumers communicate with online businesses; therefore, consumers' cultures could strongly influence AI assistant adoption in e-commerce. This paper presents a framework for examining the effects of cultural dimensions, AI characteristics, and consumer experience on behavior and intention toward AI assistants. The study collected data from two different cultures, Western and Eastern, and analyzed survey responses. The framework demonstrates how COVID-19 influences consumer behavior toward AI assistant usage. The findings reveal the significant impact of cultural beliefs on attitudes and how these contribute to consumer intention and behavior toward using AI assistants. The results provide insights for future research on related behavior and help e-commerce practitioners determine the cultural influences and develop effective marketing strategies.

Keywords: Artificial intelligence, Culture, AI assistants, Consumer behavior, E-commerce

1. Introduction

Culture influences how consumers communicate, interact, and interpret information with online businesses. It can shape how goods and services are produced and consumed and the economic systems in place within a society (Ogone, 2020). Culture is an integral part of human existence and plays a significant role in shaping our thoughts, attitudes, behaviors, and relationships with others. Moreover, Artificial Intelligence (AI) assistants are critical to consumer relationship management and design to provide a seamless shopping experience. AI assistants are an example of AI applications that provide natural language user interfaces mimicking human-human conversation. AI assistants primarily integrate into social media platforms or websites (e.g., Facebook Messenger, Instagram, Snapchat, WhatsApp, and WeChat). AI assistants play a role in the digital transformation of traditional marketing from exclusive retail stores to social media marketing and e-commerce (Chung et al., 2020). The need for e-service platforms is evident from the recent developments in the environment, wherein, during the COVID-19 pandemic, face-to-face interaction with human agents has become unavailable, and digital has become the predominant form of contact with businesses. Therefore, hard-hit by the pandemic, many businesses have adopted social media marketing as a new approach to attracting online shoppers. Top luxury brands such as Louis Vuitton have recently introduced a virtual assistant that provides information about stores, products, and access to customer support (Fernandes, 2020).

Relying on machine learning and AI techniques, these assistants require intensive communication to interact with various consumers and enhance their adoption. Consequently, as culture influences how consumers communicate with online businesses, consumers' cultures could significantly influence AI assistant adoption in e-commerce. Teo and Huang (2019) suggested that developers should evaluate technology acceptance based on individuals' cultural values to develop social technologies successfully and increase the accessibility of technological equipment with the significance of culture in technology adoption. Therefore, understanding cultural influences can be important for companies and organizations seeking to introduce new technologies, as it can help them tailor their marketing efforts to better align with the cultural beliefs and values of their target consumers (Alsanoosy et al., 2020; Choi et al., 2014).

Recently, the influence of culture and personal values on technology adoption and commerce has emerged as a crucial area of research (Vos & Boonstra,

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2022; Vatan et al., 2022; Gvili & Levy, 2021). The lack of awareness of consumers' cultures and cultural differences is often cited as a barrier to successful technology adoption (Álvarez Jaramillo et al., 2019). Differences in culture and a limited understanding of consumers' cultural factors could make accepting and adopting emerging technologies such as AI assistants complex for consumers to communicate effectively with online businesses to meet their needs. Moreover, this issue compounds other challenges associated with consumer experience and satisfaction with AI assistants. Thus, understanding how consumers' cultures and beliefs shape their interaction with AI assistant technology can provide valuable insights into designing more effective AI assistant-based technology solutions while considering cultural influences (Valaei et al., 2016; Steenkamp, 2019; Teo & Huang, 2019). Despite significant research in AI development, there remains a lack of clear understanding of the relationship between cultural factors and the adoption of AI assistants.

Moreover, the current literature has not established an explicit mapping between cultural influences and consumers' acceptance and usage of AI assistants. Thus, it is crucial to explore the impact of cultural factors, as a better understanding might result in the effectiveness and successful development of AI assistants. This study addressed the gap in AI literature by proposing a framework to provide a better understanding and investigate the influence of culture on AI assistant adoption.

Related Work: The social and cultural factors influencing customers' attitudes and behavior toward AI assistants in e-commerce have not been adequately examined (Li & Wang, 2023). A systematic review of the literature about AI conversational agents in e-commerce revealed the necessity for further investigation (Alnefaie et al., 2021). Huang et al. (2019) investigated the influence of culture on behavioral intentions to use technology in education, particularly the impact of cultural factors and technology acceptance. The author found that a cultural value dimension of individualism-collectivism significantly affected perceptions and intentions to use technology in the educational context. In this study, the framework examines the influence of a cultural belief dimension on consumer attitudes and intentions to use AI assistants in e-commerce. Choi et al. (2014) explored the effects of cultural factors on attitudes toward mobile recommender systems. The authors proposed a model that addressed three cultural dimensions: functional, contextual, and social. They also analyzed cultural differences among the three diverse countries. In our study, the framework focuses only on the influence of

a consumer's cultural belief dimension on attitudes and intentions toward using AI assistants among two cultures, Western and Eastern. Moreover, we examine how the COVID-19 pandemic influences consumer behavior using AI assistants to communicate with online businesses.

