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# CÁC YẾU TỐ ẢNH HƯỞNG TỚI SỰ HÀI LÒNG CỦA KHÁCH HÀNG TRONG GIAO HÀNG CHẶNG CUỐI THƯƠNG MẠI ĐIỆN TỬ: NGHIÊN CỨU TRƯỜNG HỢP CỦA TIKI

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# Tóm tắt

Trong bối cảnh thị trường thương mại điện tử tại Việt Nam phát triển nhanh chóng và cạnh tranh gay gắt, sự hài lòng của khách hàng là yếu tố quyết định trong chiến lược kinh doanh của các nền tảng này. Tiki đang đối mặt với những thách thức đáng kể về sự hài lòng của khách hàng mặc dù là doanh nghiệp có mức độ hài lòng cao nhất trong số bốn nền tảng lớn tại Việt Nam. Nghiên cứu này tập trung vào phân tích chi tiết về hoạt động giao hàng chặng cuối của Tiki, nhằm cung cấp thông tin chi tiết để tối ưu hóa mô hình vận hành và nâng cao trải nghiệm của khách hàng. Phương pháp nghiên cứu định tính tập trung vào việc sử dụng dữ liệu từ các báo cảo của Tiki và những bài nghiên cứu trước. Bài nghiên cứu phân tích hệ thống giao hàng chặng cuối của Khách hàng đối với các yếu tố như phí giao hàng, thời gian giao hàng và độ tin cậy của hàng hóa. Kết quả phân tích sẽ giúp xác định những điểm mạnh và yếu của mô hình giao hàng chặng cuối của

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Tiki liên quan đến những yếu tố trên, từ đó đề xuất giải pháp cụ thể nhằm cải thiện sự hài lòng của khách hàng.

Từ khoá: giao hàng chặng cuối, sự hài lòng khách hàng, Tiki

# **KEY DETERMINANTS OF CUSTOMER SATISFACTION IN E-COMMERCE LAST-MILE DELIVERY: A CASE STUDY OF TIKI**

## Abstract

In the context of the rapid development of e-commerce platforms in Vietnam, intensifying market competition, customer satisfaction has become increasingly crucial in the business strategies of these platforms. Considering the fact that customer satisfaction with e-commerce platforms in Vietnam has been relatively low in recent years, particularly for Tiki-the enterprise with the highest customer satisfaction among the four major e-commerce platforms in Vietnam, yet still facing significant limitations in customer satisfaction. This research investigates the last-mile delivery practices of Tiki, a prominent player in the e-commerce industry, aiming to contribute valuable insights to optimize their operational model and enhance customer satisfaction. The methodology section details the quantitative research approach, emphasizing the utilization of data from Tiki's reports and previous research. We gathered data and information about previous research to find out the top three factors that affect customer satisfaction in last-mile delivery experience which are delivery fees, delivery time and goods reliability. Section V presents a data-driven analysis of Tiki's last-mile delivery system through Tiki's operational model, encompassing an examination of customer satisfaction levels regarding three factors above. Those analyses will help identify the strengths that Tiki has achieved with its last-mile delivery model and pinpoint weaknesses related to delivery times, delivery costs, and the reliability of goods. Subsequently, the team will propose solutions to improve these weaknesses to assist the business in enhancing customer satisfaction.

Keywords: last-mile delivery, customer satisfaction, Tiki

# 1. Introduction

In recent years, global e-retail revenues had reached \$5.2 trillion by 2021 and are forecasted to account for 21.2% of total retail sales in 2024. Undoubtedly, e-commerce has reshaped the global retail landscape and transformed practices across various industries. The burgeoning e-commerce market consistently sets revenue records, with the combined market value of e-retail giants like Amazon and Alibaba rivaling the gross domestic product of entire countries such as Mexico or Spain. Aligned with that trend, the e-commerce market in Vietnam has been experiencing overate growth, even though the logistics sector still faces numerous challenges and limitations. One of the factors that contributes to e-commerce power is last mile delivery - part of logistics, extending from the last upstream shipment point to the end consumer. However, last-mile delivery logistics in Vietnam is still underdeveloped due to a lack of a professional and robust infrastructure system. Otherwise, last-mile delivery is becoming increasingly crucial and making it a focal point because of its direct impact on customer satisfaction over the logistics industry in general. That's why in today's competitive

context, businesses are striving to optimize processes and provide the best delivery experience for customers. E-retailers will thoroughly consider and invest in using and justifying new sources and technologies to enhance customer satisfaction, aiming to leverage customer experiences and gain a competitive edge.

Recognizing that understanding the factors influencing customer satisfaction in the lastmile delivery of e-commerce enterprises is an essential topic, we have chosen to investigate the specific case of Tiki with the topic "AN ANALYSIS OF FACTORS AFFECTING CUSTOMER'S SATISFACTION IN E-COMMERCE ENTERPRISES' LAST-MILE DELIVERY: A CASE STUDY OF TIKI." The objective is to identify factors contributing to sustaining consumer satisfaction in this niche e-commerce market, especially based on the Tiki case study, and give a recommendation to businesses in adapting their services to enhance customer satisfaction with their last-mile delivery.

#### 2. Theoretical Framework

#### 2.1. Last-mile delivery in e-commerce

In the context of e-commerce, last mile delivery encompasses a series of activities necessary for transporting goods from the last transit point to the final drop point in the delivery chain (Kum, Xueqin, Li, & Yiik, 2018). This process is viewed from three perspectives: **demand** (representing individual customers, companies, and institutions), **supply** (involving courier, express, and parcel companies, as well as e-commerce services, producers, and online shops), and **the physical environment** regulated by local government (Bandeira, D'Agosto, Ribeiro, Bandeira, & Goes, 2018).

