

# Perceived Ease of Use, Security, and Trust as Predictors of Online Purchase Intention: A Technology Acceptance Model Extension

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## Abstract

This study extends the Technology Acceptance Model (TAM) to examine the determinants of online purchase intention in Bangladesh, focusing on perceived ease of use, security, and trust. The study employed a quantitative research method, where data were collected through a structured survey questionnaire. To ensure the reliability and objectivity of the findings, a sample of 232 young customers was selected using purposive sampling, thereby minimizing bias and enhancing the trustworthiness of the data. The data collected from the study were analyzed with SEM which helped to establish and prove the proposed connections in the framework. The findings reveal that perceived ease of use and security significantly influence online purchase intention. Conversely, the moderator effect of trust on the relationship between perceived ease of use, security and online purchase intention was not supported. These results suggest that costumers in Bangladesh prioritize functional usability and secure transaction features over trust-related considerations when making online purchases. The study contributes to TAM literature by validating an extended model in the context of an emerging market. In practice, online retailers are advised to prioritize user-friendly interfaces, streamlined navigation, and robust security mechanisms to encourage adoption and build long-term customer engagement. The study emphasizes further study on other fields and nations.

**Keywords:** Perceived Ease of Use, Security, Trust, Online Purchase Intention, TAM

## 1. Introduction

E-commerce has experienced remarkable growth in Bangladesh, driven by increasing internet penetration, mobile usage, and digital payment systems. The rapid expansion of e-commerce in Bangladesh has transformed consumer behavior, particularly among young customers who represent the largest segment of online shoppers. Young customers are emerging as the most active participants in online shopping due to their familiarity with technology and lifestyle preferences. Despite this growth, online purchase intention remains influenced by multiple uncertainties, including concerns about system usability, transaction security, and the reliability of online vendors. This study is important because it extends TAM with security and trust to clarify young customers' online purchase intentions in Bangladesh, addressing gaps in emerging-market

e-commerce research and offering practical insights to build consumer confidence. The idea of online purchase intent which means a customer's interest in buying something online, plays a key role in e-commerce (Peña-García et al., 2020). The convenience of browsing, shopping and payment options affects users and can encourage them to buy from the company again on a frequent basis (Dastane, 2020). Online purchase intention refers to the willingness of consumers to buy goods or services through online platforms (Peña-García et al., 2020). Perceived ease of use is a major critical issue for young customers to make online purchase in Bangladesh. Perceived ease of use means that someone evaluates a system or technology based on how simple they believe it is to use (Hasyim et al., 2022). It depends on what users have experienced with similar systems before. Things that determine perceived ease of use are the user interface, simple instructions, fast response, easy-to-follow pathways and overall simplicity. Positive perceptions of ease of use can lead to increased trust in the online platform & ultimately higher intention to purchase (Wafiyyah, 2021; Wilson et al., 2021). Security perception is defined as the degree to which person believes that the online vendor or website is secure. It is a considerable issue for transferring important information like credit card details (Salisbury, 2001). Security issue as one of the customer concerns has been cited in online purchasing studies (Flavian et al., 2006; Chang & Chen, 2008). It is agreed by researchers that security is not only a technical challenge, and it includes human and organizational aspects too. Further, trust is a big challenging issue for young customers making online purchase intention. Trust means being sure that the other person will remain loyal, not share secrets and act for what is best for everyone (Siegrist, 2021). A high level of trust can lead to more confident online purchases by consumers, while a low level or lack thereof can reduce the motivation for customers to buy products online. Having an online platform, they have a lot of trust in, young customers are more likely to view it as easy to use, dependable, and risk-free hence increasing their intentions to buy online (Khan et al., 2024; Shariffuddin et al., 2022). Previous studies primarily focused on developed markets, leaving a gap in understanding how factors such as perceived ease of use, security, and trust influence online purchase intentions in a developing country like Bangladesh. Considering such a scenario, the present study is deemed significant to fulfill the early research gaps and expectations.