Contribution: This paper presented a framework that examines the influence of culture on consumer attitudes and intentions toward AI assistants. To construct the framework, we conducted an interdisciplinary approach to demonstrate the effects of cultural beliefs across Western and Eastern cultures on consumers' attitudes and behaviors toward AI assistant usage in a business-to-consumer (B2C) commerce model in the fashion industry. Additionally, the framework assesses the impact of the COVID-19 pandemic on consumer behavior toward using AI assistants. The study utilized partial least squares structural equation modeling (PLS-SEM) to analyze survey data from four hundred consumers from Western and Eastern cultural backgrounds. We selected these two cultures because 1) their cultural identities and profiles are significantly different, and 2) regarding the cultural perspectives, Western culture is more focused on explicit knowledge and tangible individualistic motivational factors, unlike Eastern culture views on tacit knowledge and abstract principles (Jelavic & Ogilvie, 2010). The proposed framework helps global business practitioners determine the cultural influences towards AI assistant adoption they will likely encounter and overcome through marketing strategies.

The remainder of this paper is structured as follows: Section 2 discusses the theoretical background and hypotheses development. Section 3 explains the research methodology. Section 4 presents the data analysis and results. Section 5 provides discussions along with the implications. Finally, Section 6 and Section 7 discuss the conclusion, the limitations, and potential directions for future research.

2. Background and Hypotheses Development

Culture is a complex and multifaceted concept that involves many aspects of human life, including values, beliefs, behaviors, customs, traditions, and norms that characterize a group or society (Utama, 2021). Culture impacts every aspect of human life, including how individuals think, feel, communicate, and behave. In the context of consumer behavior, markets have their own culture and theory called "consumer culture theory (CCT)," which refers to a common theoretical insight that focuses on the

dynamic relationships between consumer attitudes, behavior, the marketplace, and cultural meanings (Arnould & Thompson, 2005). Culture could influence consumers' attitudes, beliefs, and preferences toward products, services, and technologies. Understanding cultural dimensions and their influence on consumer behavior is critical for businesses that operate in diverse and global markets, which can increase their effectiveness in engaging with consumers and generating sales. AI applications, such as virtual AI assistants, have become widespread and are intended to improve customer experiences by generating valuable insights for businesses. However, culture, beliefs, and values could influence consumers' willingness to use AI assistants. Therefore, this paper investigated the effects of culture on consumers' attitudes and intentions toward using AI assistants and, hence, the cultural transformation of customer behavior during the COVID-19 pandemic.

2.1 Cultural Transformation and Beliefs

Cultural transformation often requires updating certain beliefs to adopt new circumstances. By adjusting cultural beliefs, individuals can be better equipped to behave with innovations. Beliefs are the cultural dimensions that refer to inner states and outer realities vital to commitment (Jervis, 2006). Beliefs could be adopted to smooth people's relations with others or to increase their psychological comfort (Jervis, 2006). Riquelme and Rosas (2014) stated that beliefs could influence people's behavior and could be used to improve high-quality services within a particular environment. Other studies have found that cultural beliefs about the role of technology in society can influence attitudes toward new technologies (White Baker et al., 2007). For example, some cultures may view emerging technology as improving the quality of life and increasing efficiency. Prior research finds that utility and user-friendly perception significantly influences consumers' attitudes toward IS technologies (Harasis et al., 2018). Therefore, this study proposed that consumer belief (utility and user-friendly perception) positively influences attitudes toward using AI assistants in e-commerce (H1).

2.2 AI Assistant in E-commerce

A growing body of work has demonstrated the crucial role of AI assistants and their characteristics in e-commerce (Liew et al., 2021). For example, the social characteristics of AI assistants could meet consumers' expectations to avoid frustration and dissatisfaction (Chaves and Gerosa, 2021). Li and Wang (2023) indicated that informal language styles

of AI assistants provide a more natural and interpersonal way of communicating with consumers and ultimately lead to positive service outcomes. The literature has consistently suggested that AI assistants' interactional goals should include expertise capabilities for better consumer communication (Liew et al., 2021). Therefore, interactive communication is adopted from communication literature to demonstrate the expert level of AI assistants' characteristics in e-commerce.

