Antecedents of Purchase Intention on E-Commerce Platforms: Evidence from Vietnam

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Abstract

Research purpose:
The main objective of the paper is to identify the key variables that influence Vietnamese consumers' purchasing intention within e-commerce platforms.

Research motivation:
Despite a substantial body of research focusing on online consumer behaviour in Vietnam, there remains a noticeable gap in literature concerning the heterogeneity in consumer purchase intentions within e-commerce landscape. A theoretical aspiration of this paper is to validate the applicability of the Technology Acceptance Model (TAM) in the contexts of e-commerce platform. In this paper, an adoption of TAM was proposed with an additional construct incorporated – Transaction Security. In the domain of e-commerce, Transaction Security has been identified as a paramount determinant influencing consumer intentions towards online shopping.

Research design, approach, and method:
Grounded in the framework of the Technology Acceptance Model (TAM), the present study advances a conjectural model aimed at understanding purchase intention in the realm of e-commerce. A novel construct, Transaction Security, was incorporated into the TAM framework to reflect its pivotal role in e-commerce. Utilizing SPSS for data analysis, the study engaged a sample of 256 respondents through a questionnaire employing the snowball sampling method. Utilizing the Statistical Package for the Social Sciences (SPSS) for data analysis, the proposed model was evaluated through data garnered from a sample of 256 respondents, employing a survey questionnaire and utilizing the snowball sampling technique.

Main findings:
The findings revealed that the adapted TAM model accounted for 55.2% of the variance in purchase intentions, with perceived long-term usefulness emerging as the most significant predictor, followed by perceived ease of use and transaction security. The study also identified a strong consumer preference for specific e-commerce platforms—namely Shopee, Lazada, and Tiki—and for particular categories of products.

Practical/managerial implications:

Practically, the results advocate for e-commerce platforms in Vietnam to focus on enhancing the perceived value of online shopping through user-centric design, interactive features, and robust security protocols. These strategic imperatives not only fulfill diverse consumer needs but also elevate the precision of product-specific information, thereby fostering greater consumer trust and engagement. This study contributes both to the theoretical discourse on e-commerce consumer behavior and offers actionable insights for industry stakeholders.

Keywords: purchase intention, e-commerce platforms, perceived usefulness, perceived ease of use, transaction security.

1. INTRODUCTION

The advent of e-commerce as a prominent avenue for retail transactions gained traction in the mid-1990s, coinciding with significant advancements in information and communications technology. According to data published by Statista (2022a), global retail e-commerce sales witnessed a surge from $1.336 trillion in 2014 to an estimated $4.938 trillion in 2021. In the specific context of Vietnam, retail e-commerce sales have escalated to $13.7 billion and are projected to experience a growth rate of approximately 20%, reaching $16.4 billion in 2022, as reported by the Vietnamese Ministry

of Industry and Trade. Despite a substantial body of research focusing on online consumer behaviour in Vietnam, there remains a noticeable gap in literature concerning the heterogeneity in consumer purchase intentions within e-commerce landscape. In this context, a study was carried out to elucidate the key variables that influence consumers' purchasing intention within e-commerce platforms, with a particular focus on identifying variations in the shopping behaviours of the Vietnamese populace.

A theoretical aspiration of this paper is to validate the applicability of the Technology Acceptance Model (TAM) in the contexts of e-commerce platform. Developed by Davis in 1989, TAM has been widely used as an instrumental framework for exploring the adoption of technological innovations and emergent information systems. However, over the years, a litany of critiques has emerged concerning the Technology Acceptance Model (TAM) due to its simplicity and the inadequate explication of antecedents affecting technology acceptance, namely perceived usefulness and perceived ease of use (Venkatesh, Davis & Morris, 2007; Lee, Kozar & Larsen, 2003). Therefore, a numer of scholars are endeavoring at evaluating the predictive power of TAM through the integration of additional constructs, including technology fit, trust, transaction security, subjective norms, and social influence. In this paper, an adoption of TAM was proposed with an additional construct incorporated – Transaction Security. In the domain of e-commerce, Transaction Security has been identified as a paramount determinant influencing consumer intentions towards online shopping (Grandinetti, 1996). Zorkadis and Karras (2000) further underscore the criticality of security as a formidable barrier in the e-commerce landscape, attributing its significance to the unchecked proliferation of integrated web-based tools, which can engender a host of potential issues such as fraudulent information, unlawful transactions, and unauthorized interception and exfiltration of sensitive data. During online transactions, consumers' credit card details, along with other personal data, are often stored on inadequately secured merchant web servers, rendering consumers susceptible to unauthorized access and potential exploitation by cybercriminals.