The aim of this study is to see how making online buying of local tourist services depends on the perceived ease of use and security aspects. The study contributes: (1). The study seeks to develop a comprehensive framework that explains consumer behavior in the context of digital online service platforms. (2). The study also offers practical implications by providing clear guidelines for tourism service providers on enhancing user experience, optimizing digital marketing strategies, and strengthening online security measures. Specifically, the study aims to answer the following research questions:

- (1) What do perceive ease of use and security influence online purchase intention among young customers?
- (2) What role does trust play in shaping or strengthening these relationships?

## **2. Literature Review**

### **2.1 Theoretical Foundation**

This study applies the Technology Acceptance Model (TAM) to examine how Perceived Ease of Use (PEOU) and Security affect online purchase intention among young customers. The

Technology Acceptance Model (TAM), developed by Davis (1989), is one of the most influential models for predicting the acceptance and usage of information systems. The Technology Acceptance Model (TAM) is widely used to examine consumers' intention to adopt mobile technologies in hospitality and tourism contexts (Li et al., 2024). This paper reviews the use of the Technology Acceptance Model (TAM) in the context of halal industries (Noor, 2024). In the context of Augmented Reality (AR) in online shopping, perceived ease of use and perceived usefulness are critical intermediates that link AR experiences to purchase intentions. These experiences enrich TAM by highlighting the impact of innovative technology on consumer behavior (Guo & Zhang, 2024).

### **3. Hypotheses Development**

#### **3.1 Perceived Ease of Use (PEOU) and Purchase Online Intention**

The Technology Acceptance Model (TAM), developed by Davis (1989), identifies Perceived Ease of Use (PEOU) as a critical factor influencing users' acceptance and use of technology. PEOU also positively affects perceived value, which in turn influence online shopping intention (Ramayah & Ignatius, 2005). While some studies found PEOU to significantly impact online shopping intention (Moslehpour et al., 2018; Turkson et al., 2024). Perceived ease of use also plays a significant role in influencing online shopping intention (Zhang, 2024). Empirical studies support this relationship, indicating that systems perceived as easier to use lead to greater trust and higher purchase intentions (Pavlou, 2003; Gefen and Straub, 2004). PEOU has been found to affect online shopping intention positively and significantly (Mollel & Chen, 2025; Alshammari & Babu, 2025). Such findings let businesses and marketers see how they can improve online shopping and encourage consumers to buy more. Based on the literature, the study proposes the hypothesis following:

**H1:** Perceived ease of use increases online purchase intention.

#### **3.2 Security and Online Purchase Intention**

Perceptions of security also have a direct effect on purchase intention. If customers believe that an e-commerce site offers safe transactions and protects their privacy, they are more willing to engage in online buying. The relationship between security and online purchase intention indicates that customers are more willing to engage in online shopping when they believe their personal and financial information will remain safe. A lack of security, on the other hand, discourages customers from proceeding with purchases, even if the platform is convenient.

A study revealed that security had a significant positive influence on consumer purchase intention in online shopping (Baeshen, 2021). Security positively affects cognitive trust and negatively impacts perceived risk, both of which influence attitudes towards online shopping and purchase intention (Tran & Nguyen, 2022). For Generation Z consumers, security is a primary determinant of online purchase intention, encompassing both product guarantees and protection of personal data (Veybitha et al., 2021). An earlier study found that website security in e-commerce directly affects customer purchase intention (Ertemel & Civelek, 2018). A study found that security demonstrated a significant positive influence on purchase interest, suggesting that secure payment systems and data protection increase consumers' willingness to shop (Arpah et al., 2023). Another study shows that security significantly build trust, and trust directly increases consumers

repurchase interest in online travel agents. (Bimaruci et al., 2020). The hypothesis suggested by the study is presented as follows:

