A STUDY ON THE CURRENT STATE OF E-LOGISTICS OPERATIONS ON THE TIKTOKSHOP E-COMMERCE PLATFORM

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Abstract: ***The rapid development of digital technology over the past two decades has profoundly reshaped many sectors, of which e-commerce has emerged as one of the most transformative. In Vietnam, the young population structure, high Internet penetration rate, and the growing popularity of online shopping have made e-commerce a key channel in the digital economy. TikTokShop, a social commerce platform embedded in TikTok, represents a new model by integrating entertainment and shopping, allowing consumers to make quick purchase decisions while interacting with short videos and live streaming. The study found that there are five factors affecting the performance of e-logistics at the TikTokShop e-commerce platform, including: Transportation service quality (CLDVVC), Logistics cost efficiency (HQCP), Technology and systems (CNHT), Customer service (DVKH). From the results of this study, the author proposes solutions to improve E-logistics.***

• Keywords: *e-logistics, tiktokshop, social commerce, shoppertainment, e-commerce in Vietnam, logistics operations, consumer satisfaction, digital economy.*

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1. Introduction

Over the past two decades, the rapid advancement of digital technologies has fundamentally reshaped global commerce, with e-commerce transitioning from basic online transactions to sophisticated, interactive ecosystems that integrate shopping, entertainment, and social engagement. In Vietnam, the combination of a young demographic profile, high internet penetration, and increasing consumer preference for online shopping has positioned e-commerce as a pivotal driver of the digital economy. Within this evolving landscape, TikTokShop a social commerce functionality embedded within the TikTok platform has emerged as a prominent player by leveraging the "shoppertainment" model. This approach blends entertainment and retail, enabling consumers to make immediate purchase decisions while engaging with short-form videos or livestream content. The success of this model relies heavily on an efficient and well-coordinated e-logistics infrastructure that not only guarantees rapid delivery but also facilitates real-time tracking, automated order processing, and responsive customer service. This study investigates the operational characteristics of e-logistics within TikTokShop in Vietnam, aiming to identify its strengths, limitations, and potential areas for optimization. The findings are intended to contribute to both academic discourse and practical applications, offering insights to enhance logistics efficiency and improve customer satisfaction within the rapidly expanding social commerce sector.

2. Theoretical basis and research model

Theoretical basis:

Concept of E-logistics

E-logistics (electronic logistics) is the management of the flow of goods and services of an organization on an online platform (website, e-commerce site, etc.). E-logistics applies information technology and promotes the adaptation of traditional logistics systems for online operations.

Concept of TikTokShop

TikTokShop is a new feature of TikTok that allows users to open an e-commerce store right on the interface of their TikTok account. TikTokshop business is a great place for businesses to promote and sell products as well as effectively build their brand.

Research review

Research results of Turban et al. (2018), in the book "Electronic Commerce: A Managerial and Social Networks Perspective". This group of authors offers a new perspective on E-logistics, stating that: "E-logistics is a set of digital tools and processes that can interact directly with consumer behavior data to optimize the entire supply chain in an e-commerce environment".

According to Shah and Raut (2020), "E-logistics in e-commerce is a digital logistics system, directly

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integrated with online sales platforms to coordinate the flow of goods, data and finances in a flexible, automatic and transparent manner".

Research model

Based on the concepts and a review of some related studies, the author proposes a research model of factors affecting E-logistics activities at the Tiktokshop e-commerce platform with 5 influencing factors including: (1) Transportation service quality (CLDVVC), (2) Logistics cost efficiency (HQCP), (3) Technology and system (CNHT), (4) Customer service (DVKH),

Hypothesis H1: The factor Transportation service quality has a positive impact on the shopping experience at the Tiktokshop e-commerce platform.

Hypothesis H2: Logistics cost efficiency has a positive impact on the shopping experience at the Tiktokshop e-commerce platform.

Hypothesis H3: The factor Technology and system has a positive impact on the shopping experience at the Tiktokshop e-commerce platform.

Hypothesis H4: Customer Service factor has a positive impact on shopping experience at Tiktokshop e-commerce platform.

3. Research method

The paper uses a combination of qualitative and quantitative research methods to conduct the study. Qualitative research methods are used to design scales and questionnaires. To evaluate e-logistics on TikTokShop from 2022 to 2025 through an online customer survey. The author interviewed 5 experts and 3 businesses with online sales activities on e-commerce platforms, along with 4 customers who regularly shop online to determine the research model. Then, a focus group discussion was conducted with customers who regularly shop online on the TikTokShop e-commerce platform to design scales and survey forms. Quantitative methods were used to conduct the survey. Survey data were collected by sending questionnaires directly to online shoppers at TikTokShop for 4 weeks, from December 10, 2024 to January 10, 2025. The results were 213 valid questionnaires processed using SPSS 26.0 software.

4. Research results

Cronbach's Alpha Reliability Test

The results of the Cronbach's Alpha test for all factors show that the Cronbach's Alpha coefficient is > 0.7 and the corrected item-total correlation for all variables is > 0.3 (Table 1). Therefore, all measurement variables meet the requirements and are suitable for the subsequent Exploratory Factor Analysis (EFA).

Table 1: Reliability Assessment

	Factors	Observation variable (N)	Cronbach's Alpha
1	Quality of transportation service (CLDVVC)	5	0.770
2	Logistics cost efficiency (HQCP)	5	0.827
3	Technology and systems (CNHT)	5	0.842
4	Customer service (DVKH)	5	0.862
5	The Impact of E-Logistics on the Shopping Experience (MDAH)	5	0,864

Source: Survey data, analysis, 2025

Exploratory Factor Analysis (EFA)

For the dependent variable, the analysis results yielded a KMO value of 0.845 > 0.5, indicating that factor analysis is appropriate. The Bartlett's Sig. value of 0.000 < 0.001 shows that the observed variables are correlated with each other as a whole. The total variance extracted is 64.99% > 50%, which means the principal factor can explain a large portion of the variance in the data, ensuring unidimensionality and suitability for further analysis.

