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CONSUMER BEHAVIOR | RESEARCH ARTICLE

Consumer Experience in Purchasing Fashion Products in Indonesian E-Commerce: A Mixed-Methods Study on Customer and Supply Chain Practitioner Perspectives

Kelly Immaculata[1], Atika Salma[1], Erlinda Nusron Yunus[1*)]

Abstract:

Background: Internet users in Indonesia are increasing rapidly as information and communications technology (ICT) develops. Online shopping is growing in popularity, owing to the ease of access and transactions afforded by this technology. This study extends previous research by focusing on the influence of consumer experience on purchasing fashion products.

Purpose: This study aimed to explain and analyze the influence of consumer experience in purchasing fashion products through online applications on customer satisfaction and its relationship with future purchase intentions.

Method: This study employed a survey involving 282 fashion product consumers, followed by interviews with three supply chain practitioners to verify the quantitative findings and gain further insights. Quantitative data were analyzed using Structural Equation Modeling (SEM), while qualitative data were analyzed based on the interviews.

Findings: The results show that consumer experience significantly influences customer satisfaction, particularly regarding returnability. Customer satisfaction, in turn, improves future intentions to purchase fashion products through e-commerce.

Conclusions: Consumer experience is pivotal for improving customer satisfaction and future purchase intentions in the Indonesian online fashion industry. Furthermore, practitioner perspectives offer profound insights into how operational practices and strategic decisions in e-commerce logistics contribute to customer satisfaction.

Research implication: This study highlights the crucial role of consumer experience in shaping customer satisfaction and loyalty in Indonesia's online fashion market. These findings suggest that e-commerce managers should prioritize seamless delivery, return policies, and the overall consumer experience to enhance customer retention and long-term loyalty.

Keywords: consumer experience, customer satisfaction, e-commerce supply chain, online shopping, purchase intention

JEL Classification: L21, L81, L90, M10

ABOUT THE AUTHORS

Kelly Immaculata holds a Master's degree in Operations Management from Sekolah Tinggi Manajemen PPM, Jakarta. She is a credit analyst, specializing in commercial credit analysis, with a particular focus on assessing the creditworthiness, financial performance, and risk management strategies of mid- to large-sized corporate clients. She can be reached via email at

kel.immaculata@gmail.com.

Atika Salma holds a Master's degree from Sekolah Tinggi Manajemen PPM, Jakarta. She is a professional focusing on supply chain management in the manufacturing and import-export sectors. She can be reached via salmaatika13@gmail.com.

Erlinda Nusron Yunus is an Associate Professor of Operations Management at Sekolah Tinggi Manajemen PPM, Jakarta. She has been publishing research in many reputable journals, and her primary teaching and research interests are in supply chain management, operations management, productivity, sustainability, and innovation. She can be reached via erl@ppm-manajemen.ac.id.

Erlinda Nusron Yunus

PUBLIC INTEREST STATEMENT

Indonesia is one of the emerging countries experiencing growing Internet penetration, with over 221 million users in 2024. This phenomenon has made online shopping more accessible than ever, especially in the fashion industry. However, despite this rapid growth, many online platforms still struggle to deliver a smooth and satisfying customer experience. This study examined how consumer experience in using e-commerce applications, in such areas as customer service, tracking service, delivery service, and return service, impacts satisfaction and future purchase intentions. The study found that returnability is the most significant factor in determining consumer satisfaction. When customers have a positive experience, especially with returning products, they are more likely to shop again from the same seller. Through survey data and interviews with several supply chain practitioners, this study provides practical insights for online fashion retailers in Indonesia. Furthermore, by enhancing return and delivery services, businesses can foster stronger customer loyalty and cultivate a more sustainable e-commerce environment.

1. Introduction

The number of Internet users in Indonesia is increasing rapidly along with the development of information and communications technology, reaching more than 221 million people in 2024, or approximately 79.5% of the population (APJII, 2024). The technology facilitates buying and selling transactions on online platforms. As such, online shopping has become increasingly popular due to its ease of access and the variety of transactions it offers. The COVID-19 pandemic in 2020 also encouraged a shift to more practical and efficient online shopping. E-commerce in Indonesia continues to grow, with the number of e-commerce users projected to reach 196.47 million by the end of 2023. According to BPS (2025) data, there were almost 3 million e-commerce businesses in Indonesia in 2022, most of which used instant messaging applications, social media, and other marketplace platforms to sell their goods or services.

Online shopping and e-commerce have changed how people interact with products and services. Online shopping, the purchase of goods or services over the Internet, has increased rapidly during the COVID-19 pandemic. In 2022, global online sales reached nearly $5 trillion in value and are expected to exceed $8 trillion by 2027 (Statista, 2023).

The development of e-commerce businesses has attracted scholars' attention, leading to an increase in studies on online shopping in the business and management literature. Service quality in online shopping, also known as e-service quality, is a significant factor influencing purchase intention in e-commerce (Kumar & Kashyap, 2022) and product satisfaction (Rashid & Rasheed, 2024). Recent studies have explored consumer experiences when purchasing fashion products online in Indonesia's e-commerce context. Trust and consumer experience have been found to significantly influence customer satisfaction and loyalty on platforms such as Lazada (Susanti et al., 2018; Ruanguttamanun & Peemanee, 2022), whereas customer service, shipping, tracking, and return policies positively impact customer satisfaction and future purchase intentions on Tokopedia (Komara & Fathurahman, 2024). These findings highlight the importance of online shopping experience in shaping consumer behavior and satisfaction in the Indonesian e-commerce market.