**H2:** Security influences online purchase intention.

### **3.4 Trust Moderating between Perceived Ease of Use and Online Purchase Intention**

The study emphasizes that trust plays a vital role in reducing uncertainty and turning positive perceptions into actual purchase decisions, making it a critical determinant of young customers' online buying behavior. When an online shopping platform is easy to use, young customers feel more comfortable and less uncertain while navigating it. This convenience enhances their confidence and builds trust in the platform, as they believe the system is reliable and designed to support them. Studies done lately have analyzed the connections among how easy a website seems, trust, and whether a person is willing to buy products online. Trust also proves to be an important factor in shaping a person's willingness to purchase (Solihin & Ahyani, 2024). Several papers (Rahmiati & Yuannita, 2019; Setiyaningsih et al., 2023) assert that people's perception of ease of use does significantly increase their likelihood of buying. Research points out that trust can increase people's willingness to purchase when they feel that using the product is easy (Mcknight et al., 2002 and Gefen, 2000). Wistedt (2024) found that perceived ease of use does not directly impact purchase intention toward partial online internationalization retailers, but requires mediation through both trust and commitment. This suggests trust acts as a necessary intermediary rather than a direct moderator. Consumer trust moderates the relationship between perceived ease of use and online purchase intention for sustainable products (Rizomyliotis, 2024). Wang et al. (2022) conducted a meta-analysis confirming trust's positive influence on purchase intentions in social commerce, with trust in sellers showing particularly strong effects. Trust can help boost the connection between a person's view of a brand and their desire to purchase. It is found that trust changes the connection between a consumer's views and the decisions they intend to make. They point out that trust plays a big role in helping consumers decide if they should go through with an online transaction. From the findings of the study, the hypothesis is hereby proposed:

**H3:** Trust moderates on the relationship between perceived ease of use and online purchase intention.

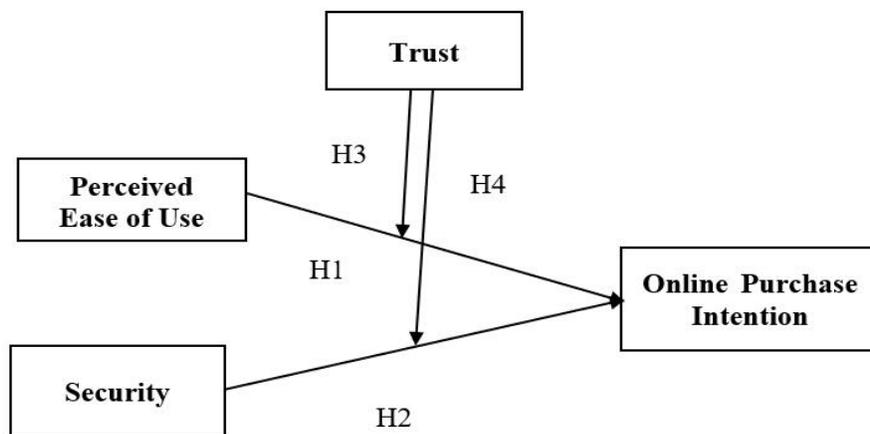
### **3.4 Trust Moderating between Security and Online Purchase Intention**

Trust is very important in guiding the impact of security on a person's desire to purchase online. Therefore, some studies found that trust as a social process where individuals offer trust and receive security, support and other benefits in return (Sathar et al., 2022; Valero et al., 2021). A study proved that people trust someone more when they see the person as honest, dependable and with a strong reputation (Bente et al., 2012). It has been discovered by some studies that trust plays a role in linking risk perceptions, e-WOM, and privacy to decisions about online buying (Ilhamalimy & Ali, 2021; Veronica & Rodhiah, 2021). The level of trust in an online retailer weighs heavily on whether a person intends to buy something from the company's website (Qalati et al., 2021). The study found that trust transfer from online to offline channels and quality online content both positively influence consumers' purchase intention in O2O e-commerce (Zhang & Wang, 2021). Trust strengthens the relationship between security and online purchase intention

(Hanaysha et al., 2023). When trust levels are high, the positive effects of security on purchase intention become stronger, because customers not only find the system simple and safe but also believe that the vendor will act reliably and deliver as promise. The study proposes following hypothesis:

**H4:** Trust moderates on the relationship between security and online purchase intention.

#### 4.0 Conceptual Framework



**Figure 1:** Conceptual Model

#### 5. Methodology

This study adopted a quantitative, cross-sectional survey design based on the Technology Acceptance Model (TAM) to examine the effects of perceived ease of use, security, and trust on online purchase intention among young customers in Dhaka, Bangladesh. Data were collected through a structured questionnaire administered via Google Forms using a purposive sampling technique, since the sampling frame was unknown. A total of 232 valid responses were obtained from respondents aged 18–35 with prior online shopping experience. In addition, VIF analysis was performed within the PLS-SEM framework, confirming no multicollinearity issues. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with bootstrapping to test hypothesized relationships. A total of 260 questionnaires were distributed to young customers in Dhaka. Of these, 240 were returned, yielding a 92.3% response rate. After screening, 232 valid responses were retained, giving a valid rate of 89.2%.

#### 5.1 Measures

This study utilized established measurement scales for each construct, adapted from prior research to ensure content validity and contextual relevance. Perceived Ease of Use was measured using seven items adapted from Al-Dwairi (2013) and Gefen et al. (2003). For Security, five items were adapted from Shin (2010) and Flavián and Guinalíu (2006). The construct of Trust was measured using five items derived from Gefen and Straub (2004), Edwards et al. (2009). Lastly, Online Purchase Intention was assessed using seven items adapted from Wu et al. (2021) and Topalo (2012). In using 5 Likert scale measurement items asking respondents to express levels of strongly agree = 5 scale or strongly disagree = 1 scale with statements reflecting these constructs used by this study.

## 6. Results

### 6.1 Demographic Profile

The demographic profile of the respondents is presented in terms of gender, age, and experience. Males constituted 55.6% (n = 129) of the sample, whereas females accounted for 44.4% (n = 103), indicating a slightly higher proportion of male participants. Regarding age, the majority of respondents were between 19 and 24 years (37.1%, n = 86), followed closely by those aged 18 years and below (36.6%, n = 85). Smaller proportions were observed in the 25–30 years (19.4%, n = 45) and 31–35 years (6.9%, n = 16) categories. In terms of experience, 43.5% (n = 101) of respondents reported 1–5 years, 25.4% (n = 59) less than 1 year, 24.1% (n = 56) 6–10 years, and 6.9% (n = 16) over 10 years of experience. Collectively, the sample was predominantly young and exhibited limited to moderate experience, which may have implications for their perceptions and behaviors within the scope of this study.