For the independent variables, the analysis results yielded a KMO value of 0.928 > 0.5, indicating that factor analysis is appropriate. The Bartlett's Sig. value of 0.000 < 0.001 shows that the observed variables are correlated with each other as a whole. However, the variables DVKH2 and CLDVVC3 should be removed due to low loadings (< 0.5), which suggests a need to refine the observed variables to avoid noise in the structure and reduce the model's unidimensionality. Meanwhile, the variable CLDVVC3 did not appear on any factor (loading < 0.5), indicating a weak contribution to the structure.

Correlation Analysis

Table 2: Correlation Analysis Results

		MDAH	CLDVVC	HQCP	CNHT	DVKH
r	MDAH	1	.582	.589	.707	.686
Sig.	MDAH		.000	.000	.000	.000
N		213	213	213	213	213

Source: Survey data, analysis, 2025

The correlation analysis results show that the independent variables (CLDVVC, HQCP, CNHT, DVKH) all have a positive and statistically significant relationship with the dependent variable (MDAH). The correlation coefficients range from 0.582 to 0.707 (Sig. < 0.01), demonstrating that the independent variables have a significant impact on the dependent variable.

Regression Analysis

Table 3: Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,674	,199		3,386	,001		
	CLDVVC	,085	,070	,082	1,225	,000	,461	2,170
	HQCP	,072	,071	,070	1,012	,000	,438	2,283
	CNHT	,387	,078	,375	4,945	,000	,360	2,777
	DVKH	,313	,073	,313	4,274	,000	,387	2,583
R-Square = 0.569								
F= 68.555 (Sig. ANOVA = 0.000)								

Source: Survey data, analysis, 2025

The regression analysis results show that the Variance Inflation Factor (VIF) of the variables ranges from 2.170 to 2.777 < 3. Therefore, multicollinearity among the independent variables in this model is minor and does not significantly affect the regression results. The regression results show an adjusted R-Square of 0.569, indicating that the regression model fits the data well, with 56.9% of the variance in the dependent variable explained by the independent variables CLDVVC, HQCP, CNHT, and DVKH.

The ANOVA variance analysis shows an F-value of 68.555 and a significance level of Sig. = 0.000 (Sig. < 0.05), which means the regression model is a good fit for the collected data and all variables included are statistically significant at the 5% level. The influence of the factors is ranked in descending order through the standardized regression equation as follows:

*MDAH = 0.375 * CNHT + 0.313 * DVKH + 0.082 * CLDVVC + 0.070 * HQCP*

Conclusion and managerial implications

The research results show that all 6 research hypotheses are accepted because all have a Sig. value < 0.05. Based on the table, it can be concluded that the 4 factors: Shipping Service Quality, Cost-Effectiveness, Technology and Systems, and Customer Service all have a positive impact on E-Logistics operations at the TikTokShop e-commerce platform. Among these, the Technology and Systems factor has the strongest impact (Beta = 0.375). Next, the Customer Service factor has a Beta of 0.313.

The study identifies E-logistics as an important intermediary in TikTok Shop's new-generation e-commerce model, where customer experience depends not only on products and prices but also on integrated logistics services. Key factors affecting operational efficiency include: (1) improving delivery quality through a two-way evaluation mechanism; (2) optimizing costs through automation and smart order distribution; (3) developing transparent, multi-channel tracking technology; and (4) applying flexible after-sales customer care policies.

The study proposes a set of comprehensive recommendations:

Customer Service Enhancement TikTokShop should implement streamlined complaint-handling and return processes, develop an omnichannel support framework, and balance AI-powered automation with well-trained human support teams. Establishing structured feedback loops will enable continuous service improvement and greater user trust.

Transportation Service Improvement Standardizing packaging protocols, implementing performance-based partner evaluation, and introducing fulfillment centers at key hubs can reduce operational errors. Real-time order tracking, AI-based route optimization, and transparent delivery commitments backed by compensation policies can significantly enhance logistics reliability.

Cost Efficiency Strategies

TikTokShop should diversify shipping subsidies, personalize incentives through behavioral data analytics, and offer tiered delivery service options. Transparent cost communication, regionalized pricing strategies, and predictive analytics for operational cost control will strengthen competitive advantage while maintaining affordability for consumers.

Technology and Tracking System Development

Integrated real-time tracking systems with API-based partner connectivity, AI-driven demand forecasting, and big-data-enabled risk assessment should be prioritized. Chatbot systems with natural language processing capabilities can facilitate instant problem resolution, enhancing operational agility and customer experience.

Policy Recommendations

Regulatory Support: Authorities should establish guidelines for data transparency, delivery standards, and consumer protection in e-commerce logistics.

Infrastructure Development: Invest in logistics infrastructure, particularly last-mile delivery networks, to support the growing demands of social commerce platforms.

Public Private Collaboration: Promote partnerships between e-commerce platforms, logistics providers, and governmental bodies to standardize service quality and encourage innovation.

Final Remarks

E-logistics is set to remain a key determinant of competitiveness in social commerce. Overcoming operational, technological, and policy barriers will be essential for sustainable growth. Future studies should examine the role of advanced technologies, such as blockchain and AI, in enhancing logistics efficiency and creating strategic advantage.

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