This study extends previous research by focusing on the influence of consumer experience in purchasing fashion products through online applications on consumer satisfaction in Indonesia. Prior research on online purchases mainly examined customers' perspectives (Ashiq & Hussain, 2024; Azman et al., 2021; Cao et al., 2018; Chi, 2018; Elverda et al., 2025), while this study, employing a mixed-methods approach, reveals the perspectives of both customers and e-commerce managers, providing a more comprehensive insight into the literature. This study expands the analysis of Cao et al. (2018) regarding post-purchase delivery experiences and customer service in online shopping. Two research questions guide this study: 1) Do consumer experiences, in terms of customer service, delivery, tracking, and returns, positively affect customer satisfaction and, in turn, lead to increased future purchase intentions? 2) What are the challenges e-commerce managers face in maintaining consumer experience, and what key strategies can they use to do so? This research focuses on fashion products, such as clothing, accessories, and footwear, as well as shopping experiences through online applications run by the five largest e-commerce companies in Indonesia: Shopee, Tokopedia, Lazada, Blibli, and Bukalapak.

Many studies have focused on service quality (SERVQUAL) (Parasuraman et al., 1988; Saleem et al., 2024) and on expectancy disconfirmation theory (Oliver, 1980; Nunkoo et al., 2025). They enriched the literature by examining how specific dimensions of online

shopping experience, particularly customer service, delivery, tracking, and returnability, shape customer satisfaction and influence future purchase intentions in the Indonesian e-commerce fashion sector. Departing from prior studies, this study uniquely highlights returnability as a key service attribute for understanding online shopping behavior in fashion e-commerce in Indonesia. Understanding the relationship between consumer experience and future purchase intentions is critical for e-commerce managers to design more effective strategies to increase consumer satisfaction and loyalty. The results of this study provide valuable insights into consumer behavior when purchasing fashion products online, helping e-commerce companies better understand consumer needs and preferences. This study also combines quantitative analysis from customer perspectives and qualitative insights from supply chain practitioners, thus offering insights for academics and businesses in emerging markets.

2. Literature Review

2.1 Service Quality and Expectancy Disconfirmation Theory

Parasuraman et al. (1988) introduced Service Quality (SERVQUAL) as a concept that explains the gap between customer expectations and service perceptions. They conceptualized that if a service's perception exceeds customer expectations, the customer will be satisfied. This concept's relevance for implementation in the context of online fashion shopping in Indonesia stems from the fact that the five dimensions introduced by Parasuraman et al. (1988) are quality attributes customers assess, namely tangibles, empathy, reliability, responsiveness, and assurance. Since its emergence, many scholars have applied this theory across a wide range of contexts (e.g., Dam & Dam, 2021; Ashiq & Hussain, 2024).

In line with SERVQUAL, Expectancy Disconfirmation Theory (EDT), first proposed by Oliver (1980), argues that customer satisfaction compares consumer expectations before purchase (pre-purchase expectations) with the actual experience after purchase. If buyers think the experience is better than expected, they will be satisfied; if it is worse, they will feel dissatisfied. EDT can also explain the relationship between customer experience and satisfaction in the context of online shopping, as customers already have expectations for the shopping platform, delivery speed, and return service in the event of a problem with the purchased item. Uzir et al. (2021) found that service quality, customer-perceived value, and trust positively influence customer satisfaction. Others have also used EDT across various fields of science, including business and psychology (Nunkoo et al., 2025).

2.2 E-commerce and Online Shopping

E-commerce includes buying and selling activities conducted through electronic media, including the Internet, television, and telephones (Yunus, 2021). E-commerce platforms enable businesses to market products, manage inventories, process payments, and interact with consumers online (Jain et al., 2021; Rahman & Dekkati, 2022).

In Indonesia, the use of e-commerce applications increased after the COVID-19 pandemic. The Central Statistics Agency (BPS) of Indonesia noted that, as of 2023, 3.82 million e-commerce businesses operated across 38 provinces, while the number of e-commerce users reached 58.63 million, indicating a significant upward trend (BPS, 2025). Many studies have emphasized that customer experience is decisive for satisfaction and loyalty in Indonesian online shopping. Whether in micro-reseller journeys, general consumer engagement, or post-purchase logistics, improving their

experience is essential. Across studies, satisfaction is described as a gateway to loyalty. Whether through seamless omni-channel support (Maulana et al., 2023), engaging experiences (Felix & Rembulan, 2023), or effective returns (Soesanto, 2023; Prayogo et al., 2024), improving backend services leads to greater customer retention.

Yunus (2021) highlights the importance of continuous improvement in B2C e-commerce supply chain management to achieve consumer satisfaction. Three key practices to consider are strict monitoring and evaluation, mutually beneficial partnerships, and reliable information and technology (IT) systems. Recommendations for managers include good resource management, collaboration with 3PLs, and teamwork within the company. Harahap et al. (2023) showed that supply chain resilience improves the performance and competitive advantage of Shopee e-commerce sellers.

Yunus (2021) also identified several e-commerce success factors, including original products and fast, accurate delivery. The main challenge is not IT capabilities but human resource management to build good teamwork and monitor and evaluate. This study discusses several main variables: consumer experience, customer satisfaction, and future purchase intentions.

2.3 Customer Service and Customer Satisfaction

Customer service is the support a company provides to consumers before, during, and after a purchase (Sheth et al., 2023). It involves direct interaction and online support via chat, telephone, email, and social media. Good service quality increases consumer satisfaction (Maziriri et al., 2023; Elverda et al., 2025), whereas customer experience influences customer loyalty (Felix & Rembulan, 2023).

Roudposhti et al. (2018) showed that factors such as accuracy, variety, ease of use, and recommendation quality affect consumer intention to purchase products in e-commerce. Cao et al. (2018) concluded that online shopping customer service increases customer satisfaction for online shoppers in China, but not for those in Taiwan. All after-purchase services, including customer, delivery, tracking, and return services, positively and significantly affect customer satisfaction (Kamili, 2022). A recent qualitative study by Felix and Rembulan (2023) examined five leading Indonesian e-commerce companies and revealed that customer experience during online shopping increases engagement and customer loyalty. While their study provides insightful guidance for e-commerce managers, more generalized research representing online shoppers is needed. Therefore, this study posits the following:

H1: Customer service has a positive effect on customer satisfaction.

