

-RESEARCH ARTICLE-

## IMPACT OF AI AND E-BUSINESS RELATED FACTORS ON CONSUMER BEHAVIOUR INTENTION: MODERATING ROLE OF CUSTOMER TRUST

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### —Abstract—

This research investigates the determinants impacting Consumer Behavioural Intentions (CBI) within e-business environments, with a specific focus on empathy, facilitating conditions, AI-driven decision-making, AI proclivity, and the moderating influence of customer trust. The study examines how these factors collectively influence consumer behavioural intentions. Employing a quantitative approach, the study utilizes survey data gathered from e-business consumers and employees. The survey instruments encompass measurements of empathy, facilitating conditions, AI-driven decision-making, AI proclivity, customer trust, and consumer behavioural intentions. Two distinct questionnaires were administered: Questionnaire 1 targeted 247 customers who had engaged in various online transactions such as ordering from fast food establishments, hypermarkets, hotels, and banking services within the preceding three months. Questionnaire 2 collected responses from 174 employees directly involved in the operational aspects of e-business within these organizations. The findings reveal significant positive correlations between empathy, facilitating conditions, AI-driven decision-making, AI proclivity, and consumer behavioural intentions. Specifically, empathy and facilitating conditions exhibit substantial direct impacts on CBI, while AI-driven decision-making and AI proclivity positively affect CBI. The role of customer

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trust is highlighted as a moderator, enhancing the influence of empathy, facilitating Conditions, AI-driven decision-making, and AI proclivity on CBI. The study concludes that fostering empathy, enhancing facilitating conditions, implementing AI-driven decision-making, and cultivating positive attitudes toward AI are pivotal strategies for bolstering consumer behavioural intentions in e-business contexts. Customer trust emerges as a critical factor in amplifying these effects, underscoring its significance in cultivating robust customer relationships and sustaining business success. This study contributes novelty through its comprehensive exploration of multiple factors shaping consumer behaviour within e-business, encompassing empathy, facilitating conditions, AI-driven decision-making, AI proclivity, and customer trust. By integrating these elements into a unified framework and investigating their interactive impacts on consumer satisfaction and engagement, the research advances both theoretical understanding and practical implications in the realm of e-commerce.

**Keywords:** Consumer Behavioural Intentions, Empathy, Facilitating Conditions, Artificial Intelligence, Customer Trust, E-Business

## INTRODUCTION

Consumer behavioural intentions encompass the likelihood of customers engaging in specific actions, such as making purchases or recommending services, which are pivotal for businesses aiming to augment customer satisfaction and loyalty (Ajzen et al., 2018). The convergence of consumer behavioural intentions with artificial intelligence (AI) holds increasing relevance in contemporary markets. AI's capacity to analyse extensive data sets and forecast consumer behaviours is reshaping how businesses interact with their clientele. According to He and Zhang (2023), the roles of AI touchpoints and the factors influencing the acceptance and efficacy of consumer-AI interactions vary across stages of the customer journey. Moreover, Kumar et al. (2024) demonstrates that consumer responses to AI-driven credit decisions versus those made by human analysts hinge on the specific type of credit product; for personal loans, rejections from AI providers elicit higher satisfaction levels compared to rejections from human credit analysts.

Furthermore, Kallel et al. (2024) identifies that the competence of chatbots has a significant impact on customer satisfaction, influencing both intention to recommend and intention to continue using services. Puengwattanapong and Leelasantitham (2022) proposes a comprehensive model investigating online consumer purchasing behaviours in uncertain environments, integrating the Push-Pull Mooring (PPM) theory and the three stages of online consumer behaviours. The integration of AI empowers businesses to discern consumer preferences and buying patterns, facilitating the development of targeted marketing strategies and personalized customer interactions. Moreover, AI-driven sentiment analysis of social media and reviews enables businesses to assess

public sentiment effectively, thereby enhancing product offerings and addressing negative perceptions.

Customer trust plays a pivotal role in e-commerce, exerting influence over purchasing decisions and fostering long-term loyalty among consumers. Establishing trust entails ensuring secure transactions, safeguarding personal data, and delivering transparent and dependable services. E-businesses that prioritize these aspects are more likely to cultivate robust customer relationships and sustain their competitive edge. [Ginting et al. \(2023\)](#) seeks to analyse the effects of e-service quality, e-word of mouth (e-WOM), and customer trust on customer satisfaction within the context of e-commerce in Indonesia. The study further investigates the impact of these factors on repurchase intentions, examining how customer satisfaction mediates these relationships.