Last mile delivery is identified as the most expensive and time-consuming phase of the shipping process, constituting a significant portion of E-logistics costs with 30% according to Wang et al(2014). In terms of the overall shipping cost, last mile delivery expenses are substantial, making up 53% of the total cost (Honeywell, 2016). Besides, last mile delivery is commonly regarded as a crucial factor influencing the decision-making process of online shoppers, as indicated by studies such as those conducted by Esper et al. (2003), Murfield et al. (2017), and Buldeo Rai, Verlinde, and Macharis (2018). The PwC Global Consumer Insight Survey (2018) further also supports the notion that online shoppers highly prioritize fast and flexible delivery options.

E-commerce, also referred to as electronic commerce, encompasses the exchange of goods and services, as well as the transfer of funds or data, conducted over electronic networks, primarily the internet (Lutkevich, 2020). It encompasses a wide range of online transactions, including but not limited to online shopping, electronic funds transfers, online auctions, and online ticketing.

It's worth noting that the term "e-commerce" doesn't have a universally accepted definition, as its interpretation may vary in different contexts. However, in a simplified and general communication perspective, e-commerce is commonly understood as the transmission of information, products, or services using computer networks or telephones.

In summary, this research defines "last mile" as a logistical concept that involves adapted processes to ensure the final delivery is both comfortable for customers and efficient. Although this is defined as the most expensive and time consuming period of the whole shipping process, it is an indispensable deciding factor when evaluating customer satisfaction.

#### 2.2. Customer's satisfaction in e-commerce last-mile delivery

Although numerous scholars have offered definitions of customer satisfaction, the widely accepted one, proposed by Oliver Richard (1997), asserts that customer satisfaction is a psychological state experienced by customers after their needs have been fulfilled. It involves customers making a value judgment on the extent to which products or services meet their individual needs, and making comparisons between customers' actual perception of the service and their expectations. Therefore, customers will choose to purchase a product or service that fulfills their needs, providing pleasure and relief from pain, for example.

Rosenbloom (2005) provesthat customer satisfaction levels can vary between stages of online retail, particularly during checkout and after delivery, suggesting that the delivery process significantly impacts overall customer satisfaction. Reliable delivery has been identified as a source of customer value in e-commerce (Keeney, 1999). Additionally, factors such as on-time delivery (Heim and Sinha, 2001), price, and the total delivery time (Swaminathan and Tayur, 2003; Fisher, Gallino, and Xu, 2016) are acknowledged as customer satisfaction and loyalty to an e-retailer.

In summary, last-mile delivery services play a crucial role in customer satisfaction, with features like free delivery, same-day options, specific time slots, in-store pickup, shipment tracking, and prompt distribution being essential to meet user expectations for delivery speed.

#### 2.3. Factors affecting customer's satisfaction

The qualitative studies conducted by Giang et al (2020), Thang (2021), and Minh et al (2022) have indicated that delivery time, delivery fees, and good reliability significantly impact customer satisfaction, yielding high satisfaction scores. Building upon these findings, this research aims to delve into the correlational relationships among these three factors and customer satisfaction in the context of last-mile delivery of e-commerce platforms, focusing on the analysis of Tiki - a major e-commerce platform in Vietnam.

#### 2.3.1. Delivery time

Elements such as on-time delivery (Heim and Sinha, 2001) and the overall delivery time (Fisher et al., 2016) have been identified as precursors to customer satisfaction and loyalty to an online retailer. A research in South Africa indicated that satisfaction of online customers was found to be influenced by product delivery, measured in terms of the promised time of delivery (Mofokeng, 2021). Ibrahim's research in 2016 also demonstrated that on-time delivery, accurate address handling, and other factors significantly impact customer satisfaction.

Apart from on-time delivery, delivery timeliness impacts customer satisfaction. Online customers in developed countries have reported dissatisfaction when online retailers deliver the ordered products late or lack same-day delivery (Capgemini, 2019). In addition, several

studies have revealed that delivery timeliness positively impacts customer satisfaction (Hu et al., 2016. Moreover, timeliness is a fundamental aspect of the conceptualization of physical delivery service quality, as outlined by (Bienstock et al., 1996). In short, the delivery time stands out as the most essential factor in logistics service quality (Mentzer et al., 1999).

#### 2.3.2. Delivery fees

Gawor and Hoberg (2018) employed a choice experiment to survey 635 online shoppers in the United States, revealing that delivery fees were the most crucial factors when evaluating customer satisfaction. To further confirm the importance of delivery fees, in China and Taiwan, customer satisfaction for online shoppers was found to be partially predicted by shipping services, whether in the form of free or discounted shipping (Cao et al., 2018).

When assessing customer satisfaction with last-mile delivery services, Dang (2020) also affirmed the influence of transportation fees on the decision to buy electronic products online and customer behavior regarding programs supporting transportation fee assistance on e-commerce platforms. In the latest research, Nguyen and Huynh (2023) discovered that one of the service quality factors in e-commerce logistics affecting customer satisfaction include the price of delivery.

#### 2.3.3. Good reliabiblity

Reliability encompasses various aspects in the context of service usage and product delivery. Lin et al. (2011) define it as ensuring the security of information and assets during service usage. For goods reliability, it involves delivering well-packed items according to the order, at the agreed time and location.

Returns are a factor contributing to good reliability, with studies showing returns convenience positively influencing customer satisfaction, especially in online settings (Javed & Wu, 2019; Jones, 2017). Research in China by Javed and Wu (2019) found that 'after delivery services' (such as refunds, returns, and/or product exchanges) strongly impact customer satisfaction compared to trust and repurchase intention.

Warranty policies also play a role, acting as a signal of product reliability. Lele and Sheth (1987) and Loomba (1996) found that customers are satisfied when warranty benefits decrease purchasing risks. Oumlil (2008) outlines three key purposes of a product warranty: enhancing competitive advantage, gaining market share, and minimizing after-sales costs in cases of defects or failures.

#### 3. Literature Review

#### 3.1. Previous research results

This literature review synthesizes insights from four key research studies to provide a comprehensive understanding of the factors and conditions influencing last mile delivery services and their impact on customer satisfaction.

