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Factors Influencing Online Purchasing Behaviour of Female Consumers in the Post-Pandemic Period

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Abstract: *Advanced technology and the Internet have changed consumers' buying habits. Consumers now prefer online purchasing compared to face-to-face shopping. Therefore, this study aims to investigate the crucial factors influencing female customers' online purchasing behaviour. The technology acceptance model (TAM) and the theory of reasoned action (TRA) were employed with additional variables: personal innovativeness, personal awareness of security, personal consciousness of safety, and satisfaction. A structured questionnaire was applied to collect data from 437 women. Structural equation modelling was employed to analyse the data. The results revealed that perceived ease of purchasing and personal awareness of security positively correlated with attitude, satisfaction, and intention toward online purchasing. Again, perceived usefulness and personal consciousness of safety were significant predictors of attitude and satisfaction, but not predictors of intention. Surprisingly, personal innovativeness does not impact attitude and intention. Intention was positively related to attitude and satisfaction. Satisfaction mediates all the hypothesised relationships. Also, attitude mediates the relationships between perceived usefulness, personal awareness of security, and intention. The investigation may assist managers and policymakers in improving their online settings and becoming more careful to rearrange their business structures in line with current technological advancements to fulfil consumers' expectations and demands.*

Keywords: Female consumers; Attitude; Satisfaction; Intention toward online purchasing; Bangladesh
JEL Classification: M21, M31, M37

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1. Introduction

Over the last ten years, online purchasing has significantly increased (He & Zhu, 2020), especially after the impact of the Covid-19 pandemic (Sorker et al., 2022). The rapid growth of online purchasing has drastically altered consumer lifestyles, e.g., shopping patterns, per capita spending, and goods purchased (Guo et al., 2022; Parvez & Iqbal, 2022; Saleem et al., 2022). Online purchasing means buying products, goods, or services online (Saleem et al., 2022). With the advantages of technology, consumers are making online shopping more convenient than traditional face-to-face shopping in malls (Hasan et al., 2022; Sorker et al., 2022). Internet connection and digital technology facilitate accessible communication so that adults, young, and women can easily buy products through mobile devices or computers (Bölen & Özen, 2020). Due to its many benefits, an increasing number of customers are adapting to this shopping process, which increases the chances of expanding online business.

Bangladesh is among the economically emerging countries in South Asia. The e-commerce journey started in Bangladesh in the late 1990s (Hossin et al., 2018). Initially, most people ignored e-commerce and were not interested in online shopping. There were many reasons behind this reluctance, including lack of infrastructure development, trustworthiness, cyber law, security, and the maintenance of private information (Sumi & Ahmed, 2022). From the early 21st century, e-commerce platforms started overcoming some of these issues. For example, e-commerce has progressed with the infrastructural development of the Internet, convenient Internet facilities, and logistics support. This attracted the attention from consumers on e-commerce platforms, which accelerated online shopping (Ahmed et al., 2022; Sumi & Ahmed, 2022).

Due to fear and anxiety during the Covid-19 pandemic, people preferred buying products from home or online (Miah et al., 2022). The pandemic forced people to purchase goods and services online. This shift in purchasing behaviour gradually helped form the e-commerce business in Bangladesh. Bangladesh sold more than USD1.50 billion, a 70–80% growth over previous years (Sumi & Ahmed, 2022). The sum grew to USD7.5 billion in July 2020 from USD5.78 billion in June 2020, indicating a strongly growing trend in e-commerce activities (Sumi & Ahmed, 2022), with e-commerce revenue projected to hit USD8.03 billion in 2022. By 2025, the expected

number of e-commerce users will be 75.5 million. An estimated USD136.70 will be made on average from each user. The government and policymakers are trying to accelerate this as much as possible for the economic growth of Bangladesh.

In the modern era, female consumers play a vital role in adopting an online platform for shopping (Mohamad et al., 2023). Compared to men, many female consumers shop online (59%) (Mahmud & Hossain, 2014), and are enthusiastic about purchasing female-related products online (Hageman et al., 2023). Young people are curious about online shopping (Fazal-e-Hasan et al., 2020), and 82% of the consumers between ages 13 to 39 were engaged during the pandemic (Sumi & Ahmed, 2022). Female consumers aged 18 to 25 who are highly educated are more interested in online shopping and are also heavily influenced by their peers (Croes & Bartels, 2021). Again, consumers with education, knowledge, higher income, and frequent internet visits are more interested in purchasing from e-shops. According to Gowda and Chaudhary (2018), some women (mainly working women) take it as their way of life. As a result, the number of women online shoppers is increasing daily, especially in the city areas. Thus, it is necessary to scrutinise the factors influencing women consumers' online purchasing. Accordingly, academics, marketers, and researchers should create effective plans for expanding online business.