Similarly, [Al-Ayed \(2022\)](#) illustrates that factors such as care, character, choice, convenience, customization, and cultivation positively contribute to the development of e-customer loyalty. E-commerce stands as a pioneering force within contemporary business landscapes, evidenced by its escalating profitability and expanding market influence driven by a focus on cultivating loyal e-customers. [Adiwijaya et al. \(2022\)](#) examines the interplay among customer trust, perceived risk, and online purchase intentions, incorporating e-service scape as an antecedent to these variables. In a separate study, [Charandabi and Ghanadiof \(2022\)](#) investigates trust and resilience engineering in online markets, identifying the most and least influential factors affecting online shopping systems. To mitigate inherent uncertainties in data analysis, Charandabi proposes and validates a Fuzzy Data Envelopment Analysis (FDEA) model, demonstrating its efficacy in evaluating both online and offline shopping systems concerning trust and resilience. Additionally, [Masyhuri \(2022\)](#) aims to analyse critical factors influencing customer satisfaction in e-commerce firms, applying a methodology inspired by [Yoon \(2007\)](#) framework, which includes dimensions such as customer service, reliability of fulfilment, ease of use, product/service offerings, and security and privacy.

In conclusion, customer trust plays a critical role in determining the success of e-businesses, shaping purchasing decisions and fostering customer loyalty. Establishing trust involves ensuring secure transactions, maintaining transparent communication, delivering reliable service, and safeguarding customer data. These elements collectively enhance customer confidence and satisfaction, thereby encouraging continued engagement and repeat business.

The study investigates consumer behavioural intentions (CBI) as the dependent variable (DV), with a specific focus on how customer trust (CT) moderates the impacts of various independent variables (IVs): Empathy in E-Business (EEB), Facilitating

Conditions (FC), Artificial Intelligence-Driven Decision-Making (AIDD), and Artificial Intelligence Proclivity (AIP).

## LITERATURE REVIEW AND HYPOTHESIS

EEB is a focal independent variable under examination in this study. EEB pertains to the capacity of online businesses to comprehend and address customers' emotions and requirements proficiently. Empathy within digital interactions holds the potential to elevate customer experiences and forge deeper emotional bonds, consequently exerting a positive influence on consumer behavioural intentions (Puzakova & Kwak, 2023).

Empathy holds substantial sway over consumer behavioural intentions, particularly within the realm of social entrepreneurship, as emphasized by (Tanpoco et al., 2023). In this context, entrepreneurial behaviour acts as a mediator, facilitating the impact of empathy on intentions. Similarly, Hwang and Griffiths (2017) underscores the connection between empathy and consumer intentions in collaborative consumption, where perceptions of empathy and value drive favourable responses. Moreover, Bae et al. (2023) observes that customer empathy serves as a mediator in the relationship between a retail firm's environmental orientation and customer purchasing behaviour, indicating a robust association between empathy in EB and consumer behavioural intentions.

**H1:** *Empathy in EB positively influence Consumer Behavioural Intentions.*

Facilitating conditions (FC) represent a pivotal independent variable encompassing the resources and infrastructure that support customers in their interactions with technology and services. Effective facilitating conditions, such as user-friendly interfaces and reliable internet connections, have been shown to significantly enhance user satisfaction and foster positive behavioural intentions (Venkatesh, 2022).

Studies by Jannat et al. (2023) and Ningsih and Hamid (2023) highlight the mediating role of these conditions in the relationship between facilitating conditions and online shopping behaviours, predicting attitudes and intentions related to activities such as illegal downloading, as observed by (Phau et al., 2009). Additionally, Kaur et al. (2024) underscores the importance of facilitating conditions, alongside social influence, effort, and performance expectancy, in the adoption of solar water heaters in India. Similarly, Baydeniz et al. (2024) identifies a positive influence of facilitating conditions on intentions for online booking in resort tourism.

However, Nabila and Wikantari (2024) finds no significant impact of facilitating conditions on the use of contactless cards, while (Ramli et al., 2024) notes a significant effect on the use of the GoHalalGo application, although it does not directly impact

behavioural intentions. These results corroborate the hypothesis that facilitating conditions have a beneficial impact on consumer behavioural intentions.