Moreover, personalization in e-commerce applications gives ultimate power to the consumer to modify the service's characteristics to suit the requirements of a particular individual or task (Srinivasan et al., 2002). Current developments for AI platforms are trying to offer customization options to satisfy individual preferences (Wu et al., 2020). Jeong et al. (2020) showed that customization positively impacts consumers' attitudes toward marketing communication and mobile advertising. Marinkovic and Kalinic (2017) revealed that customization significantly changes attitudes toward using mobile commerce applications. Following this reasoning, this study expects AI assistant characteristics (interactive communication and customization) to positively influence consumer attitudes toward using AI assistants in e-commerce (H2).

2.3 Presence Previous Experience

Consumer characteristics, such as previous experience with technology, significantly influence consumers' acceptance and beliefs of technologies (Youn & Lee, 2019). Previous experience and digital skills in using technology can positively influence consumers' attitudes toward it (Synnott et al., 2020). The presence of previous experience in this study refers to whether the consumers had used an AI assistant in e-commerce and could influence the attitudes toward AI platform adoption. Rezaei and Valaei (2017) found that brand experience by consumers positively impacts brand attitude. Therefore, this study proposed that previous experience using AI assistants positively influences consumer attitudes toward using AI assistants in e-commerce (H3).

2.4 Attitude and Intention

Humans have an evaluation scheme for the consequences of performing a particular behavior called attitude (Athiyaman, 2002). Attitude can be consumers' negative or positive feelings regarding technology usage. The relationship between attitude and use intention is well-established in IS research

(Harasis et al., 2018). Prior research found that belief, attitude, and intention are strongly related and have significant relationships (Foroughi et al., 2019). More precisely, this study focused on consumers' intentions to use AI assistants for communications with online retailers in e-commerce. Recent studies pointed in the same direction: attitude is a crucial factor influencing consumers' intention to use shopping platforms (Kasilingam, 2020). Thus, this study suggested that consumer attitudes toward using AI assistants positively influence the intention to use AI assistants in e-commerce (H4).

2.5 Intention and Consumer Usage Behavior

The theory of reasoned action (TRA) and technology acceptance model (TAM) state that the user's behavioral intention to use an information system determines user acceptance and the actual behavior of using a system (Fishbein & Ajzen, 1975; Davis, 1989). Behavior refers to a consumer's intention to take specific actions (Purwanto & Loisa, 2020). Purwanto and Loisa (2020) found that the intention to use mobile banking systems positively and significantly influences the actual behavior of using banking systems. Tandi and Questier (2014) also discovered that behavioral intention for using communication systems predicts actual usage. Use behavior in this study refers to the frequency of consumers' interactions with AI assistants before and during COVID-19. Therefore, this study showed that behavioral intention positively influences the actual usage behavior of AI assistants in e-commerce (H5).

3. Methodology

Figure 1 shows the research model designed for this study. The proposed model examines the influence of cultural belief dimensions on attitudes, intentions, and the actual behavior of AI assistants in e-commerce as the primary dependent variables. Further, this study has explored and added additional constructs, which are AI assistant characteristics, and the presence of previous experience, to make the research model more meaningful in understanding the global consumers' acceptance and usage of AI assistants in the e-commerce domain. Since it was impossible to conduct a field survey due to the strict lockdown, this study employed an online survey by collecting structured questionnaire responses from global consumers (Western & Eastern consumers) through a leading professional survey platform in the United States, Amazon Mechanical Turk (Mturk), and the Qualtrics platform was used to send an anonymous link. The Mturk platform is an empirically online

sampling technique (Chandler & Shapiro, 2016). All participants received $1 as a reward for participating in the study. The survey was conducted in 2021. The survey was conducted in English, assuming that Mturk users are proficient in the language. This study used the survey instrument to collect the primary data to test hypotheses and the proposed research model. All measurement items are adopted from prior literature to fit the aims of this study and provide proof of content validity (Chung et al., 2020; Chi, 2018; Hassanein & Head, 2007; Moon & Kim, 2001). The questionnaire consisted of adopted items using a five-point Likert scale from 1 (strongly agree) to 5 (strongly disagree). Four hundred participants clicked the survey link and participated in this research study. We considered a total of 397 respondents after cleaning the data. At the beginning of the survey, we provided instructions regarding the definition of AI applications and two examples of AI assistant interactions. The provided AI assistant examples help participants understand what an application could be considered an AI assistant in e-commerce and demonstrate the variety of communication styles with responses to consumers' prompts. The participants then answered questions about their perspectives on AI assistants as a communication tool in e-commerce.

