DEVELOPING E-COMERCE TECHNOLOGY INTEGRATION FOR DIGITAL BUSINESS MODELS IN THE FASHION INDUSTRY

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ABSTRACT

This study focuses on e-commerce technology integration with fashion digital business models. The fashion industry is adopting digital solutions; therefore, understanding how to integrate e-commerce technology to stay competitive and enhance customer experiences is crucial. This study evaluates delivery options, pricing systems, product quality, and customer assistance, as they affect e-commerce integration. This research examined 197 participants' data to identify key themes and correlations that drive fashion retail's digital revolution. The findings show that a lasting digital firm strategy requires solid e-commerce infrastructure, specialized customer service, and efficient logistical operations. Theoretically, cutting-edge e-Commerce technologies boost consumer satisfaction and corporate viability. Management implications also underline the need for deliberate technical investments and market-driven modifications. This research provides useful information for fashion companies using e-commerce technology to improve their digital business strategies and succeed in a competitive industry.

Keywords: Digital business models; Fashion industry; E-commerce technology; Digital transformation; Pricing strategies.

TÓM TẮT

Tích hợp công nghệ thương mại điện tử với các mô hình kinh doanh kỹ thuật số thời trang là trọng tâm của nghiên cứu này. Ngành công nghiệp thời trang đang áp dụng các giải pháp kỹ thuật số, vì vậy việc hiểu cách tích hợp công nghệ thương mại điện tử để duy trì khả năng cạnh tranh và nâng cao trải nghiệm của khách hàng là rất quan trọng. Nghiên cứu đánh giá các tùy chọn giao hàng, hệ thống định giá, chất lượng sản phẩm và hỗ trợ khách hàng khi chúng ảnh hưởng đến tích hợp thương mại điện tử. Nghiên cứu này kiểm tra dữ liệu của 197 người tham gia để xác định các chủ đề và mối tương quan chính thúc đẩy cuộc cách mạng kỹ thuật số của bán lẻ thời trang. Các phát hiện cho thấy một chiến lược công ty kỹ thuật số lâu dài đòi hỏi một cơ sở hạ tầng thương mại điện tử vững chắc, dịch vụ khách hàng chuyên biệt và hoạt động hậu cần hiệu quả. Về mặt lý thuyết, các công nghệ thương mại điện tử tiên tiến thúc đẩy sự hài lòng của người tiêu dùng và khả năng tồn tại của công ty. Các hàm ý quản trị cũng nhấn mạnh đến nhu cầu đầu tư kỹ thuật có chủ đích và các sửa đổi theo định hướng thị trường. Nghiên cứu này cung cấp thông tin hữu ích cho các công ty thời trang sử dụng công nghệ thương mại điện tử để cải thiện chiến lược kinh doanh kỹ thuật số của họ và thành công cạnh tranh trong ngành.

Từ khóa: Công nghệ thương mại điện tử; Mô hình kinh doanh số; Ngành thời trang; Chuyển đổi số; Chiến lược giá.

1. Introduction

Commerce has made significant investments in digital marketing and technological advancements. Customers can access goods and services via digital platforms and touchpoints (Dwivedi et al., 2021). Recent research suggests a multi-approach to marketing, especially for fashion e-commerce with a different clientele (Namvar et al., 2021). Innovative development methods and technological

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improvements are more likely to produce profits and disrupt industries. Companies in Vietnam may switch to online trading (Nguyen, T.H. et al., 2022) in Vietnam. It evaluates Vietnamese customers' attitudes toward large-scale online shopping. Companies must follow trends (AlNuaimi et al., 2022; Shehzad, 2021), and embrace current technology to keep up with digital innovations that affect market fundamentals (Brenner and Hartl, 2021). Market-oriented data culture has emerged from digitalization (Mikalef et al., 2020), and new innovations have helped firms adapt (Sun et al., 2021). Merchants should optimize every interaction and provide digital omni-channel experiences to please customers (Bolton et al., 2018). Assessing digital omnichannel experiences and customer decision-making may address these gaps. In many economic areas, online information and communication technology plays an essential role in our modernizing society essential (Basu and Chakraborty, 2011).

Mobile e-commerce, or m-e-commerce, has revolutionized how customers purchase clothing and connect with companies. This study concludes that fashion m-commerce technology affects customer behavior, brand involvement, and market dynamics. This study evaluates trends, technological advances, and consumer preferences to help fashion companies use mobile platforms to improve customer experiences, boost sales, and stay ahead in a fast-changing digital market. Research shows that mobile marketing boosts pre-purchase engagement and consumer acquisition (Namvar et al., 2021). Moving from storefronts to mobile websites and apps is difficult for merchants (Omar et al., 2021). Businesses must promote mobile shop features and leverage mobile channels to attract and retain customers.