Several marketing academics have previously discussed consumer buying intentions for online purchases in different nations (García-Salirrosas et al., 2022; Hou & Youhan, 2022; Naseri, 2021; Purwanto, 2022; Saleem et al., 2022; Sudirjo et al., 2023). Still, empirical research on online purchasing is limited in Bangladesh. On the other hand, compared to other developing nations, Bangladesh is still in the early stages of study on online shopping behaviours. Only a few investigations have examined the marketing strategy and customer attitudes related to online buying after the Covid-19 pandemic (Hossain et al., 2021; Rahman & Hossain, 2023). There has not been any research on online purchasing decisions in Bangladesh using the technology acceptance model (TAM) (Davis, 1989) and the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975).

As no work has focused on educated women consumers following the severe Covid-19 epidemic, the current study attempts to analyse the variables that affect the online purchasing intentions of educated women consumers. For this purpose, this study combines TAM and TRA to develop

a theoretical framework with help of additional variables, such as personal innovativeness, personal awareness of security, personal consciousness of safety, and satisfaction with online purchasing. The current study is the first empirical analysis that provides customers in Bangladesh with a thorough explanation of their online shopping choices, with a particular focus on educated women. The results from this investigation will enhance the body of literature by validating the driving elements that influence the purchasing behaviour of female customers, while marketers can get guidance to adopt appropriate marketing strategies as the choice, taste, and preference of female consumers.

2. Literature Review

2.1 Technology acceptance model and theory of reasoned action

Information technology offers many ways to increase the performance of a particular system, and technological development has significantly improved practically every field (Peypoch et al., 2021). However, the effectiveness of these improvements depends mainly on how motivated users are to use them and the capability of such systems. One of the most popular ideas for describing and forecasting users' acceptance of information technologies is TAM (Roy, 2023a). This framework is frequently used to create hypotheses about consumers' intentions to use new and novel technology (Ashokkumar & Nagarajan, 2021; Rehman et al., 2019). TRA is the foundation of TAM. According to TRA, attitude is mainly founded on personal beliefs. On the other hand, TAM forecasts customers' perceived ease of use and usefulness of new technologies, which are dynamic features in these potential users' acceptance and satisfaction with new information technologies (AlAmayreh et al., 2023). TAM is preeminent in examining people's actions, attitudes, and satisfaction toward embracing technological innovation (Saleem et al., 2022).

Additionally, TAM is very dynamic in forecasting the actions of both experienced and inexperienced consumers as indicators of their desire to make a purchase (Taylor & Todd, 1995). The TRA was put forth to explain how a buyer is persuaded to adopt a specific purchasing behaviour (Saleem et al., 2022). The TRA asserts that consumers' attitude can forecast their intentions (Ajzen, 1985). So, TRA and TAM significantly aid in predicting

human behaviour in online purchasing settings. Many schoolers have used a combination of these theories to measure the online purchasing behaviour of consumers (AlAmayreh et al., 2023; Beyari & Garamoun, 2022; Bhardwaj et al., 2022; Rehman et al., 2019; Ru et al., 2021; Salim & Bahanan, 2022; Tam et al., 2022). However, the existing literature in Bangladesh focuses on the online shopping orientation variable when measuring consumer behaviour. Thus, technology adoption is required to examine the acceptance of online shopping employing TRA and TAM.

2.2 Personal innovativeness

Diffusion of innovation theory suggests that highly innovative people are crucial to the spread of new technology, as they acquire information and enhance a positive attitude towards it (Cowart et al., 2008). Personal innovativeness (PIN) refers to how far an individual goes above their social contemporaries in embracing new technology (Shanmugavel & Micheal, 2022). It is a risk-taking personal quality that distinguishes oneself from others (Agarwal & Prasad, 1998). The reason for this behaviour is a positive attitude toward new technology (Shanmugavel & Micheal, 2022), and younger individuals are very intrigued by the utilisation of novel technology (Chopdar & Balakrishnan, 2020). Also, innovative consumers embrace global trends, seek novelty, and value individuality over old traditions. Similarly, Mouakket (2018) notes that extroverts and agreeable persons are more likely to welcome novel concepts such as social media technology.

In earlier investigations, innovativeness has been explored as a personality constructed in consumer behaviour (Al-Jundi et al., 2019; Saleem et al., 2022). These studies suggest that innovation is heavily influenced by people's experiences embracing new ideas, whether in terms of technology, lifestyle, attitude, or intention (Al-Jundi et al., 2019; Saleem et al., 2022). So, a highly innovative individual has strong attitudes and intentions toward adopting technology for online purchasing (Polas et al., 2022; Shanmugavel & Micheal, 2022). Thus, the following hypothesis is proposed:

H_1 *PIN significantly impacts attitude (H1a) and intention (H1b) toward online purchasing of female consumers.*