2.4 Delivery Service and Customer Satisfaction

Fast, on-time delivery is an essential factor in online product delivery. Fast delivery is generally required for time-sensitive products, such as food products. However, with increasing competition in the e-commerce industry, online sellers of various products offer fast delivery as a key advantage in their pricing strategy. Furthermore, consumers generally demand on-time delivery (Dündar & Öztürk, 2020). In Indonesia, logistical infrastructure poses a challenge due to the country's geographic and demographic diversity. Delays, damaged goods, or incorrect deliveries can create dissatisfaction and reduce the likelihood of repeat purchases. Research on delivery in the Indonesian e-commerce industry is still limited. One such study was conducted by Kaligis et al. (2024). Further research is still needed, including research on delivery that is not only on time but also fast in the Indonesian e-commerce industry.

This study proposes the following:

H2: Delivery service has a positive effect on customer satisfaction.

2.5 Tracking Service and Customer Satisfaction

Research conducted by Cao et al. (2018) showed that post-purchase delivery and tracking impact on consumer satisfaction in China and Taiwan, with customer service being the most significant factor among those studied for online shoppers in China. A recent study by Oetama et al. (2024) showed that an online tracking system improves customer satisfaction. Furthermore, to uncover the relationship between tracking systems and customer satisfaction with B2B services, de Abreu et al. (2022) conducted in-depth interviews with 12 professionals in Portugal. Their results showed that tracking increased satisfaction and customer loyalty to the company. These studies have shown the positive influence of tracking services on customer satisfaction; however, research on this topic in Indonesian e-commerce is scarce. Therefore, the following hypotheses are proposed:

H3: Tracking service has a positive effect on customer satisfaction.

2.6 Return Service and Customer Satisfaction

After consumers purchase products from online sellers, problems such as incorrect or defective items often occur (Yunus, 2021). Under these conditions, consumers are forced to return goods to the sellers. As the convenience of returning goods is a key to customer satisfaction (Kawa & Zdrenka, 2024), companies must manage reverse logistics effectively (Thu et al., 2024). Return service is more important for shoppers in Taiwan, and thus customer satisfaction plays a more significant positive role for them than for online shoppers in China (Cao et al., 2018).

Moreover, Soesanto (2023), in the context of the Bibli marketplace, and Felix and Rembulan (2023), examining the top five Indonesian e-commerce platforms, highlight the importance of return policies and customer service in shaping satisfaction and repurchase intentions. Prayogo et al. (2024) confirmed their findings by identifying and ranking key factors in return management from the customer perspective using the Analytic Hierarchy Process (AHP). Companies must ensure product quality and implement transparent policies to improve reverse logistics and reduce return rates. While these studies are important, there remains a gap in the literature on the relationship between return service and customer satisfaction. Furthermore, there is a need to confirm this link for e-commerce managers in Indonesia. Therefore, we hypothesize as follows:

H4: Return service has a positive effect on customer satisfaction.

2.7 Relationship between Customer Satisfaction and Future Purchase Intention

Purchase intention is a consumer's intention to buy a specific product or service. Research conducted by Roudposhti et al. (2018) showed that accuracy, variety, ease of use, recommendation quality, satisfaction, trust, and usefulness significantly influence consumers' intention to purchase products recommended by recommender systems. According to Chi (2018), four factors improve customer satisfaction on the apparel mobile website: website information quality, website visual appeal, apparel visual appeal, and website security; higher customer satisfaction increases consumers' intention to purchase clothing through the website.

H5: Customer satisfaction has a positive effect on the intention to shop online again.

2.8   Conceptual Framework

This study was based on the conceptual framework of Cao et al. (2018), who examined delivery and customer service experience in online shopping and their impact on customer satisfaction. However, this study extended its findings by examining a different context, that is, Indonesia as a developing country, and furthered the analysis by gaining insights from supply chain practitioners in the e-commerce business.

Cao's conceptual model is rooted in the study by Parasuraman et al. (1988), who investigated service quality, its measurement, and its relationship with customer satisfaction. In this model, service quality is measured through five dimensions: tangibility, empathy, responsiveness, reliability, and assurance. This idea has received both support and criticism from many scholars, as it compares or measures the gap between customers' expectations and perceptions of the service they receive. Since its emergence, service quality has attracted research interest in various service contexts (Carillat et al., 2009), including online settings (Qalati et al., 2021). The literature contains abundant empirical evidence that service quality increases customer satisfaction and loyalty for future purchases (Lionello et al., 2020). Based on previous arguments linking the relationships 1) of service quality in e-commerce, in terms of customer service, delivery, tracking, and returns with customer satisfaction, and 2) of customer satisfaction with future purchase intention, the conceptual framework of this study is depicted as in Figure 1.
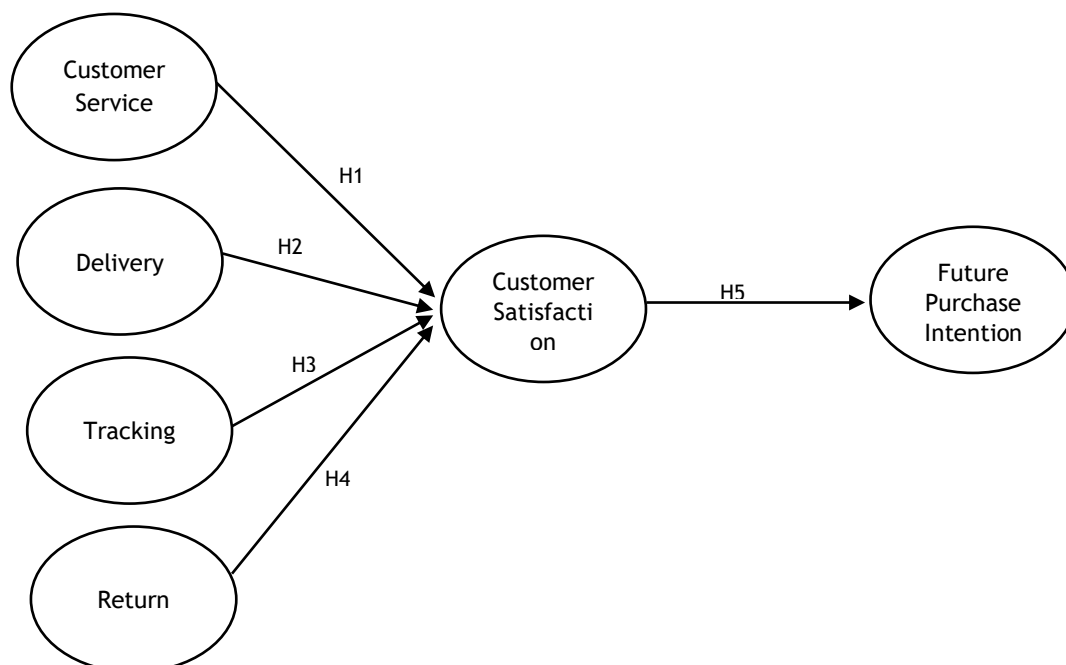