Transformation may enhance digital technology in traditional and online retailing (ORE) (Nguyen, D. et al., 2022). E-commerce revenue in 2021 is $12 billion, according to the Share of Total Retail Sales in Vietnam 2015-2022. ORE contributed 5,5% of the retail sales to the digital economy by 2020. Poor ORE development compared with other countries (Hoang et al., 2021). ORE's 2023 target of 76 million Internet subscribers was not met due to technological deployment issues. Many companies are afraid of employing ORE because they do not know of its financial advantages. IT investment, creativity, managerial support, customer expectations, and laws are lacking. This seems to hinder the competitiveness of the global digital transformation. Vietnamese enterprises struggle with ORE because of infrastructure, management, and internal and external enablers (Hoang et al., 2021; Linh, et al., 2023). Perfect digital media integration is difficult to achieve (Bijmolt et al., 2021). Omni-channel integration improves travel and customer happiness (Shi et al., 2020). Customers transfer companies because of poor service and channel inconsistencies. Organizations handle channels separately rather than merging experiences (Gao et al., 2021). Understanding how purchasers interpret digital information is crucial for the success of digital business models. Client behavior changes undermine the digital multichannel buying theory (Dwivedi et al., 2021). We will examine how customers rate online business contacts (Muthaffar et al., 2024), how well mobile integration technology works on online shopping platforms, how professional ethics affect customers' shopping experience journeys, and how long-lasting and sustainable digital businesses are. This will help improve the customer-shopping experience. Our study

investigates client buying behavior to increase digital fashion.

Filling research gaps, demanding pertinent questions, and defining clear targets, this study seeks to illuminate e-commerce integration, consumer satisfaction with online buying, and mobile commerce technologies. This research has managerial and societal implications that may assist digital economy organizations in their success (Muthaffar et al., 2024).

2. Literature review

2.1. Theoretical foundation

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) proposed by Davis (1989) elucidates user technology adoption via Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which affect Behavioral Intention (BI) and actual system use. TAM has been extensively used in several fields, including e-commerce (Gefen et al., 2003), mobile banking (Alalwan et al., 2017), and artificial intelligence-driven platforms (Dwivedi et al., 2020).

Research has expanded TAM to include elements such as trust, perceived risk, and social impact (Venkatesh and Bala, 2008). Critics contend that TAM neglects social and cultural factors (Bagozzi, 2007), prompting the development of alternative models such as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). Notwithstanding its constraints, TAM continues to serve as a fundamental framework for comprehending technology uptake.

2.2. Research framework

2.2.1. Experience online shopping

Scholars have observed the rapid use of digital technology in work, socializing, and commerce. Sun et al. (2020) found that most mobile devices could explore digital sites. Mobile coupons (Nayal et al., 2021), AI-driven voice shopping, e-commerce, mobile shopping apps, social media live streaming, virtual try-on technologies, and social media word-of-mouth have been studied. Digital consumer behavior is better understood through channel-specific research (Dwivedi et al., 2021). Many models reveal managerial insights (e.g., e-commerce behavioral indicators), but few explain how customers comprehend digital multichannel information. This study examines customer assessments of digital omnichannel experiences and addresses prior demands for a better understanding of customers' cognitive processes in determining experience quality in a digital omni-channel marketplace (Ostrom et al., 2015).

2.2.2. Customer service

The fast-changing fashion sector requires e-commerce technologies to compete with and meet client expectations. Customer services are essential to digital transformation. Customer satisfaction and organizational performance depend on e-Commerce technology integration (Scarpi et al., 2014). Omni-channel access is needed in today's connected environment. Customers need consistency across mobile applications, the Internet, and social media (Arslan et al., 2021). Fashion brands must integrate their digital presence and maintain their branding and services. Click-and-collect services allow customers to shop online and offline, offering them more brand contact options. Transparency and communication are required for e-commerce customer service (Xu and Jackson, 2019). Product descriptions, sizing charts, material compositions, and care instructions provide educated consumer choices. Shipping expenses, delivery duration, refund policies, and service terms must be

clearly articulated. Establishing explicit expectations from the outset may assist fashion firms to cultivate client trust and prevent discontent.

2.2.3. Product diversity

Product diversity is essential for influencing customer behavior in online fashion purchases. Providing a wide array of items addresses the diverse wants and preferences of many clients, potentially increasing satisfaction and elevating purchase intention, as shown by study conducted by Biswas et al. Customers often like platforms with an extensive array of objects, as this facilitates the selection and customization of products that align with their requirements. Shirkhani et al. (2023). A diverse array of items can mitigate the perceived risk associated with online purchasing, as shown by a research conducted by Wu et al., 2022. Increased alternatives enable customers to compare and evaluate products effectively, thereby reducing the likelihood of erroneous purchases.