2.3 Perceived ease of purchasing

According to TAM, when a consumer perceives that a particular technology requires less action during usage than the previous systems, it is called perceived ease of use (Davis, 1989). With the ease of technology, the consumer wants to spend as little time and effort as possible to get specific and relevant information. This increases customer attitudes and happiness, which in turn, increases customers' intent to buy online (Rehman et al., 2019; Saleem et al., 2022). From the consumers' point of view, when they find the product online with the easy use of technologies and benefit from the comparative analysis of similar products in terms of price, quality, availability, delivery, return policies, and payment terms, they love to use it again. As a result, perceived ease of purchasing (PEP) has a positive influence on attitude (Al Amin, 2022; Warganegara & Babolian Hendijani, 2022), satisfaction (Olivia & Marchyta, 2022), and intention toward online purchasing (Olivia & Marchyta, 2022; Sumi & Ahmed, 2022). Ha and Stoel (2009) conclude that the perceived convenience of using a website does not affect the choice to make an online purchase. Thus, the following hypothesis on perceived ease of purchasing (PEP) is proposed:

H_2 *PEP has a significant impact on attitude (H_{2a}), satisfaction (H_{2b}), and intention (H_{2c}) toward online purchasing of female consumers.*

2.4 Perceived usefulness of purchasing

Consumers accept new technology if they perceive it as more convenient and useful than previous system (Davis, 1989). A website is useful when customers find it effective for their online purchases. If consumers believe they can save time purchasing through the online platform, this perception impacts attitude (Al Amin, 2022; Saleem et al., 2022; Sumi & Ahmed, 2022; Warganegara & Babolian Hendijani, 2022), satisfaction (Olivia & Marchyta, 2022; Wilson et al., 2021), and intention toward online shopping (Saleem et al., 2022; Shanmugavel & Micheal, 2022). Thus, the following hypothesis on perceived usefulness of purchasing (PUP) is proposed:

H_3 *PUP has a significant impact on attitude (H_{3a}), satisfaction (H_{3b}), and intention (H_{3c}) toward online purchasing of female consumers.*

2.5 Personal consciousness of safety

Due to the Covid-19 crisis, customers' attitudes, satisfaction, and buying behaviour transformed dramatically (Sumi & Ahmed, 2022). Consumers became more concerned about their safety, health, and cleanliness, thinking that e-commerce minimises the danger of infection owing to less physical contact with other individuals. According to a survey by Klümper & Sürth (2023), customers become aware of safety risks and took essential safeguards to protect themselves from infectious viruses. Again, during the pandemic, consumers' health consciousness strongly influenced online purchasing attitudes (Le-Anh & Nguyen-To, 2020; Nagaraj, 2021; Sumi & Ahmed, 2022), satisfaction (Tran, 2020) and intentions (Iqbal et al., 2021; Nagaraj, 2021; Sumi & Ahmed, 2022). As a result, health protection, safety, and hygiene factors drove consumers toward online purchasing. However, Iriani and Andjarwati (2020) and Warganegara and Babolian Hendijani (2022) reveal no significant correlation between health risk issues and purchasing intention. Thus, the following hypothesis on personal consciousness of safety (PCS) is proposed:

H_4 *PCS has a significant impact on attitude (H_{4a}), satisfaction (H_{4b}), and intention (H_{4c}) toward online purchasing of female consumers.*

2.6 Personal awareness of security

Personal awareness of security (PAS) is the degree to which customers believe the Internet is trustworthy for communicating their personal and financial information to make transactions. Since sensitive personal data or information, for example, credit card information, is shared during online purchasing, the security is necessary. Online buying attitudes (Le-Anh & Nguyen-To, 2020; Nagaraj, 2021), satisfaction (Almugari et al., 2022; Chi, 2018; Merugu & Mohan, 2020), and intentions (Iqbal et al., 2021; Nagaraj, 2021; Saleem et al., 2022) are notably affected by the perception of security.

On the contrary, Sudirjo et al. (2023) find a non-significant relationship between private security and purchase behaviour. When consumers feel secure in online purchasing, their satisfaction, attitude, and intention toward online shopping increase (Chi, 2018; Saleem et al., 2022). Thus, the following hypothesis is proposed:

H_5 *PAS has a significant impact on attitude (H_{5a}), satisfaction (H_{5b}), and intention (H_{5c}) toward online purchasing of female consumers.*

2.7 Attitude, satisfaction, and intention toward online purchasing

When consumers accept any technology, their attitude (ATOP) is considered an essential predictor of purchasing intention (Saleem et al., 2022). TAM describes that consumer attitude toward utilising new technology affects the intention toward technology (Al Amin, 2022; Allah Pitchay et al., 2022; Warganegara & Babolian Hendijani, 2022). Previous research showed that ATOP is the base of online purchase intention (Islam et al., 2021; Saleem et al., 2022; Sumi & Ahmed, 2022). Satisfaction (STOP) refers to overall perceived benefits (Davis, 1989). When consumers think that they will get the necessary information about shopping products with comparatively little effort and that online purchasing is helpful, they feel safe and secure to purchase online, leading to consumer satisfaction that increases intention toward online purchasing (ITOP) (García-Salirrosas et al., 2022; Nagaraj, 2021; Olivia & Marchyta, 2022; Tran, 2020). Thus, the following hypotheses are proposed:

