

Understanding Last-Mile Delivery Challenges among E-Commerce Consumers in Dhaka: Proposing Service Improvement Strategies

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Abstract

Due to the rapid growth of electronic business in Bangladesh, the effectiveness of last-mile delivery has become increasingly important. Moreover, issues related to conveyance can seriously impact how the clients are fulfilled by the arrangement as an entire.

This study aimed to investigate the determinants of consumer satisfaction in the last-mile delivery process and to locate a helpful procedure for the improvement of conveyance execution of the e-commerce sector. In this examination, we used a quantitative methodological approach to lead the research. Primary data were gathered through structured questionnaires from the e-commerce consumers. Here product condition, tracking accuracy and delivery delays were treated as three delivery related factors; consumer satisfaction was treated as a dependent parameter. Descriptive statistics, correlation analysis and multiple-regression analysis were used to analyze the relationship between those parameters. Outcome demonstrated that product condition was positively and significantly associated with consumer satisfaction. In terms of the individual effects of tracking accuracy and delivery delays, they were not statistically significant; however, when all independent variables were considered collectively, the regression model was statistically significant. These factors can also affect consumers' purchasing decisions in business. Hence for improving delivery performance greater focus must be placed on how the product condition is maintained by the delivery personnel. Other factors can also be implemented. These include the advancement of delivery systems through the continuous usage of ICT solutions such as the development of sophisticated tracking systems, optimizing the routing, effective return process, delivery personnel's proper coaching, improving infrastructure and other technological assistance.

Keywords: Last-mile Delivery, E-commerce, Customer Satisfaction, Delivery Challenges, Service Improvement, Dhaka.

1. Introduction

The proliferation of e-commerce has been revolutionizing buying habits by altering how customers buy goods and services, turning the final piece of delivery into an increasingly significant component of the e-commerce procedure. Last-mile delivery involves the last step of the distribution process whereby an item shipped by an e-commerce seller to a potential consumer travels from the retailer's last distribution center or warehouse to the final delivery address. Since the last-mile is the point where sellers have direct interaction with customers, customers' delivery satisfaction would be highly affected. Delivery problems such as spoiled, damaged, lost items, delayed service, wrong shipment, and flexible delivery options may disappoint customers even though ordering is as smooth as possible. With the increasing awareness and utilization of the internet to purchase goods, ensuring satisfaction with last-mile delivery has now become a critical issue in the e-commerce sector.

Though last mile delivery is a frequently discussed topic in the existing literature, several gaps remain. It is often stressed that research on e-commerce logistics deal mainly with technologies and operations (GPS tracking, efficient routes, fast delivery times and warehouse locations etc.) while the impact of various features of the last mile on the customers' satisfaction is overlooked such as, condition of the product, reliability of the tracking service, delay on the delivery, flexible delivery timing and the amount they can pay more to have instant service etc. So there is a significant research gap, where a quantitative analysis is needed on the relative impact of key elements of the last-mile delivery on customer satisfaction. Most of the studies are conceptual or theoretical and comparatively fewer studies use primary survey data to investigate customer experiences and expectations about last-mile delivery. Consumer surveys in Dhaka particularly remain limited. A considerable part of the existing literature is based on relatively older studies. So, this study contributes to collecting survey data during the 2024-2026 period, which can provide a current understanding of last mile delivery challenges in Dhaka. Flexible delivery schedules have received comparatively very little attention in the existing literature. This study addresses these gaps by examining the challenges of last mile delivery among e-commerce consumers in Dhaka using primary survey data and proposing evidence-based service improvement strategies.

Research Questions

1. What are the common difficulties that e-commerce consumers encounter in last-mile delivery?
2. How are product conditions, tracking accuracy and delivery delays associated with customer satisfaction in Dhaka?
3. Do e-commerce consumers in Dhaka appreciate flexible delivery schedules for their own comfort?

4. What practical strategies can be taken by e-commerce companies and logistic providers to elevate delivery experience?

Research Objectives

1. To know the common difficulties which are encountered by the e-commerce consumers in Dhaka.
2. To determine how product condition, tracking accuracy, delivery delays are associated with customer satisfaction.
3. To study how e-commerce consumers demand flexible delivery schedules for their own comfort.
4. To suggest practical strategies for e-commerce companies and logistic providers to elevate delivery experience.

2. Literature Review

Last-Mile Delivery in E-commerce:

The concept of "last-mile" was adopted from the telecommunication industry but, in supply chain management, the last-mile represents the logistical challenges at the last stage of transportation (Onfleet, Inc., 2023). Products and packages are transported from hubs to their final destinations in this stage (Onfleet, Inc., 2023). It is considered as the complex, customer facing and costly segment of the entire supply chain process (Islam et al., 2024; Dhir, 2026). The sector has seen a huge wave in demand in the post-COVID-19 era, by which the need for touchless and rapid delivery models were accelerated (Raza et al., 2024). Last-mile delivery has become a foundation of e-commerce success because the online shoppers' expectations have shifted toward convenience and immediacy (Gund & Daniel, 2023).