Figure 1.   Conceptual framework of the influence of customer experience on customer satisfaction and purchase intention

The hypotheses of this study are as follows:
H1: Customer service has a positive effect on customer satisfaction.
H2: Delivery service has a positive effect on customer satisfaction.
H3: Tracking service has a positive effect on customer satisfaction.
H4: Return service has a positive effect on customer satisfaction.
H5: Customer satisfaction has a positive effect on the intention to shop online again.

4. Methods

4.1 Research Design

The research used a mixed-methods research design, first with a quantitative approach, followed by a qualitative study to explore the perspectives of e-commerce managers. The quantitative method in this study examined the relationship between independent variables (i.e., customer service, delivery, tracking, and returns) and dependent variables (i.e., customer satisfaction and future purchasing intention). The research confirmed the quantitative analysis results using a qualitative method. This involved in-depth interviews with three informants who held managerial positions in the e-commerce sector to provide deeper, contextual insights into the quantitative findings. Figure 2 illustrates the stages of this study.
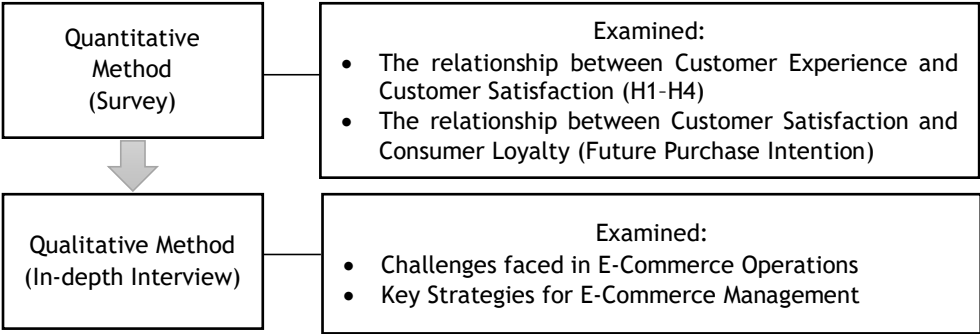

Figure 2. Research stages: quantitative and qualitative methods (source: authors' own work)

4.2 Sampling

A research population refers to an entire group of people, events, or things of interest that researchers want to investigate (Hair et al., 2019). In this study, the population consisted of online shoppers of fashion products. According to the We Are Social report, in January 2024, around 56.1% of global Internet users usually shopped online every week; Indonesia ranked 9th, with 59.3% of its Internet users shopping every week, a figure equivalent to India's. Katadata Insight Center data (2023) further showed that in 2020, e-commerce transactions were dominated by tier 1 cities (57%), including those in the Jabodetabek, Bandung, and Surabaya areas. Based on these data, the researchers chose Jabodetabek and Bandung as the study areas, from which a convenience sample was selected.

4.3 Measurement

The variables used in this study, their operational definitions, and indicators are listed in Table 1. The variables and indicators mostly replicate those in the study of Cao et al. (2018). Specifically, for future purchase intention, Items 1 and 2 replicate those in the study by Cao et al. (2018), whereas Items 3, 4, and 5 replicate those in the study by Dachyar and Banjarnahor (2017). The questionnaire items use a Likert scale, with '1' indicating Strong Disagreement, '2' indicating Disagreement, '3' indicating Fair Agreement, '4' indicating Agreement, and '5' indicating Strong Agreement. The list of questions for the semi-structured interviews replicates Yunus's (2021) work.

Table 1. Operational definitions of consumer experience in purchasing fashion products in e-commerce (details in Appendix A)

Variables	Operational Definition & Sources	Number of items	Scale
Customer Service	The extent of service experienced by consumers when shopping at a company (Cao et al., 2018)	4 items	5-point Likert scale
Delivery	The extent of delivery and related services provided by the company (Cao et al., 2018)	7 items	5-point Likert scale
Tracking	The extent to which it is possible to track shipments using multi-channel shipping companies (Cao et al., 2018)	4 items	5-point Likert scale
Returns	The extent to which consumers can return their delivered goods (Cao et al., 2018)	4 items	5-point Likert scale
Customer Satisfaction	The extent to which consumers are satisfied with online shopping (Cao et al., 2018)	4 items	5-point Likert scale
Future Purchase Intention	An orientation of online shopping behavior in the future (Cao et al., 2018; Dachyar & Banjarnahor, 2017)	5 items	5-point Likert scale

4.4 Data Collection

This study was conducted in two stages: quantitative and qualitative. Quantitative research began by determining the population and sample. A sample is part of a population, and a good sample can represent a population that a researcher is trying to describe and is not biased (Hair et al., 2019). However, due to the lack of population data on online shoppers in Indonesia, this study used convenience sampling, selecting the sample elements at the researcher's convenience based on their availability, proximity, and willingness to participate (Hair et al., 2019). As such, the sample in this study consisted mainly of colleagues or relatives who frequently purchased fashion items online.

