



Electronic Product Online Consumer Behaviour: Application UTAUT2 Model

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Abstract: This study aims to identify the factors affecting consumer behavior towards purchasing electronic products by integrating the Unified Theory of Acceptance and Use of Technology 2. Although the UTATU2 model has been extensively utilized in technology acceptance studies, its use in consumer purchasing behaviors of particular products, especially high involvement products like electronics, is rare. Hence, to fill this gap, the current study incorporated two additional factors, which include perceived risk and perceived trust, in the UTATU2 model. This paper aims to contribute a better understanding of online buying intention and online shopping behavior by incorporating these two factors. Primary data were collected using an organized questionnaire from 281 online buyers in Tiruchirappalli city via simple random sampling technique. Data analysis was done using Structural Equation Modeling (SEM). The results showed that performance expectancy, facilitating conditions, hedonic motivation, and perceived trust have a significant positive effect on buying intention, whereas perceived risk has a significant negative effect. Effort expectancy and social influence have no significant effect. Gender was also considered as a moderator in the study, but it revealed only marginal variations, implying that there is a convergence of consumer behavior irrespective of the gender. The findings reveal the growing significance of trust, value, and experiential dimensions compared to the conventional usability concepts in influencing online purchasing decisions for electronics. This paper provides new insights to the existing literature by considering the UTAUT2 framework in a product-oriented perspective.

Keywords: UTAUT2, online consumer behaviour, electronic products, perceived trust, perceived risk, buying intention, SEM

1. Introduction

In recent times, India has gained considerable recognition as a leading producer of electronics goods globally. The output of domestic electronics production in India rose from US\$ 29 billion in FY2015 to US\$ 101 billion in FY2023, representing a contribution of roughly 3.4% to India's GDP. This growth has been highly facilitated by governmental efforts, especially through PLI schemes, which involved commitments worth US\$ 17 billion into critical segments like semiconductor electronics, mobile phones, information technology (IT) hardware, and electronic components (Ministry of Electronics and Information Technology, 2021). As per the vision statement released by the ministry, the Indian electronics manufacturing industry is expected to increase from US\$ 75 billion in FY2021 to US\$ 300 billion by FY2026, owing to high-demand segments like mobile phones, consumer electronics, IT hardware, automotive electronics, and telecommunications devices. It is interesting to note that currently, India is the second-largest producer of mobile phones next to China, as the number of production plants has risen almost 28 times and from only two plants in 2014 to more than 300 factories by 2025.

Theoretical background

Venkatesh, Thong, and Xu (2012) created the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), which is considered one of the most comprehensive models in explaining technology adoption. This theoretical framework expands the initial UTAUT model through introducing three additional constructs, including hedonic motivation, price value, and habit. Moreover, it incorporates the key determinants, such as performance



expectancy, effort expectancy, social influence, and facilitating conditions. The authors' findings showed that the identified constructs had an important impact on behavioural intention, while habit, facilitating conditions, and behavioural intention affected usage behaviour. The researchers also pointed out that UTAUT2 should be validated across various settings, technologies, and populations. Moreover, empirical evidence confirms the effectiveness of UTAUT2 in various situations. For instance, Najib and Karima (2022) revealed that performance expectancy, facilitating conditions, price value, hedonic motivation, and habit had a significant effect on behavioural intention in digital payment adoption, whereas effort expectancy and social influence were insignificant. In turn, Jameel et al. (2023) and Sudirjo et al. (2023) proved that critical UTAUT2 constructs had a substantial impact on behavioural intention and usage behaviour in electronic payment systems. Nonetheless, these studies predominantly concentrate on technology adoption and utilisation, rather than product-specific purchasing behaviour, especially concerning online electronic products. However, most researches tend to focus on the use and adoption of the technology but not in relation to the purchasing of certain product especially online electronic products.

This clearly shows the limitation of application of UTAUT2 in explaining purchasing behavior for complex and costly products. In e-commerce, consumer behavior has changed drastically over time especially concerning the buying of electronic products that require great effort, complex nature and risks. While UTAUT2 is applicable, it has rarely been applied in understanding online consumer behavior in such circumstances. The current literature fails to adequately capture the entire decision-making process involved in online buying of electronic products. An important aspect that is inadequately captured in the application of UTAUT2 is electronic word of mouth (eWOM). For example, Hamouda & Tabbane (2013) found out that attitude fully mediate the effect of eWOM on purchase intention. On the other hand, Jalilvand & Samiei (2012) showed that eWOM influences purchase intention and brand image. Recent research studies carried out by Quan, Thanh, & Thuy (2023) and Sahira et al. (2023) reveal that quality of e-reviews plays a critical role in influencing e-satisfaction and the intention to buy. They have also highlighted the significance of information quality, information credibility, and information usefulness for the adoption of eWOM. While many researchers have found robust evidence in support of the same, UTAUT2 framework does not incorporate the aspect of eWOM explicitly.

