

Explaining Online Shopping Behaviour through an Extended UTAUT2 Model: Gender Differences among Consumers in India's National Capital Region

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Abstract: India's rapidly expanding e-retail market necessitates a deeper understanding of online shopping behaviour among youth consumers in NCR. This study extends the UTAUT2 framework by incorporating attitude, self-efficacy, utilitarian motivation and personal innovativeness alongside core UTAUT2 constructs. Using survey data from 800 respondents collected through online and offline modes, the study examines determinants of behavioural intention and actual use behaviour toward e-retailers. Findings provide nuanced insights for e-retailers to design targeted strategies enhancing adoption, satisfaction and long-term customer relationships.

Key Words: UTAUT2; Online Shopping; E-Retailing; Personal Innovativeness; Utilitarian Motivation

I. INTRODUCTION

India's economy is predicted to grow at one of the quickest rates in the world. By 2027, India's economy is expected to overtake that of Germany and the UK to become the fourth largest in the world (Kearney, 2024). Over the past ten years, India has grown into a retail giant; as of 2024, it is the third-largest retail market globally (Shetu et al., 2025). India is a major participant in the e-commerce business, which is projected to reach \$170–\$190 billion by 2030 with a growth rate of 18% annually. India has the second-largest pool of online consumers globally (Shetu et al., 2025). The e-commerce sector in India has grown dramatically as a result of the quick rise in smartphone usage and internet access. The Indian e-commerce market is expected to grow from its 2020 valuation of \$46.2 billion to \$188 billion by 2025 and \$350 billion by 2030 (Khurana, 2022). The way businesses operate in the nation has significantly changed as a result of this expansion. Consumer behaviour has clearly changed toward online purchasing as a result of increased internet access. In India, a lot of customers are switching from traditional to online purchasing. This trend was further increased by the COVID-19 pandemic, which encouraged more individuals to shop online. Because of this, it is anticipated that the e-retail market will reach between \$120 billion and \$140 billion by the fiscal year 2026, growing at a rate of 25–30% annually (Tandon, 2021).

Online shopping has drawn a lot of customers, impacting the retail industry as a whole and fostering the growth of the e-commerce sector. In addition to expanding swiftly, it is boosting the economy. Therefore, in order to create successful marketing strategies, raise customer satisfaction, and establish enduring relationships, it is critical for e-retailers to comprehend consumer behaviour. The goal of this study is to determine the variables that affect how customers behave when making purchases from online shops in the NCR. The business-to-consumer (B2C) component of e-commerce is referred to as "e-retailing" or "e-tailing" (Pradhan, 2020). E-tailers are those who sell goods and services online (Turban et al., 2018).

Online or internet retailing is another name for it, where consumers can use digital platforms to learn about goods and services and make purchases (Levy et al., 2012). E-retail, to put it simply, is the electronic exchange of goods and services between companies and consumers without the need for paper records (Pradhan, 2020). The merchant model is a popular e-retail business model in which vendors use an online platform to sell their goods and services. Using an online ordering system, the store sells directly to consumers under this approach. Amazon and Flipkart are two instances of pure-play online merchants (Pradhan, 2020).

II. LITERATURE REVIEW

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al. (2003) by integrating key elements from eight well-known models, including the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behaviour (TPB), a combined TAM-TPB model, Model of PC Utilization, Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). Through this integration, UTAUT proposed four central determinants of technology acceptance and use—performance expectancy, effort expectancy, social influence, and facilitating conditions—that explain users' behavioural intention and subsequent usage behaviour. The model further posits that these relationships are conditioned by four moderating variables—age, gender, experience, and voluntariness of use—which account for individual differences in technology-related decision-making and behaviour. Recognising that the original UTAUT was developed primarily for organisational settings, Venkatesh et al. (2012) later extended the framework to the consumer domain and introduced UTAUT2. In this enhanced model, three additional constructs—hedonic motivation, price value, and habit—were incorporated to better capture the enjoyment derived from technology use, consumers' trade-offs between perceived benefits and costs, and the influence of repeated usage that leads to automatic, routinised behaviour. UTAUT2 continues to emphasise the importance of individual differences such as age, gender, and experience, suggesting that these factors shape both behavioural intention and actual technology usage in consumer contexts. Within this extended framework, hedonic motivation has emerged as a particularly salient driver of adoption, reflecting the pleasure, enjoyment, and fun that individuals experience while using technology-based services such as mobile shopping apps. Habit has similarly gained prominence, as many users develop ingrained routines of remaining connected and interacting frequently with digital platforms, which in turn reinforces their continuance intention and actual usage behaviour. Price value is also critical in online shopping environments, where consumers evaluate whether the perceived advantages of using a technology (e.g., convenience, deals, and time savings) justify the monetary and non-monetary costs associated with its use. Empirical research has demonstrated the applicability of UTAUT2 across a wide variety of technology-mediated consumer and service contexts. Studies have employed UTAUT2 to investigate online shopping adoption in India and China, as well as in other markets. The model has likewise been applied to examine user acceptance and usage in domains such as mobile banking, e-learning, mobile payment, mobile commerce, and travel-related applications, providing robust evidence for its explanatory power in diverse settings. However, findings from Indian studies are not entirely uniform, and the mixed results reported across investigations point to the need for further contextualised and extended research on technology adoption in this environment. Building on calls in the literature to enrich UTAUT-based models with personal traits, researchers have argued that constructs such as personal innovativeness can deepen our understanding of why some individuals are more inclined to experiment with and adopt new technologies than others. Responding to these recommendations, the present study extends the UTAUT2 framework by incorporating four additional constructs: personal innovativeness, attitude, self-efficacy, and utilitarian motivation. In total, eleven antecedent factors are considered as potential determinants of consumers' behavioural intention toward online shopping: performance expectancy, effort expectancy, social influence, facilitating conditions, habit, price value, hedonic motivation, utilitarian motivation, attitude, self-efficacy, and personal innovativeness. This extended model is expected to provide a more comprehensive explanation of consumers' online shopping intention and usage behaviour in the contemporary digital marketplace.