**H2:** *Facilitating conditions positively influence Consumer Behavioural Intentions.*

Artificial intelligence-driven decision-making (AIDD) is explored for its potential to impact consumer behaviour through data analysis and personalized service delivery. The effectiveness of AI in providing customized recommendations and efficient service has been shown to enhance customer perceptions and intentions (Huang & Rust, 2021). Recent studies by Roja et al. (2024) and H Mussa (2020) highlight AI's capability to analyse customer data and personalize experiences, thereby improving consumer satisfaction and influencing purchasing decisions. (Venkatesh, 2022) further validates AI's role in shaping consumer behaviour based on demographic factors like gender and income. Van Esch and Cui (2021) finds that AI boosts purchase intent, particularly among less brand-loyal consumers driven by their interest in novel experiences. Bilal et al. (2024) demonstrates AI's positive impact on consumer engagement on social media platforms, leading to increased purchase intentions. Moreover, Roja et al. (2024) underscores AI's effectiveness in converting consumer interest into actual purchases in e-commerce settings. Pangkey et al. (2019) emphasizes AI and digital marketing's favourable influence on consumer purchasing intentions in the online transportation sector. This body of research supports the hypothesis that both AI-driven decisions and AI proclivity exert a substantial influence on consumer behavioural intentions.

**H3:** *Artificial intelligence driven decision significantly influence Consumer Behavioural Intentions.*

Artificial intelligence proclivity (AIP) denotes the degree to which consumers are inclined to adopt and utilize AI technologies. A higher inclination towards AI fosters greater acceptance and usage of AI-driven services, thereby positively impacting consumer behavioural intentions (Chang, 2021). Extensive research indicates that AI has a notable influence on consumer behavioural intentions, particularly in online purchasing contexts. Roja et al. (2024) and H Mussa (2020) emphasized AI's capacity to analyse customer data and customize experiences, enhancing consumer satisfaction and shaping purchasing decisions. Venkatesh (2022) corroborated AI's role in influencing consumer behaviour, influenced by demographic factors such as gender and income. Van Esch and Cui (2021) found that AI increases purchase intent, especially among less brand-loyal consumers motivated by novelty-seeking behaviour. Bilal et al. (2024) demonstrated AI's positive impact on consumer engagement and experience on social media platforms, leading to heightened purchase intentions. Roja et al. (2024) underscored AI's efficacy in translating consumer interest into actual purchase decisions in e-commerce. Pangkey et al. (2019) highlighted AI and digital marketing's constructive influence on consumer purchasing intentions in the online transportation

sector. Together, these findings substantiate the hypothesis that AI-driven decisions and AI proclivity significantly influence consumer behavioural intentions.

**H4:** *Artificial intelligence proclivity significantly influence Consumer Behavioural Intentions.*

Customer trust, defined as confidence in the reliability and integrity of a service provider, significantly influences customer behaviours and decision-making (Kwiatk et al., 2020). Trust plays a crucial moderating role, enhancing the impact of empathy in e-business, facilitating conditions, AIDD, and AIP on consumer behavioural intentions (Eshiett, 2021). It acts as a catalyst, ensuring customers feel secure and confident in their interactions, thereby promoting positive behavioural outcomes. Conversely, low levels of trust can diminish these positive effects, underscoring trust's critical role in consumer decision-making.

Trust plays a crucial role in e-business, emphasized by Tran and Vu (2019) and Sultan et al. (2003), with Tran highlighting e-trust as a mediator between e-service quality and behavioural intentions. Jaramillo (2016) underscored empathy's role in enhancing the positive impact of customer orientation on satisfaction and trust, suggesting that customer trust may moderate the link between empathy in e-business and consumer behavioural intentions. However, Kang et al. (2014) noted that the effectiveness of relationship marketing efforts, including empathy, can vary based on customer empathy levels. Therefore, while empathy and trust are pivotal in e-business, further research is needed to explore their interaction and the role of customer empathy in supporting the hypothesis that customer trust moderates the relationship between empathy in e-business and consumer behavioural intentions.