# Online retail experience and customer satisfaction: The mediating role of last-mile delivery

In their 2019 article, Yulia Vakulenko, Poja Shams, Daniel Hellström, and Klas Hjort examine how the surge in e-commerce growth reshapes retailers' strategies and customer interactions. The text introduces the concept of last-mile delivery, stressing its pivotal role in shaping overall customer satisfaction in the e-retail experience. The analysis, using Partial Least Squares Structural Equation Modeling (PLS-SEM), establishes a significant positive link between online experience and satisfaction. Notably, the study reveals that the last mile delivery experience acts as a mediator, elucidating the connection between online experience and overall satisfaction.



Figure 1. Final Estimation model

#### Source: Yulia et al. (2019)

In essence, the text delves into the changing e-commerce landscape, the challenges in gauging customer experience, and the crucial role of last mile delivery in shaping overall customer satisfaction. The research findings support the proposed hypotheses - customer satisfaction plays an essential role in shaping ecommerce shedding light on the intricate dynamics of online retail experiences and their impact on customer satisfaction.

#### Evaluation of Last Mile Delivery Service in Vietnam From End Users' Viewpoints

In their 2020 study, Giang, Duc, and Ha published an article titled "Evaluation of Last Mile Delivery Service in Vietnam From End Users' Viewpoints" in the journal Transportation in Developing Economies. Two main aspects were presented in the research team's survey table: the extent and preferences of customers regarding last-mile delivery, and issues where customers expressed low satisfaction related to last-mile delivery.

The research showed that cost emerged as a crucial factor influencing overall service evaluation. Surprisingly, 28% of customers opted for the free service option, contradicting initial assumptions about cost importance but representing a common customer behavior. According to the survey, over 94% of respondents considered delivery costs a significant factor, with 22.09% rating it very important, potentially influencing purchasing decisions.

Alongside cost, delivery speed was identified as another influential factor in purchasing decisions. Survey results indicated that over 95% of users of last-mile delivery services prioritized delivery speed, with 32.56% considering it very important. Further examination

revealed that nearly 45% of customers desired goods delivered within 2 days of ordering, and 5.88% preferred same-day delivery.

Besides, the reputation of businesses also plays a crucial role in the success of last-mile delivery services.



Figure 2. Popularity assessment & credibility ranking of delivery businesses in Vietnam

#### Source: Giang et al. (2020)

Notably, Giao hang tiet kiem, Grab, and Tiki ranked highest in awareness and trust among users, surpassing 70%, while Lazada and Viettel Post exceeded 50%. Other businesses, such as Ninja Van, Sendo, and GHN Express, received less attention from consumers, with popularity below 25%, according to the survey.

# Customer Preferences and Willingness to Pay for Last-Mile Delivery Services in Fast-Moving Consumer Goods: An Approach through Conjoint Analysis

Doan Vinh Thang conducted a comprehensive study titled "Customer Preferences and Willingness to Pay for Last-Mile Delivery Services in Fast-Moving Consumer Goods: An Approach through Conjoint Analysis" in 2021 at An Giang University, Ho Chi Minh City National University. In this study, the important attributes and levels for a last-mile delivery service were determined.

The delivery fee willingness depends on the order value, delivery distance, and delivery speed. Consumers tend to be willing to pay a lower delivery fee for high-value orders, short delivery distances, and fast delivery speeds within 24 hours. This result is consistent across all pairs of choice profiles with the same order value and delivery distance but differing in delivery speed.



Figure 3. Factor importance of last-mile delivery

## Source: Doan Vinh Thang et al. (20210

The research results further highlight that the most crucial attribute of last-mile delivery service is the order value attribute, with a weight of over 38%. Following closely are two equally important attributes: delivery distance and delivery speed, with weights of 31% and 30%, respectively. Therefore, last-mile delivery service providers should prioritize these three attributes and consider consumer trade-offs in selecting delivery speed to determine appropriate delivery fees.

# Studying Customer Expectations for Last-Mile Delivery Services When Purchasing Electronic Products on E-commerce Platforms in Ho Chi Minh City

In the research conducted by Tran, Do, Truong, and Thai (2022) at the University of Economics Ho Chi Minh City, the authors employed a mixed-method approach (Nguyen Dinh Tho, 2011) to investigate customer expectations for last-mile delivery services when purchasing electronic products on e-commerce platforms in Ho Chi Minh City.

The study included all four of our chosen factors, as well as the importance of delivery personnel in determining customer satisfaction levels.



#### Figure 4. Proposed Research model

#### Source: Tran Thi Anh Hong et, al. (2022)

The findings indicated that the factor most influencing expectations for delivery services is the reliability and connection between the buyer and seller, followed by shipping cost, delivery time, and, lastly, delivery personnel. This suggests a relationship between the factors constituting delivery service quality and customer expectations regarding delivery services.

#### 3.2. Existing research gap

The existing research on last-mile delivery services exhibits certain gaps that our study aims to address.

Yulia Vakulenko et al.'s study primarily concentrates on the evolving online retail experience and its correlation with customer satisfaction, acknowledging the mediating role of last-mile delivery. However, the study falls short in providing an in-depth analysis of the practical implementation of last-mile delivery systems for suggested entities. This gap could result in suboptimal proposed solutions, as the real-world applicability of their suggested strategies remains unexplored.

Similarly, Giang, Duc, and Ha's qualitative approach in their 2020 study evaluates lastmile delivery services in Vietnam from the customer's perspective. While valuable, the research lacks a detailed examination of the real-life models employed by specific service providers.

To overcome these gaps, our study focuses on a specific entity, Tiki, and conducts a thorough analysis of their last-mile delivery model affecting customer satisfaction. This approach ensures that our proposed solutions are grounded in a real-life context, making them more persuasive and applicable.