In addition to this, the UTAUT2 model mainly centres around utility and technology, without any consideration of the senses and emotions. According to Jayasingh, Boobalan, and Thiagarajan (2023), online visual merchandising features like product images, videos, and website design impact significantly the levels of consumer satisfaction and purchasing behavior. Similarly, Lavuri (2021) found that there were significant impacts of the intrinsic and hedonic motivators on the online impulsive purchase behavior. Thus, even when the hedonic motivation is considered in UTAUT2, the framework lacks an understanding of the sensory and experience-based factors involved in buying electronic products. A critical issue with this framework is the underestimation of trust and the perception of danger. As Mukherjee and Nath (2007) pointed out, issues related to security and privacy have considerable impacts on the levels of trust in online purchases, whereas Laroche et al. (2004) emphasized the importance of intangibility in increasing perceived risk. Modern studies such as Purnamasari and Suryandari (2023) have shown the importance of trust and e-service quality on e-repurchase intention. There are several financial and functional risks associated with electronic products, but their absence from the framework makes its use limited in e-commerce contexts. First of all, it should be noted that UTAUT2 largely focuses on pre-adoption behaviour, including intention and usage behaviour, but not on post-adoption outcomes. According to Wu (2011), e-service quality and customer satisfaction greatly contribute to the loyalty of the consumers. In their turn, Purnamasari and Suryandari (2023) showed that mediation between e-satisfaction and e-trust leads to repurchase intention. The problem is especially important for the electronics industry, because after-sales service and guarantee as well as the performance of products play an important role in the formation of long-term relationships between the customers and the enterprise. Second, new technological developments, including the development of artificial intelligence and personalization in general, are not adequately reflected in UTAUT2. As mentioned by Luís Reis (2022), artificial intelligence is gaining more importance in digital marketing. The idea of "the Amazon effect" by Vollero et al. (2021) demonstrated that the higher level of services determines the expectation of the client. In most cases, such research uses cross-sectional data analysis and sample selection, mostly concentrating on certain groups, for instance, students. The importance of longitudinal and contextual studies was expressed by Sari et al. (2023), who noted the necessity of carrying out such studies to gain knowledge about behavioural changes in time, especially in developing countries such as India. The current paper utilizes the adapted version of UTAUT2 suggested by Venkatesh et al. (2012) to analyse the behavioural aspects of purchasing electronic items using the Internet. Consistent with previous literature, the model is altered by including two variables (trust and technical expertise) as exogenous components because they were found to be essential in determining acceptance of online trade (Choshin and Ghaffari, 2017; Tarhini et al., 2015). Thus, the model under consideration is placed into the context of buying electronic goods via the Internet, thereby shifting its focus from

technological adoption to consumer behaviour towards particular products. This addresses the shortcomings in previous studies on integrating information, experience, and context-related effects into the study.

Performance Expectancy (PE)

Performance Expectancy refers to the extent to which consumers think that the use of Internet sites would increase their efficiency and effectiveness of purchasing and decision-making process while buying electronic products. Performance Expectancy has been defined by Viswanath Venkatesh et al. (2012) as the perceived benefits gained from technology usage. Extrinsic motivation, relative advantage, and outcome expectations are among the components of Performance Expectancy. Performance Expectancy is especially important concerning electronics products since there is a need to compare the products, examine their technical specifications and determine prices. Past research (Abubakar, 2015; Chang et al., 2019) showed that performance expectancy positively affects behavioral intention. The same has been revealed in the research conducted in the field of e-commerce: customers choose online sites for electronic products because of more detailed information on them. At the same time, there are some results (Owusu Kwateng et al., 2019; Ramírez-Correa et al., 2014) indicating that there is no significance of performance expectancy in influencing behavioral intention. Considering high involvement in making a choice and complex nature of electronic products, this study hypothesizes that performance expectancy is important in this case.

H1: Performance expectancy has a significant positive influence on behavioural intention to purchase electronic products online.

Effort Expectancy (EE)

Effort expectancy refers to the degree of ease associated with the use of online shopping platforms. As defined by Viswanath Venkatesh et al. (2012), it reflects how simple and user-friendly a system is perceived to be. In online electronics purchasing, effort expectancy includes ease of navigation, search functionality, product filtering, and checkout processes. Lin (2012) emphasized that users are more likely to adopt technology when it is easy to use. Empirical studies have shown that effort expectancy significantly influences behavioural intention in various contexts such as mobile banking (Savić & Pešterac, 2019), mobile applications (Palau-Saumell et al., 2019), and online shopping (Hungilo et al., 2020). However, Verkijika (2018) found no significant impact, suggesting that as users become more experienced, ease of use may become less critical. In the case of electronic products, where consumers often engage in extensive search and evaluation, ease of use remains an essential factor in facilitating decision-making.

H2: Effort expectancy has a significant positive influence on behavioural intention to purchase electronic products online.

Social Influence (SI)

Social influence refers to the extent to which consumers perceive that important others, such as family, friends, and influencers, affect their decision to use online platforms. According to Viswanath Venkatesh et al. (2012), it reflects normative pressure to adopt a technology.

In the digital environment, social influence is closely linked with Electronic Word of Mouth, which plays a crucial role in shaping consumer perceptions. Hamouda and Tabbane (2013) found that eWOM significantly influences purchase intention through attitude, while Jalilvand and Samiei (2012) demonstrated its impact on brand image and buying decisions. Additionally, Munandar (2021) confirmed that digital marketing and eWOM positively affect online purchase decisions.

Despite these findings, some studies (Baptista & Oliveira, 2015; Kwofie & Adjei, 2019) reported that social influence does not significantly affect behavioural intention, particularly in individualistic or experienced user groups. However, for electronic products, which involve higher risk and technical complexity, consumers are more likely to rely on peer opinions, online reviews, and influencer recommendations. Therefore, social influence, combined with eWOM, is expected to play a significant role in shaping online purchase behaviour in the electronics segment.