**H5:** *Customer trust moderates the relationship between Empathy in EB and Consumer Behavioural Intentions.*

Facilitating conditions impact consumer behavioural intentions through the lens of customer trust. Research by Lu et al. (2005) and Ratnasingam (2004) indicates that factors like IT connectivity and security in electronic and wireless marketplaces enhance trust, thereby influencing consumer intentions. Upamannyu et al. (2015) further supports this, showing that customer trust significantly affects repurchase intentions, with perceived corporate social responsibility (CSR) strengthening this relationship. Stouthuysen et al. (2018) notes the varying effectiveness of vendor-specific guarantees and customer reviews in building trust, highlighting trust as a critical factor in consumer intentions, especially among seasoned online shoppers. These findings substantiate the hypothesis that customer trust moderates the relationship between facilitating conditions and consumer behavioural intentions.

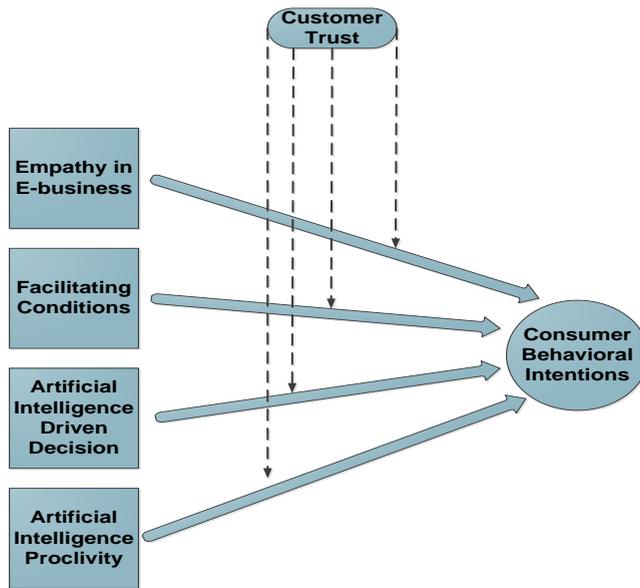
**H6:** *Customer trust moderates the relationship between Facilitating conditions and Consumer Behavioural Intentions.*

Customer trust plays a crucial role in the connection between AI-driven decisions and consumer behavioural intentions. [D. Chen et al. \(2022\)](#) discovered that AI may negatively moderate the relationship between host trust and customer engagement. [Prakash et al. \(2023\)](#) identified conversational cues, perceived functional and social attributes, and personal disposition toward trusting technology as critical factors influencing trust in AI-based chatbots. [Malhotra and Ramalingam \(2023\)](#) highlighted trust's moderating effect between perceived anthropomorphism and purchase intention when using AI technology. [Ameen et al. \(2021\)](#) emphasized trust's mediating role in the impact of perceived convenience, personalization, and AI-enabled service quality on AI-enhanced customer experiences. Similarly, [Hasan et al. \(2021\)](#) noted that consumer trust and perceived risk significantly affect brand loyalty for AI-supported devices, supporting the hypothesis that customer trust moderates the relationship between AI-driven decisions and consumer behavioural intentions.

**H7:** *Customer trust moderates the relationship between Artificial intelligence driven decision and Consumer Behavioural Intentions.*

Furthermore, customer trust's moderating role in the link between AI proclivity and consumer behavioural intentions is extensively documented. [Bilal et al. \(2024\)](#) observed that AI positively influences consumer experience and engagement, thereby boosting purchase intentions, while [Ayoub et al. \(2024\)](#) identified expertise and responsiveness as pivotal in establishing trust in AI. [Xu et al. \(2024\)](#) underscored that disclosing AI's identity could increase unethical behaviour, with perceived social judgment mediating this effect. [Guerra-Tamez et al. \(2024\)](#) highlighted AI's beneficial impact on brand trust and purchasing decisions among Generation Z consumers, supporting the hypothesis that customer trust moderates the relationship between AI proclivity and consumer behavioural intentions.

**H8:** *Customer trust moderates the relationship between Artificial intelligence proclivity and Consumer Behavioural Intentions.*



**Figure 1:** Conceptual Framework

## METHODOLOGY

### Sampling and Data Collection

This study utilized two distinct questionnaires to gather data from diverse populations. One questionnaire targeted 247 customers, while the other gathered responses from 174 employees. These individuals were affiliated with various Saudi organizations integrating E-business into their traditional business strategies.

#### Questionnaire 1: Customer Survey

Questionnaire 1 was administered to gather data from a sample of 247 customers who had engaged in online activities, including placing orders from fast food restaurants, hypermarkets, hotels, and banking services, within the last three months. This sampling aimed to capture a representative population of online consumers who had recent online interactions.