#### 4. Methodology

#### 4.1 Research design

This research is on the orientation of a qualitative method which includes a narrative literature review and case study research. A narrative literature review examines and interprets previous and existing research on a specific topic, providing a comprehensive understanding from both theoretical and contextual angles. It involves a thorough evaluation of literature from books and various types of journal articles, with the main goal of offering readers up-to-date insights and knowledge through a critical analysis of published works (Acta Paul Enferm, 2007). Case study research delves deeply into a specific instance with unique characteristics, offering a detailed analysis of an individual, a group, or a distinct event. Unlike focusing on extensive statistics, case studies aim to uncover intriguing details that may reveal something complex or innovative about the research topic (Haryanto Atmowardoyo, 2018).

The research is conducted within two stages:

• Stage 1: Literature Review

The first phase will involve a review of existing literature and previous studies on factors affecting customer satisfaction in last-miles delivery of e-commerce enterprises. The review will examine the definition of customer satisfaction in last-miles delivery, its decisively influencing attributes.

#### • Stage 2: Case Study

The second phase will involve selecting a representative case study of an e-commerce company in Vietnam: Tiki. A qualitative approach will be employed to examine this case, focusing on the company's background, the methods used to implement last-mile delivery, and the factors primarily influencing customer satisfaction with last-mile delivery services. Subsequently, the research will evaluate both the achievements and limitations related to customer satisfaction in Tiki's last-mile delivery.

Finally, the findings from the literature review and case studies outcomes are used to formulate conclusions and make recommendations for Tiki.

#### 4.2. Data collection method

The literature review will entail evaluating academic articles, books, reports, and journal articles that pertain to customer satisfaction in last-mile delivery. The choice of the case study will be contingent on its alignment with the research objectives and will be acquired through a purposive sampling approach. This involves selecting cases expected to provide pertinent and valuable information while optimizing limited research resources. The data obtained from the case study will be secondary, encompassing company reports, news articles, and online reviews.

#### 4.3. Data analysis

The data gathered from both literature reviews and the case study will undergo analysis through thematic analysis. This approach was chosen due to its prevalence in qualitative data analysis for comprehending a phenomenon or social situation, specifically the factors influencing customer satisfaction in Tiki's last-mile delivery in this case. Thematic analysis involves identifying fundamental ideas related to the studied phenomenon, (customer satisfaction) and interpreting the meaning derived from the collected data (Jamieson, S., 2016).

#### 5. Analysis of TIKI's last-mile delivery

#### 5.1. Overview of Tiki

In the Vietnamese market, alongside platforms like Shopee, Tiki stands out as one of the leading e-commerce platforms. With the aim of providing a convenient and diverse online shopping experience for consumers, Tiki has rapidly become a trusted destination for thousands of products spanning various categories.

"Tiki" stands for "Tìm kiếm & Tiết kiệm,". Tiki operates under the umbrella of Tiki Corporation, established and developed by the young entrepreneur Tran Ngoc Thai Son in March 2010. Initially, Tiki did not operate as a diverse multi-category platform as it does today. Instead, Tiki.vn originated solely as an online platform for selling English-language books, a concept inspired by the personal passion of its founder, Mr. Son. Recognizing the significant demand among the Vietnamese population for foreign-language books, he decided to embark on this venture. Tiki's starting point garnered positive feedback from the shopping community, particularly due to its excellent customer care policies.

As of the present moment, Tiki has evolved into more than just a source for a variety of goods, spanning books, electronics, fashion, and cosmetics. It stands out with enticing promotional programs, swift delivery services, and a professional approach to customer care. With a mission to enable everyone to shop anytime, anywhere, Tiki has positioned itself as a significant force in the Vietnamese e-commerce landscape, achieving notable success along the way, including:

• 03/2012: A pivotal moment as Tiki secured a \$500,000 investment from Soichi Tajima, the Chairman and CEO of CyberAgent Ventures Inc.

• 08/2012: Tiki rapidly expanded to 80 employees, offices, warehouses, and emerged as the top online bookstore in Vietnam.

• 2013: Continued to attract investment from Sumitomo Corporation (Japan) and established a strategic partnership.

• 2015: Entered the top 5 prominent e-commerce websites in Vietnam.

• **2016**: Tiki ascended to become Top 2 e-commerce platform in Vietnam and Top 6 in the Southeast Asian region.

• 2018: Tiki received investment from JDar Inc, the largest retail company in China, with a capital infusion of VND 1,000 billion. Additionally, they secured a \$54 million Series C round from South Korea's STIC Investment, claiming the top position as the best workplace in the Internet/E-commerce sector in Vietnam in 2018.

• 2019: Tiki was voted into the Top 50 Best Places to Work in Asia.

• 2020: Tiki achieved the top position as the Best E-commerce Brand and the Best E-commerce Brand with the Excellent Customer Experience in Vietnam, according to YouGov and KPMG, respectively.

In early 2017, Tiki laid the foundation for a decisive marketing strategy by transitioning its business model from B2C to a Marketplace model. Instead of independently importing and managing the quality of goods before selling to customers as before, Tiki has evolved into an online trading platform, allowing diverse suppliers to autonomously upload their products. The result of this decision is a rapid increase in the variety of goods available on Tiki, extending beyond the book category that was prevalent in the past.

To execute the last-mile delivery, besides the standard delivery model, Tiki stands out with three transportation modes: TikiNow, TikiPRO, and TikiFast. Each delivery model is designed to cater to specific and unique customer needs, addressing the diverse requirements of Tiki's clientele. Hence, this approach aids Tiki in building exemplary customer service, fostering customer loyalty, and establishing customers' perceived value as an e-commerce platform with prestige, economical, and swift last-mile delivery.

## 5.2. Current status of customer satisfaction with Tiki last-mile delivery

The last-mile delivery plays a crucial role in e-commerce, constituting approximately 28% of the total transportation costs and potentially rising to 53% in on-demand delivery scenarios. This significantly impacts the shopping experience of 97% of online shoppers. The efficiency and reliability of last-mile delivery are not only decisive factors for customer satisfaction but also influence the profitability and reputation of e-commerce businesses (PhD Dang Thanh Tuan).