According to Hair et al. (2019), the sample size of a study should be 100 or larger. Furthermore, it should be at least five times the number of indicators to be analyzed. A 10:1 sample size ratio is more acceptable. This study examined six variables, namely, customer service, delivery, tracking, returns, customer satisfaction, and future purchase intention. A total of 28 statement indicators were used. Therefore, the minimum sample size calculated for this study was 28 × 10 = 280.

Data collection lasted approximately two months, during which 306 responses were collected. However, since some responses contained arbitrary values, for example, when respondents assigned the same value to most questionnaire items to ensure more valid data processing, we removed anomalous and outlier responses. Finally, 282 data points were processed.

The qualitative study involved data collection and data processing. The purpose of this stage was to gain insights into the quantitative findings and to gather information on

informant challenges and strategies for managing e-commerce. The informants consisted of three e-commerce practitioners at the managerial level. This stage lasted approximately two weeks.

4.5   Data Analysis

Quantitative data processing was performed using the Covariance-Based Structural Equation Modeling (CB-SEM) method in the JASP (Jeffrey's Amazing Statistics Program). CB-SEM was used to analyze the relationships among variables in a model and to test the relationships between latent and measured variables simultaneously. This approach was deemed suitable because it tests or confirms an existing model from previous research.

Data analysis consisted of two main parts: the measurement model, which used Confirmatory Factor Analysis (CFA), and the structural model, which used Structural Equation Modeling (SEM). The measurement model includes six latent constructs, namely, Customer Service (CS), Delivery (D), Tracking (T), Returns (R), Customer Satisfaction (CSat), and Future Purchase Intention (PI). The structural model tests the relationship between latent constructs through five hypotheses, as shown in Figure 1.

For the qualitative data, coding and categorization of interview transcripts were performed to identify and group the informants' responses. The coding process involved keywords relevant to the research topic, which were then categorized as "customer service", "delivery", "returns", "tracking", "product quality", and "purchase intention". Each answer was analyzed and coded appropriately based on its content and context. This content analysis helped systematically and scientifically organize and interpret qualitative data, thereby facilitating the analysis and understanding of the interview results.

5.   Findings

5.1   Demographic Profile

A survey was conducted among 282 respondents who purchased fashion items on several Indonesian e-commerce platforms. The respondents' profile is shown in Table 2. The respondents are primarily male (77%). They are residing in Jakarta (34%), Bekasi (20%), and other neighboring areas. Most of the respondents were 25–30 years old (28%) and 30–35 years old (27%). Shopee was the most popular marketplace in which respondents bought fashion items online (82%). Most of them went shopping online 1–2 times (48%) and 6–10 times (37%) per month.

The researcher conducted validity and reliability testing on the study constructs in two stages: the first stage was conducted after 35 data points were gathered through a pilot test, and the second stage was conducted after the instrument was revised and a full survey was completed.

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Table 2. Demographic profile of quantitative study respondents

Demographics	Frequency (n)	Percentage (%)
Sex		
Male	64	23
Female	218	77
Geographic location		
Jakarta	95	34
Bekasi	57	20
Bogor	38	13
Depok	13	5
Bandung	8	3
Tangerang	8	3
Others	63	22
Age		
<20 yo	19	7
20 – 24 yo	33	12
25 - 29 yo	80	28
30 - 34 yo	75	27
35 – 40 yo	48	17
>40 yo	27	10
E-commerce platform for shopping*)		
Blibli	6	2
Lazada	33	12
Shopee	132	82
Tokopedia	86	30
Bukalapak	5	2
Shopping frequency		
1–2 times per 3 months	6	2
1–2 times per month	134	48
3-5 times per month	4	1
1 time per 6 months	2	1
6–10 times per month	103	37
>10 times per month	33	12

Note: *) Respondents could select more than one choice

In the pilot test during the first stage of validity and reliability testing, a few indicators—CS2, D7, T1, R4, and PI4—were found to have factor loadings below 0.5, indicating they did not measure related variables; hence, they were excluded from further analysis. The second stage was performed using indicators with factor loadings more than 0.5. The results show that all variables had Cronbach's alpha values above 0.7 and average variance extracted (AVE) values above 0.50, except for tracking, which had an AVE value of 0.499. Although tracking did not meet the 0.50 threshold, the difference between its AVE and the threshold was insignificant, and its composite reliability (CR) of 0.885 exceeded 0.70; therefore, it was included in further analysis. These results are shown in Table 3.

Table 3. Validity and reliability test results

Validity & reliability	Customer Service (CS)	Delivery (D)	Tracking (T)	Returns (R)	Customer Satisfaction (CSat)	Future Purchase Intention (PI)
Tolerance	0.574	0.543	0.521	0.686	--	--
VIF	1.742	1.843	1.921	1.458	--	--
AVE	0.644	0.515	0.510	0.804	0.819	0.613
McDonald's w	0.782	0.814	0.714	0.872	0.930	0.722
Cronbach's alpha	0.783	0.827	0.710	0.862	0.927	0.718

Next, a discriminant validity test was conducted to ensure that each latent variable was conceptually distinct from the others in the model. The Hetero-Trait Mono-Trait (HTMT) test compares the correlation between latent constructs and the correlation within the constructs. Rönkkö and Cho (2022) suggest a threshold value of 0.90 if the path model includes conceptually similar constructs. In other words, an HTMT value above 0.90 is not recommended because it indicates a lack of validity. The HTMT test is considered more favorable than similar tests because it is recognized as a more robust method and can detect discriminant validity issues more effectively (Ab Hamid et al., 2017). The results of the HTMT or discriminant validity test are presented in Table 4.