2.2.4. Prices and offers

Product price often influences a buyer's decision to remain on an online platform and search for a bargain. The objective of some online enterprises to provide the lowest prices has solidified the notion that pricing influences online consumer purchasing behavior. price promotions significantly influence consumers' price perceptions. Chan et al. (2011). The type of client, market conditions, and merchants influence online pricing strategies. To enhance revenue and consumer pleasure, diverse marketing strategies tailored to distinct client categories must be used. Personalization may transform a standard product into a tailored solution through market segmentation (Zhen et al., 2016). Organizations may examine consumer purchasing behaviors and develop tailored marketing strategies (Chan et al., 2011).

2.2.5. Product quality

A recent research, "Understanding Product Quality: What Product Quality Is and Why It Matters" (Indeed Editorial Team, 2023), found that high-quality products go beyond satisfying consumer expectations and industry norms. This involves solving difficulties, working effectively, and exceeding client expectations. High-quality products increase consumer satisfaction and loyalty. This requires strict quality control, premium materials, and regular product upgrades to match fashion trends (Dwivedi et al., 2021; Muthaffar, 2024). Product quality is crucial for digital fashion business models. This greatly impacts customer loyalty, satisfaction, and online shopping. Fashion retailers may build a loyal customer base in the competitive e-commerce sector by emphasizing product quality in their digital marketing.

2.2.6. Sustainability and business ethics

Recently, fashion criticism has focused on ethics and environment. Water-intensive production of fashion, chemical pollution, and textile waste hurt the environment. Sustainable strategies are required to mitigate these effects. Therefore, eco-friendly materials, efficient production, recycling, and upcycling are required. Sustainability-focused businesses attract eco-conscious customers and increase their market attractiveness and lifetime (Muthaffar et al., 2024). Fashion ethics include fair labor, animal welfare, and supply chain transparency. Labor exploitation, especially in developing countries' textile industries, persists. The supply chains of ethical firms prioritize fair salary, safety, and human rights. Owing to fur and leather issues, the industry is seeking cruelty-free alternatives and supplier

transparency (Eisape, 2022). Digitalizing pipeline value chain processes, goods, and services is inadequate. Competitors, supplementary suppliers, primary producers, etc. are members.

2.2.7. Delivery and exchange

Shopping in-store versus online is affected by same-day Delivery (SDD). First, regular Internet shopping works for everyday and non-daily items. Online non-daily purchases may enhance demand for local merchants (Zhen et al., 2016). Thus, retail and Internet shopping may complement one another. SDD platforms supply fundamental necessities that do not boost shopping demands. Online SDD buying frequently replaces offline shopping. Second, SDD online orders are quicker (usually within minutes) and more convenient (at the customer's desired location and time). Local store price comparisons are more difficult than those of the SDD. These features make SDD online purchasing preferable to in-person purchasing. Similar empirical research found that SDD online buying replaced in-store purchases and that frequency corresponded with replacement (Wu et al., 2022).

2.3. Hypothesis development and research model

2.3.1. Digital businesses customer market

Online shopping offers more products and services and provides more information, more alternatives and costs, easier internet searching, and convenience (Yu et al., 2005). Online shoppers are happier because they demand convenience and speed (Butler and Peppard, 1998; Yu et al., 2005). Some shoppers may still be wary of Internet purchasing because of their low trust or bad experiences.

In contrast to prior studies, Muthaffar et al. (2024) acknowledged consumers' broad usage of digital and mobile devices and their significant influence on the customer journey. Consumers rate digital omni-channel experiences in this manner. We also address earlier recommendations for a better understanding of consumers' mental processes in a digital omni-channel setting to grade experience quality (McColl-Kennedy et al., 2019). This method has clear practical implications for marketers because channel plurality requires new technology-relevant client-segmentation strategies. The customer journey includes information search, assessment, and purchase, according to our customer-centric paradigm and the literature.

2.3.2. Customer excellence and experience online shopping

Customer Excellence encompasses both product and service quality. Previous research has used theory and data to examine how customer service, product quality, and online shopping experience affect digital business models. Excellent customer services improve online shopping and consumer pleasure (Prentice and Handsjuk, 2016). Meeting product quality standards is crucial for customer satisfaction and loyalty (Zwass, 2017). Superior products and excellent customer service provide an ideal online shopping environment that promotes repeat purchases and referrals (Ordabayeva and Fernandes, 2018).

H1: Customer service positively influences the online purchase experience

H2: Product quality positively influences the online purchasing experience

2.3.3. Customer excellence and sustainability and business ethics

We examine the impact of customer service and product quality on sustainability and corporate ethics through our analysis of

digital business models. Effective customer service enhances customer satisfaction and trust, thereby facilitating the retention of long-term customers and creating sustainable value for enterprises (Adnan et al., 2023). High-quality goods not only enhance consumer satisfaction but also enable firms to maintain competitiveness and establish their reputations, which are essential for sustaining ethical practices in corporate operations (Calveras and Ganuza, 2018). The amalgamation of excellent goods and exemplary customer service enhances client experience, reinforcing the enterprise's corporate ethics and sustainable growth.