#### Questionnaire 2: Employee Survey

Questionnaire 2 was distributed to 174 employees employed across various Saudi organizations incorporating E-business into their conventional business strategies. These organizations spanned sectors such as fast food restaurants, hypermarkets, hotels, and banking services. The aim of Questionnaire 2 was to elicit insights from employees directly engaged in the operational aspects of E-business initiatives within their respective organizations.

## DATA ANALYSIS AND RESULTS

The dataset includes descriptive statistics for various questionnaire items rated on a 1 to 5 scale, encompassing 247 participants for most items and 174 for a subset. Mean scores for CT0 to CT3 range from 2.99 to 3.45, with standard deviations ranging from 0.504 to 0.701. Items EEB0 to EEB2 exhibit means between 3.17 and 3.54, with standard deviations ranging from 0.649 to 0.770. Means for FC0 to FC5 vary from 3.01 to 3.66, with standard deviations ranging from 0.584 to 0.764. AIDD items (AIDD0 to AIDD3) show means ranging from 0.058 to 3.11, with standard deviations ranging from 0.709 to 0.847. Items AIP0 to AIP4 have means ranging from 2.91 to 3.54, with standard deviations ranging from 0.584 to 0.658. Finally, CBI items (CBI0 to CBI6) exhibit means ranging from 2.97 to 3.73, with standard deviations ranging from 0.584 to 0.814.

**Table 1: Descriptive Statistics of Questionnaire Items**

Items	N	Min	Max	Mean	S.D.
CT0	247	1	5	3.19	0.597
CT1	247	1	5	3.10	0.614
CT2	247	1	5	2.99	0.701
CT3	247	1	5	3.45	0.504
EEB0	247	1	5	3.17	0.649
EEB1	247	1	5	3.54	0.770
EEB2	247	1	5	3.22	0.731
FC0	247	1	5	3.01	0.764
FC1	247	1	5	3.48	0.584
FC2	247	1	5	3.66	0.599
FC3	247	1	5	3.24	0.608
FC4	247	1	5	3.47	0.628
FC5	247	1	5	3.60	0.733
AIDD0	174	1	5	.058	0.847
AIDD1	174	1	5	2.49	0.806
AIDD2	174	1	5	2.88	0.734
AIDD3	174	1	5	3.11	0.709
AIP0	174	1	5	2.91	0.648
AIP1	174	1	5	2.98	0.600
AIP2	174	1	5	3.54	0.648
AIP3	174	1	5	3.08	0.658
AIP4	174	1	5	3.00	0.584
CBI0	247	1	5	3.64	0.649
CBI1	247	1	5	2.97	0.700
CBI2	247	1	5	3.60	0.794
CBI3	247	1	5	3.73	0.814
CBI4	247	1	5	3.69	0.669
CBI5	247	1	5	3.50	0.771
CBI6	247	1	5	3.57	0.584

## Factor Analysis

The confirmatory factor analysis results of the questionnaire data indicate varying levels of reliability and explanatory power across factors. CBI achieved a Cronbach's Alpha of 0.733, explaining 48.64% of the variance, with a KMO statistic of 0.788. CT exhibited a Cronbach's Alpha of 0.814, accounting for 51.39% of the variance, and a KMO of 0.734. EEB demonstrated a Cronbach's Alpha of 0.831, explaining 68.47% of the variance, with a KMO of 0.648. FC showed a Cronbach's Alpha of 0.779, explaining 71.21% of the variance, and a KMO of 0.771. AIDD had a Cronbach's Alpha of 0.712, explaining 44.99% of the variance, with a KMO of 0.721. AIP displayed a Cronbach's Alpha of 0.794, accounting for 50.25% of the variance, and a KMO of 0.697. Many of the correlations between these factors were found to be statistically significant.

Table 2 presents the correlation matrix among the factors studied: Consumer Behavioural Intentions (CBI) as the dependent variable, moderated by Customer Trust (CT), and influenced by Empathy in EB (EEB), Facilitating Conditions (FC), Artificial Intelligence Driven Decision (AIDD), and Artificial Intelligence Proclivity (AIP) as independent variables. The table highlights significant correlations observed among these variables.