H3: Social influence has a significant positive influence on behavioural intention to purchase electronic products online.

Facilitating Conditions

Facilitating conditions refer to the degree to which consumers perceive that adequate technical and organizational infrastructure exists to support the use of e-commerce platforms, including access to internet connectivity, digital skills, and necessary resources Unified Theory of Acceptance and Use of Technology 2 (Venkatesh et al., 2012). In the context of online electronic product purchasing, facilitating conditions become especially important due to the need for secure payment systems, reliable delivery networks, and accessible digital platforms. Prior studies have highlighted that facilitating conditions significantly influence both behavioral intention and actual usage of online shopping systems. For instance, Chang et al. (2019) and Verkijika (2018) confirmed that infrastructure readiness positively impacts user adoption. Similarly, research by Mukherjee and Nath (2007) emphasized that technological support such as security and privacy mechanisms enhances consumer trust, which is crucial in online transactions involving electronic products. In addition, Yang and Babapour (2022) demonstrated that system quality and information availability significantly contribute to customer satisfaction, reinforcing the importance of facilitating conditions in e-commerce environments. However, despite these findings, limited research has specifically examined how facilitating conditions influence online electronic product purchases, where product complexity and perceived risk are relatively higher.

H4a: Facilitating conditions have a significant influence on behavioral intention to use e-shopping for electronic products.

H4b: Facilitating conditions have a direct influence on the actual use of e-shopping for electronic products.

Hedonic Motivation

Hedonic motivation is defined as the degree of enjoyment or pleasure derived from using a technology Unified Theory of Acceptance and Use of Technology 2 (Venkatesh et al., 2012). In online shopping environments, particularly for electronic products, hedonic motivation can arise from engaging website designs, interactive features, product videos, and immersive browsing experiences. Empirical studies have shown that hedonic motivation plays a significant role in influencing online consumer behavior. Lavuri (2021) found that enjoyment and hedonic value significantly influence online shopping attitudes and impulsive buying behavior. Similarly, Kim et al. (2007) highlighted that shopping enjoyment enhances consumer patronage behavior toward online retailers. Further, research on online visual merchandising by Jayasingh et al. (2023) indicates that visual cues such as product images, videos, and website aesthetics significantly influence consumer pleasure and arousal, thereby encouraging purchase decisions for electronic products. Despite these findings, there is a research gap in understanding how hedonic motivation interacts with other factors such as eWOM and trust in shaping behavioral intention specifically in the electronic products segment.

H5: Hedonic motivation has a significant influence on behavioral intention to use e-shopping for electronic products.

Perceived Value of the product

Price value refers to the consumers' cognitive evaluation of the trade-off between the perceived benefits of a product or service and its monetary cost Unified Theory of Acceptance and Use of Technology 2 (Venkatesh et al., 2012). In the context of online electronic product purchases, price value is particularly critical because consumers often compare prices across multiple platforms before making a decision. Previous research has confirmed that price value significantly affects behavioral intention. Owusu Kwateng et al. (2019) and Hungilo et al. (2020) found that consumers are more likely to adopt e-commerce technologies when they perceive higher value relative to cost. Moreover, studies on online consumer behavior suggest that price transparency and competitive pricing enhance purchase intention. For example, Vollero et al. (2021) highlighted that increased price expectations driven by platforms like Amazon influence customer satisfaction and purchasing decisions. In addition, the role of eWOM in shaping price perception cannot be ignored. Reza Jalilvand and Samiei (2012) found that electronic word-of-mouth significantly impacts brand image and purchase intention, indirectly influencing how consumers perceive value.

H6: Price value has a significant influence on behavioral intention to use e-shopping for electronic products.

Habit

Habit refers to the extent to which individuals tend to perform behaviors automatically due to prior learning and repeated usage Unified Theory of Acceptance and Use of Technology 2 (Venkatesh et al., 2012). In the context of online shopping for electronic products, habit develops when consumers repeatedly engage with e-commerce platforms, making the purchasing process more automatic and less cognitively demanding. Previous studies have confirmed that habit plays a crucial role in technology adoption and continued usage. For instance, Wong et al. (2014)

observed that routine interaction with digital systems strengthens habitual behavior, thereby encouraging continued usage. Similarly, Huang (2018) and Tak and Panwar (2017) found that habit significantly influences behavioral intention toward technology use. In the online shopping context, especially for electronic products, habitual usage may be reinforced by factors such as frequent exposure to online reviews and recommendations. Research on electronic word-of-mouth by Litvin et al. (2008) suggests that repeated interaction with online information sources can shape consumer decision-making patterns. Likewise, Munandar (2021) found that continuous exposure to digital marketing and eWOM significantly influences online purchasing decisions, indirectly contributing to habitual buying behavior. However, despite these insights, limited studies have explored the role of habit in the specific context of online electronic product purchases, where decision complexity and perceived risk may alter habitual patterns. This indicates a clear research gap.

H7a: Habit has a significant influence on behavioral intention to use e-shopping for electronic products.

H7b: Habit has a direct influence on the actual use of e-shopping for electronic products.