According to Reputa's statistics, among the five key factors contributing to customer satisfaction in online shopping, "fast and convenient delivery service" is the most frequently mentioned factor, accounting for 46%. Concerning delivery experiences, Tiki significantly outperforms its competitors, boasting the highest satisfaction rate at 80%. However, several core issues related to delivery continue to dissatisfied Tiki's customers, such as high delivery costs, inconsistent product quality, and notably, slow delivery—the factor customers are most dissatisfied with when considering the four major e-commerce platforms in Vietnam. This indicates that while Tiki is surpassing its market rivals, it has not performed well enough yet to satisfy its customers.



Figure 5. Factors that dissatisfied customer when purchasing on e-commerce platforms

#### Source: Reputa Report on Vietnam e-commerce 2020

According to Reputa's 2020 report on the 5 factors that customers are dissatisfied with when experiencing the four major e-commerce platforms in Vietnam, Tiki ranks third in terms of the quality of goods delivered, including counterfeit products. One notable point is that Tiki receives the highest number of complaints for slow delivery (32.6%). This suggests that, regardless of their market advantage, e-commerce platforms still face significant challenges when it comes to delivery issues.



Figure 6. 10 factors that make customers not have a good experience

# Source: Reputa Report on Vietnam e-commerce 2022

According to Reputa's subsequent report in 2022, within the two factors causing customer dissatisfaction: product quality upon delivery, including defects, and delayed or non-delivery, Tiki continues to hold the second position. It accounts for 31.3% and 31.7% of the total customer feedback for these factors among the four platforms, respectively. Additionally, compared to 2020, Tiki is evaluated to have high and unreasonable delivery costs, ranking first among the four platforms with 114 feedbacks, constituting 40.8% of the total feedback. Moreover, Tiki ranks third in careless delivery or delivery incorrectly.



Figure 7. 10 factors that make customer satisfied *Source: Reputa Report on Vietnam e-commerce 2022* 

Based on this report from Reputa about 10 factors that make customer satisfied, Tiki just rank third in delivery quality, shippers and affordable prices with 67 respondents out of 280, which means that Tiki's delivery quality is still poor, and delivery cost is high compared to other 3 e-commerce platforms.

In conclusion, the challenges faced by Tiki over the years include notable concerns about slow delivery, delivered product quality issues, and, more recently in 2022, heightened dissatisfaction with perceived high and unreasonable delivery costs.

#### 5.3. Operational model of Tiki last-mile delivery

#### 5.3.1. Delivery time

TikiNow emphasizes rapid delivery, committing to delivering orders within 2 to 3 hours for those placed before 18:00, addressing the immediate needs of customers seeking prompt fulfillment. However, there are certain limitations including a lack of explicit information on flexibility in choosing delivery times and constraints on the number of available products (currently at 300,000, with ongoing improvements) and delivery areas (currently limited to Hanoi and Ho Chi Minh City).

Conversely, TikiPRO distinguishes itself with a customer-centric approach, offering flexible scheduling. While transit time is unspecified, customers can choose their preferred delivery time with a personalized and accommodating service. However, challenges in achieving punctuality may negatively impact the service.

TikiFast's commitment to expedited delivery in Hồ Chí Minh and Hà Nội with sameday processing and delivery, caters to customers prioritizing prompt receipt of their orders. However, the lack of explicit information and flexibility in choosing delivery times for other areas requires additional details for a comprehensive assessment.

Delivery method	Applied area	<b>Delivery time</b>	Transport fee
<b>TikiNow</b> Super fast delivery service 2h -3h.	Ho Chi Minh City, Hanoi.	Delivered within 2 - 3 hours from time of order. Delivery time is displayed at the "Payment" step.	More than 300.000 items
<b>TikiPro</b> The service allows you to choose delivery time and installation time.	Some areas in Ho Chi Minh City and Hanoi.	Based on flexible time schedule as chosen	Electronics - Refrigeration, Housing - Lifestyle, 

Table 1. Main Delivery Service of Tiki

TikiFast	The entire	- In Ho Chi Minh, Hanoi:	More than 300.000
Economical delivery service.	territory of Vietnam	Order same day, Tiki delivers the next day.	items
		- Remaining areas:	
		Depends on processing	
		warehouse and delivery	
		address (within 2-6 days)	

#### Source: TIKI (2023)

In conclusion, TikiNow's swift delivery addresses immediate customer needs, but its timebound approach and regional limitations may impact overall satisfaction. The impact of delivery time on customer satisfaction is crucial, and customers should carefully weigh the strengths and limitations of each service to align with their preferences and requirements effectively.

#### 5.3.2. Delivery fees

#### Detailed analysis

Tiki calculates delivery fees based on the weight and dimensions of packaged items, along with the geographical distance between the delivery address and Tiki's warehouse or the supplier's warehouse. Also, the type of Tiki service also affects delivery costs.

For large-weight orders, only the transportation fee is applied, with no additional charges for bulky or heavy items. Moreover, shipping fees for multiple items from different suppliers are based on each supplier's policies and support levels.

Customers are typically charged for shipping, but Sellers can modify this. Tiki determines fees by measuring actual dimensions, comparing them to the initial seller's information, and charges based on the greater weight.