For the statistical analysis, we used IBM SPSS software to convert and code the constructs of the research model. In the second stage, we employed SmartPLS software version 4 to analyze the collected data and test the hypotheses. Further, we conducted a partial least squares structural equation modeling (PLS-SEM) to test the conceptual model. PLS-SEM is popularly used in social science studies as it is suitable for nonnormal data and supports small and large sample sizes (Hair et al., 2019). We also calculated the measurement properties for the latent constructs and their indicators for reliability and internal consistency. A Cronbach alpha value of all constructs of our study higher than 0.7 confirms the construct reliability and internal consistency (Bland & Altman, 1997). The average variance extracted values are higher than the value of 0.5, so it is evident that the instrument used for the data collection is a good fit for this study. Subsequently, we conducted the multigroup bootstrap analysis across Western and Eastern consumers as two groups separately to discover the differences between the two cultures towards the research model.
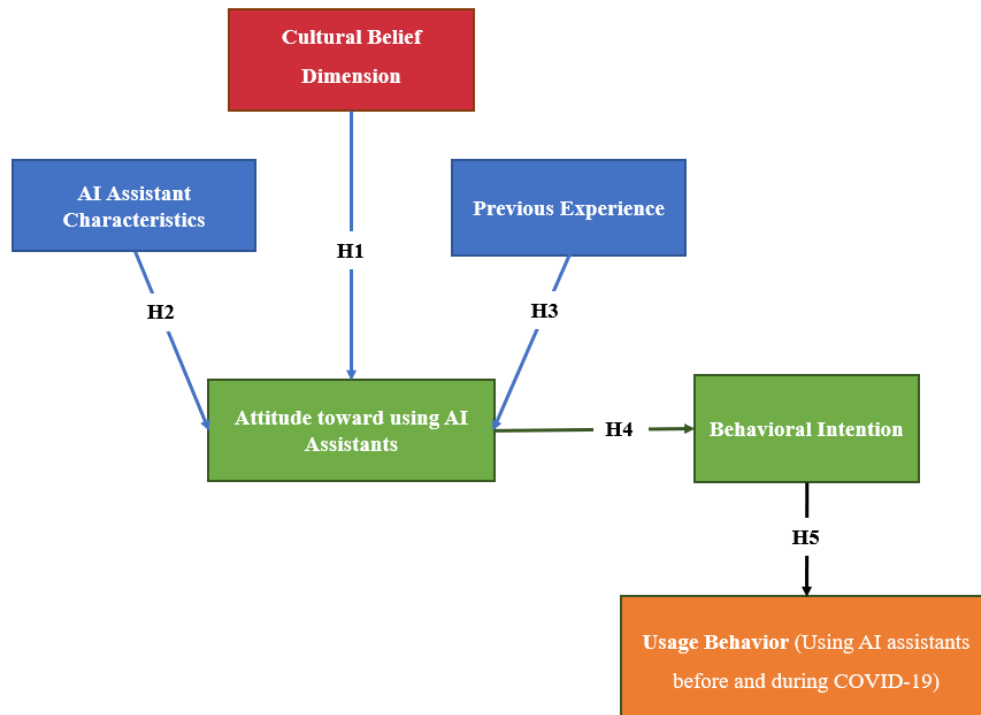
Figure 1. The research model of this study

4. Data Analysis and Results

Table 1 describes the demographic profile of the participants. The mean age of the 397 participants (61% male; 39% female) is between 25 and 35. In addition, 77% of our sample is in the age group of 25-45, also considered the fashion brand target segment (Frank, 2023).

Table 1. Demographic profile

Demographic	Profile	Frequency	Percentage
Gender	Female	153	39
	Male	244	61
Culture	Western	293	74
	Eastern	104	26
Age (yrs.)	18 - 25	22	5.54
	25 - 35	209	52.64
	35 - 45	98	24.69
	45 - 55	46	11.59
	55 - 65	15	3.78
	Greater than 65	7	1.76

Degree	Bachelor's degree	262	65.99
	Master's degree	84	21.16
	High School Degree	42	10.58
	Doctorate Degree	7	1.76
Prior experience using AI assistants	(Used)	312	78.59
	(Never used)	85	21.41
The habit of purchasing a good online	3-6 months ago	135	34.01
	The last three months	118	29.72
	6-12 months ago	104	26.20
	More than a year ago	28	7.05

Figure 2 presents the daily time spent on social media in Eastern and Western cultures. The average time spent on social media by the participants from Eastern

and Western cultures is between two and five hours per day. The number of Western participants was 293 from Western countries, including the United States of America, the United Kingdom, Brazil, Australia, Italy, and France. The number of Eastern participants was 104, and they were from Eastern countries such as India, China, Bangladesh, Azerbaijan, and Turkey. The classification considered that other countries can be added to the Western and Eastern groups according to Hofstede's (1983) dimensions. Regarding participants' highest level of education, the two largest groups consisted of 262 who had bachelor's degrees from college (66%) and 83 who had master's degrees (21%).
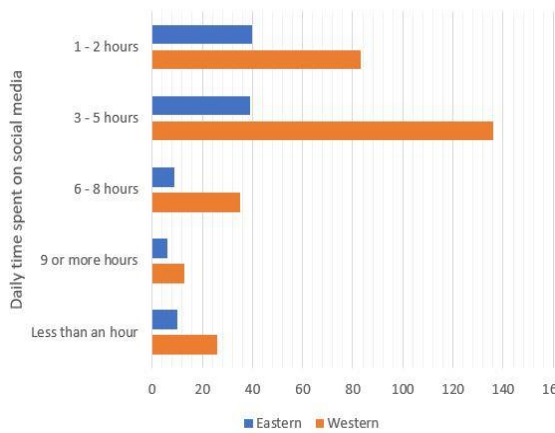