Perceived Trust

Trust is a critical determinant of consumer behavior in online environments and plays a vital role in the success of e-commerce adoption. It is defined as the consumer's willingness to rely on an online platform based on the expectation that it is reliable, secure, and capable of fulfilling its obligations Tarhini et al. (2017). In online electronic product purchasing, trust becomes even more important due to higher perceived risks associated with product quality, payment security, and after-sales service. Prior research has consistently highlighted the importance of trust in shaping behavioral intention. Mukherjee and Nath (2007) demonstrated that privacy and security features significantly influence trust, which in turn affects customer commitment and behavioral intentions. Similarly, Pavlou (2003) emphasized that trust reduces perceived risk and enhances acceptance of online transactions. Furthermore, electronic word-of-mouth (eWOM) has been identified as a key driver of trust in online environments. Hamouda and Tabbane (2013) found that eWOM significantly influences purchase intention through the mediating role of attitude. Likewise, Reza Jalilvand and Samiei (2012) reported that eWOM positively affects brand image and purchase intention, thereby strengthening consumer trust. In addition, Yadav and Rahman (2018) showed that social media marketing activities enhance both trust and customer loyalty in online environments. Despite these findings, there is limited integration of trust within the UTAUT2 framework for online electronic product purchasing, particularly considering the combined effects of eWOM, perceived risk, and service quality.

H8a: Trust has a significant influence on behavioral intention to use e-shopping for electronic products.

H8b: Trust has a significant influence on the actual use of e-shopping for electronic products.

Simple random sampling – The study is intended to assess online shopper perception, especially in Tiruchirappalli city. For collecting primary data Persons who were at least once buying the online mode were considered. A simple random sampling method was suitable for infinite population and it refers to that method of sample selection which gives each possible sample combination an equal probability of being picked up and each item in the entire population to have an equal chance of being include in the sample (Kothari, 2008). The present research intends to gather 310 sample responses after all screen and editing data set, the research finalize 281 response. Kaiser-Meyer-Olkin Measure of Sampling Adequacy test also shows that 281 size is appropriate for analysis. The population who uses online shopping is unknown or not previously estimated in the study area. So the researcher uses the formula which could help to determine the appropriate sample size for this study. The confidence level is 95% (Z_{α}), and the margin of error is 5% (E) of this study and sample size determined as (Determining the sample size N required when estimating population proportion; unknown P stand).

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.769
Approx. Chi-Square	7031.648
Bartlett's Test of Sphericity	df
	630
	Sig
	.000

Source: AMOS output

The formula for determining sample size

$$N_0 = Z_{\alpha/2} / (E * 2)$$

$$N = (1.96)^2 * 2$$

Based on the above formula, help to the determined minimum required sample size, and it was estimated 260 for the present study about online shopper perception in Tiruchirappalli city.

Validity (DV): It is “the extent to which a construct is truly distinct from the other constructs” (Joseph F. Hair, Hult, Ringle, & Sarstedt 2016). Fornell and Larcker (1981) suggested that the square root of AVE in each latent variable can be used to establish discriminant validity if the value is greater than other correlation values among the latent variables. Convergent Validity: The criterion of Fornell-Larcker (1981) has been commonly used to assess the degree of shared variance between the latent variables of the model. According to this criterion, the convergent validity of the measurement model can be assessed by the Average Variance Extracted (AVE) and Composite Reliability (CR). The present study uses a validity measurement plugin available in stat wiki .com for testing convergent validity and AVE of the data

Reliability test -In order to check the internal consistency of the measures, the Cronbach alphas were calculated. Internal consistency was a vital factor for behavioral studies. Cronbach (1951) developed a measurement for testing the internal consistency of data. Pallant (2013) suggests a 0.70 level for accepting internal consistency results in SPSS. The present study shows that all the variables have more than the acceptable range (0.730 -0.927). To find the consistency of the data used for this research, Cronbach's alpha values were calculated separately for two sample units. All the corresponding values of the study variable were greater than the acceptable level, which indicates that the collected primary information was reliable and established a high internal consistency among the factors. The result values reveal that they have scored above 0.7; therefore, we can conclude that the collected information is reliable and could be used for further analysis.

Average Variance Extracted (AVE): — It is a summary of convergence among a set of items representing a latent construct. It is the average percentage of variation explained among the items of a construct. According to Fornell and Larcker (1981), AVE measures the level of variance captured by a construct versus the level due to measurement error. Values above 0.7 are considered very good, whereas the level of 0.5 is acceptable. All the constructs of this study scored greater than 0.5 for both sample units. The master validity table shows that composite reliability, average variance extracted, and the correlation between the contracts and also show that there are no validity issues in this data set. Malhotra and Dash (2011) to improve the AVE of the construct few items had been removed and the final MM is shown in the figure (3.1)

Table 2: Master validity

	CR	AVE	MSV	MaxR(H)	HM	EE	PT	SN	PE	BI	FC	BB	PR
HM	0.944	0.771	0.100	0.966	0.878								
EE	0.942	0.773	0.036	0.990	0.030	0.879							
PT	0.920	0.745	0.134	0.968	0.180*	0.073	0.863						
SN	0.927	0.774	0.018	0.999	0.044	-0.081	0.133†	0.880					
PE	0.893	0.678	0.073	0.910	0.040	0.061	0.167*	0.062	0.823				
BI	0.894	0.678	0.134	0.899	0.211**	0.134†	0.366***	-0.075	0.271***	0.824			
FC	0.855	0.598	0.062	0.872	0.027	0.032	0.171*	-0.058	-0.060	0.250**	0.773		
BB	0.924	0.806	0.111	1.027	0.316***	0.190**	0.275***	0.071	0.194**	0.333***	-0.014	0.898	

PR	0.715	0.517	0.022	0.836	-0.051	0.038	0.062	0.026	-0.047	-	0.149	0.132	0.023	0.638
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Source : AMOS output version 24