Fee (VND) / order by area & delivery method classification							
Weight (kg) / Order	ight (kg) / region l		oi & Cross 1 city region Sam		Same city	ne city	
oruer	Standard	Standard	Standard	Standard	TikiNOW 2h	TikiPRO	
<1kg			42.000				
1kg to 2kg	22.000	23.000	45,000	14.000	25.000	34.000	
2kg to 3kg			45.000				
3kg to 4kg	31.000	43.000	53.000	21.000	32.000	38.000	
4kg to 5kg	40.000	55.000	64.000	25.000	37.000	41.000	
5kg to 6kg	49.000	66.000	76.000	29.000	44.000	44.000	

Table 2. Delivery Fees of Tiki

9kg to 10kg	85.000	111.000	130.000	61.000	79.000	57.000
10kg to 11kg	94.000	123.000	144.000	66.000	86.000	61.000
14kg to 15kg	130.000	166.000	200.000	89.000	112.000	74.000
15kg to 16kg	139.000	179.000	214.000	94.000	113.000	77.000
19kg to 20kg	175.000	222 000	270.000	114.000	120.000	00.000
Above 20kg	175.000	222.000	270.000	114.000	129.000	90.000
Extra fee (VND) / order						
(Applicable to each additional 0,5kg)	2.000	5.000	7.000	2.000	3.000	1.700
Maximum shipping fee (VND) / order	400.000	1.100	).000		400.000	

Source: TIKI (2023)

# Delivery fees comparison

To assess the impact on customer satisfaction, the analysis of delivery fees from other ecommerce firms encompass: Shopee & Lazada will be conducted, to draw comparisons with Tiki.

Table 3.	Delivery	Fees	of Shope	e &	Lazada
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Shopee (< 20kg packages only)				
Weight (kg)/area	Provincial	Regional	Hanoi - HCM city	Inter-regional
			- Danang	
0-1kg	15.000	15.000	15.000	15.000
1-1.5kg	17.500	17.500	20.000	20.000
1.5-2kg	20.000	20.000	25.000	25.000
every added 0.5kg	2.500	2.500	5.000	5.000
Lazada				

Weight (kg)/area	Special Hanoi - HCM city	Southern region	Northern & Central regions	Express (only Hanoi, HCM, Danang)
	- Danang			
0-2kg	12.800 - 36.900	13.800 - 75.200	13.200 - 64.000	29.700
2-4kg	20.000 - 61.900	218.000 - 120.000	20.800 - 102.200	
4-10kg	24.800-16.3000	25.700 - 203.600	24.500 - 179.000	4-15kg: 38.500
10-30kg	72.000 - 398.000	78.100 - 388.000	76.400 - 364.000	
>30kg	32400 - 86400 per next 5kg	32.400 - 86.400 per next 5kg	32.401 - 86.400 per next 5kg	

## Source: Lazada & Shopee Express (2023)

From the above tables and recent studies of the e-commerce market, Tiki currently imposes comparatively **higher delivery charges** than its counterparts, particularly when compared to Shopee. Studies and practical observations suggest that Lazada has the highest delivery fee, closely followed by Tiki. Despite Tiki's commendable reputation for delivery service, Shopee's potentially more stable and cost-effective option may attract customers due to Tiki's consistently higher pricing.

Additionally, multiple factors contribute to Tiki's overall higher delivery price. The calculation based on actual dimensions and reliance on multiple suppliers with varying shipping policies can lead to increased delivery costs for customers.

In conclusion, while Tiki's fee structure offers transparency and fairness for largeweight orders, the flexibility for sellers and dependence on diverse supplier policies contribute to higher overall charges. It may impact customer preferences due to the comparative higher costs when contrasted with competitors like Shopee.

#### 5.3.3 Goods reliability

#### Goods condition

Tiki ensures strict adherence to procedures in packaging, external marking, and delivery error handling for both direct and warehouse-based deliveries to ensure delivery integrated quality.

Table 4. Remedies for Goods Quality of Tiki

 Packaging	External Marking	Handling Delivery Errors

Methods	Maintaining product integrity, accurate representation, intact barcodes, and proper packaging. Original packaging, sealing for liquids, securing sharp edges, and bundling gift items.	Using plain boxes with the Tiki logo and sealing with tape. Adding authenticity layers like receipts, padding, and warnings for fragile items	Checking on products, verifying component quantities, and ensuring accurate delivery addresses.
Application	Ensuring the safe and intact delivery of products, enhancing the overall shopping experience for customers.	Enhancing the assurance of product quality & traceability during shipping.	Setting a strong foundation for accurate deliveries, detail and customer satisfaction.

#### Source: Authors (2023)

Despite Tiki makes every effort to protect its products, through the three aforementioned remedies regarding: Packaging, External Marking & Handling Delivery Errors, the fact remains that during the delivery process, some cases of damage and breakage are inevitable due to unexpected situations.

Tiki's delivery services, comprising TikiNow, TikiPRO, and TikiFast, introduce potential concerns regarding the condition of delivered goods. In essence, the varying tradeoffs between speed and flexibility across these services underscore potential risks to the overall quality of delivered goods. As a result, measures to address these issues from the customer's perspective are detailed in the Returnability and Warranty sections.

#### **Returnability**

**Table 5**. Return Policy of Tiki

INDUST	TRY	RETURN TIME (SINCE SUCCESSFUL DELIVERY)	DEFECTIVE PRODUCT (by supplier)	PAYMENT DUE TO NEED (NON- DEFECTIVE PRODUCT)
				(*)
Phones - T Electron Refrigeration, Comput Camera Car	ics - Laptops - ters	First 7 days	Renew / Refund Products under the Apple brand will apply according to the company's policies	Exchange/return is not supported
Digital devices -	Tiki Trading	The first 365 days	Renew / Refund	- First 7 days: Refund.

Digital accessories	seller			- From day 8: No support.
	Other retailers	First 7 days		Refund
Electric Appliances	Tiki Trading	The first 365 days		- First 30 days: Refund.
	seller			- From the 31st day: No exchange/return support.
	Other retailers	First 7 days		Refund
Motorcycle a motorbike j		Exch	ange/return is not sup	ported
Othe	rs	First 30 days	Renew / Refund	Refund

#### Source: Tiki

According to the above table, the extended return period accommodates situations where customers may not immediately identify issues or may encounter delays in inspecting their received items. This flexibility is crucial for customer satisfaction, especially when dealing with various products that may require thorough inspection.

An important point to note is that Tiki refunds the value of the product, excluding shipping fees, additional charges, and promotional discounts. This policy fosters transparency in the return process while making it convenient for customers to initiate returns without incurring additional expenses, which in turn boost customer satisfaction.