Figure 2. Eastern vs. Western cultures: Daily time spent on social media

Three hundred twelve participants (78.5%) had prior experience using AI assistants, and 85 participants (21.4%) had never used any AI assistants. A total of 135 participants (34%) had purchased a product online in the last 3-6 months (September 2021-June 2021), followed by 29.7% of participants that purchased within the last three months (September 2021) (n = 118), and 26.1% that purchased 6-12 months ago (June 2021-December 2020) (n = 104). The data of the study showed good internal consistency for all constructs. Cronbach's alpha for cultural belief dimension is 0.862, Cronbach's alpha for AI assistant characteristic is 0.784, Cronbach's alpha for attitude towards using is 0.763, Cronbach's alpha for intention is 0.794, and Cronbach's alpha for consumer behavior is 0.752. Table 2 presents the results of the measurement scale. Furthermore, the composite reliability (CR) values confirm the sufficient reliability and internal consistency of all the constructs, have a value higher than 0.764, and the outer loading for all the items was higher than the threshold value of 0.6. The average variance extracted (AVE) values are higher than the threshold value of 0.5, along with the inter-

correlations between constructs (Hair et al., 2019). Therefore, this study established the measurement model's construct reliability and discriminant validity. Table 3 shows the model fit results. Therefore, the results derived an acceptable level of structural model fit.

Table 2. Measurement scale results

Latent construct	Observed variable	Factor Loading
Cultural belief dimension AVE = 0.592 CR = 0.864 α = 0.862	Item 1 Item 2 Item 3 Item 4 Item 5 Item 6	0.743 0.759 0.776 0.780 0.771 0.786
AI Assistant Characteristic AVE = 0.605 CR = 0.795 α = 0.784	Item 1 Item 2 Item 3 Item 4	0.741 0.757 0.788 0.818
Attitude towards using. AVE = 0.678 CR = 0.764 α = 0.763	Item 1 Item 2 Item 3	0.809 0.813 0.849
Usage Intention AVE = 0.708 CR = 0.795 α = 0.794	Item 1 Item 2 Item 3	0.885 0.886
Usage Behavior AVE =0.802 CR =0.753 α =0.752	Item 1 Item 3	0.891 0.9

We analyzed the structural model via the PLS-SEM method to examine the path analysis and relationship between the constructs. Table 4 provides the path coefficients for each hypothesis and their significance levels. The results indicated that consumer belief (β = 0.500, p < 0.05) that includes both measures of utility and user-friendly perception influences attitudes towards using AI assistants. The results mentioned that consumers' attitudes positively influence (β = 0.802, P < 0.05) the behavioral intention of using AI assistants as an e-commerce tool. Therefore, the end-user must have a positive attitude or perception towards AI assistants regarding their services to use this tool for consumer needs. Consumer intention significantly influences usage behavior (β = 0.315, P < 0.05). The results showed that the AI assistant characteristic, which is interactive, personalized communication, positively affects the consumer's attitude towards using AI assistants (β = 0.415, p <

0.05). The presence of previous AI assistants' usage experience (β = 0.239, p < 0.05) significantly influences consumers' attitudes toward AI assistants for e-commerce. Therefore, H1, H2, H3, H4, and H5 are supported.

Table 3. Model fit results

Measure	Saturated Model	Estimated Model	Supported?
SRMR	0.074	0.095	Acceptable
d_ULS	1.032	1.715	Acceptable
d_G	0.400	0.512	Acceptable
Chi-Square	1052.468	1311.338	Acceptable
NFI	0.734	0.668	Acceptable

Table 4. Research model's path coefficients results

H	Path Coefficients	T Value	P Value	Decision
H1	0.500	8.933	0.000	Supported
H2	0.415	7.176	0.000	Supported
H3	0.239	2.242	0.025	Supported
H4	0.802	29.09	0.000	Supported
H5	0.315	5.977	0.000	Supported