III. RESEARCH METHODOLOGY

A. Sample and data collection

The questionnaire was split into two sections: the first section collected demographic information, while the second section focused on the major constructions. Since it has been demonstrated to be a successful and efficient way of obtaining information from the target group, the current study employs both online and offline data collection (Luo, 2009; Wilson & Laskey, 2003). In earlier studies on internet commerce, online modalities were used to collect data. Previous research has shown that online data gathering has a higher response rate (Nair et al., 2015). After the incomplete questionnaires were removed, 800 of the 962 replies were used for analysis.

B. Measurement

To fit the online shopping context, the items measuring performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, habit, and price value were modified from Venkatesh et al. (2012), self-efficacy from Singh and Srivastava (2018), attitude from Taylor and Todd (1995), utilitarian motivation from Kim et al. (2012), and personal innovativeness from Dewi et al. (2020). A 5-point Likert scale anchored by 1 (strongly disagree)

and 5 (strongly agree) was used to measure these items.

IV. RESULTS

This test is usually used to compare the mean values of two groups of respondents based on their demographic attributes. In this study, a t-test is used to compare personal innovativeness, utilitarian motivation, price value, effort expectancy, performance expectancy, self-efficacy, habit, facilitating conditions, attitude, purchase intention, use behaviour, and validate the differences in the opinions across their gender.

Table 1. Results of the T-test Regarding Factors that Consumers Consider in Buying from E-retailers Based on Gender

Factors	Gender	N	Mean	SD	Mean Difference	T-Value	P-value
Personal Innovativeness	Male	445	2.7876	.98389	-.07151	-1.058	.290
	Female	355	2.8592	.92147			
Utilitarian Motivation	Male	445	3.7736	1.15458	.33557	4.271	.000
	Female	355	3.4380	1.06201			
Price Value	Male	445	4.1185	.93744	-.04555	-.688	.491
	Female	355	4.1641	.92345			
Subjective Norms	Male	445	3.7511	.70030	.19126	3.706	.000
	Female	355	3.5599	.74464			
Effort Expectancy	Male	445	4.0489	.81684	.01859	.321	.748
	Female	355	4.0303	.81257			
Performance Expectancy	Male	445	4.1000	.80493	-.00352	-.065	.948
	Female	355	4.1035	.72366			
Attitude	Male	445	3.8534	.76265	.23154	4.339	.000
	Female	355	3.6218	.73941			
Self-Efficacy	Male	445	3.9753	.73038	.16049	2.942	.003
	Female	355	3.8148	.79415			
Hedonic Motivation	Male	445	3.5236	.92604	-.04190	-.682	.496
	Female	355	3.5655	.81005			
Habit	Male	445	3.0388	1.06280	.23595	3.301	.001
	Female	355	2.8028	.95550			
Facilitating Conditions	Male	445	3.9315	.73066	.16526	3.046	.002
	Female	355	3.7662	.78671			

Table 1 shows the results of a t-test based on gender. The independent samples t-test was used to determine whether there is a difference in personal innovativeness, utilitarian motivation, price value, subjective norms, effort expectancy, performance expectancy, attitude, self-efficacy, hedonic motivation, and habit, facilitating conditions based on gender. The t-value and significance (p) values are computed to examine the difference between males and females. The mean values of the male and female respondents for utilitarian motivation are 3.7736 and 3.4380, with standard deviations of 1.15458 and 1.06201, respectively. The mean difference in utilitarian motivation is 0.33557. The t-value of 4.271 is statistically significant ($p=.000$) at a 5 per cent significance level, indicating a significant difference between males and females in terms of utilitarian motivation. Based on the mean value, it can be concluded that male respondents have more utilitarian motivation than female respondents.