As a result, the research questions guiding this investigation are: (1) What are the key antecedents influencing the purchase intentions of Vietnamese consumers within the e-commerce landscape? and (2) How does the robustness of TAM with an additional variable hold up, given the fast e-commerce retail sales in Vietnam. The findings of this study are expected to provide insights into the underlying factors that shape consumer intentions for e-commerce transactions, thereby contributing to a deeper understanding of the principal determinants that influence such intentions among the Vietnamese consumer base.

The subsequent sections of this paper are organized as follows: The next section provides a succinct overview of the e-commerce landscape. This is followed by the theoretical underpinnings and the research model. Subsequently, a comprehensive exposition of the study's findings is presented. These findings are then thoroughly examined, accompanied by a number of implications and conclusions. Finally, the study's limitations are deliberated upon, alongside suggestions for future research endeavours.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 E-commerce

Conceived by Michael Aldrich in 1979, e-commerce can be characterized as any form of commercial activity executed via an electronic network or digital interface (Wigand, R. T., 1997). The e-commerce landscape in Southeast Asia has been undergoing rapid expansion since the mid-2010s, a growth trajectory that has been significantly amplified by the advent of the COVID-19 pandemic. Between 2016 and 2021, the aggregate value of e-commerce sales in the region experienced a quintupling, registering an annual growth rate of 40 percent. Concurrently, the proportion of e-commerce transactions as a share of total retail sales escalated from 5 percent to 20 percent (Arora et al.,, 2022). This rapid expansion can be attributed to the increasing popularity of internet access, facilitated by the widespread adoption of smartphones and other digital devices among the populace. Additionally, the emergence and growth of online marketplaces such as Lazada, Shopee, and Sendo have been instrumental in this surge. It is noteworthy that Southeast Asia comprises a heterogeneous amalgamation of economies at varying stages of development, thereby resulting in disparate rates of e-commerce penetration across constituent nations. At the forefront are Indonesia and Singapore, with penetration rates approximating 30 percent, whereas the Philippines, Thailand, and Vietnam lag behind with penetration rates hovering around 15 percent (Arora et al.,, 2022).

In Vietnam, channel diversification in the e-commerce sector is an ascendant trend, with a concentration of transactions in apparel, food and beverage, beauty and health care, and low-value electronics. The majority of these transactions occur on consumer-to-consumer platforms such as Shopee, Laza, Tiki, and Sendo (Arora et al.,, 2022). Social e-commerce platforms, which capitalize on users' social networks for sales, are gaining momentum. While traditional e-commerce platforms like Shopee continue to maintain market dominance, social networking platforms have also emerged as top choices for e-commerce among Vietnamese consumers. Notably, TikTok has introduced its TikTok Shop in Vietnam, aiming to bolster sales via live streaming.

2.2 Purchase intention

The term 'purchase intention' encapsulates a consumer's predisposition to engage in a commercial transaction on a web platform offering goods and services (Zwass, 1998). Such intentions can manifest in various forms, including information sharing, sustaining business interactions, and initiating commercial transactions. Given that online transactions involve not only the actual purchase but also an exchange of informational elements (Dachyar et al., 2017), monitoring online purchase intentions serves as a pertinent metric for evaluating consumer willingness to utilize the website.

2.3 Technology acceptance model (TAM)

The Technology Acceptance Model (TAM) was principally formulated to illuminate the underlying mechanisms that govern the acceptance of technology, with the dual aims of predicting user behavior and furnishing a theoretical framework for the efficacious deployment of technological systems (Davis, 1989; Davis, 1993). On a pragmatic level, TAM sought to guide industry practitioners by offering prescriptive measures to be considered in the pre-implementation stage of systems. To realize these objectives, a methodological sequence was rigorously employed. Within the TAM, the assimilation of technology is conceived as a triphasic process: external variables, predominantly design attributes of the system, elicit cognitive evaluations—namely, perceived ease of use and perceived usefulness—which subsequently engender affective responses, specifically attitudes towards usage and behavioral intentions. These affective outcomes, in turn, exert influence on actual usage behavior. In this construct, behavior is delineated as an outcome variable, shaped by the interplay of perceived ease of use, perceived usefulness, and behavioral intention (Davis, 1989; Davis, 1993).