H_6 *ATOP significantly impacts the ITOP of female consumers.*

H_7 *STOP significantly impacts the ITOP of female consumers.*

H_8 *ATOP significantly mediates the relationships between PIN (H_{8a}), PEP (H_{8b}), PUP (H_{8c}), PCS (H_{8d}), PAS (H_{8e}), and ITOP of female consumers.*

H_9 *STOP significantly mediates the relationships between PEP (H_{9a}), PUP (H_{9b}), PCS (H_{9c}), PAS (H_{9d}), and ITOP of female consumers.*

3. Methods

3.1 Data collection

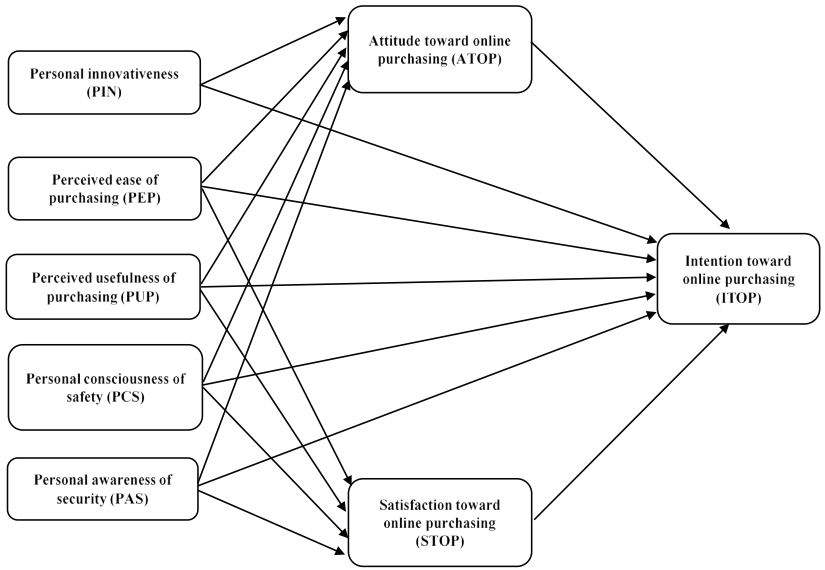
A personal interview technique was employed to collect the primary data. Purposive and convenience sampling methods were conducted to gather information from female consumers with prior knowledge of online purchasing. This work included all the constructs from the literature with standard scales. The researchers used a well-structured questionnaire because it helps gather relevant data (Roy & Ahmed, 2016). The researchers used a seven-point Likert scale to collect female consumers' responses. For this study, 1 represents 'strongly disagree', and 7 represents 'strongly agree'. The minimum required sample size was estimated with the help of G*Power software (v3.1.9.4) (Roy, 2023b). For estimating the sample size, the statistical power employed was 0.95, and the effect size was 0.05. The software determined a sample size of 262. A total of 500 women were requested to fill up the questionnaires. The researchers removed the incomplete responses, and 437 valid responses were utilised for further analysis. Several changes have been made to fit the objectives and purposes of the present investigation. A pilot survey with 30 participants was conducted before the main study to ensure the validity and usefulness of the replies (Roy, 2023d).

3.2 Instrumentation

This work proposed a research model with eight variables to evaluate female consumers' ATOP, STOP, and ITOP (see Figure 1). PIN consisted of six items, e.g., 'I like to explore new websites.' PEP comprises five items, e.g., 'Online buying through the Internet would be easy.' Similarly, three items were adopted for PUP, e.g., 'The Internet would be useful in my purchasing.' Again, five items were adopted for PAS, e.g., 'I would feel secure in providing sensitive information (e.g., credit card number) for online purchasing.' ATOP consisted of four items, e.g., 'The use of online purchasing is a good idea.' Similarly, ITOP comprised four indicators, e.g., 'Given the opportunity, I will use online purchasing.' The PIN, PEP, PUP, PAS, ATOP, and ITOP items were taken from Saleem et al. (2022). PCS was made up of four indicators, for example, 'I am usually aware of my health

when purchasing products.' The PCS items were adopted from Iqbal et al. (2021). Finally, four observations were taken for STOP from Tran (2020), e.g., 'I am satisfied with the service I have received from online shopping.'

Figure 1: Proposed Research Framework



3.3 Respondents profile

The demographic factors designate that the consumer profile is adequate since the age group is more likely to accept new technology and devices. The academic background is also better suited to understanding female consumers' ATOP, STOP, and ITOP. It was revealed that more than 81.3% of the females were between 21 and 35 years old. Only 5.9% of them were over 40. According to the employment category, this study includes various female categories (Table 1). The 'other' option represents various job holders (e.g., marketing officers, medical staff, female police, etc.). More than 86% of respondents have graduated with a degree, and 73.2% were married. Again, more than 65% have two to three years of online purchasing experience. Cosmetics were the most common products purchased by female customers (81%), following clothes (67.3%), household accessories (43.6%),

food items (36.6%), shoes (28.4%), and fitness items (14.9%). 'Others' includes furniture, tech products, mobile accessories, etc.