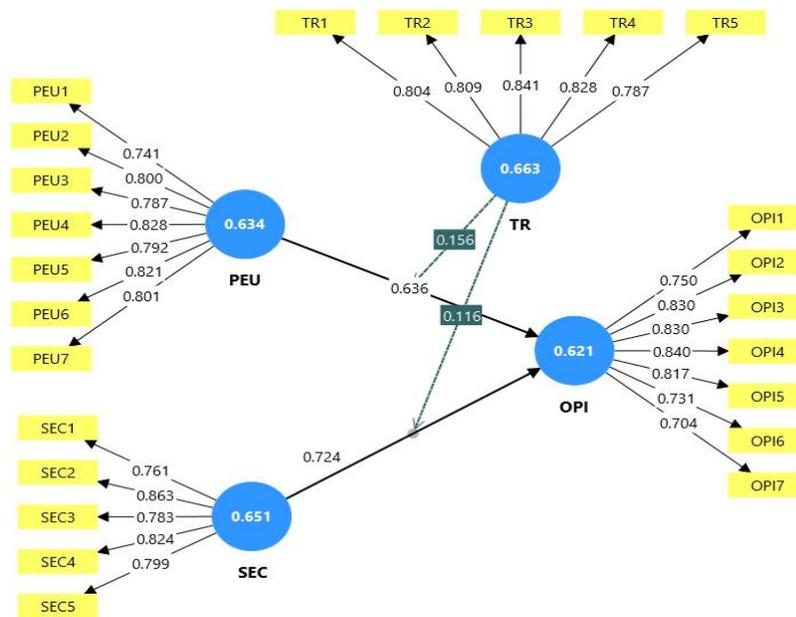
**Table 1: Demographic Profile**

| Control Variables            | Category           | Frequency | Percent |
|------------------------------|--------------------|-----------|---------|
| Gender                       | Male               | 129       | 55.6    |
|                              | Female             | 103       | 44.4    |
| Age                          | 18 Years and below | 85        | 36.6    |
|                              | 19-24 Years        | 86        | 37.1    |
|                              | 25-30 Years        | 45        | 19.4    |
|                              | 31-35 Years        | 16        | 6.9     |
| Experience (Young Customers) | Less than 1 Year   | 59        | 25.4    |
|                              | 1-5 Years          | 101       | 43.5    |
|                              | 6-10 Years         | 56        | 24.1    |
|                              | Above 10 Years     | 16        | 6.9     |

Source: SPSS- 30 Version

### 6.2 Reliability Test

The measurement model was assessed in terms of indicator reliability, composite reliability, and convergent validity. As shown in the table, all factor loadings exceeded the minimum threshold of 0.70, ranging from 0.731 to 0.863, thereby demonstrating satisfactory indicator reliability (Hair et al., 2022). The composite reliability (CR) values for all constructs were also well above the recommended cut-off of 0.70, with Perceived Ease of Use (CR = 0.924), Security (CR = 0.903), Trust (CR = 0.908), and Online Purchase Intention (CR = 0.919), indicating strong internal consistency. Similarly, the Average Variance Extracted (AVE) values for all constructs were greater than the 0.50 benchmark, ranging from 0.621 to 0.663, which confirms adequate convergent validity (Hair et al., 2022). These results collectively establish that the measurement items used in the study are both reliable and valid for capturing their respective constructs.



**Figure 2: Measurement Model**

**Table 2: Reliability Test**

| Constructs                  | Items | Loadings | Composite Reliability | Average Variance Extracted (AVE) |
|-----------------------------|-------|----------|-----------------------|----------------------------------|
| Perceived Ease of Use (PEU) | PEU1  | 0.741    | 0.924                 | 0.634                            |
|                             | PEU2  | 0.800    |                       |                                  |
|                             | PEU3  | 0.787    |                       |                                  |
|                             | PEU4  | 0.828    |                       |                                  |
|                             | PEU5  | 0.792    |                       |                                  |
|                             | PEU6  | 0.821    |                       |                                  |
|                             | PEU7  | 0.801    |                       |                                  |
| Security (SEC)              | SEC1  | 0.761    | 0.903                 | 0.651                            |

|                                 |      |       |       |       |
|---------------------------------|------|-------|-------|-------|
|                                 | SEC2 | 0.863 |       |       |
|                                 | SEC3 | 0.783 |       |       |
|                                 | SEC4 | 0.824 |       |       |
|                                 | SEC5 | 0.799 |       |       |
| Trust (TR)                      | TR1  | 0.804 | 0.908 | 0.663 |
|                                 | TR2  | 0.809 |       |       |
|                                 | TR3  | 0.841 |       |       |
|                                 | TR4  | 0.828 |       |       |
|                                 | TR5  | 0.787 |       |       |
| Online Purchase Intention (OPI) | OPI1 | 0.750 | 0.919 | 0.621 |
|                                 | OPI2 | 0.830 |       |       |
|                                 | OPI3 | 0.830 |       |       |
|                                 | OPI4 | 0.840 |       |       |
|                                 | OPI5 | 0.817 |       |       |
|                                 | OPI6 | 0.731 |       |       |

### 6.3 Heterotrait-Monotrait Ratio (Discriminant Validity)

Discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT), in line with the criteria suggested by Henseler et al. (2015) and Hair et al. (2019). As presented in the table 3, all HTMT values among the constructs were below the recommended threshold of 0.90, with the highest value recorded between security and online purchase intention (0.816), followed by Perceived Ease of Use and Security (0.774). The interaction terms (TR × SEC and TR × PEU) also demonstrated values well below the cut-off, ranging from 0.023 to 0.138, further supporting discriminant validity. These results indicate that the constructs are conceptually distinct from one another and do not exhibit multicollinearity issues, thereby confirming the adequacy of discriminant validity in the measurement model.