Beyond its foundational role in the realm of information systems management, the Technology Acceptance Model (TAM) has found applicability across diverse disciplines, including but not limited to marketing and advertising (Gefen, Karahanna & Straub, 2003; Dabholkar & Bagozzi, 2002; Gentry & Calantone, 2002). Owing to the pervasive integration of information systems in the marketing—particularly in the commoditization of goods and services—TAM has evolved into an instrumental framework for scrutinizing consumer attitudes towards emergent technologies such as chatbots, e-commerce platforms, and digital shopping utilities (Gefen, Karahanna & Straub, 2003; Araújo & Casais, 2020). For instance, research employing TAM has substantiated its efficacy in elucidating consumer evaluations of online shopping interfaces, thereby reinforcing their proclivity to engage in e-commerce transactions. It has been empirically verified that, in conjunction with trust, TAM constructs account for a significant variance in consumer attitudes towards information systems tools, subsequently influencing their behavioral patterns (Gefen, Karahanna & Straub, 2003). Moreover, TAM has been successfully deployed in demystifying the adoption dynamics of e-commerce chatbots, thereby enhancing our understanding of their impact on purchasing intentions (Araújo & Casais, 2020).

The Technology Acceptance Model (TAM) is widely used in information systems and applied to various research areas, including e-commerce. TAM suggests that the perceived usefulness and ease of use of technology are critical factors in determining an individual's intention to use it (Davis, 1989). Additionally, security is another essential factor in online transactions because of consumers' potential risks and threats (Grandinetti, 1996). Drawing upon extant literature and the Technology Acceptance Model (TAM), the objective of the current study is to scrutinize the determinants influencing Vietnamese consumer purchase intentions within e-commerce platforms. The three main elements included in the research model are perceived usefulness (PU), perceived ease of use (PEU), and transaction security (TS).

2.4 Perceived ease of use

A salient predictor of both current and prospective technology utilization is perceived ease of use (PEU), as posited by Fred D. Davis (1989). PEU is conceptualized as the extent to which individuals perceive a given system or technology to be effortlessly accessible (Davis, F. D., Bagozzi, R. P., & Warshaw, P. R., 1989). In simpler terms, PEU represents the individual's belief that using a particular system involves minimal effort. Existing literature has consistently demonstrated that PEU exerts a significant influence on both purchasing intentions and consumer attitudes toward a company's product offerings. Emphasizing the utility and advantages of technology, consumers display a marked preference for platforms that offer convenience in the online shopping experience (Nguyen & Do, 2019). Drawing upon the foundational frameworks of both the Technology Acceptance Model (TAM) and existing literature on Perceived Ease of Use, we hereby propose the following hypothesis:

H1: Perceived Ease of Use positively affects consumers' intention to purchase on e-commerce platforms.

2.5 Perceived usefulness

Perceived Usefulness (PU) is defined as the number of advantages, including convenience, speed, and cost-effectiveness, that consumers associate with technological utilization (Broekhuizen & Huizingh, 2009). The inclination of consumers to engage with e-commerce platforms is heightened when sellers assure the provision of information that will elicit positive consumer attitudes and elevated levels of perceived usefulness (Pham et al., 2022). Moreover, existing research

posits perceived usefulness as the most potent factor influencing consumer purchase intentions on e-commerce platforms (Nguyen & Do, 2019). In light of these past studies, the hypothesis is thus formulated:

H2: Perceived Usefulness positively affects consumers' intention to purchase on e-commerce platforms.