Additionally, the policy indicates that certain high-value and technically susceptible products, such as communication tools or motorcycle products, are not supported for returns. Such products may be prone to encountering technical issues, and the inability to return these items could lead to dissatisfaction if the product does not meet expected performance standards.

For products with external damages or delivery errors, customers are encouraged to report within specified timeframes. Customers need to provide images or clips of the defective product within the stipulated time frame. Nevertheless, delays or unawareness in identifying faults may prevent some customers from adhering to these time constraints, potentially leading to declined assistance.

In conclusion, Tiki's return policy, with its flexible return period and clear guidelines for reporting issues, positively contributes to customer satisfaction. However, restrictions on certain items and strict enforcement of time frames could pose challenges for some customers.

#### Warranty

Tiki's warranty policy offers customers a dual-option approach for addressing productrelated concerns, allowing them to use the manufacturer's warranty or seek assistance for warranty claims directly from Tiki. To qualify for the manufacturer's warranty, products must be within the specified period and exhibit technical malfunctions. The 21 to 45 days processing duration for warranty services, depending on component availability, provides customers with clarity on the time commitment.

Nevertheless, Tiki's dual-option warranty model, aimed at flexibility, suffers from ambiguity, with no clear guidance on choosing between the manufacturer's warranty and Tiki's assistance, complicating decision-making for customers.

In short, although Tiki's warranty policy is flexible with dual options and transparent with the processing duration, the policy lacks clarity, making decision-making challenging for customers.

To conclude, the commitment to reliable goods is evident through strict packaging practices, though restrictions on certain items and strict timeframes may pose challenges. The transparent refund process and free retrieval contribute to customer satisfaction. While Tiki's warranty services provide flexibility, the lack of clarity remains an issue, indicating a need for improved communication for a smoother customer experience.

#### 5.4. Evaluation of Tiki's last-mile delivery strategies

#### 5.4.1 Achievements

#### Delivery time

#### Diverse delivery models with outstanding advantages

Tiki's introduction of three delivery models – TikiNow, TikiPRO, and Tiki Fast – showcases their commitment to meeting diverse market demands. TikiNow ensures immediate needs, TikiPRO offers flexible scheduling, and Tiki Fast impresses with same-day delivery. Recognized for fast and convenient delivery, Tiki stands out in the Vietnamese e-commerce market, providing customers with an outstanding experience. The freedom to choose among these models caters to customers' preferences, enhancing overall satisfaction.

#### Optimizing workforce resources

Tiki's delivery model strategy is not only a significant advancement in the e-commerce industry but also a key to optimizing workforce resources. By integrating artificial intelligence and smart algorithms, Tiki not only anticipates customer demands but also suggests the most optimal delivery options. Delivery personnel are assigned based on flexible locations and times, thereby optimizing service capabilities and reducing workload pressure. This not only benefits the business but also ensures customer satisfaction, contributing to the creation of a strong competitive edge in the e-commerce market.

#### **Delivery** fees

#### Transparency, fairness with the huge-weight orders

For last-mile delivery, Tiki's strategy stands out in terms of transparency and fairness when imposing shipping fees on large-weight orders. Compared to other competitors, Tiki not only clarifies and provides detailed information on how shipping fees are calculated but also does so in a transparent manner. This places Tiki as a highly trustworthy option in the minds of consumers, especially when they need to send heavy-weight orders. The transparency helps Tiki create a reliable and fair online shopping environment, promoting customer satisfaction and trust.

#### Goods reliability

#### Prioritizing and selling product quality

Tiki's return and warranty policies consistently prioritize product quality, marking a robust commitment to customer satisfaction. Tiki not only introduces products to the market that meet high-quality standards but also establishes a flexible return policy to ensure customer contentment.

Tiki's warranty policy goes beyond being a mere safeguard; it serves as protection for the reliability of their products. This not only adds value but also demonstrates dedication and a desire to achieve the highest level of customer satisfaction in Tiki's approach to online shopping experiences. Additionally, the flexible return policy makes it easy for customers to understand and trust their shopping process. These factors collectively contribute to building a robust image for Tiki, providing not only products but also peace of mind and satisfaction for customers.

#### 5.4.2. Limitations

#### **Delivery time**

#### Lack of flexibility in models

Firstly, TikiNow lacks explicit information on flexibility in choosing delivery times and is geographically constrained to large cities, limiting its applicability. Secondly, TikiPRO offers a customer-centric approach with flexible scheduling, but the exact transit time is unspecified, potentially impacting punctuality. Lastly, TikiFast excels in expedited delivery but lacks explicit information and flexibility for areas beyond specified regions, omitting critical details such as processing warehouse locations and specifics of the shipping address. All of these above shortcomings can shape a customer experience falling short of expectations.

In summary, a common thread runs through these services—the geographical limitations primarily focusing on major cities like Hanoi and Ho Chi Minh City. These limitations may affect the overall customer experience for those residing outside these areas, emphasizing the need for a broader perspective to understand the strengths and limitations of each delivery mode.

#### **Delivery** fees

#### Complex fee structure

Tiki's last-mile delivery services employ a comprehensive fee structure, intricately calculated based on multiple factors. While this meticulous approach adds a layer of transparency to the fee calculation process, it also introduces a degree of complexity for customers. The detailed nature of the calculation may pose challenges for customers in accurately estimating the final cost of delivery, potentially leading to some confusion or surprises when it comes to settling the bill.

The comparative analysis with others suggests that Tiki's overall delivery fees tend to be higher. The higher fees may impact customer satisfaction, particularly when compared to competitors offering more cost-effective options. Besides, the lack of cost-saving incentives may influence customers to prefer platforms offering more attractive delivery fee options, affecting Tiki's market position.