**Table 3: HTMT Ratios (Discriminant Validity)**

| Constructs | OPI   | PEU   | SEC   | TR    | TR x SEC | TR x PEU |
|------------|-------|-------|-------|-------|----------|----------|
| OPI        |       |       |       |       |          |          |
| PEU        | 0.701 |       |       |       |          |          |
| SEC        | 0.816 | 0.774 |       |       |          |          |
| TR         | 0.720 | 0.688 | 0.704 |       |          |          |
| TR x SEC   | 0.097 | 0.131 | 0.081 | 0.023 |          |          |
| TR x PEU   | 0.138 | 0.085 | 0.138 | 0.074 | 0.820    |          |

### 6.4. Variance Inflation Factor (VIF)

Multicollinearity was assessed using the Variance Inflation Factor (VIF) values, following the guidelines of Hair et al. (2022). The results show that all measurement items had VIF values

ranging between 1.617 and 2.737, which are well below the commonly accepted threshold of 5, indicating the absence of multicollinearity concerns. Specifically, items under Online Purchase Intention, Perceived Ease of Use, Security, and Trust demonstrated VIF values within the acceptable range, thereby confirming stable and reliable estimates. Furthermore, the interaction terms (TR × PEU and TR × SEC) each recorded a VIF of 1.000, suggesting no multicollinearity issues. Overall, these findings confirm that multicollinearity does not pose a problem in the measurement model, ensuring the robustness of the structural model results (Hair et al., 2022).

**Table 4: Variance Inflation Factor (VIF)**

| Constructs | VIF   |
|------------|-------|
| OPI1       | 1.781 |
| OPI2       | 2.447 |
| OPI3       | 2.487 |
| OPI4       | 2.737 |
| OPI5       | 2.522 |
| OPI6       | 1.865 |
| OPI7       | 1.617 |
| PEU1       | 1.896 |
| PEU2       | 2.427 |
| PEU3       | 2.233 |
| PEU4       | 2.463 |
| PEU5       | 2.172 |
| PEU6       | 2.625 |
| PEU7       | 2.291 |
| SEC1       | 1.783 |
| SEC2       | 2.513 |
| SEC3       | 1.754 |
| SEC4       | 2.230 |
| SEC5       | 2.007 |
| TR1        | 1.998 |
| TR2        | 2.133 |
| TR3        | 2.225 |
| TR4        | 2.211 |
| TR5        | 1.898 |
| TR x PEU   | 1.000 |
| TR x SEC   | 1.000 |

### 6.5 R<sup>2</sup> Values

The coefficient of determination (R<sup>2</sup>) was examined to assess the explanatory power of the structural model. As shown in the results, Online Purchase Intention (OPI) achieved an R<sup>2</sup> value of 0.617, indicating that 61.7% of the variance in OPI is explained by its predictors. According to Hair et al. (2022), an R<sup>2</sup> value above 0.60 can be considered substantial in behavioral and social

sciences research. This suggests that the proposed model demonstrates a strong explanatory capacity in predicting online purchase intention.