2. Results and discussion

The present study extends the Unified Theory of Acceptance and Use of Technology 2 by incorporating perceived risk and trust to explain online buying intention and behavior in the context of electronic products, which are characterized by high involvement, technical complexity, and greater financial and functional risk. The findings provide strong theoretical and empirical support, while also reflecting evolving consumer behavior in digital environments. The results for H1 reveal that performance expectancy significantly influences buying intention, indicating that consumers purchasing electronic products online prioritize functional benefits such as efficiency, product utility, and value. This finding is consistent with Venkatesh et al. (2012) and further supported by Tamilmani et al. (2021), who confirm that performance expectancy remains a dominant predictor of intention. Additionally, studies by Alalwan et al. (2017) highlight that perceived usefulness strongly drives online purchase decisions, particularly for technology-intensive products. However, some recent studies suggest that as consumers gain experience, the relative importance of performance expectancy declines compared to trust and perceived value. In contrast, H2 indicates that effort expectancy does not significantly influence buying intention. This suggests that ease of use is no longer a critical concern, especially in the context of electronic product purchases where consumers are already familiar with online platforms. This finding aligns with Dwivedi et al. (2020), who argue that effort expectancy becomes less relevant in mature digital ecosystems. Furthermore, Tarhini et al. (2016) also found diminishing effects of effort expectancy in experienced user groups. However, contrasting evidence from developing contexts indicates that usability still matters for first-time or less-skilled users.

STRUCTURAL EQUATION MODEL standardized weights

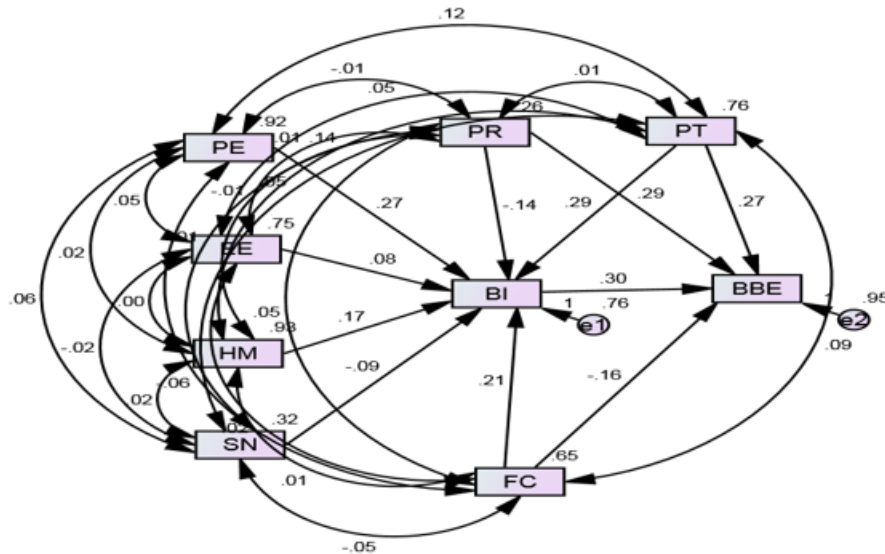


Table 3 : SEM results

S.no	Endogenous variables < Exogenous variables	Estimate	S.E.	C.R.	P
H1	Buying intent VS performance expectancy	.232	.071	3.283	.001
H2	Buying intent VS effort expectancy	.110	.077	1.418	.156
H3	Buying intent VS Social norms	-.119	.074	-1.603	.109

H4	Buying intent VS Facilitating condition	.265	.084	3.173	.002
H5	Buying intent VS Hedonic motivation	.145	.063	2.292	.022
H6	Buying intent VS Perceived risk	-.284	.133	- 2.134	.033
H7	Buying intent VS Perceived trust	.304	.071	4.275	***
H8	online shopping behavior VS Facilitating condition	-.183	.097	- 1.880	.060
H9	online shopping behavior VS buying intent	.372	.091	4.070	***
H10	online shopping behavior VS Perceived risk	.139	.136	1.022	.307
H11	online shopping behavior VS Perceived trust	.204	.084	2.412	.016

Source : AMOS output version 24

Similarly, the results for H3 show that social norms do not significantly influence buying intention, suggesting that purchasing decisions for electronic products are largely driven by individual evaluation rather than social pressure. This finding is consistent with Rahi et al. (2019) and supported by Brown and Venkatesh (2005), who noted that social influence weakens as users gain experience. However, studies such as Zhang et al. (2020) suggest that social norms may still be relevant in collectivist societies, especially when purchasing expensive electronic products where peer recommendations and reviews play a role. The findings for H4 demonstrate that facilitating conditions significantly influence buying intention, highlighting the importance of infrastructure, technical support, and secure transaction systems. This is particularly relevant for electronic products, where consumers require assurance regarding payment security and delivery logistics. This finding is supported by Gupta and Arora (2020) and Oliveira et al. (2016), who found that facilitating conditions enhance consumer readiness. However, some studies suggest that facilitating conditions are more closely associated with actual usage rather than intention, indicating partial inconsistency.