H3: Customer service positively influences sustainability and commercial ethics

H4: Product quality: positively influences sustainability and corporate ethics

2.3.4. Commercial marketing strategy and experience online shopping

In addition to product selection, pricing and incentives are two critical factors that influence and improve online purchasing experience. Customers' online purchasing experiences are enhanced when they perceive more satisfaction with the value received from competitive pricing and enticing promotions (Nguyen et al., 2020). Diversity in goods provides customers with more choices, thereby addressing various demands and enhancing the flexibility of the purchasing process (Bilgihan et al., 2016). Customers' purchasing experience is enhanced when competitive pricing, enticing promotions, and a diverse array of items are integrated. This enhances sales and cultivates consumer loyalty (Adeola et al., 2021).

H5: Pricing and promotions positively influence the online purchasing experience.

H6: Product diversity positively influences the online purchasing experience.

2.3.5. Delivery exchange and sustainability and business ethics

The business ethics and sustainability of a corporation are mostly influenced by its delivery services and policy modifications (Mofokeng, 2021). Bolstering customer confidence, minimizing waste, and demonstrating corporate commitment may be accomplished through the provision of accurate, prompt, and secure delivery services, along with a flexible and fair return policy, all of which are conducted in accordance with ethical and sustainable standards.

H7: Delivery and Exchange positively influence Sustainability and business.

2.3.6. Experience online shopping and digital business customer market

Online buying experience may significantly influence a firm's customer base. When consumers enjoy their online shopping experience, they are more inclined to remain loyal to the same platform and become more committed customers. Furthermore, they may share their exceptional experiences, augmenting the customer base of the organization (Busalim et al., 2019)

H8: The experience of online buying positively influences the digital business consumer market.

2.3.7. Sustainability and business ethics and digital business customer market

The customer demographics of a firm may be profoundly influenced by sustainability and corporate ethics. Organizations that use ethical and sustainable business practices often attract and retain a more loyal clientele. Consumers' propensity to purchase from firms that demonstrate concern for the community and environment is increasing, thus

facilitating the expansion of the consumer market (Kim et al., 2016)

H9: Sustainability and business ethics positively influence the digital business client market.

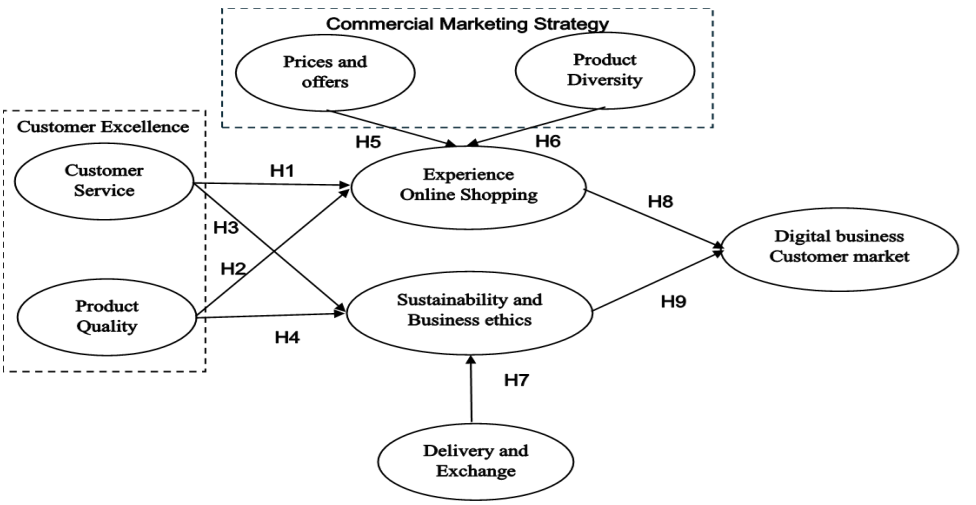


Figure 1. *Proposed research model*

2.4. Measurement scales

The survey consists of two sections: demographic inquiries and important inquiries about online shopping, e-commerce satisfaction, and digital business models. To make the questionnaire appropriate for respondents, it was first developed in Vietnamese. Once the respondents finished the survey, an English translation was added to the questionnaire. Each item was rated on a seven-point Likert scale, where 1 indicated strong disagreement and 7 indicated strong agreement. The factors and measurement sources used are listed in the following table.