**Table 5: R<sup>2</sup> Values**

|     | <b>R-square</b> |
|-----|-----------------|
| OPI | 0.617           |

### 6.6 Model Fit

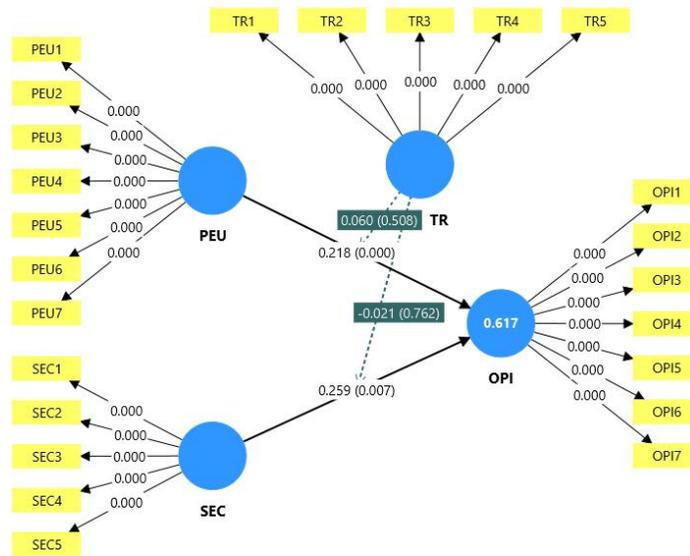
The model fit was assessed using several goodness-of-fit indices for the saturated model. The Standardized Root Mean Square Residual (SRMR) was 0.062, which falls below the recommended threshold of 0.08, indicating a good model fit. Similarly, the squared Euclidean distance ( $d_{ULS} = 1.147$ ) and the geodesic distance ( $d_G = 0.510$ ) were within acceptable ranges, further supporting model adequacy. The chi-square value was 649.344, which, although sensitive to sample size, provides additional information about model fit. The Normed Fit Index (NFI) was 0.831, exceeding the minimum acceptable level of 0.80, thus suggesting an acceptable fit of the model to the data. Collectively, these indices confirm that the measurement and structural models demonstrate satisfactory fit (Hair et al., 2022).

**Table 6: Model Fit**

|            | <b>Saturated model</b> |
|------------|------------------------|
| SRMR       | 0.062                  |
| $d_{ULS}$  | 1.147                  |
| $d_G$      | 0.510                  |
| Chi-square | 649.344                |
| NFI        | 0.831                  |

### 6.7 Hypotheses Analysis

The hypotheses were evaluated using a significance level of  $p < 0.05$  and a critical t-value of 1.96. The results indicated that Perceived Ease of Use (PEU) significantly influenced Online Purchase Intention (OPI) ( $\beta = 0.218$ ,  $t = 3.692$ ,  $p < 0.001$ ), thus supporting H1. Similarly, Security (SEC) had a significant positive effect on OPI ( $\beta = 0.249$ ,  $t = 2.719$ ,  $p = 0.007$ ), supporting H2. However, the moderating effects were not significant, as the interaction between Trust and PEU ( $\beta = 0.049$ ,  $t = 0.661$ ,  $p = 0.508$ ) and the interaction between Trust and SEC ( $\beta = -0.015$ ,  $t = 0.303$ ,  $p = 0.762$ ) did not exceed the critical t-value of 1.96, leading to the rejection of H3 and H4. Overall, the findings suggest that while PEU, and SEC, are significant predictors of OPI, the moderating role of Trust was not supported within the model.



**Figure 3: Structural Model**

**Table 7: Hypotheses Analysis**

| Hypotheses | Relationships   | Beta (β) | T Statistics | P Values | 2.50%  | 97.50% | Decision      |
|------------|-----------------|----------|--------------|----------|--------|--------|---------------|
| H1         | PEU -> OPI      | 0.218    | 3.692        | 0        | 0.103  | 0.335  | Supported     |
| H2         | SEC -> OPI      | 0.249    | 2.719        | 0.007    | 0.057  | 0.431  | Supported     |
| H3         | TR x PEU -> OPI | 0.049    | 0.661        | 0.508    | -0.126 | 0.225  | Not Supported |
| H4         | TR x SEC -> OPI | -0.015   | 0.303        | 0.762    | -0.149 | 0.118  | Not Supported |

Note: Significance level of  $p < 0.05$  and a critical t-value of 1.96

## 7. Discussion

This study examined the role of Perceived Ease of Use (PEU), Security (SEC), and Trust (TR) in influencing Online Purchase Intention (OPI), along with the moderating effects of Trust on the relationships. PEU was found to have a significant positive influence on OPI (H1). This supports the assumptions of the Technology Acceptance Model (TAM), which emphasizes that when systems are user-friendly and easy to navigate, consumers are more likely to adopt and use them for online purchasing. The result is consistent with prior research that highlights usability as a key driver of consumer engagement in e-commerce platforms (Islam et al., 2023). Security also demonstrated a significant effect on OPI, highlighting the critical importance of transaction safety and data protection (H2). Consumers are increasingly concerned about fraud and privacy risks in online transactions. Therefore, platforms that implement effective security measures are more likely to build confidence and encourage purchasing behavior. This aligns with existing studies that point to security as a fundamental antecedent of online consumer trust and behavior (Hafez et al., 2023; Fazal et al., 2024). The interactions between TR and PEU as well as TR and SEC were