For H5, hedonic motivation significantly influences buying intention, indicating that enjoyment and experiential value play an important role even in the purchase of electronic products. This finding is consistent with Childers et al. (2001) and further supported by Ha and Stoel (2009), who found that hedonic aspects enhance online shopping engagement. Recent studies also emphasize that interactive interfaces and personalized recommendations increase hedonic motivation. However, some studies argue that hedonic motivation is less significant in purely utilitarian purchases, suggesting a context-dependent effect. The results for H6 indicate that perceived risk has a significant negative effect on buying intention, which is especially important for electronic products due to their high price and risk of defects or fraud. This finding is strongly supported by Featherman and Pavlou (2003) and further reinforced by Forsythe et al. (2006), who identified financial and product risk as key barriers. Recent studies continue to confirm this negative relationship, although some suggest that improved return policies and secure payment systems are gradually reducing perceived risk.

In the case of H7, perceived trust has the strongest positive influence on buying intention, underscoring its critical importance in online purchases of electronic products. This finding aligns with Gefen et al. (2003) and Pavlou (2003), who emphasize that trust reduces uncertainty and enhances intention. More recent studies also confirm that trust is a central determinant, particularly for high-value products such as electronics. Regarding actual behavior, the findings of H8 indicate that facilitating conditions do not significantly influence online shopping behavior, suggesting that while they support intention formation, they may not directly drive actual purchases. This finding is supported by Venkatesh et al. (2012); Elanchezian, Gloria, Rajesh and Kumarasamy, 2025, who argue that facilitating conditions may have an indirect effect through intention. However, some studies report a direct effect in low-resource or developing environments.

The results for H9 confirm that buying intention significantly influences online shopping behavior, reinforcing its mediating role. This is one of the most well-established relationships in technology adoption literature and is strongly supported by Ajzen (1991) and Venkatesh et al. (2012), with consistent validation across studies. In contrast, H10 shows that perceived risk does not significantly influence actual behavior, suggesting that risk primarily affects the intention stage. This finding aligns with studies indicating that once consumers decide to purchase, risk concerns

diminish. However, some research suggests that perceived risk may still influence behavior in high-value electronic purchases, indicating mixed evidence.

Finally, the findings for H11 show that perceived trust significantly influences online shopping behavior, confirming its dual role in both intention and actual purchase. This is supported by McKnight et al. (2002) and Kim et al. (2008), who highlight that trust sustains long-term online engagement. In the context of electronic products, trust becomes even more critical due to concerns about product authenticity, warranty, and after-sales service. Overall, the findings demonstrate a shift from traditional UTAUT2 constructs such as effort expectancy and social norms toward psychological and risk-related factors, including trust, perceived risk, and hedonic motivation, in explaining online purchasing behavior for electronic products. This reflects the growing maturity of digital consumers, who prioritize trust, security, product reliability, and experiential value over basic usability factors when making high-involvement purchase decisions.

Table 4 : SEM results

	Gender Effect	Male	Female	
S.No	Endogenous variables < Exogenous variables	Estimate	P	Estimate
12, A	Buying intent VS performance expectancy	0.406	0.000	0.244
B	Buying intent VS effort expectancy	0.034	0.721	0.125
C	Buying intent VS Social norms	-0.206	0.196	-0.069
D	Buying intent VS Facilitating condition	0.143	0.173	0.284
E	Buying intent VS Hedonic motivation	0.074	0.350	0.276
F	Buying intent VS Perceived risk	-0.235	0.122	-0.059
G	Buying intent VS Perceived trust	0.382	0.000	0.214
H	online shopping behavior VS Facilitating condition	-.183	.097	-1.880
I	online shopping behavior VS buying intent	.372	.091	4.070
J	online shopping behavior VS Perceived risk	.139	.136	1.022
K	online shopping behavior VS Perceived trust	.204	.084	2.412

Source : AMOS output version 24

The moderating effect of gender (H12 A–K) on the relationships between UTAUT2 constructs, perceived risk, perceived trust, buying intention, and online shopping behavior for electronic products reveals nuanced but largely non-significant differences between male and female consumers. The results indicate that performance expectancy significantly influences buying intention for both males ($\beta = 0.406$, $p < 0.001$) and females ($\beta = 0.244$, $p < 0.001$), with a slightly stronger effect among males, supporting the argument of Venkatesh et al. (2012) that men tend to be more performance-oriented in technology adoption; however, the difference is not statistically significant ($z = 1.402$). In contrast, effort expectancy and social norms remain insignificant for both genders, indicating that ease of use and social influence no longer play a decisive role in shaping buying intention for electronic products, which aligns with findings by Dwivedi et al. (2020) and Rahi et al. (2019), suggesting that increased digital familiarity reduces their relevance. Interestingly, facilitating conditions significantly affect buying intention only among females ($\beta = 0.284$, $p = 0.001$) but not males, implying that women may rely more on external support such as infrastructure and security assurances when purchasing high-involvement products like electronics, a pattern partially supported by Venkatesh et al. (2012), although the gender difference remains statistically insignificant ($z = -1.027$). A notable finding emerges in hedonic motivation, which significantly influences buying intention among females ($\beta = 0.276$, $p < 0.001$) but not males ($\beta = 0.074$, $p = 0.350$), with a marginally significant gender difference ($z = -1.85^*$), indicating that female consumers derive greater enjoyment and experiential value from online shopping, consistent with Childers et al. (2001). Meanwhile, perceived risk does not significantly affect buying intention for either gender, despite a stronger negative coefficient for males, suggesting that risk perceptions in electronic product purchases are becoming more

uniform across genders, possibly due to improved security mechanisms. Perceived trust, however, significantly influences buying intention for both males ($\beta = 0.382$, $p < 0.001$) and females ($\beta = 0.214$, $p = 0.006$), reaffirming its critical role in reducing uncertainty in online transactions, as emphasized by Gefen et al. (2003). With respect to online shopping behavior, the results (H–K) indicate no meaningful gender differences, as buying intention remains the strongest predictor of actual behavior, consistent with Ajzen (1991), while perceived trust continues to exert a significant positive effect; in contrast, facilitating conditions and perceived risk remain insignificant. Overall, the findings suggest that although minor variations exist—particularly in hedonic motivation—gender does not significantly moderate most relationships, indicating a convergence in male and female consumer behavior in the online purchase of electronic products, likely driven by increasing digital literacy and widespread adoption of e-commerce platforms.