2.7 Transaction Security

Transaction Security (TS) pertains to the consumer's perception of the protective measures in place to safeguard personal and financial data against potential malicious attacks in an online retail environment (Roman, 2006). Traditional marketing scholarship recognizes the impact of perceived risk on consumer behavior (Chu & Li, 2008). When faced with multiple options, consumers often experience uncertainty and apprehension, leading them to seek methods to mitigate these perceived risks. Lallmahamood (2007) elaborated on user perceptions concerning online security risks and the control of personal information. During an online transaction, credit card information is stored on potentially unsecure merchant servers, thereby rendering them susceptible to unauthorized access. To enhance consumer trust, companies are advised to bolster their transaction security measures (Nguyen & Do, 2019). Recent focus in sectors such as government and banking has been placed on enterprises demonstrating robust online security. Notably, transaction security has been found to positively influence online trust, which, in turn, positively impacts online purchase intentions (Lee & Hong, 2016). Based on the existing literature of purchase intention and transaction security, we develop the subsequent hypothesis:

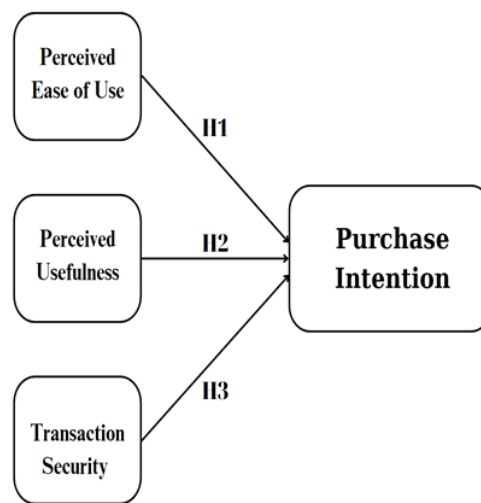*H3: Transaction Security positively affects consumers' intention to purchase on e-commerce platforms.*

Fig. 1. Proposed research model

3. METHODOLOGY

3.1 Sample and Data Collection

To evaluate the proposed research model, a data collection instrument in the form of a questionnaire was developed. The study's target population comprises individuals aged between 11 and 43 in Vietnam who engage in e-commerce activities. Snowball sampling was employed as the sampling technique, and data were gathered through questionnaires distributed via Google Forms. The data collection process took place in April 2023. Out of the 278 questionnaires obtained, 22 were deemed incomplete, resulting in a final sample size of 256. The demographic breakdown of the sample indicates that the majority of respondents are female (66.4%), and more than half (53.9%) identified themselves as students. A majority of the respondents indicated a preference for conducting their purchases on the Shopee, Lazada, and Tiki e-commerce platforms, with usage percentages standing at 45.7%, 20.3%, and 17.8%, respectively. The predominant categories of products purchased include apparel, books and school supplies, as well as cosmetics and beauty care products

3.2 Measurements

The scales incorporated into the questionnaire were primarily derived from the conceptual frameworks and structures of extant literature. Five-point Likert scales, ranging from 'strongly disagree' (1) to 'strongly agree' (5), were used to measure four key constructs: perceived usefulness (PU), perceived ease of use (PEU), transaction security (TS), and purchase intention (PI). These measures were adapted from the study of Toan Do (2019) and some wording changes were made to better fit the goals

of the current study.

3.3 Data analysis

This paper utilizes SPSS to analyze data, so statistical significance between variables was assessed using simple correlation analysis, regression analysis, and coefficients.

4. RESULTS AND DISCUSSION

4.1 Reliability and Validity Test

A Cronbach's alpha test was executed on four constructs, as delineated in Table 4.1, to ascertain the accuracy of the measurement items employed. The findings corroborate the high reliability of all the scales, with adjusted item-total correlation values consistently exceeding the 0.3 threshold (Nunnally & Bernstein, 1994), and Cronbach's alpha values predominantly surpassing the 0.8 benchmark, in line with Hair et al. (2003).

Table 1: Reliability of measurements

Construct	Mean	Std. Deviation	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted
Perceived Usefulness (PU)	**3.83**	**0.698**	**0.890**		
PU1	3.92	0.824		0.721	0.869
PU2	3.84	0.870		0.771	0.861
PU3	3.80	0.925		0.635	0.883
PU4	3.70	0.936		0.632	0.884
PU5	3.77	0.866		0.747	0.864
PU6	3.96	0.788		0.762	0.864
Perceived Ease of Use (PEU)	**3.46**	**0.697**	**0.840**		
PEU1	3.67	0.955		0.623	0.814
PEU2	3.93	0.849		0.563	0.828
PEU3	3.39	0.931		0.665	0.801
PEU4	3.12	0.878		0.668	0.801
PEU5	3.23	0.847		0.705	0.792
Transaction Security (TS)	**3.14**	**0.842**	**0.893**		
TS1	2.92	1.016		0.748	0.870