The findings indicated that cultural belief positively influences customers' attitudes toward artificial intelligence assistants. The AI assistant characteristics, including interactive, personalized communication, significantly predict customer attitudes toward using AI assistants in online shopping settings. Furthermore, attitude significantly influences consumers' intention to interact with AI assistants. Finally, the findings showed that consumer intention leads to actual behavior. During the COVID-19 pandemic, the frequency of using AI assistants increased compared to the frequency of using AI assistants before the pandemic. In sum, these findings demonstrated the impact of the COVID-19 pandemic on cultural transformations of consumer behavior and intention to use AI assistants in e-commerce. Table 5 shows the results of the indirect effects test. The results of the multigroup analysis indicated that Western and Eastern consumers have similar beliefs about using AI assistants. The Welch-Satterthwaite test results show no significant difference in the path coefficients among Western and Eastern cultures. Table 6 presents that the path coefficients of Western and Eastern consumers are not significantly different, as all p values are not less than 0.05.

Table 5. Testing results of indirect effects

Indirect Path	Path Coefficients	Standard Deviation	T statistics	P values
Cultural Dimension (Belief) -> Attitude towards using -> Intention	0.402	0.046	8.668	0.000
Cultural Dimension (Belief) -> Attitude towards using -> Intention -> Usage Behaviour	0.127	0.022	5.698	0.000
Previous Experience -> Attitude towards using -> Intention	0.191	0.086	2.217	0.027
AI Platform Characteristics -> Attitude towards using -> Intention -> Usage Behaviour	0.105	0.026	4.101	0.000
AI Platform Characteristics -> Attitude towards using -> Intention	0.333	0.050	6.652	0.000
Previous Experience -> Attitude towards using -> Intention -> Usage Behaviour	0.060	0.032	1.859	0.063
Attitude towards using -> Intention -> Usage Behaviour	0.253	0.043	5.927	0.000

The results indicated that the belief affecting consumers' attitudes toward AI assistants is more or less equal in Western and Eastern cultures. Furthermore, the results showed that AI characteristics affecting consumers' attitudes toward using AI assistants are more or less equal in Western and Eastern cultures, and intention affecting actual usage behavior is more or less similar in Western and Eastern cultures. Therefore, there is a similarity between Western and Eastern consumers regarding their adoption of AI assistants, which aligns with the concept of global consumer theory towards emerging technologies that aim to foster a sense of inclusion for global consumers and enhance various usages (Hernani-Merino et al., 2020).

Table 6. Western and Eastern cultures comparison test results

H	Difference (Western - Eastern)	t value (|Western vs Eastern|)	p-value (Western vs. Eastern)

H1	0.073	0.52	0.604
H2	-0.023	0.154	0.878
H3	-0.025	0.069	0.945
H4	-0.035	0.678	0.499
H5	0.006	0.047	0.963

5. Discussion and Implication

This study investigated how cultural beliefs affect consumer attitudes toward AI assistants and their influence on intention and behavior. Therefore, we conducted an interdisciplinary approach to link theoretical insights between AI assistants as an emerging technology with cultural research. The model hypothesis is the influence of cultural dimension (belief) on Western and Eastern consumers' attitudes, intentions, and actual behavior. The findings revealed that cultural belief in utility and user-friendly is a significant predictor positively related to consumers' attitudes toward AI assistants. Concerning the two characteristics that are interactive communication and personalization, AI characteristic determinants predict consumers' attitudes toward AI assistants significantly.

Furthermore, attitude toward using explains a significant variation in consumers' intention, hence consumer behavior. Finally, results revealed that all these determinants also indirectly affect consumer behavior and intention through attitude toward the AI assistants. In sum, these results indicated that it is crucial to consider consumers' beliefs and cultural backgrounds towards the development of AI assistants as they significantly influence the effectiveness of this technology. Although the current literature has limited studies that focus on culture and technology adoption, to the best of our knowledge, no research examines Western and Eastern consumers' cultural beliefs, intentions, and the actual behavior of AI assistant usage in e-commerce settings (Li & Wang, 2023; Huang et al., 2019; Choi et al., 2014). Therefore, this study could serve as a departure point that provides opportunities for relevant and incipient research on the intersection of culture and artificial intelligence.

This study holds relevant implications for practitioners and marketing managers for developing communication strategies in e-commerce and social media practices through AI assistants. This study holds relevant implications for practitioners and marketing managers for developing communication strategies in e-commerce and social media practices through AI assistants. Since these are designed in

many ways, developing AI assistants integrated into social media can challenge satisfying global consumer expectations. This study offers inspiration to develop the design of AI assistants by showing that cultural belief through utility and user-friendly perception features significantly impact its adoption. For instance, companies might include an example of interaction with previous consumers, interactive responses, and personalized options to improve consumers' beliefs about AI assistants. These features might then contribute to developing effective communication strategies on social media for e-commerce.