Findings

The findings of this study on online purchasing of electronic products reveal that performance expectancy, facilitating conditions, hedonic motivation, and especially perceived trust significantly enhance buying intention, while perceived risk negatively affects it, and effort expectancy and social norms are not significant, indicating that modern consumers are less concerned with ease of use or peer influence and more focused on value, experience, and reliability. Furthermore, buying intention strongly drives actual online shopping behavior, with perceived trust also directly influencing behavior, whereas facilitating conditions and perceived risk do not significantly affect the final purchase stage. Gender analysis shows only minor differences, with females being more influenced by hedonic motivation and facilitating conditions, but overall, consumer behavior is becoming similar across genders. Based on these findings, it is suggested that e-commerce platforms and marketers of electronic products should prioritize building strong trust mechanisms (secure payment systems, authentic product guarantees, transparent return policies), reducing perceived risk through warranties and clear information, and enhancing user experience via engaging and personalized interfaces. Additionally, firms should emphasize product performance and value communication, while also ensuring robust technical and logistical support, particularly to attract female consumers, thereby improving both intention and actual purchase behavior in the competitive online electronics market.

Managerial Suggestion

For managers in the online electronic products market, the results suggest a clear shift in priorities: firms should build and signal trust aggressively through verified seller badges, authentic product guarantees, visible customer reviews, and strong after-sales support (easy returns, clear warranty claims, responsive service). At the same time, they must reduce perceived risk by offering transparent pricing, detailed specifications, comparison tools, cash-on-delivery or trusted payment gateways, and hassle-free replacement policies—critical for high-value electronics. Since performance expectancy drives intention, product pages should emphasize functional value (performance benchmarks, battery life, durability, compatibility) using rich media and expert reviews. To leverage hedonic motivation, platforms should enhance the shopping experience with intuitive design, personalization, AR/3D product views, and engaging content, which is particularly effective for female consumers. Given the role of facilitating conditions, firms should ensure seamless app/website performance, fast checkout, reliable delivery tracking, and accessible customer support. As buying intention strongly converts to behavior, timely nudges such as limited-time offers, cart reminders, and targeted promotions can improve conversion rates. Finally, segmentation strategies should recognize that while gender differences are narrowing, experience- and trust-based marketing remains universally effective, with slight emphasis on experiential features and support systems to better engage female shoppers.

3. Conclusion

In conclusion, this study demonstrates that in the context of online purchasing of electronic products, consumer behavior is primarily driven by perceived trust, performance expectancy, facilitating conditions, and hedonic motivation, while perceived risk acts as a barrier to buying intention. Traditional factors such as effort expectancy and social norms were found to be insignificant, indicating a shift toward more experience-driven and trust-oriented decision-making among modern digital consumers. The results further confirm that buying intention is the strongest predictor of actual online shopping behavior, with perceived trust also playing a direct and crucial role in influencing purchase actions. Although minor gender differences were observed—particularly in hedonic motivation and facilitating conditions—the overall findings suggest that male and female consumers are increasingly similar in their online purchasing patterns. Overall, the study highlights the growing importance of trust, perceived value, and user experience in shaping online purchase decisions for high-involvement products like electronics, offering valuable insights for both researchers and practitioners in understanding evolving e-commerce behavior.