Construct	Mean	Std. Deviation	Cronbach's Alpha	Corrected Item-Total Correlation	Cronbach's Alpha If Item Deleted
TS2	3.17	0.934		0.774	0.859
TS3	3.14	1.035		0.776	0.859
TS4	3.34	0.879		0.771	0.863
Purchase Intention (PI)	**3.64**	**0.761**	**0.864**		
PI1	3.85	0.846		0.709	0.840
PI2	3.55	0.852		0.765	0.788
PI3	3.50	0.859		0.752	0.800

(Source: Own elaboration)

4.2 Hypothesis testing

In this study, simple correlation analysis, regression analysis, and coefficients are used to investigate the relationship between variables.

Table 2: Simple correlation analysis

	PU	PEU	TS	PI
PU	1			
PEU	0.677**	1		
TS	0.517**	0.732**	1	
PI	0.704**	0.636**	0.560**	1

**. Correlation is significant at the 0.01 level (2-tailed)

(Source: Own elaboration)

As illustrated in Table 2, several predictor variables exhibit robust correlations with Purchase Intention. The most substantial correlation was observed for Perceived Usefulness (70.4%), followed by Perceived Ease of Use (63.6%) and Transaction Security (56%). It is noteworthy that all predictor variables maintained a positive correlation. These empirical findings underscore the preeminence of Perceived Usefulness as the most influential determinant of Purchase Intention, with Transaction Security exerting the least impact.

Table 3: Coefficients

Model	Unstandardized Coefficients	Sig.	VIF
	B		
(Constant)	0.415	0.026	
PU	0.540	0.000	1.850
PEU	0.185	0.0019	2.919

TS	0.162	0.004	2.158

As shown in Table 4.3, all three variables have significant values less than 0.05, so these variables are statistically significant, and all affect the dependent variable PI. Specifically, Perceived Usefulness exerted the most substantial positive influence on purchase intention, evidenced by a regression coefficient (β) of 0.54. This was followed by Perceived Ease of Use, which also showed a positive but lesser impact, with a regression coefficient (β) of 0.185. The factor Transaction Security registered the lowest impact, as indicated by its regression coefficient (β) of 0.162. Accordingly, these empirical findings indicate that hypotheses H1, H2, and H3 are supported.

Table 4: Regression analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Durbin-Watson
1	0.704	0.495	0.493	1.883
2	0.740	0.547	0.544	
3	0.746	0.557	0.552	

As shown in Table 4.4, the proposed research model accounts for 55.2% of the variance in purchase intention within the e-commerce landscape in Vietnam. The residual 44.8% can be attributed to variables not included in the model and random error.

$$\textbf{PI= 0.415+0.540PU + 0.162TS +0.185PEU}$$
$$\textbf{R}^2 \textbf{ adj = 0.552}$$

4.3 Discussion

In the present study, our findings support the model of TAM to explain the customer's purchase intention via e-commerce in Vietnam. Moreover, the significant impact of three variables in the model of TAM on customers' attitudes toward online purchases has been confirmed, in which perceived usefullness is found to be the strongest determinant of purchase intention on ec-commerce platforms. This is followed by perceived ease of use and transaction security.

As summarized earlier, Perceived Usefulness, with a regression coefficient (β) of 0.54 exerts a significant positive impact, serving as the most influential determinant of purchase intention. Consequently, Hypothesis H2 receives empirical support, a finding that aligns with extant literature. For instance, research conducted by Toan Do (2019) corroborates the prominence of perceived usefulness as the paramount factor influencing online purchasing intentions. Further, Pham et al. (2020) lend credence to our findings, demonstrating that the COVID-19 pandemic has served as a moderating variable, amplifying consumers' awareness of utility and encouraging e-commerce platform utilization. Nonetheless, societal acceptance could be a barrier to broader e-commerce adoption. This study reaffirms that Perceived Usefulness is the most potent predictor of purchase intentions, a notion supported by Nguyen et al. (2022). To capitalize on these insights, e-commerce vendors in Vietnam are advised to formulate marketing strategies aimed at enhancing the perceived value of online shopping as a convenient, efficient, and rewarding alternative. The inclusion of more interactive, experiential, and recreational features, coupled with comprehensive product information, can serve to meet the diverse needs of the online consumer base and improve the precision of product-specific information (Zhou, 2007).