Table 1. *Measurement scales*

Constructs	Items	References
Experience online shopping (EOS)	EOS1: I find internet buying to be very handy. EOS2: I can optimize my time management via the use of internet purchasing. EOS3: I am saving significant time when shopping online. EOS4: I can seamlessly shop to my contentment irrespective of my location.	(Jiang et al., 2015)
Product Quality (PRO)	PRQ1: I have access to a broader array of apparel styles when I purchase online. PRQ2: I have a greater variety of apparel designs available while purchasing online, and I often obtain things that closely resemble the designs of the items bought. PRQ3: I received garments that corresponded accurately to the dimensions provided during my online purchase. PRQ4: The materials of the fashion items I got corresponded with the descriptions provided by internet retailers.	(Hamad et al., 2017; Huang et al., 2019)

Customer Service (CUS)	CUS1: The internet shop provides product answers within 24 hours. CUS2: Online retailers warmly recommended product samples to me. CUS3: I can efficiently use internet buying techniques due to the assistance of the consulting personnel. CUS4: I am often inquired about the ratio regulations and preferences for the online shop personnel to choose the most appropriate units for me.	(Rita et al., 2019)
Delivery and Exchange (DLE)	DLE1: I can readily ascertain the projected arrival time and shipping procedure of my purchases. DLE2: I often get the items on the anticipated dates, and if there is a delay, I am notified by the business. DLE3: Online retailers will assist me if my purchase encounters an issue (incorrect model, erroneous goods supplied, product damage, etc.). DLE4: The business will respond and return the items, thereafter dispatching a replacement item promptly. DLE5: If the goods differ from the sample provided by the store, I will get a refund.	(de Melo et al., 2023; Muthaffar et al., 2024)
Prices and Offer (PRO)	PRO1: The merchandise quality I received is satisfactory and commensurate with the amount I paid. PRO2: I may choose a range of comparable things of varying worth based on the product's quality. PRO3: I may obtain monthly discounts and rewards for prolonged online shopping. PRO4: Online retailers provide pricing that are competitive and often more economical than the prevailing market rates. PRO5: The greater the number of products I purchase, the more often I get supplementary freebies and many promotions from the online shop.	(Nurhilalia and Saleh, 2024)
Product Diversity (PDD)	PDD1: I may choose several sizes and patterns that appeal to me when shopping online. PDD2: I am able to use merchandise sourced from several nations, including popular ones such as Japan, Korea, and China. PDD3: The shop constantly refreshes information about freshly introduced product designs.	(Bomberg et al., 2019)
Sustainability and Business Ethics (SBE)	SBE1: The shop provides explicit origin information for the things I purchase. SBE2: The product material corresponds to the product information. SBE3: Online retailers provide product preservation guidelines.	(Kim and Niehm, 2009)

	SBE4: The delivered products arrived meticulously packed and maintained.	
Customer Market (CMM)	CUM1: I take pride in being a patron of internet retailers.	(Tseng and Wu, 2014)
	CUM2: I believe I am well-suited for internet buying.	
	CUM3: I am very invested in the advancement of internet commerce.	
	CUM4: I am a devoted patron of internet purchasing.	

3. Research methodology

3.1. Research design

This study used a descriptive research design and quantitative data analysis. The design process is based on theory and is developed by collecting, analyzing, and presenting facts. The questionnaire was specifically used to gather primary data most of the time (Archer, 2019).

3.2. Sampling method

Data from customers who have bought online in the last six months to two years are obtained using a random sample method. Participants were provided with an information statement detailing the study's aims and methodology before the commencement of data collection. They were provided with an explanation of the omni-channel concept. The demographic information section required completion by those who expressed interest in participation (Ma and Roese, 2014). To obtain this research sample, individuals must own a smartphone with an Internet connection and be aged between 18 and 36, since this demographic is most likely to engage in online fashion purchasing in the digital age. Therefore, we selected the performance sample for the prediction in this study.

3.3. Sample size

The 197 survey samples in this research were statistically validated according to PLS-SEM criteria and G*Power analysis, guaranteeing model stability and sufficient statistical power. The 10-times rule (Rigdon et al., 2017) stipulates that a minimum sample size of 30 respondents is necessary when the most intricate construct has three dimensions, a threshold that our research significantly surpasses. Furthermore, G*Power analysis using two predictor variables, an effect size of 0,15, an alpha level of 0,05, and a power of 0,80, revealed that at least 68 respondents were necessary for statistical significance. This research, with 197 samples and almost three times the necessary minimum, guarantees enhanced reliability, less likelihood of Type II errors, and augmented model resilience. In social science research, PLS-SEM is variance-based and does not require large sample sizes such as CB-SEM, making this dataset sufficient for extracting significant insights (Hair et al., 2019). Moreover, empirical investigations in marketing and behavioral research often corroborate the results with sample sizes ranging from 150 to 250 respondents (Lowry and Gaskin, 2014), thus affirming the sufficiency of this sample. This study emphasizes data quality and relevance according to scientific standards, while resolving practical limits in survey-based research, notwithstanding the advantages of larger samples for external validity.