**Table 2: Results of Confirmatory Factor Analysis of Questionnaire Data**

	Cronbach's Alpha	% of Variance	KMO Statistics
Consumer Behavioral Intentions –DV CBI	0.733	48.64	0.788
Customer Trust- Moderator CT	0.814	51.39	0.734
Empathy in EB-IV EEB	0.831	68.47	0.648
Facilitating conditions-IV FC	0.779	71.21	0.771
Artificial intelligence driven decision-IV AIDD	0.712	44.99	0.721
Artificial intelligence proclivity-IV AIP	0.794	50.25	0.697

## Correlation Matrix of Questionnaire Data

The correlation matrix of the questionnaire data reveals significant relationships among various factors. CBI exhibit a significant positive correlation with CT at 0.249\*\* and with FC at 0.348\*. CT also shows significant positive correlations with EEB at 0.227\* and with AIP at 0.250\*. FC is significantly correlated with EEB at 0.394\*\* and with AIP at 0.355\*. AIDD displays significant positive correlations with FC at 0.431 and with AIP at 0.347\*. Moreover, AIP shows significant correlations with both CBI at 0.129\*\* and CT at 0.250\*. The correlation between EEB and CBI is 0.164\*\*, while AIDD shows a correlation of 0.299\*\* with FC. These findings underscore the interconnectedness and significant relationships among the factors, highlighting the complex dynamics within the dataset.

**Table 3: Correlation Matrix of Questionnaire Data**

	<b>CBI</b>	<b>CT</b>	<b>FC</b>	<b>AIDD</b>	<b>AIP</b>
Consumer Behavioral Intentions –DV CBI					
Customer Trust- Moderator CT	0.249**				
Empathy in EB-IV EEB	0.164**	0.227*			
Facilitating conditions-IV FC	0.348*	0.197**	0.394**		
Artificial intelligence driven decision-IV AIDD	0.440	0.348	0.431	0.299**	
Artificial intelligence proclivity-IV AIP	0.129**	0.250*	0.355*	0.146**	0.347*
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

**Multiple-Regression Analysis**

The multiple regression analysis reveals that EEB has the highest standardized beta coefficient of 0.349, indicating the strongest impact on CBI. FC follows with a beta of 0.214, while AIDD and AIP have betas of 0.228 and 0.168, respectively. The model accounts for 46.9% of the variance in CBI, adjusted to 30.1% (adjusted R-squared = 0.301), and the overall F statistic is 21.46, significant at the 0.01 level. These findings highlight that EEB, FC, AIDD, and AIP are significant predictors of Consumer Behavioural Intentions, with EEB exerting the most substantial influence.

**Table 4: Regression Results**

	<b>Standardized Coefficients Beta</b>	<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>F</b>
Empathy in EB-IV EEB	0.349	0.469	0.301	21.46**
Facilitating conditions-IV FC	0.214			
Artificial intelligence driven decision-IV AIDD	0.228			
Artificial intelligence proclivity-IV AIP	0.168			
a. Dependent Variable: Consumer Behavioural Intentions –DV CBI				
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

**Results of Hypothesis Testing**

The results of hypothesis testing confirm that all proposed hypotheses are supported, indicating positive relationships with overall satisfaction. Specifically, EEB demonstrates a significant positive relationship with overall satisfaction (p = 0.000), while FC also shows a positive and significant relationship (p = 0.010). Additionally, AIDD exhibits a positive relationship (p = 0.019), and AIP is positively associated as well (p = 0.023). These findings validate that EEB, FC, AIDD, and AIP are all positively correlated with overall satisfaction.

**Table 5: Results of Hypothesis Testing**

Hypothesis	Relationship with Overall Satisfaction	Testing Result	Hypothesis
Empathy in EB-IV EEB	Positive	0.000	Supported
Facilitating conditions-IV FC	Positive	0.010	Supported
Artificial intelligence driven decision-IV AIDD	Positive	0.019	Supported
Artificial intelligence proclivity-IV AIP	Positive	0.023	Supported

**Moderation Analysis**

The results of moderation testing by CT reveal significant moderation effects on the relationships between the independent variables and CBI. Specifically, CT moderates EEB with a coefficient of 0.201\*, FC with a coefficient of 0.318\*\*, AIDD with a coefficient of 0.244\*, and AIP with a coefficient of 0.297\*\*. The model explains 31.8% of the variance in CBI, with an increase in R-squared of 0.266 and an F statistic of 10.58, significant at the 0.01 level. These results suggest that CT amplifies the positive effects of EEB, FC, AIDD, and AIP on CBI.