Table 1: Profile of Female Consumers

Variable	Classifications	Frequency	Percentage
Age (in years)	< 20	12	2.70
	21-25	134	30.70
	26-30	80	18.30
	31-35	141	32.30
	36-40	44	10.10
	> 40	26	5.90
Employment category	Bank employee	50	11.40
	Housewife	111	25.40
	Student	90	20.60
	Teacher	61	14.00
	Library assistant	28	6.40
	Political staff	13	3.00
	Business entrepreneur	7	1.60
	Lawyer	8	1.80
	Doctor	6	1.40
	Others	63	14.40
Education level (completed)	College level	58	13.30
	Bachelor's level	169	38.70
	Master's level	202	46.20
	Doctorate level	8	1.80
Marital status	Married	320	73.20
	Unmarried	117	26.80
Online purchasing experience (in years)	1	24	5.50
	2	143	32.70
	3	142	32.50
	4	69	15.80
	5 or more	59	13.50
Product items	Cosmetics items	354	81.00
	Clothes	294	67.30
	Household accessories	186	43.60
	Food items	160	36.60
	Shoes	124	28.40
	Fitness item	65	14.90
	Others	132	30.20

4. Data Analyses

The present study employs the structural equation modelling (SEM) procedure with the SmartPLS tool for quantitative analysis. Utilising the SmartPLS tool, the PLS-SEM process was evaluated for measurement and structural model (Hair et al., 2021).

4.1 Measurement model assessment

Both convergent and discriminant validity must be established to evaluate the measurement model (Hair et al., 2021). In the first step, convergent validity must be confirmed to evaluate the measurement model (Hair et al., 2021). For this, factor loadings, Cronbach's alpha, and composite reliability (CR) must be higher than 0.7 (Hair et al., 2021). Furthermore, the average variance extracted (AVE) must be higher than 0.5 (Hair et al., 2021). Factor loadings for this work were 0.812 to 0.938, except for one item of personal innovativeness (PIN5). So, the item was deleted. Again, Cronbach's alpha, CR, and AVE values exceeded the recommended threshold. The outcomes of this research affirmed the convergent validity of the measurement model (Table 2).

Table 2: Convergent Validity Results

Constructs	Items	Loadings	Alpha	CR	AVE
ATOP	ATOP1	0.865	0.926	0.947	0.818
	ATOP2	0.924			
	ATOP3	0.910			
	ATOP4	0.918			
ITOP	ITOP1	0.904	0.932	0.951	0.830
	ITOP2	0.921			
	ITOP3	0.913			
	ITOP4	0.907			
PAS	PAS1	0.922	0.943	0.956	0.815
	PAS2	0.880			
	PAS3	0.893			
	PAS4	0.896			
	PAS5	0.921			

Constructs	Items	Loadings	Alpha	CR	AVE
PCS	PCS1	0.898	0.907	0.935	0.782
	PCS2	0.893			
	PCS3	0.873			
	PCS4	0.873			
PEP	PEP1	0.884	0.945	0.958	0.819
	PEP2	0.921			
	PEP3	0.894			
	PEP4	0.898			
	PEP5	0.928			
PIN	PIN1	0.812	0.911	0.934	0.738
	PIN2	0.911			
	PIN3	0.838			
	PIN4	0.873			
	PIN6	0.857			
PUP	PUP1	0.938	0.916	0.947	0.856
	PUP2	0.915			
	PUP3	0.923			
STOP	STOP1	0.922	0.909	0.936	0.785
	STOP2	0.875			
	STOP3	0.890			
	STOP4	0.856			

To assess the measurement model's discriminant validity, the researchers used Fornell and Larcker's rules and the heterotrait-monotrait ratio (HTMT) (Hair et al., 2021). The cutoff value for HTMT is less than 0.85 (Roy, 2023e). The study results revealed no discriminant validity issues (Table 3).

Table 3: Discriminant Validity Results

	Fornell-Larcker criterion							
	ATOP	**ITOP**	**PAS**	**PCS**	**PEP**	**PIN**	**PUP**	**STOP**
ATOP	*0.905*							
ITOP	0.746	*0.911*						
PAS	0.590	0.597	*0.903*					
PCS	0.632	0.665	0.430	*0.884*				
PEP	0.670	0.718	0.432	0.578	*0.905*			
PIN	0.416	0.427	0.357	0.372	0.456	*0.859*		
PUP	0.732	0.696	0.508	0.653	0.667	0.398	*0.925*	
STOP	0.659	0.753	0.533	0.686	0.697	0.402	0.713	*0.886*

	HTMT ratio							
	ATOP	**ITOP**	**PAS**	**PCS**	**PEP**	**PIN**	**PUP**	**STOP**
ATOP								
ITOP	0.800							
PAS	0.630	0.636						
PCS	0.683	0.716	0.461					
PEP	0.714	0.762	0.455	0.619				
PIN	0.450	0.461	0.387	0.405	0.490			
PUP	0.795	0.752	0.546	0.709	0.715	0.434		
STOP	0.717	0.817	0.576	0.751	0.750	0.441	0.779	

4.2 Structural model assessment

4.2.1 Collinearity measures

After the measurement model's evaluation, the structural model must be evaluated in the next stage (Hair et al., 2021). For evaluating the structural model, the first step is assessing multicollinearity issues. Multicollinearity issues are evaluated by variance inflation factor (VIF) values. The threshold value of the VIF value is 3.30 (Roy, 2023c). The outcomes in Table 4 affirmed no concern about collinearity issues.