Table 4. Results of the discriminant validity test

Customer Service (CS)	Delivery (D)	Tracking (T)	Returns (R)	Customer Satisfaction (CSat)	Future Purchase Intention (PI)
1.000					
0.827	1.000				
0.689	0.816	1.000			
0.673	0.589	0.605	1.000		
0.758	0.788	0.824	0.634	1.000	
0.508	0.623	0.759	0.525	0.768	1.000

Furthermore, we used fit indices to evaluate how well the hypothesized model fit the observed data and to assess the overall goodness of fit, thereby determining whether the model is acceptable. The model has a CFI value of 0.988, indicating a good fit. A TLI value of 0.966 and an NNFI value of 0.966 indicate that the model is perfect in terms of model complexity and fit. The NFI value of 0.973, which exceeds 0.95, indicates that the model's fit to the baseline is perfect.

Furthermore, an RMSEA value of 0.052 indicates that the model has a fairly good fit and is acceptable. Based on the average standard difference between the model correlation and actual data, an SRMR value of 0.033 indicates that the model is appropriate. The smaller the SRMR value, the better the model's suitability; the limit is < 0.08. The proportion of covariance explained by the model (GFI = 0.954) indicates that it is perfect. Overall, the fit indices indicate a good structural model (Hair et al., 2019).

Finally, Table 5 shows the results of the hypothesis testing, which reveal several significant relationships between the variables. Delivery has a strong, significant positive effect on Customer Satisfaction, with an estimate of 0.642 (p < 0.001), indicating that delivery increases customer satisfaction, which supports Hypothesis 2.

Table 5. Results of the hypothesis testing

Predictor	Outcome	Estimate	t-value	p-value	Decision
CS	CSat	-0.552	-0.499[n.s.]	0.618	H1 not supported
D	CSat	0.642	3.317[***]	< 0.001	H2 supported
T	CSat	-0.017	-0.075[n.s.]	0.940	H3 not supported
R	CSat	0.242	4.142[***]	< 0.001	H4 supported
CSat	PI	0.723	8.110[***]	< 0.001	H5 supported

Note: CS = customer service; D = delivery; T = tracking; R = returns; CSat = customer satisfaction; PI= future purchasing intention. [*]$p < 0.05$; [**]$p < 0.01$; [***]$p < 0.001$; [n.s.] = not significant

Returns have a fairly strong and significant positive effect on customer satisfaction, with an estimate of 0.242 ($p < 0.001$), indicating that returns increase customer satisfaction, supporting Hypothesis 4. Customer satisfaction has a positive and significant effect on future purchase intention, with an estimate of 0.723 ($p < 0.001$), indicating that customer satisfaction modestly increases future purchase intention, supporting Hypothesis 5. However, two variables, customer service and tracking, do not significantly contribute to increasing customer satisfaction, indicating a lack of support for Hypotheses 1 and 3. All measurement items and loading factors are detailed in Appendix A.

5.2   Follow-Up: Fact Check with Interviews

At the qualitative stage, we interviewed three informants selected through convenience sampling. The three informants came from different operational divisions of the e-commerce industry. Two informants were from the top five e-commerce companies, while the other was from an e-commerce business that sold building or construction materials. These informants were expected to provide additional valuable insights into how consumer experiences can vary across the e-commerce sectors. The interview results were processed through simple tabulation for coding and categorization.

The first interview was with Participant 1, who served as the Commercial Supply Chain Project Leader of Lazada Indonesia. He confirmed the survey findings that delivery, especially fast and accurate shipping, is one of the keys to winning customers' hearts in the e-commerce industry and gives the company a competitive edge. Specifically, the company's primary focus is on shipping, tracking, and returns. He added that Lazada implements a hassle-free return policy to ensure customer satisfaction and loyalty, confirming the quantitative study's findings. Lazada's system allows customers to ship items quickly and accurately and track their orders in real time. In exceptional cases, where goods are damaged or wrong, Lazada allows consumers to return the goods with ease. The company believes that a focus on tracking can increase transparency and consumer trust.

Participant 2, who led a logistics project with an e-commerce company in Indonesia, revealed that the company's main objective in customer service is fast, accurate delivery and ensuring high quality. This finding supports the quantitative data, showing that delivery has a significant impact on consumer satisfaction and future purchase intention.

Finally, an interview with Participant 3, who was in charge of the supply chain and materials management department at an e-commerce company, showed that the company's main objectives regarding customer service are delivery time and customer feedback on product quality. This finding supports the previous stage's finding that delivery and return services affect consumer satisfaction. All informants highlighted the

importance of delivery speed and accuracy, as well as ease of the return process, as key factors for success in managing the e-commerce supply chain. In contrast, tracking service, albeit important, was not considered to have a significant impact on consumer satisfaction, as reflected in the reduced emphasis on this aspect in the interviews.

Furthermore, the survey results show that customer satisfaction significantly affects future purchase intention. This means that consumers who are satisfied with delivery and return services tend to make repeat purchases. This finding is supported by interviews with Participants 1 and 2, who emphasized the importance of fast and accurate delivery. Meanwhile, Participant 3 mentioned consumer feedback on product quality as a key factor in increasing consumer satisfaction and driving future purchase intentions. The results of the interviews with these three interviewees provide empirical evidence supporting the quantitative findings that delivery and returns are key factors that influence consumer satisfaction and future purchase intentions in the e-commerce industry. Although tracking does not significantly affect consumer satisfaction, it remains a focus for some companies to increase transparency and consumer trust. This suggests that e-commerce companies should focus on improving delivery and return services to increase consumer satisfaction and drive future purchase intentions.