6. Limitations and Future Research

In this study, we investigated the impact of a selected set of factors on consumer attitudes and behavior and focused on cultural beliefs. Other factors can influence the attitudes and consumers' usage behavior, and their combined effects may change the outcome. We simulated two examples of AI assistant interaction with consumers in the fashion industry to obtain consumers' perceptions of AI assistant usage in both cultures, Western and Eastern. The findings of this study open up a rich area for further investigation. For example, future studies can explore incorporating participants' live interaction with AI assistants, which may be helpful to capture consumers' interest in the interaction as it evolves. It will also help identify specific pain points and outcomes in live chats at different times. Future research on AI applications and culture can further develop our findings by exploring more predictors influencing the usage intention of AI assistants in different contexts, such as education, health care, and entertainment. Additionally, future studies may evaluate whether outcomes differ among unfamiliar users with AI assistants or prefer human agents. Future research may also target other consumer characteristics (for example, age, gender, and education level) to investigate the differences in the perception of AI assistant usage.

7. Conclusion

The study demonstrated a significant contribution by highlighting the influence of cultural beliefs on consumer attitudes toward AI assistants, ultimately impacting their intention and usage behavior for e-commerce purposes through social media. We demonstrated the level of AI assistant adoption among Western and Eastern consumers based on their cultural beliefs, AI characteristics of interactive communication and personalization services, and their

usage experiences. Therefore, this study added to the cultural literature by providing evidence that Western and Eastern cultures share similar expectations regarding AI assistants. This comprehensive analysis provided a detailed picture of the factors contributing to AI assistant adoption in both cultures. In addition, this study extends research on consumer behavior and AI assistants from the COVID-19 perspective. Lastly, we encouraged scholars to conduct research inquiries on cross-cultural variations focusing on AI assistants and social media usage. These topics are crucial to yield new and insightful knowledge to help us better understand emerging technologies with the intersection of culture.

8. References

Alnefaie, A., Singh, S., Kocaballi, A. B., & Prasad, M. (2021). Factors Influencing Artificial Intelligence Conversational Agents Usage in the E-commerce Field: A Systematic Literature Review.

Álvarez Jaramillo, J., Zartha Sossa, J. W., & Orozco Mendoza, G. L. (2019). Barriers to sustainability for small and medium enterprises in the framework of sustainable development- A literature review. *Business Strategy and the Environment*, 28(4), 512-524.

Alsanoosy, T., Spichkova, M., & Harland, J. (2020). Identification of cultural influences on requirements engineering activities. In Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Companion Proceedings (pp. 290-291).

Arnould, E. J., & Thompson, C. J. (2005). Consumer culture theory (CCT): Twenty years of research. Journal of consumer research, 31(4), 868-882.

Athiyaman, A., 2002. Internet users' intention to purchase air travel online: an empirical investigation. Marketing intelligence & planning.

Bland, J. M., & Altman, D. G., (1997). Statistics notes: Cronbach's alpha. BMJ, 314(7080), 572.

Chandler, J., Shapiro, D., 2016. Conducting clinical research using crowdsourced convenience samples. Annual Review of Clinical Psychology, 12(1), 53–81.

Chaves, A. P., Gerosa, M. A., 2021. How should my chatbot interact? A survey on social characteristics in human–chatbot interaction design. International Journal of Human-Computer Interaction, 37(8), 729-758.

Choi, J., Lee, H. J., Sajjad, F., & Lee, H. (2014). The influence of national culture on the attitude towards mobile recommender systems. Technological Forecasting and Social Change, 86, 65-79.

Chung, M., Ko, E., Joung, H., Kim, S. J., 2020. Chatbot e-service and customer satisfaction regarding luxury brands. Journal of Business Research, 117, 587-595.

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

Fernandes, A., 2020. Luxury Chatbots Helping Combat Slump in Sales During Pandemic. Retrieved from https://verloop.io/blog/how-luxury-chatbots-are-helping/

Fishbein, M., Ajzen, I., Belief, A., 1975. Intention and Behavior: An Introduction to Theory and Research.

Foroughi, B., Iranmanesh, M., & Hyun, S. S. (2019). Understanding the determinants of mobile banking continuance usage intention. Journal of Enterprise Information Management.

Frank, 2023. Who Is the Target Audience for Luxury Brands? https://mediaboom.com/news/target-audience-for-luxury-brands/

Gvili, Y., & Levy, S. (2021). Consumer engagement in sharing brand-related information on social commerce: The roles of culture and experience. Journal of Marketing Communications, 27(1), 53-68.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European business review, 31(1), 2-24.

Hassanein, K., & Head, M. (2007). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. International journal of human-computer studies, 65(8), 689-708.

Harasis, A. A., Qureshi, M. I., & Rasli, A. (2018). Development of research continuous usage intention of e-commerce. A systematic review of literature from 2009 to 2015. International Journal of Engineering & Technology, 7(2.29), 73-78.