3.4. Data analysis

Data analysis is essential for examining the incorporation of e-commerce technology into digital fashion business models by uncovering trends, contrasting outcomes, and formulating conclusions (Gaikwad and

Dhokare, 2020). The steps include data filtering, comparison, trend analysis, and conclusions. The filtration of 197 demographic inquiries provides a robust foundation for this study. It is necessary to eliminate incomplete responses, manage outliers, and standardize findings are necessary (Gaikwad and Dhokare, 2020; Manyanga et al., 2024). Subsequently, a comparative analysis assesses the impact of factors such as customer satisfaction with the product and service quality on online purchasing behavior. Smart PLS was used to evaluate model connections and pathways to validate these findings. Smart PLS, a structural equation modeling (SEM) methodology, examines hypotheses and assesses intricate relationships among variables to elucidate the impact of e-commerce integration on customer satisfaction and corporate performance within the fashion sector (Hair et al., 2019).

4. Result and discussion

Table 2. *Respondents' profile*

Demographic Characteristic		**Frequency**	**Percentage (%)**
Gender	Female	108	54,8%
	Male	89	45,2%
Age	< 20	46	23,4%
	20-35	149	75,6%
	26-30	1	0,5%
	>30	1	0,5%
Education	12/12	20	10,2%
	College/university	173	87,8%
	Master's degree	2	1%
	Doctor of Philosophy	2	1%
Occupation	Students with Part-time Jobs	97	49,2%
	Students and non-working	63	32%
	Self-employed	12	6,1%
	Make for the company	25	12,7%
Income (monthly)	Below 10 million VND	169	85,5%
	11 million - 20 million VND	19	10%
	21 million - 30 million VND	4	2%
	Above 30 million	5	2,5%

Comprehending demographics is essential to merging e-commerce with the fashion sector. This research polled 197 people, achieving a gender-balanced sample (54,8% female and 45,2% male), demonstrating that online fashion platforms attract both genders. The age distribution indicated that 75,6% of respondents were aged 20-35, a digitally native demographic that impacts e-fashion behavior (Dwivedi et al., 2021), 23,4% were under 20, underscoring the increasing significance of younger customers (Kumar et al., 2020). Despite the underrepresentation of older demographics, further studies should investigate generational disparities in e-commerce adoption (Pantano et al., 2017).

Furthermore, 87,8% of the participants had university or college degrees, indicating a highly educated clientele adept at using digital buying platforms (Zhang and Benyoucef, 2016). Students with part-time employment (49,2%) and jobless individuals (32%) exhibited varied income levels and digital involvement. This dataset offers essential insights; nevertheless, further research should enhance demographic variety by including diverse income levels, geographic areas, and older cohorts to increase generalizability (Venkatesh et al., 2012).

Table 3. *Outer loadings and Overview of measurement model quality*

Contruct	Itemts	Outer loading	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CUM	CUM1	0,861	0,915	0,917	0,940	0,798
	CUM2	0,944				
	CUM3	0,865				
	CUM4	0,901				
CUS	CUS1	0,837	0,877	0,882	0,915	0,730
	CUS2	0,879				
	CUS3	0,875				
	CUS4	0,824				
DLE	DLE1	0,742	0,888	0,893	0,919	0,694
	DLE2	0,833				
	DLE3	0,878				
	DLE4	0,883				
	DLE5	0,820				
EOS	EOS1	0,827	0,826	0,835	0,884	0,658
	EOS2	0,732				
	EOS3	0,821				
	EOS4	0,858				
PDD	PDD1	0,888	0,881	0,884	0,927	0,808
	PDD2	0,918				
	PDD3	0,891				
PRO	PRO1	0,845	0,909	0,912	0,932	0,734
	PRO2	0,884				
	PRO3	0,825				
	PRO4	0,868				
	PRO5	0,860				
PRQ	PRQ1	0,899	0,912	0,915	0,934	0,740
	PRQ2	0,899				
	PRQ3	0,863				
	PRQ4	0,850				
	PRQ5	0,785				
SBE	SBE1	0,868	0,884	0,884	0,920	0,742
	SBE2	0,875				
	SBE3	0,864				
	SBE4	0,839				

As illustrated in Table 3, the outer loadings of each item represent the degree of connection between observed and latent variables. Often, coefficient loadings above 0,70 are suitable. Cronbach's alpha was used to assess the internal reliability. For all constructions (CUM, CUS, DLE, EOS, PDD, PRO, PRQ, and SBE), Cronbach's alpha was between 0,826 and 0,915, indicating good internal reliability. Composite dependability helps to assess composite dependability. Composites are very reliable, with CRs ranging from 0,882 to 0,932 and over 0,70 for every build (Henseler et al., 2009). AVE determines the ratio of construct variance to the measurement error. Averages above 0,50 are sufficient (Hair et al, 2019).