Reference

1. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178. <https://doi.org/10.2307/41410412>
2. Najib, M., & Karima, N. (2022). Determinants of digital payment adoption using UTAUT2. *Journal of Asian Finance, Economics and Business*, 9(2), 251–260.
3. Jameel, A. S., Hamdi, S., Kareem, M. A., Awqati, Z. S., & Ahmad, A. R. (2023). Adoption of e-payment systems using UTAUT2 model. *Sustainability*, 15(3), 1234. <https://doi.org/10.3390/su15031234>
4. Sudirjo, F., Bakri, A., Ismail, T., Haes, H., & Hakim, L. (2023). Factors influencing e-payment adoption: Evidence from UTAUT2. *Journal of Open Innovation*, 9(1), 45.
5. Hamouda, M., & Tabbane, R. S. (2013). Impact of electronic word of mouth on consumer purchasing intention. *International Journal of Online Marketing*, 3(2), 20–37.
6. Jalilvand, M. R., & Samiei, N. (2012). The effect of electronic word of mouth on brand image and purchase intention. *Marketing Intelligence & Planning*, 30(4), 460–476. <https://doi.org/10.1108/02634501211231946>
7. Quan, N. H., Thanh, N. D., & Thuy, N. T. (2023). Impact of e-review quality on purchase intention. *Journal of Retailing and Consumer Services*, 70, 103137.
8. Sahira, N., Kristaung, R., Talib, A., & Mandagie, Y. (2023). The role of eWOM in online consumer behavior. *Journal of Marketing Analytics*, 11(2), 150–165.
9. Elanchezhian, D. J. ., Gloria, D. A. J. ., Rajesh, D. N. ., & Kumarasamy, D. P. . (2025). Service Quality's Influence on Loyalty in E-Commerce. *International Journal of Accounting and Economics Studies*, 12(4), 775-780. <https://doi.org/10.14419/pzear869>
10. Jayasingh, S., Boobalan, K., & Thiagarajan, S. (2023). Online visual merchandising and consumer purchase behavior. *Journal of Retailing and Consumer Services*, 71, 103220.
11. Lavuri, R. (2021). Hedonic motivations and online impulsive buying behavior. *Asian Journal of Business Research*, 11(1), 1–18.
12. Mukherjee, A., & Nath, P. (2007). Role of trust in online retailing. *European Journal of Marketing*, 41(9/10), 1173–1202. <https://doi.org/10.1108/03090560710773390>
13. Laroche, M., McDougall, G. H. G., Bergeron, J., & Yang, Z. (2004). Exploring how intangibility affects perceived risk. *Journal of Service Research*, 6(4), 373–389.
14. Purnamasari, D., & Suryandari, R. T. (2023). E-service quality, trust, and repurchase intention. *Journal of Electronic Commerce Research*, 24(1), 45–60.
15. Wu, J. H. (2011). Customer loyalty in e-commerce. *Electronic Commerce Research and Applications*, 10(4), 472–481.
16. Reis, L. (2022). Artificial intelligence in digital marketing. *Journal of Business Research*, 144, 789–799.
17. Vollero, A., Sardanelli, D., & Siano, A. (2021). The Amazon effect and customer expectations. *Journal of Business Research*, 123, 512–520.
18. Sari, D. K., Suprapti, N. W. S., Sukaatmadja, I. P. G., & Sukawati, T. G. R. (2023). Longitudinal analysis of consumer behavior. *Sustainability*, 15(5), 4567.
19. Choshin, M., & Ghaffari, A. (2017). An investigation of the impact of effective factors on e-commerce adoption. *Computers in Human Behavior*, 66, 300–308.
20. Tarhini, A., El-Masri, M., Ali, M., & Serrano, A. (2015). Extending UTAUT model in e-learning systems. *Computers in Human Behavior*, 45, 142–150.
21. Abubakar, A. M. (2015). Technology acceptance and e-commerce adoption. *Journal of Technology Management & Innovation*, 10(1), 25–39.
22. Chang, C. M., Liu, L. W., & Chen, K. J. (2019). The effects of hedonic/utilitarian expectations on online shopping. *International Journal of Information Management*, 48, 100–114.
23. Owusu Kwateng, K., Atiemo, K. A. O., & Appiah, C. (2019). Acceptance of mobile banking. *International Journal of Bank Marketing*, 37(1), 1–24.
24. Ramírez-Correa, P., Arenas-Gaitán, J., & Rondán-Cataluña, F. (2014). Gender and age in technology acceptance. *Information & Management*, 51(3), 315–324.
25. Lin, H. F. (2012). The effect of technology acceptance on e-learning. *Computers & Education*, 58(2), 683–693.
26. Savić, D., & Pešterac, A. (2019). Antecedents of mobile banking adoption. *Economic Research-Ekonomska Istraživanja*, 32(1), 1–15.

27. Palau-Saumell, R., Forgas-Coll, S., Sánchez-García, J., & Prats-Planagumà, L. (2019). User acceptance of mobile apps. *Service Industries Journal*, 39(3–4), 233–254.
28. Hungilo, G., et al. (2020). E-commerce adoption and behavioral intention. *Journal of Internet Commerce*, 19(3), 250–270.
29. Verkijika, S. F. (2018). Factors influencing mobile commerce adoption. *Telematics and Informatics*, 35(6), 1549–1565.
30. Baptista, G., & Oliveira, T. (2015). Understanding mobile banking adoption. *Computers in Human Behavior*, 44, 418–430.
31. Kwofie, T. E., & Adjei, J. K. (2019). Social influence and technology adoption. *International Journal of Bank Marketing*, 37(7), 1–20.
32. Yang, S., & Babapour, M. (2022). System quality and online satisfaction. *Journal of Retailing and Consumer Services*, 64, 102789.
33. Kim, J., Fiore, A. M., & Lee, H. H. (2007). Influences of online store perception. *Journal of Retailing and Consumer Services*, 14(2), 95–107.
34. Wong, C. H., Tan, G. W. H., Tan, B. I., & Ooi, K. B. (2014). Mobile shopping adoption. *International Journal of Mobile Communications*, 12(1), 1–22.
35. Huang, L. (2018). Habit and technology usage. *Computers in Human Behavior*, 80, 355–364.
36. Tak, P., & Panwar, S. (2017). Using UTAUT 2 model. *Journal of Indian Business Research*, 9(3), 248–264.
37. Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic word-of-mouth. *Tourism Management*, 29(3), 458–468.
38. Munandar, J. M. (2021). Digital marketing and online purchase decisions. *Journal of Marketing Development*, 5(2), 112–125.
39. Yadav, M., & Rahman, Z. (2018). Social media marketing activities. *Benchmarking: An International Journal*, 25(9), 3882–3905.
- Kothari, C. R. (2008). *Research methodology: Methods and techniques* (2nd ed.). New Age International.
40. Cochran Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
41. Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36.
- et al. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.