**Table 6: Testing Moderation**

Variable <sup>a</sup>	EEB	FC	AIDD	AIP	R <sup>2</sup>	R <sup>2</sup>	F
Customer Trust- Moderator CT	.201*	.318**	.244*	.297**	.318	.266	10.58**
Dependent Variable: Consumer Behavioral Intentions –DV CBI							
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

**DISCUSSION**

The discussion of this study revolves around the influential factors affecting CBI within the realm of e-business, emphasizing the critical roles played by CT, EEB, FC, AIDD, and AIP. Specifically, EEB emerges as a robust predictor of Consumer Behavioural Intentions, underscoring its pivotal role in the e-business landscape. This highlights that businesses capable of effectively demonstrating empathy towards their customers can significantly enhance consumer intentions to engage with their services. Empathy fosters a sense of understanding and connection, thereby driving customer loyalty and satisfaction.

FC are pivotal in influencing CBI. This underscores the importance of accessible and high-quality facilitating conditions, such as user-friendly interfaces, responsive customer support, and efficient service delivery mechanisms, in fostering consumer engagement and satisfaction within e-business contexts. When customers perceive that these essential resources and support systems are readily available, they are more inclined to develop positive behavioural intentions towards the business. This highlights

the critical role of FC in shaping customer experiences and driving favourable outcomes in e-commerce.

AIDD and AIP both play significant roles in influencing CBI. AIDD suggests that employing AI-driven decisions in e-business enhances consumer intentions by improving decision accuracy, personalization, and operational efficiency. Consumers appreciate businesses that utilize AI to deliver customized experiences, leading to higher satisfaction and engagement. Similarly, AIP indicates that consumers with a preference for AI technology are more likely to exhibit stronger behavioural intentions towards e-businesses that integrate AI solutions. This underscores AI's growing influence on contemporary consumer behaviour.

CT emerges as a crucial moderating factor, significantly enhancing the impacts of EEB, FC, AIDD, and AIP on Consumer Behavioural Intentions. Multi-group analysis underscores CT's role in strengthening these variables' positive effects on CBI, with notable moderation effects. Trust is foundational in e-business, mitigating perceived risks and fostering feelings of security and dependability. When customers trust an e-business, they are more inclined to respond positively to empathetic interactions, supportive facilitating conditions, and innovative AI implementations.

In the realm of e-business, the significance of AI-driven personalization cannot be overstated. By leveraging AI-driven personalization, businesses can deliver highly tailored experiences that cater to the specific needs and preferences of individual consumers. This capability not only enhances immediate consumer satisfaction and engagement but also fosters long-term loyalty and advocacy. As a result, AI-driven personalization plays a pivotal role in driving sustained business performance by continuously meeting consumer expectations and enhancing their overall experience.

The results of hypothesis testing underscore the significance of these relationships. All hypothesized positive connections between the independent variables (EEB, FC, AIDD, AIP) and overall satisfaction were validated. This indicates that empathy, facilitating conditions, AI-driven decisions, and AI proclivity play pivotal roles in augmenting consumer satisfaction. These findings highlight how these factors collectively contribute to improving the overall consumer experience in e-business contexts.

The analysis also underscores the significant moderating influence of CT on the relationships between the independent variables (EEB, FC, AIDD, AIP) and CBI. CT amplifies the positive impacts of these variables on CBI, underscoring its critical role in bolstering these connections. Specifically, the beneficial effect of facilitating conditions on CBI is more pronounced in the presence of higher customer trust. Trust mitigates perceived risks and uncertainties, thereby enhancing customer receptiveness to empathetic interactions, supportive conditions, AI-driven decisions, and AI

technologies. This trust facilitates positive customer responses to an e-business's initiatives, thereby strengthening behavioural intentions.

In conclusion, the study confirms that empathy, facilitating conditions, AI-driven decisions, and AI proclivity exert positive influences on CBI. Furthermore, customer trust plays a crucial moderating role, enhancing these relationships and magnifying their impact on CBI. These findings underscore the significance of nurturing empathy, ensuring robust facilitating conditions, utilizing AI for decision-making, and fostering favourable attitudes towards AI to optimize consumer behavioural intentions and overall e-business performance.