6.   Discussion

This study makes significant theoretical contributions to the field of supply chain management and consumer behavior in the e-commerce industry. The finding that delivery and returns have a significant effect on consumer satisfaction supports previous theories that emphasize the importance of logistics efficiency in improving consumer experience (Kaligis et al., 2024; Koay et al., 2022; Uzir et al., 2021). Although tracking does not significantly affect consumer satisfaction, this study highlights the importance of transparency and communication during the delivery process, which can increase consumer trust and long-term loyalty (Jalil et al., 2024). In addition, Yunus (2021) identified the challenges faced by supply chain managers in B2C e-commerce, including the need to improve operational efficiency and manage increasingly high consumer expectations.

A study by Cao et al. (2018) found that post-purchase delivery and tracking affect consumer satisfaction in China and Taiwan. Customer service is the most significant factor among the factors studied for online shoppers in China, whereas return service is more important for shoppers in Taiwan. Additionally, customer satisfaction plays a more significant positive role for online shoppers in Taiwan than in China. This study found that customer experiences partially improved customer satisfaction, as only 2 of 4 customer experience dimensions were supported. We will provide a detailed discussion in the following subsections.

6.1   The Relationship between Customer Service and Customer Satisfaction

This study hypothesizes that customer service, as an element of customer experience, is positively related to customer satisfaction (H1). However, this study fails to provide empirical support for this relationship. In many e-commerce transactions, consumers often do not care much about customer service unless they experience problems, as when navigating online platforms such as Tokopedia and Shopee. The information provided by the e-commerce company is relatively detailed, enabling consumers to make purchases independently. Many features can help consumers, such as detailed product descriptions along with photos, FAQs, and purchase reviews by other consumers. In this study, consumers prioritize fast and timely delivery of customer

service. This aligns with Expectancy Disconfirmation Theory (EDT), which posits that consumers without specific expectations for customer service in e-commerce will not feel satisfied (Hien et al., 2024; Schiebler et al., 2025).

Through a 40-year meta-analysis of Expectancy Disconfirmation Theory, Schiebler et al. (2025) examined how expectations and perceived performance shape consumer satisfaction. Their study confirmed that consumers who expect and receive strong performance report higher satisfaction (assimilation), thus emphasizing the importance of setting appropriate consumer expectations to meet or exceed satisfaction. However, they called for research with an experimental design and linear modeling to strengthen their causal interpretations. In our study of online fashion shopping, we argue that satisfaction often comes from receiving the right product on time and the ability to return it easily, if necessary. Unless customer service directly affects these outcomes, its impact on satisfaction may be limited.

6.2 The Relationship between Delivery Service and Customer Satisfaction

Hypothesis 2 (H2) shows that there is a significant and positive relationship between delivery service and customer satisfaction. We found empirical evidence supporting this hypothesis, in line with previous studies (Dündar & Öztürk, 2020; Koay et al., 2022). According to Expectancy Disconfirmation Theory, fast, timely delivery is the initial expectation of online buyers, which will positively impact customer satisfaction (Uzir et al., 2021). A recent study by Azman et al. (2022) also showed that delivery service is the most important factor in online food delivery in Malaysia. This finding is consistent with the results of the present study.

6.3 The Relationship between Tracking Service and Customer Satisfaction

The third hypothesis (H3) conjectures that tracking service positively influences customer satisfaction. However, contrary to this conjecture, this study found no support for this relationship in fashion e-commerce in Indonesia.

This finding is justifiable by the advancement of Internet usage and the capabilities of online shopping applications in Indonesia. The tracking feature has become so commonplace that online shoppers in Indonesia no longer find it special. In other words, tracking service does not increase customer satisfaction. Furthermore, most consumers do not use the tracking system in online shopping applications because deliveries are fast and on time, eliminating the need to track the positions of goods they have bought on the way to their destinations. This delivery quality increases customer trust in e-commerce (Miao et al., 2022).

6.4 The Relationship between Return Service and Customer Satisfaction

In contrast to H3, Hypothesis 4 (H4), which predicts a positive relationship between return service and customer satisfaction, is supported by empirical evidence. It is closely related to the behavior of online buyers in Indonesia, who tend not to use the application's tracking feature; instead, they are more concerned with the ease of returning goods in the event of an error or problem. Yunus (2021) identified that problems often occur in e-commerce logistics; therefore, customer satisfaction will increase with better return service. This finding is consistent with those of Kawa and Zdrenka (2024) and Sumrit and Sowijit (2023).

Prayogo et al. (2024) and Soesanto (2023) highlight the importance of the return policy in Indonesian e-commerce. In line with this, our findings from interviews with the Commercial Supply Chain Project Leader of Lazada Indonesia emphasize the company's commitment to optimizing key aspects of customer service, namely, shipping, tracking, and returns. A clear return policy and adequate infrastructure are needed to manage returns well and ensure customer satisfaction.

6.5 The Relationship between Customer Satisfaction and Future Purchase Intention

Finally, the results of this study indicate that customer satisfaction increases future purchase intention (H5). Previous studies have widely examined the relationship between customer satisfaction and future purchase intention as part of customer loyalty (Elverda et al., 2025; Maziriri et al., 2023). However, this study is novel in that it examines the relationship in the context of e-commerce in Indonesia's fashion industry, a field that remains underexplored.

6.6 Managerial Implication

The research results have several managerial implications for e-commerce supply chain managers. First, the importance of focusing on fast, accurate delivery cannot be ignored. Supply chain managers must ensure their logistics systems accommodate consumer demand for efficient, timely deliveries. This can be achieved by optimizing delivery routes, increasing collaboration with third-party logistics service providers, and using technology to monitor and manage the delivery process in real time.

Second, although tracking does not have a significant effect on consumer satisfaction, it still has value in providing transparent tracking services. This can increase consumer confidence and provide a sense of security that their orders are processed correctly. Therefore, supply chain managers should consider integrating tracking systems that are easy to access and informative to consumers.

Third, ease of return is also an essential factor that affects consumer satisfaction. Therefore, supply chain managers must develop a return policy that is clear and easy for consumers. This includes providing pre-paid return labels, expediting the refund process, and ensuring that consumers are informed of the status of their returns. By implementing these strategies, e-commerce supply chain managers can improve customer satisfaction and encourage future purchasing intentions, ultimately contributing to business growth and viability.