#### Goods reliability

#### Tight time constraints on returns

While Tiki's return policy generously allows customers to initiate returns within an extended timeframe, there are notable restrictions, particularly concerning certain high-value and technically susceptible products. This limitation poses a potential challenge, especially considering the nature of such products that may encounter technical issues. The inability to return these items could lead to dissatisfaction among customers who may feel constrained by these stringent rules.

While these guidelines of return policy aim to streamline the process, practical challenges such as delays in discovering faults or technical difficulties in providing visual proof can hinder some customers from adhering to these time constraints. The strict enforcement of these timeframes and the requirement for visual proof may inadvertently disadvantage customers in situations where issues are not immediately apparent.

#### Ambiguous warranty policies

While having the option to choose between leveraging the manufacturer's warranty directly or relying on Tiki's assistance is customer-centric, it introduces an element of ambiguity. Customers may find it challenging to make informed decisions about which option aligns better with their needs, potentially impacting the overall convenience of the warranty process. The lack of clear guidance or streamlined information on how these warranty options differ and under what circumstances each is more beneficial might hinder the customer experience.

In summary, the limitations in Tiki's warranty policy revolve around its complexity, lack of clarity on fees modification, potential discrepancies in fees calculation, and the competitive disadvantage compared to other platforms. Addressing these limitations is crucial to providing a more straightforward and competitive delivery fees structure that aligns with customer expectations.

#### 6. Recommendations for Tiki

Based on the aforementioned limitations on Tiki's last-mile delivery, this research will propose certain recommendations for Tiki to mitigate these constraints, improving customer satisfaction.

Optimize delivery routes using data and technology

Tiki should analyze past delivery data to identify bottlenecks and monitor driver behaviors, addressing uncertainties in transit times, processing warehouse locations, and shipping address specifics. Besides, utilizing Transport Management Systems (TMS) can optimize the delivery process by considering factors like fuel consumption and time efficiency. Strategic use of data and technology in route planning can enhance transparency, providing explicit information on delivery times and more accurate estimated receiving times for customers. This approach allows customers to choose delivery options that align with their needs, ultimately leading to increased satisfaction.

#### Apply crowd-sourcing delivery

Crowdsourced delivery is a component of crowdsourcing logistics, involving outsourcing transportation operations to organizations or freelance drivers who may not be professional drivers. Some well-known crowdsourced transportation platforms in Vietnam include GrabExpress, Ahamove, Lalamove, and others. This method allows businesses to efficiently locate appropriate drivers for timely pickup and delivery of goods to customers within a short timeframe; thus, it can enhance customer satisfaction.

#### Optimize transportation operations

To cut last-mile delivery costs, Tiki can consolidate shipments, establish efficient transport routes, and strategically position warehouses near residential areas. Various warehouse types, such as sun warehouses or x-docks, can meet diverse business needs. Proximity to end-users through nearby warehouses allows for quicker and more convenient deliveries, enhancing supply chain agility and proving cost-effective. Moreover, Tiki can optimize load distribution by efficiently utilizing vehicle capacity, reducing loading times, and avoiding overload, particularly through methods like Full Truck Load (FTL). This approach minimizes delivery trips, mitigates unused space in trucks, and lowers the need for additional vehicles and labor, ultimately reducing costs and improving delivery efficiency.

#### Expand products and areas covered by TikiNOW, TikiPRO, and TikiFast

To capitalize on the success of TikiNOW and TikiPRO, expanding these models to a broader product range is recommended. TikiPRO's home installation service, especially for electronic items and household appliances, can alleviate customer installation challenges, boosting overall satisfaction. Additionally, extending current transportation models beyond Hanoi and Ho Chi Minh City to regions like Da Nang, Binh Duong, Dong Nai, and Hai Phong, identified as high-potential e-commerce hubs, would capture a wider audience. This strategic move aligns with the growing trend of online shopping, maximizing Tiki's reach and customer satisfaction in various regions across Vietnam.

#### Streamline transit warehouse operations

Tiki should enhance warehouse operations by improving inventory management, deploying automated sorting systems, and adopting barcode and RFID technology to reduce order execution time. Implementing energy-efficient practices, such as LED lighting and optimized HVAC systems, can lower operational costs and align with sustainability goals. These improvements will streamline operations, decrease last-mile delivery costs, and allow

for reduced delivery fees, enhancing Tiki's competitiveness in the e-commerce industry while ensuring a more efficient and sustainable approach to logistics.

#### Provide clear and meticulous instructions about the Return & Warranty Policy

On the selling interface, Tiki should provide accurate and detailed information on return and warranty policies for each product. Additionally, educational materials, such as easy-tounderstand guides, video tutorials, or infographics, would assist customers in understanding these procedures. Besides, streamlining communication channels and training customer service representatives to provide clear explanations ensures customers receive assistance related to warranty or return choices. Also, implementing features like live chat for real-time support enhances transparency, reducing the likelihood of customer dissatisfaction by ensuring awareness of rights, procedures, and limitations before making a purchase.

#### 7. Conclusion

This study delves into the factors influencing customer satisfaction in the last-mile delivery of e-commerce, using Tiki as a case study. Three pivotal dimensions—delivery time, delivery fees, and goods reliability—emerge as critical determinants. Recommendations are proposed to address identified limitations. To optimize delivery time, leveraging data and technology, such as Transport Management Systems (TMS), for route planning is suggested. This enhances transparency and elevates the overall customer experience. Streamlining warehouse operations is recommended to lower last-mile delivery costs, enabling Tiki to reduce fees and enhance competitiveness. Despite Tiki's commitment to goods reliability, potential dissatisfaction exists due to return policy limitations. Recommendations involve clearer communication and educational materials to reinforce customer understanding.

Limitations include geographical restriction to Vietnam, limiting generalizability, and a theoretical focus on customer satisfaction using a qualitative case study approach. Future research should explore diverse settings and alternative methodologies. This study provides valuable insights for Tiki to enhance customer satisfaction and highlights avenues for further research to contribute to the broader understanding of last-mile delivery dynamics in ecommerce.

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