The study contributes significantly to both theoretical understanding and practical applications in e-business contexts. Theoretical contributions include integrating and expanding current knowledge on consumer behaviour by emphasizing the roles of empathy, facilitating conditions, AI-driven decisions, and AI proclivity. It also identifies customer trust as a critical moderating factor. Practically, the study offers actionable insights for e-businesses to enhance customer engagement and satisfaction. Recommendations include prioritizing empathy in customer interactions, improving facilitating conditions such as user experience and service delivery, leveraging AI for personalized services, and cultivating positive perceptions of AI among customers. Moreover, the findings underscore the importance of establishing and maintaining customer trust to maximize the beneficial impacts of these factors on consumer behavioural intentions. Overall, the study provides a comprehensive framework for e-businesses to enhance performance and build stronger customer relationships.

## **Implications**

The study advances theoretical understanding in e-business by integrating empathy, facilitating conditions, AI-driven decisions, and AI proclivity. It highlights empathy's role in enhancing customer satisfaction and behavioral intentions, emphasizes the importance of supportive resources, and expands the framework of AI's impact on consumer behaviour. Additionally, the study underscores customer trust as a critical moderator, enhancing the effectiveness of these factors in shaping consumer intentions.

From a practical perspective, the findings offer actionable insights for e-businesses seeking to enhance customer engagement and loyalty. Prioritizing empathy in customer interactions by ensuring considerate communication and service delivery is essential. Improving facilitating conditions, such as user-friendly interfaces and reliable support systems, can notably enhance customer satisfaction and behavioral intentions. Leveraging AI-driven decisions to deliver personalized and efficient services tailored to individual customer needs is recommended, as it leads to heightened satisfaction and engagement. Additionally, fostering a positive consumer attitude towards AI is crucial, given its significant impact on behavioural intentions. Finally, building and sustaining

customer trust is pivotal, as it strengthens the positive effects of empathy, facilitating conditions, AI-driven decisions, and AI proclivity on consumer behavioral intentions.

### **Limitations and Future Research Directions**

The study acknowledges several limitations that warrant consideration. Firstly, while the sample size was adequate for analysis purposes, its scope may restrict the generalizability of findings across diverse populations and cultural settings. Secondly, the study's cross-sectional design constrains the ability to establish causal relationships from the data. Thirdly, reliance on self-reported measures introduces potential response biases, with participants potentially misestimating their behaviours and intentions. Moreover, the study predominantly focuses on e-business contexts, potentially limiting the transferability of findings to other business sectors or industries.

Future research should aim to overcome these limitations by expanding the sample size and including diverse populations to improve the generalizability of findings. Longitudinal studies could elucidate causal relationships between variables and their influence on consumer behavioural intentions over time. Supplementing self-reported data with objective measures, like actual purchase records or website analytics, could provide a more nuanced understanding of consumer behaviour. Additionally, exploring the effects of empathy, facilitating conditions, AI-driven decisions, and AI proclivity across various business contexts and industries could offer broader insights into their applicability and impact.

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**Appendix: Measurement Scale**

<b>Customer Trust</b>	
I am confident in the application. I feel that it works well The application seems very reliable I feel safe that when I rely on the application, I get the right information	(Zimmermann et al., 2023).
<b>Empathy in E-business</b>	
The system of E-business can provide personalized service The system of E-business will give priority to my needs	(Chiu et al., 2021)
<b>Facilitating conditions</b>	
I have the necessary resources to use E-business site. I have the necessary knowledge to use AI applications. AI is compatible with other applications I use. When I have trouble using AI applications, I can get help. I have the necessary knowledge to use E-business site. E-business sites are compatible with other applications I use.	(Cabrera-Sánchez et al., 2020)
<b>Artificial intelligence driven decision</b>	<b>From Employees</b>
We believe it is important to have, understand and use AI. We rely on AI to support decision-making. We develop new strategies based on AI. We need AI for effective decision-making.	(Y. Chen et al., 2022)
<b>Artificial intelligence proclivity</b>	
We have a recognition of the importance of innovation. We have a strategy for developing innovation efforts. We can implement innovation programs. We will introduce new products or technologies to improve business performance. We will take aggressive action to capitalize on growth opportunities.	
<b>Consumer Behavioural Intentions</b>	
I would be comfortable giving personal information on this site. I would be comfortable shopping at this site. I would purchase an item at this site. I would recommend this site to a friend. I am comfortable providing financial and personal information on this site. I would book mark this site. I would register at this site	(Sultan et al., 2003)