Based on Table 4 of the Fornell-Larcker criterion. This criterion compares the correlation coefficient of each variable with the other variables in the model by taking the square root of the Average Variance Extracted (AVE) of that variable (Hair et al., 2019). To verify discrimination, the square root of the AVE must be larger than the correlation coefficients (Hair et al., 2019). The square root of each variable's AVE in Table 4 was greater than the correlation coefficient for that variable. Every latent variable in the model is discriminant, according to the Fornell-Larcker criterion.

Table 4. *Fornell-Larcker Criterion*

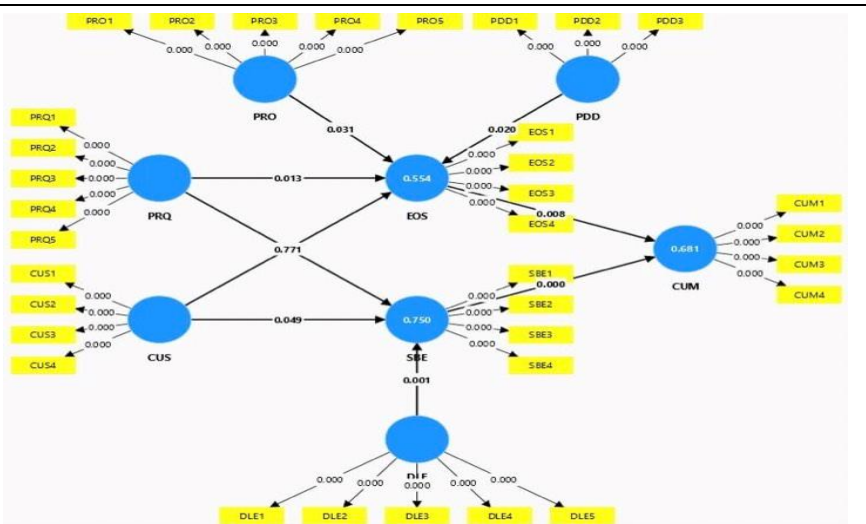
	CUM	**CUS**	**DLE**	**EOS**	**PDD**	**PRO**	**PRQ**	**SBE**
CUM	**0,893**							
CUS	0,677	**0,854**						
DLE	0,738	0,771	**0,833**					
EOS	0,612	0,606	0,661	**0,811**				
PDD	0,705	0,719	0,794	0,698	**0,899**			
PRO	0,708	0,748	0,832	0,686	0,824	**0,857**		
PRQ	0,751	0,718	0,701	0,644	0,720	0,674	**0,860**	
SBE	0,805	0,751	0,775	0,575	0,761	0,762	0,809	**0,862**

A p-value was given to each variable in the path coefficient table to indicate statistical significance (Hair et al., 2019). The association is statistically significant if the p-value is less than 0,05 or 0,01; in this instance, we may reject the null hypothesis. The remaining relationships had low p-values. CUM, PRQ, and DLE > SBE (0,000; 0,000; and 0,001) (Henseler et al., 2009). The fact that these correlations are statistically significant supports the majority of the survey participants' claims that they are substantially connected in the model.

The p-value for CUS->EOS was 0,771. Above 0,05, this number was high. Owing to inadequate statistical evidence, the null hypothesis that online shopping experience (EOS) and customer service (CUS) are related cannot be dismissed. Service quality is always important; however, the complexity and variety of consumer demands sometimes hinder the statistical significance between service quality (CUS) and online shopping experience (EOS).

Table 5. *Bootstrapping (Path coefficients)*

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Remarks
CUS -> EOS	0,032	0,032	0,110	0,291	0,771	Unsupported
CUS -> SBE	0,177	0,175	0,090	1,971	0,049	Supported
DLE -> SBE	0,315	0,327	0,095	3,319	0,001	Supported
EOS -> CUM	0,222	0,223	0,084	2,650	0,008	Supported
PDD -> EOS	0,284	0,279	0,122	2,335	0,020	Supported
PRO -> EOS	0,269	0,269	0,125	2,157	0,031	Supported
PRQ -> EOS	0,236	0,239	0,095	2,472	0,013	Supported
PRQ -> SBE	0,460	0,452	0,098	4,683	0,000	Supported
SBE -> CUM	0,677	0,676	0,082	8,276	0,000	Supported



The path coefficient analysis validates many significant associations and identifies one unsupported relationship: Customer Service (CUS) → Experience Online Shopping (EOS), with a p-value of 0,771, significantly above the threshold of 0,05. This finding indicates that customer service does not have a statistically significant direct influence on the online buying experience within the parameters of this study.

A primary cause of this insignificance may be the evolving function of customer support in e-commerce settings. In contrast to conventional retail, which emphasizes direct customer engagement, online shopping platforms increasingly depend on self-help tools, AI chatbots, and automated support systems, thereby diminishing the significance of direct customer service interactions (Tzeng et al., 2021). Consumers today anticipate a fundamental standard of service; nonetheless, until significant problems arise, customer service does not inherently improve their buying experience (Muthaffar, 2024).