Table 4: Collinearity Evaluation

	PAS	**PCS**	**PEP**	**PIN**	**PUP**	**ATOP**	**STOP**
ATOP	1.431	1.900	2.064	1.333	2.392		
STOP	1.396	1.888	1.950		2.387		
ITOP	1.663	2.213	2.484	1.335	2.902	2.937	2.975

4.2.2 Direct path testing

Path coefficients must be tested to evaluate the structural model (Hair et al., 2021). For testing path coefficients, t-values and p-values were examined. The researchers employed SEM procedure and SmartPLS bootstrapping tool for testing various hypotheses. Almost all hypotheses are significant at a 5% significance level, except H1a, H1b, H3c, and H4c. Figure 2 and Table 5 present the outcomes of direct path testing.

Figure 2: Results of Structural Model Analysis

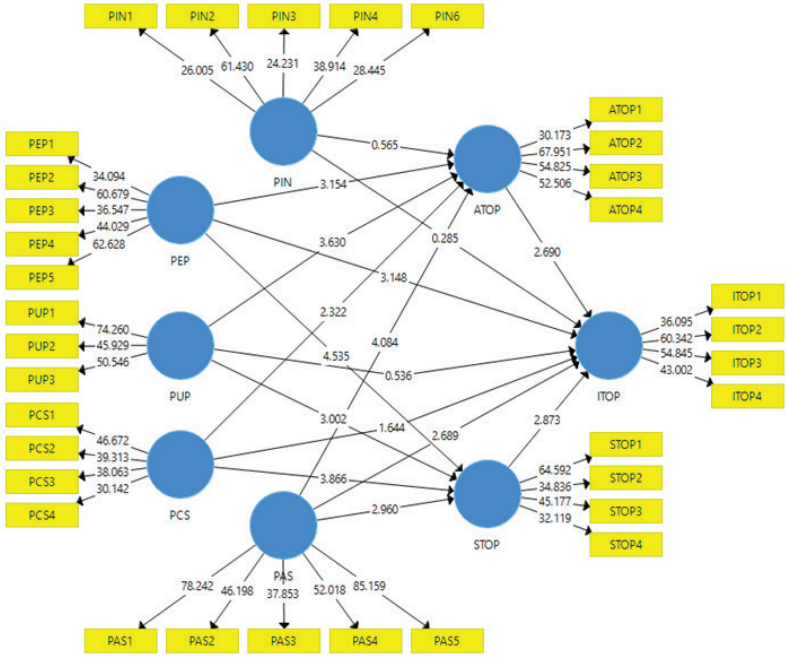


Table 5: Path Results

SN.	Path	β	t-value	p-values	Supported
H_{1a}	PIN -> ATOP	0.029	0.565	0.572	No
H_{1b}	PIN -> ITOP	0.013	0.285	0.775	No
H_{2a}	PEP -> ATOP	0.236	3.154	0.002	Yes
H_{2b}	PEP -> STOP	0.300	4.535	0.000	Yes
H_{2c}	PEP -> ITOP	0.221	3.148	0.002	Yes
H_{3a}	PUP -> ATOP	0.337	3.630	0.000	Yes
H_{3b}	PUP -> STOP	0.249	3.002	0.003	Yes
H_{3c}	PUP -> ITOP	0.038	0.536	0.592	No
H_{4a}	PCS -> ATOP	0.163	2.322	0.020	Yes
H_{4b}	PCS -> STOP	0.284	3.866	0.000	Yes
H_{4c}	PCS -> ITOP	0.127	1.644	0.100	No
H_{5a}	PAS -> ATOP	0.237	4.084	0.000	Yes
H_{5b}	PAS -> STOP	0.155	2.960	0.003	Yes
H_{5c}	PAS -> ITOP	0.157	2.689	0.007	Yes
H_6	ATOP -> ITOP	0.231	2.690	0.007	Yes
H_7	STOP -> ITOP	0.244	2.873	0.004	Yes

4.2.3 Mediation analysis

Table 6 represents the outcomes of the mediation examination. The findings are evaluated by the three types of statistics: path coefficient, *t*-values, and *p*-values. Six of the mediating paths are significant at a 5% significance level, and three of the paths are not significant.