With a regression coefficient (β) of 0.185), Perceived Ease of Use (PEU) is empirically verified to have a favorable influence on purchase intention, thereby substantiating Hypothesis H1. This result is consistent with previous research, including works by Toan Do (2019), Ramayah and Ignatius (2005), and Venkatesh and Davis (2000), all of whom posit that PEU serves as a requisite variable in forecasting consumer purchase intentions. The underlying rationale is that a consumer's affinity for technology is positively correlated with their perception of its ease of use, a relationship that extends to online shopping behaviors. Additionally, research by Jiang and Yang (2013) affirms that when various aspects of retail shopping—such as search, access, ownership, and transaction—are perceived to be straightforward and convenient, the likelihood of consumers engaging in online shopping is elevated. It is pertinent to highlight the ascending trajectory of social e-commerce platforms in Vietnam, platforms that leverage users' social networks to drive sales. While established e-commerce entities like Shopee continue to command significant market share, social networking platforms are increasingly recognized as top choices for e-commerce activities among Vietnamese consumers. A case in point is the introduction of TikTok Shop in Vietnam, designed to augment sales through live-streaming features. In light of the entry of these emerging competitors, consumers are presented with a broader array of choices. Hence, it is advisable for e-commerce platforms to offer user-friendly interfaces and ease of use as key differentiators to capture consumer preference.

Transaction Security (β = 0.162) has a positive impact on the purchase intention of Vietnamese consumers, so the third hypothesis H3 is supported. This is in line with Toan Do (2019), Dauda, Santhapparaj, Asirvatham, and Raman (2007). For customers using e-commerce, Maditinos, Sarigiannidis, and Dimitriadis (2007) consider that Transaction Security is an important factor affecting purchase intention and an individual who never transacts will feel hard to realize the risk. It shoulbd be noted that in the work of Toan Do (2019), Transaction security is found to have more impact on purchase intention than perceived ease of use while in our study transaction security is surprisingly proved to have the least impact on perchase intention within e-commerce landscape. This could be explained by the fact that (1) the Covid-19 has changed people's attitude towards online shopping on e-commerce platforms; (2) In a fiercely competitive market, many key players pay close attention to ensuring the transaction security, thereby buidling more trust among consumers. For example, Shopee, a dominant player in Vietnamese e-commerce landscape, has recently included the optional insurance features in every order, so customers can pay a small extra fee for any potential damages during delivery process. Therefore, they can exchange goods free of charge in case of goods being broken. So, all in all, despite having the least impact on consumer's purchase intention, transaction security still deserve attention from e-commerce vendors. In order to reinforce the purchase intention of customers, e-commerce should continuously maintain and develop Transaction Security. For instance, according to the Tiki joint stock company, it has ten prestigious and detailed privacy policies, so it helps customers trust when intending to purchase.

5. CONCLUSION

The primary objective of the present study is to explore the factors influencing purchase intentions on e-commerce platforms. The empirical results suggest that Vietnamese consumers predominantly favor platforms such as Shopee, Lazada, and Tiki for their online shopping activities. The most commonly purchased product categories encompass apparel, educational materials, and cosmetics and beauty care products. Firstly, the study underscores the pivotal roles of perceived usefulness and perceived ease of use in shaping the purchase intentions of Vietnamese consumers. It is noted that formulating marketing strategies aimed at enhancing the perceived value of online shopping as a convenient, efficient, and rewarding alternative is the key to the success of e-commerce platforms. The inclusion of more interactive, experiential, and recreational features, coupled with comprehensive product information, can serve to meet the diverse needs of the online consumer base and improve the precision of product-specific information. As a strategic imperative, e-commerce platforms should concentrate on amplifying these perceptions to augment purchase intentions. Secondly, emphasis should be placed on refining user experience design and crafting user-centric interfaces. Finally, while transaction security might not rank high on the list of consumer priorities, the importance of implementing robust security protocols to safeguard customer information cannot be overstated, particularly in an era of escalating cybersecurity threats. Ensuring data confidentiality is integral to fostering consumer trust and loyalty; therefore, the incorporation of advanced security features is recommended.

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