Another potential reason is that the other variables have a more significant influence on EOS, thereby diminishing the impact of customer service. The statistically significant relationships between Product Diversity (PDD) → EOS (p = 0,020), Product Quality (PRQ) → EOS (p = 0,013), and Prices and Offers (PRO) → EOS (p = 0,031) indicate

that consumers prioritize variety, quality, and competitive pricing over service-related factors in their shopping evaluations. This corresponds with other studies highlighting that product characteristics and transactional efficiency surpass customer service in influencing online consumer happiness (Henseler et al., 2009).

The nature of the study sample may have affected our results. If most respondents were seasoned online shoppers, they may have established self-sufficiency in navigating across e-commerce platforms, thereby reducing their requirements for direct customer help. For this group, speedy transactions, product accessibility, and efficient delivery procedures are likely to be more crucial in shaping their shopping experience than in communicating with customer care representatives. This study supports key factors affecting sustainability, consumer market involvement, and purchasing behavior, apart from the unsubstantiated link. The strong link between EOS and CUM (p = 0,008) shows that a good shopping experience increases customer engagement, whereas the link between SBE and CUM (p = 0,000) highlights the growing importance of sustainability and ethics in consumer choices. These findings show the complexity of client opinions in digital purchase environments, where many linked factors affect overall satisfaction.

5. Conclusion and policy implications

5.1. Conclusion

Integrating e-commerce technology into the fashion sector has huge potential and is a problem for firms, but it improves digital business models. This report examines the research topics and goals of growing the digital market and improving customer satisfaction. This study demonstrates that successful e-commerce technology integration considerably extends market breadth. E-commerce platforms help fashion firms improve their procedures and interactions with clients. In a fast-growing digital economy, incorporating this technology improves operational efficiency and expands customer reach. Online shopping websites are convenient and easy to use; however, physical shopping is preferable owing to customized service and product evaluation. To meet customers' requirements, fashion manufacturers must combine online and offline purchasing ease and personalization. This study builds and develops e-commerce integration for online fashion retail, understands consumer demands and purchasing patterns, and improves mobile commerce integration in this market. These goals emphasize the need to adapt company strategies to customer behavior and technology. Overall, e-commerce presents both obstacles and opportunities for fashion enterprises. Stakeholders can navigate the digital ecosystem, boost market competitiveness, and satisfy customers by recognizing and reacting to these changes. Fashions' digital business models depend on new solutions and consumer-centric tactics.

5.2. Policy implications

5.2.1. Theoretical implications

This study provides theoretical insights into the integration of e-commerce technology with digital business models. This emphasizes the need for a coordinated strategy that includes online sales platforms, CRM systems, and digital marketing (Hajli et al., 2017). This study provides a framework for merging these features by analyzing successful fashion situations, contributing to the theoretical understanding of digital business models.

Integrating e-commerce technologies into digital business models in the fashion

industry has several theoretical ramifications. This study expands technology acceptance theories and clarifies digital business models (Akter and Wamba, 2016; Hajli et al., 2017). It also sheds light on customer behavior, enabling digital transformation research and practice (Hsu and Lin, 2016).

5.2.2. Managerial implications

Notably, customer service does not directly influence online buying experiences, indicating a transition towards AI-driven customer assistance, chatbots, and omni-channel interactions to improve productivity (Tzeng et al., 2021). Simultaneously, customers place more importance on sustainability and ethical business practices, necessitating the implementation of eco-friendly sourcing, transparent supply chains, and blockchain verification (Nguyen et al., 2023).

Effective logistics and delivery are essential for customer satisfaction and retention. Organizations need to allocate resources to rapid, adaptable delivery solutions, seamless return processes, and predictive analytics to improve fulfillment (Henseler et al., 2009). Moreover, immersive digital experiences, such as augmented reality try-ons, virtual showrooms, and gamification, may enhance engagement and conversion rates (Zhang and Benyoucef, 2016).

To maintain competitiveness, enterprises must emphasize product quality, optimize logistics, improve digital experiences, and include sustainability. Utilizing technology, customization, and ethical business methods will enhance customer interaction and ensure long-term success.

5.2.3. Social implications

Customers may shop and interact with firms differently as e-commerce increases (Wang, 2022.). Online shoppers are increasingly examining user reviews and comments regarding research products. Customers may purchase in a more educated and transparent environment, with accurate and complete information. Digital business strategies that incorporate e-commerce technology into the fashion sector have far-reaching societal effects (Goel, 2023). These variables help create an egalitarian, sustainable, and progressive society by improving accessibility, influencing consumer behavior, and creating new social relationships. These effects benefit businesses, customers, and the society.

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