Table 6: Results of Mediation Analysis

SN.	Path	β	t-value	p-values	Supported
H_{8a}	PIN -> ATOP -> ITOP	0.007	0.504	0.614	No
H_{8b}	PEP -> ATOP -> ITOP	0.054	1.839	0.066	No
H_{8c}	PUP -> ATOP -> ITOP	0.078	2.026	0.043	Yes
H_{8d}	PCS -> ATOP -> ITOP	0.038	1.829	0.067	No
H_{8e}	PAS -> ATOP -> ITOP	0.055	2.358	0.018	Yes
H_{9a}	PEP -> STOP -> ITOP	0.073	2.152	0.031	Yes
H_{9b}	PUP -> STOP -> ITOP	0.061	2.065	0.039	Yes
H_{9c}	PCS -> STOP -> ITOP	0.069	2.409	0.016	Yes
H_{9d}	PAS -> STOP -> ITOP	0.038	2.137	0.033	Yes

4.3 Explanatory power (R^2) and predictive relevance (Q^2) of the research model

The R^2 value assesses the explanatory power of a model. A higher R^2 value represents high explanatory power. The range of explanatory power of a model is mentioned as 0.25 (weak), 0.50 (moderate), and 0.75 (substantial) (Hair et al., 2021). According to the study results, the R^2 values for the ATOP, STOP, and ITOP were 0.659, 0.664, and 0.725, respectively. So, the outcomes discovered a moderate level of predictive accuracy. According to Hair et al. (2021), a model with good predictive relevance (Q^2) will demonstrate accuracy in predicting item data points. In PLS-SEM, the blindfolding methods were employed to examine Q^2 values. A Q^2 value of 0.02, 0.15, and 0.35 indicates low, medium, and high predictive relevance, respectively (Hair et al., 2021). This study found that the Q^2 values for the ATOP, STOP, and ITOP were 0.528, 0.511, and 0.586, respectively. So, the model has high predictive relevance. Table 7 presents the results.

Table 7: R^2 and Q^2 Results

Endogenous Variable	R^2	Explanatory Power	Q^2	Predictive relevance
ATOP	0.659	Moderate	0.528	High
STOP	0.664	Moderate	0.511	High
ITOP	0.725	Moderate	0.586	High

5. Discussion

This work is aimed at recognising the crucial factors that impact female consumers' ATOP, STOP, and ITOP in the post-pandemic era in the Bangladeshi context. The study found that two crucial factors of the TAM model, PEP and PUP, are significant predictors of ATOP and STOP for female consumers. These findings are analogous to earlier results, for example, Pakistan (Saleem et al., 2022), China (Wilson et al., 2021), and Indonesia (Warganegara & Babolian Hendijani, 2022). These results indicate that when female consumers find online activities and functions very easy and straightforward to handle, they derive a positive attitude and become satisfied. So, these outcomes indicated that purchasing with hedonic and utilitarian values is positively associated with ATOP and STOP. That means female consumers are becoming curious about online purchasing due to its ease, enjoyment, and usefulness. The study results also show that PEP has a considerable and positive impact on ITOP, which is analogous to earlier investigations (Saleem et al., 2022; Wilson et al., 2021). So, an accessible and simple platform for purchasing products leads female consumers to use it again and increases their ITOP. Unfortunately, the study findings did not support the correlation between PUP and ITOP, which contradicts previous results (Saleem et al., 2022; Wilson et al., 2021).

The PIN of female consumers in Bangladesh has no relationship with ATOP, and ITOP. These results contradict the previous findings (Lu, 2014; Saleem et al., 2022). The reason for this is that Bangladeshi women may be busy with their livelihoods. Although several women reported they love to explore new websites to search for new, quality products, technological infrastructure may prohibit them from utilising online purchasing. These findings allow online businesses to establish a less complicated online platform and urge users to embrace the system through successful marketing efforts.

Additionally, female consumers' safety and security factors, PCS and PAS, significantly correlate with ATOP and STOP. The outcomes are similar to previous studies in Pakistan (Iqbal et al., 2021; Saleem et al., 2022) and Bangladesh (Sumi & Ahmed, 2022). The results indicate that the perceived danger of infection influences female customers' psychological and emotional attitudes and satisfaction (Sumi & Ahmed, 2022). Covid-19 facilitated the habit of online purchasing among female people. Again, the female customers are concerned about security issues. When purchasing things online, users must submit their personal information, e.g., phone number, delivery address, bank card, etc. When they feel online purchasing is secure, it motivates them to create a positive attitude. PAS significantly predicts ITOP, in line with previous results (Saleem et al., 2022). As a result, online shops must consider security aspects and provide the most acceptable tools to protect customer privacy while preventing fraud and harm. On the other hand, the study found no association between PCS and ITOP.

Furthermore, the study's results confirmed that ATOP and STOP substantially impact ITOP (Ivana et al., 2021; Saleem et al., 2022; Sumi & Ahmed, 2022). So, ATOP and STOP of female consumers play a crucial role in reusing the online platform. That means when their utilitarian motives help to increase their attitude and when they feel online purchasing is satisfactory, this feeling leads them to buy products and goods online.