statistically insignificant (H3, H4). This suggests that trust is important as a direct determinant of OPI, it does not strengthen the effects of ease of use and security on purchase intentions. One possible explanation is that TR already exerts a strong direct influence on OPI, which may overshadow its potential role as a moderator. This implies that consumers consider trust, usability, and security as independent drivers of their online purchasing behavior.

The results of the study highlight that e-commerce platforms should prioritize enhancing system usability, strengthening security infrastructures, and fostering trust directly rather than relying on trust as a moderating mechanism. Rahaman et al. (2022) mentioned that trust raises the idea that technology is easy to use which encourages more online purchases in Bangladesh. The research by Qalati et al. (2021) indicates that trust helps control the way that service quality impacts users' decision to purchase items online. These insights contribute to the growing body of literature on consumer behavior in digital marketplaces and provide practical guidance for online businesses seeking to increase purchase intention.

### **8. Theoretical and Practical Implications**

The study contributes the Technology Acceptance Model (TAM) by confirming that Perceived Ease of Use (PEU) and Security (SEC) significantly predicts Online Purchase Intention (OPI). In addition, the integrated testing of PEU, SEC, and TR within a single model provides a more holistic perspective on the determinants of OPI. By uncovering both direct and non-significant moderating effects, this study contributes new insights that encourage future research to explore mediation effects, conditional indirect relationships, and contextual factors such as consumer experience or platform reputation.

In practical, researchers have developed a model to assist business experts and those involved in platform development in highlighting the chief psychological and behavioral factors that affect purchasing decisions. The model can be used to make digital platforms that help with usability, earn trust and keep young customers active, since they may have different levels of experience with technology. The research also gives guidance to people who buy and sell products. To satisfy customers, the study advises businesses to regularly test usability, provide different customer support services and collect comments on the interface to keep improving it. Adopting these approaches may make Bangladeshi young customers more content and faithful to the company. Moreover, the study helps strengthen e-commerce by giving a clear guide for boosting how online purchases are carried out in Bangladesh.

### **9. Limitations and Future Study**

The study has certain limitations that offer avenues for further investigation. The use of self-reported survey data may have introduced bias; future research could incorporate behavioral or transactional data to strengthen validity. The sample, largely composed of younger consumers, restricts generalizability, suggesting the need for studies across different age groups and cultural contexts. The model examined only Perceived Ease of Use, Security, and Trust, while other factors such as satisfaction, perceived value, and platform reputation were not included. Future research could extend the framework by integrating these constructs for a more holistic understanding. Additionally, the absence of significant moderating effects of trust points to the

need for testing alternative moderators, such as consumer experience, brand credibility, or cultural orientation. Employing longitudinal or experimental approaches may also help capture changes in consumer perceptions and online purchase behavior over time.

## Conclusion

This study examined the influence of Perceived Ease of Use, Security, and Trust on Online Purchase Intention. The findings confirmed Perceived Ease of Use and Security significantly influenced purchase intention among young customers. However, the moderating effects of trust were not supported, suggesting that these relationships operate more independently than previously assumed. Theoretically, the study advances TAM by incorporating security as a distinct antecedent and clarifying the role of trust as a direct predictor of consumer intention. Practically, the findings emphasize the need for online platforms to enhance usability, strengthen security systems, and foster consumer trust to encourage purchase behavior. This study contributes to the literature on digital consumer behavior and offers valuable directions for future research in online commerce.

## Declaration

The author(s) declare that generative AI and AI-assisted technologies (specifically ChatGPT by OpenAI) were used solely to refine the language and improve the clarity of the manuscript. Following the use of these tools, the author(s) carefully reviewed, revised, and edited the content to ensure accuracy and originality. The author(s) take full responsibility for the integrity and final content of the publication.

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