6.7 Theoretical Contribution

In Indonesia, most online shopping platforms include customer service and tracking systems as standard features, so online shoppers might consider them the norm. Indonesian shoppers may value on-time or reliable delivery more than the tracking system. In other words, as long as sellers ship the products as promised, they do not feel the need to track their orders. Moreover, as shipping in Indonesia typically only takes a short time, the need to track orders may be reduced. It would be interesting to compare this finding with findings in other countries.

This study provides empirical evidence of the impact of consumer experience, in terms of customer service, delivery, tracking, and returns, on customer satisfaction and confirms the positive effect of customer satisfaction on future purchase intention. This study is among the limited research examining the overall consumer experience aspects

of improving customer satisfaction in e-commerce settings in Indonesia, enriching the academic literature on this topic and providing practical insights for e-commerce industry practitioners.

6.8   Limitations

Given this study's limitations, its findings should be interpreted with caution. First, this study used a self-administered survey and convenience sampling. The nature of such a design can alter results and yield insignificant test results, even if the number of respondents exceeds the specified number.

Second, there was a limitation in finding suitable informants with e-commerce experience for the qualitative stage. This was due to the use of fairly specific criteria: the informants should be supply chain practitioners in the context of Indonesian e-commerce. Consequently, the study had to venture outside the top five e-commerce companies into a variety of industries to find informants engaged in supply chain management. Therefore, the information obtained was limited and was not specific to supply chain management in the top five e-commerce companies in Indonesia.

7.   Conclusions

This study provides empirical evidence of the significant relationship between consumer experience in purchasing fashion products through e-commerce and customer satisfaction. Specifically, the return and delivery aspects significantly affect customer satisfaction, whereas customer service and tracking do not. Finally, customer satisfaction significantly improves future purchase intention.

The insignificant relationships identified in this study are puzzling, as prior studies have shown that customer service and tracking positively influence customer satisfaction. This study assumes that customer service may not be necessary for customers who do not experience delivery issues, such as faulty or incorrect product shipments. The same argument applies to tracking services: since respondents often use instant or same-day delivery, their need to track their orders is reduced. Nevertheless, it is still important that e-commerce managers oversee product delivery to avoid shipment issues and ensure a seamless, effective product return process whenever necessary.

8.   Recommendation

Based on the results and limitations of this research, it is recommended to use informants from the top five e-commerce companies in Indonesia to obtain specific information relevant to the research topic. In addition, future research should use more valid indicators to prevent any discrepancies in respondents' perceptions or understanding of each questionnaire item. Suggestions for practitioners are to optimize internal (e-commerce companies) and external systems they work with (3PLs or other third parties), as both greatly affect delivery timeliness, which is a priority for effective supply chain management in e-commerce companies. In addition, they should optimize technology use to ensure data accuracy and suitability within the system, whether in the company, on an expedition, or in a user application.

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Appendix A

Table A1. Operational definitions and indicators of consumer experience in purchasing fashion products in e-commerce

Variables	Operational Definition	Indicators		Factor Loading
Customer Service	The extent of service experienced by consumers when shopping at a company (Cao et al., 2018)	CS1:	I have received prompt service from the e-commerce company.	0.63
		CS2:	I could easily find a customer service phone number to call and ask questions.	deleted
		CS3:	The e-commerce company from which I shopped showed a genuine interest in solving consumer problems.	0.87
		CS4:	I feel that an e-commerce company is always willing to help consumers.	0.82
Delivery	The extent of delivery and related services provided by the company (Cao et al., 2018)	D1:	The e-commerce company from which I shopped delivers products within the agreed time frames.	0.78
		D2:	I often receive my products within the expected time frames.	0.81
		D3:	I often find the most suitable shipping option.	0.80
		D4:	I often receive shipping services free of charge or at discounted rates.	0.72
		D5:	The e-commerce site provides tracking capabilities during shipping.	0.79
		D6:	The e-commerce company gives me the flexibility to choose the delivery date.	0.56
		D7:	The e-commerce company accommodates my desire to change the shipping route.	deleted
Tracking	The extent to which it is possible to track shipments using multi-channel shipping companies (Cao et al., 2018)	T1:	Get emails or text notifications with tracking numbers.	deleted
		T2:	I can track orders directly on the e-commerce application.	0.90
		T3:	I can track orders with mobile devices.	0.86
		T4:	I receive delivery alerts via electronic messages such as emails/instant texts.	0.56

Variables	Operational Definition	Indicators		Factor Loading
Returns	The extent to which consumers can return their delivered goods (Cao et al., 2018)	R1:	I can arrange for product returns/exchanges conveniently.	0.89
		R2:	The e-commerce company from which I shopped has a clear return policy.	0.91
		R3:	I do not find it difficult to send returned items to the sellers.	0.95
		R4:	I do not have to pay for return shipping/ re-deposit.	deleted
Customer Satisfaction	The extent to which consumers are satisfied with online shopping (Cao et al., 2018)	CS1:	The services provided by the e-commerce company and sellers are excellent.	0.83
		CS2:	The e-commerce company provides quality customer service.	0.79
		CS3:	My online shopping experience has been satisfying.	0.97
		CS4:	I am satisfied with my online shopping experience with the e-commerce company.	0.90
Future Purchase Intention	It is an orientation of online shopping behavior in the future (Cao et al., 2018; Dachyar and Banjarnahor, 2017)	PI1:	I will continue to shop online in the near future.	0.67
		PI2:	I will recommend my friends/relatives to shop online using e-commerce services.	0.88
		PI3:	I will not hesitate to provide information about the e-commerce application.	0.68
		PI4:	I will use my credit card to buy products via the e-commerce application.	deleted
		PI5:	I will most likely transact with this e-commerce application in the future.	0.79