Finally, the mediation analysis found that ATOP mediates the relationship between PUP, PAS and ITOP. However, ATOP did not mediate the relationship between PIN, PEP, PCS, and ITOP. So, female consumers found that online purchasing is helpful for them; it hastens their attitude and increases their intention to shop for products online. Again, security is an essential issue for female customers. They perceived online as a secure purchasing system, which helped them to use online again via attitude. In addition, STOP strongly mediates the relationships between PEP, PUP, PCS, PAS, and ITOP. The results reveal that women found online purchasing to be easy, beneficial, safe, and secure, which leads them to satisfy and develop their intention to buy online. Although the direct relationships between PUP, PCS, and ITOP were insignificant, PEP and PCS are vital when evaluating the ITOP via satisfaction.

5.1 Theoretical and practical implications

The current findings contribute to theoretical knowledge by determining the factors that affect female consumers' ITOP, who are significant e-commerce consumers. The swift advance of technology and the Internet eliminates geographical constraints, creating a worldwide marketplace. The outcomes confirmed that in the aftermath of a pandemic, female customers' ITOP is positively influenced by PEP, PAS, ATOP, and STOP variables directly. Again, PUP and PCS have a positive impact via ATOP and STOP on ITOP. According to the study, Bangladeshi female consumers benefited from online shopping. Their attitude, satisfaction, and intention toward online purchasing were stimulating. This study also validates TAM and TRA theories regarding Bangladeshi female consumers' online behavioural intentions. The results confirm that Bangladeshi women use technological benefits with a high attitude to advance their lifestyles.

This study has important theoretical implications. First, it broadens our knowledge of online purchase intentions by employing TAM and TRA. Second, by considering five critical factors—PIN, PEP, PUP, PCS, and PAS—in internet shopping behaviours, the study reinforces, contributes to, and enlarges existing the literature. Past studies have not articulated these factors in analysing customer behaviour by applying these theories in the setting of Bangladesh. Applying the TAM model, the researchers found that these emphasised variables are crucial for female consumers' advent of technological breakthroughs. By merging TAM and TRA in this study, findings imply that these theories have predictive power in analysing consumer acceptance behaviours toward online technologies.

From a practical standpoint, this study helps managers understand customer behaviour in online purchases by utilising identified parameters. The researchers urge that online merchants become more responsive to enhancing online purchasing infrastructure by considering the primary variables of buying behaviour in internet purchases. Furthermore, the study's findings indicate that when it comes to purchasing, customers are more concerned about their health and safety, encouraging them to purchase online. According to Mehta et al. (2020), Covid-19 significantly influenced the world economy, which changed the socioeconomic purchasing behaviour of consumers. As a result, e-managers should prioritise health and safety procedures during delivery, and clients must be guaranteed

this feature. Because of the pandemic, regular purchase behaviour and the competitive benefits of online purchasing may modify customers' conventional purchasing habits. Managers must first examine customers' purchasing habits and the influence of variables on altering behaviour responses to improve their knowledge and comprehension. As a result, the outcomes of this research may help marketers envisage not just females but also other consumer demographics. Through successful advertising, e-commerce companies may get a competitive advantage over traditional methods. Similarly, in today's competitive and technology-driven business climate, firms must establish easy and effective e-commerce portals to fulfil consumers' increasing expectations.

6. Conclusions, limitations, and future research

The current study evaluates the crucial attitudinal and satisfactory factors for predicting ITOP. Female consumers are an important, as they make up the majority (50.46%) of the Bangladeshi population (BBS, 2022). So, women play a vital role in forming e-commerce. According to the results, female consumers are concerned about the ease and usefulness of online purchasing. These hedonic and utilitarian benefits significantly impact their ITOP, directly and indirectly. Again, they are also cautious about the security issues and the safety of health and disease due to the pandemic. Thus, a secure online shopping portal significantly impacts female consumers' ATOP, STOP, and ITOP. Similarly, quick delivery and safety issues are positively associated with buying intention.

On the contrary, PIN has no significant impact on ATOP and ITOP. Again, female consumers' ATOP plays a crucial role in predicting ITOP. So, a positive attitude is essential for purchasing products online. Also, ATOP mediates positive relationships between PUP and ITOP and PAS and ITOP. Finally, satisfaction significantly predicts ITOP. Similarly, it mediates the association between all of the proposed relationships. So, female consumer satisfaction is crucial for motivating them to purchase online.

This study is not beyond limitations. First, this study was based only on female customers, constraining the generalisation of the results. Second, this work utilises only cross-sectional data; longitudinal data may be used in the future. This study concentrates on TAM and TRA for evaluating online buying intention. Future research may use other theories, for example,

the UTAUT2 model. Future studies may incorporate other variables, for example, the economic status of the consumers, employment status, gender differences, frequency of internet browsing, etc.

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