The mean values of the male and female respondents for subjective norms are 3.7511 and 3.6071, respectively, with standard deviations of 0.70030 and 0.74464. The mean difference for subjective norms is .19126. The t-value is 3.706,

found statistically significant ($p=.000$), and indicates a significant difference in subjective norms between males and females.

Regarding attitude, the means are 3.8534 and 3.6218 for male and female, respectively, with a standard deviation of 0.76265 and 0.73941. For attitude, data show a mean difference of .23154. The t-value of 4.339 reveals a statistically significant ($p=.000$) difference between males and females for attitude.

In the case of self-efficacy, the means are 3.9753 and 3.8148 for male and female, respectively, with a standard deviation of .73038 and .79415. For self-efficacy, data show a mean difference of .16049. The t-value of 2.942 reveals a statistically significant ($p=.003$) difference between males and females in self-efficacy.

In the case of habit, the means are 3.0388 and 2.8028 for male and female, respectively, with a standard deviation of 1.06280 and .95550. For habit, data show a mean difference of .23595. The t-value of 3.301 reveals a statistically significant ($p=.001$) difference between males and females for habit. Mean values show that male consumers are more habitual in purchasing from e-retailers than females.

Regarding facilitating conditions, the means are 3.9315 and 3.7662 for male and female, respectively, with a standard deviation of .73066 and .78671. For facilitating conditions, data show a mean difference of .16526. The t-value of 3.046 reveals a statistically significant ($p=.002$) difference between males and females in facilitating conditions.

On the contrary, for personal innovativeness, price value, effort expectancy, performance expectancy, and self-efficacy, the p-value of the t-test is found insignificant, which indicates that there is no significant difference found in price value, effort expectancy, performance expectancy, and hedonic motivation based on gender.

V. DISCUSSION

The present study examined gender differences in the factors influencing online shopping behaviour among consumers in India's National Capital Region using an extended UTAUT2 framework. The findings reveal that significant differences exist between male and female consumers in utilitarian motivation, subjective norms, attitude, self-efficacy, habit, and facilitating conditions. Male consumers reported higher mean scores on these constructs, suggesting that they are more influenced by the functional benefits of online shopping, social influences, confidence in using digital platforms, habitual online purchasing behaviour, and the availability of supporting technological resources. The significant difference in utilitarian motivation indicates that male consumers place greater emphasis on convenience, efficiency, and time-saving benefits while shopping online. Likewise, higher scores for subjective norms imply that social influence plays a different role across genders in shaping online shopping behaviour. The findings also suggest that male consumers exhibit a more positive attitude towards e-retailing and possess greater self-efficacy, enabling them to navigate online shopping platforms more confidently. Furthermore, stronger habitual behaviour among male consumers reflects greater familiarity and repeated engagement with online shopping platforms. Differences in facilitating conditions indicate that access to technological infrastructure and support may influence the online shopping experience differently for male and female consumers. Conversely, no significant gender differences were found in personal innovativeness, price value, effort expectancy, performance expectancy, and hedonic motivation. These findings indicate that both male and female consumers perceive online shopping platforms as equally useful, easy to use, enjoyable, and economically valuable. The absence of differences in these constructs suggests that the rapid expansion of digital infrastructure, increased smartphone penetration, and widespread adoption of e-commerce platforms have created a relatively uniform online shopping experience across genders.

Overall, the findings highlight that although certain motivational and behavioural factors differ between male and female consumers, the core technological perceptions underlying online shopping remain similar.

VI. CONCLUSION

The study examined gender differences in the factors influencing consumers' online shopping behaviour among e-retail customers in the National Capital Region (NCR). The findings reveal that significant gender-based differences exist in utilitarian motivation, subjective norms, attitude, self-efficacy, habit, and facilitating conditions, with male consumers reporting higher mean scores for these constructs. However, no significant differences were observed in personal innovativeness, price value, effort expectancy, performance expectancy, and hedonic motivation, indicating that these factors influence both male and female consumers similarly. These findings provide valuable insights for e-retailers to design gender-sensitive marketing strategies while maintaining a strong focus on improving the overall online shopping experience for all consumers. This study has certain limitations that should be acknowledged. First, its cross-sectional design restricts the ability to capture changes in consumers' perceptions over time; future longitudinal and qualitative studies could provide richer insights. Second, data were collected only from respondents in the National Capital Region, which may limit the representativeness of the findings for all Indian online shoppers. Conducting similar studies across

diverse regions and demographic segments would enhance the generalisability of the results and allow more robust conclusions about online shopping behaviour in India.

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