Hernani-Merino, M., Lazo, J. G. L., López, A. T., Mazzon, J. A., & López-Tafur, G. (2020). An international market segmentation model based on susceptibility to global consumer culture. Cross Cultural & Strategic Management, 28(1), 108-128.

Huang, F., Teo, T., Sánchez-Prieto, J. C., García-Peñalvo, F. J., & Olmos-Migueláñez, S. (2019). Cultural values and technology adoption: A model comparison with university teachers from China and Spain. *Computers & Education*, *133*, 69-81.

Jelavic, M., & Ogilvie, K. (2010). Knowledge management views in Eastern and Western cultures: an integrative analysis. Journal of Knowledge Globalization, 3(2), 51-69.

Jeong, S. G., Hur, H. J., & Choo, H. J. (2020). The effect of fashion shopping chatbot characteristics on service acceptance intention-Focusing on anthropomorphism and personalization. Journal of the Korean Society of Clothing and Textiles, 44(4), 573-593.

Jervis, R. (2006). Understanding beliefs. Political Psychology, 27(5), 641-663.

Kasilingam, D. L., 2020. Understanding the attitude and intention to use smartphone chatbots for shopping. Technology in Society, 62, 101280.

Li, M., & Wang, R. (2023). Chatbots in e-commerce: The effect of chatbot language style on customers' continuance usage intention and attitude toward the brand. Journal of Retailing and Consumer Services, 71, 103209.

Liew, T. W., Tan, S. M., Tee, J., Goh, G. G. G., 2021. The effects of designing conversational commerce chatbots with expertise cues. In 2021 14th International Conference on human system interaction (HSI) (pp. 1-6). IEEE.

Marinkovic, V., Kalinic, Z., 2017. Antecedents of customer satisfaction in mobile commerce: Exploring the moderating effect of customization. Online Information Review.

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. Information & Management, 38(4), 217-230.

Ogone, J. O. (2020). Mobile phones in Africa: The politics of cultural and material integration into local economies. International Journal of Cultural Studies, 23(4), 531–546.

Purwanto, E., Loisa, J., 2020. The intention and use behavior of the mobile banking system in Indonesia: UTAUT Model. Technology Reports of Kansai University, 62(06), 2757-2767.

Rezaei, S., & Valaei, N. (2017). Branding in a multichannel retail environment: Online stores vs. app stores and the effect of product type. Information Technology & People.

Riquelme, L. F., & Rosas, J. (2014). Multicultural perspectives: The road to cultural competence. Language development: Foundations, processes, and clinical applications, 255-256.

Srinivasan, S. S., Anderson, R., Ponnavolu, K., 2002. Customer loyalty in e-commerce: an exploration of its antecedents and consequences. Journal of Retailing, 78(1), 41-50.

Steenkamp, J. B. E. (2019). Global versus local consumer culture: Theory, measurement, and future research directions. Journal of International Marketing, 27(1), 1-19.

Synnott, J., Harkin, M., Horgan, B., McKeown, A., Hamilton, D., McAllister, D., & Nugent, C. (2020). The digital skills, experiences, and attitudes of the Northern Ireland social care workforce toward technology for learning and development: Survey study. JMIR medical education, 6(2), e15936.

Tandi Lwoga, E., Questier, F., 2014. Faculty adoption and usage behavior of open access scholarly communication in health science universities. New library world, 115(3/4), 116-139.

Teo, T., & Huang, F. (2019). Investigating the influence of individually espoused cultural values on teachers' intentions to use educational technologies in Chinese universities. Interactive Learning Environments, 27(5-6), 813-829.

Utama, A. S. (2021). Law and Social Dynamics of Society. International Journal of Law and Public Policy, 3(2), 107-112Vatan, E., Raissi Ardali, G. A., & Shahin, A. (2022). Selecting information systems development models based on organizational culture: an integrated approach of DEMATEL and ANP. *VINE Journal of Information and Knowledge Management Systems.*

Vos, J. F., & Boonstra, A. (2022). The influence of cultural values on Enterprise System adoption, towards a culture–Enterprise System alignment theory. International Journal of Information Management, 63, 102453.White Baker, E., Al-Gahtani, S. S., & Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behavior (TPB). Information Technology & People, 20(4), 352-375.

Wu, F. C., Hong, O. N.-J., Trappey, A. J., Trappey, C. V., 2020. VR-enabled chatbot system supporting transformer mass-customization services. Paper presented at the 27th ISTE International Conference on Transdisciplinary Engineering, TE 2020. Youn, S. Y., Lee, K. H., 2019. Proposing value-based technology acceptance model: Testing on paid mobile media service. Fashion and textiles, 6(1), 1-16.