Delivery Reliability and Timeliness:

Timely delivery has been marked as a primary determinant of customer satisfaction, operational efficiency and long term business success (Rahman & Ray, 2025). On the contrary, late or inconsistent deliveries erode customer trust, negatively affect brand reputation and increase operational costs (Rahman & Ray, 2025). However, reliability remains a key challenge as one of the studies discovered that on-time delivery rates dropped below 50% across most warehouse blocks (Rahman & Ray, 2025). Delayed Deliveries are often cited as one of the leading causes of customers dissatisfaction (Islam et al., 2024). While quick-commerce models strive for hyper-speed, standard domestic deliveries often take between one to seven days which causes frustration among users (Islam, n.d., 2020; Rahman, M. A., 2023). One of the studies found that same day or quick delivery services are limited only in Dhaka and some other big cities (Rahman, M., 2023).

Communication and Tracking:

Effective communication and transparency are necessary to meet customer expectations in last-mile delivery (Ahmed et al., 2024). Many traditional logistics companies in Bangladesh were decried for being outdated and lacking reliable tracking options (Rahman, M.A., 2023). Conversely, modern platforms that offer real-time GPS tracking and timely digital notifications (SMS / email) enhance the reliability of the whole delivery service (Rabbi et al., 2025; Islam, 2025).

Package Condition and Handling:

Package condition has a crucial impact on service quality. Poor packaging or receiving damaged products hampers the brand image and discourages repeat purchases (Rahman, M. A., 2023). One of the studies stated the package condition as a major concern (Saha et al., 2023). To reduce expenses, many firms use poor packaging elements, which causes damage to the products while being delivered (Mimi et al., 2022). Handling issues are particularly critical in the online pharmaceutical sector as medicine can be fragile and specialized delivery setups are needed to prevent the losses (Urmi et al., 2020; Mona, 2019).

Delivery Cost:

Last-mile delivery is the most costly segment of the whole logistics process, often representing over 40% of the total supply chain expense (Islam, 2025). As price sensitivity is high in Bangladesh, many customers prefer local physical stores rather than pay excessive delivery charges (Urmi et al., 2020; Ahmed et al., 2024). High shipping fees are the most frequently reported problem by the consumers and nearly 47.6% of them identify it as a major reason of dissatisfaction (Islam et al., 2024; Rahman M. A., 2023). Though one of the studies found that customers do not think delivery charges are costly in Dhaka (Saha et al., 2023). However, Ahmed et al. (2024) explored that customers are "prepared to pay a premium" for a dependable and efficient delivery service, which suggests that reliability can overrule price sensitivity.

Customer Satisfaction:

In the e-commerce sector, customer satisfaction is deeply entangled with logistics performance that includes speed, accuracy and convenience (Ahmed et al., 2024). A good delivery experience drives satisfaction and conversely a single "ruined" delivery can damage a platform's reputation (Prince, 2026). One of the studies stated some important factors that drive customer satisfaction, which included timely delivery, secure delivery, effective solution of delivery issues, convenience of order tracking and payment method (Ahmed et al., 2024). Whereas another study found that distribution time, payment method and delivery method have less influence on customer satisfaction (Zabed et al., 2020). Service quality, return policy, and quick problem resolution are important determinants of customer satisfaction in e-commerce (Broderick, 2007; Dholakia, 2005). Islam et al. (2021) stated that satisfaction leads to repurchase intention and loyalty towards online stores.

Last-Mile Delivery Challenges in Bangladesh:

Last-mile delivery in Bangladesh faces persistent challenges, including traffic congestion, inadequate infrastructure, and reliance on Cash-on-Delivery (COD), which contribute to delivery delays, rider security risks, and reverse-logistics burdens (Hai et al., 2023; Dhir, 2026). A rural–urban service gap also exists, with secondary cities and rural areas experiencing higher delivery costs and more frequent delays (Dhir, 2026). Moreover, gig workers often face low pay, long working hours, and safety concerns (Dhir, 2026). Same-day delivery is further constrained by population growth, unplanned urbanization, limited administrative capacity, and lack of professionalism (Islam, n.d., 2020). Thus, beyond transportation infrastructure, Bangladesh requires a reliable and well-organized distribution system to ensure efficient last-mile delivery (Newage bd, 2021).

Hypothesis Statements

H1: Better product condition makes a statistically significant contribution to customer satisfaction with last-mile delivery services.

H2: Higher tracking accuracy has a significant positive association with customer satisfaction with last-mile delivery services.

H3: Frequent delivery delays have a significant negative association with customer satisfaction with last-mile delivery services.

3. Methodology***i) Research Design:***

This study consists of a cross-sectional survey design. A quantitative approach was adopted for data analysis in this study. This research was conducted to investigate and identify last-mile delivery challenges experienced by e-commerce consumers in Dhaka and propose some service improvement strategies to overcome those challenges. This design was appropriate for our research as it allows us to examine the relationships between different variables. In a cross-sectional survey, data are collected from respondents at one specific point in time.

ii) Study Area and Target Population:

Dhaka was selected as the study area because of its huge population, diverse experiences and environments in last-mile delivery. Dhaka acts as the primary hub because of its central position, best logistics support and urban lifestyle demand. Those who had at least a few experiences of receiving an online delivery were included as respondents.

iii) Sampling Techniques:

For the primary data collection, a non probability convenience sampling method was used. This method was applied because the respondents were selected based on accessibility. This method allows us to collect required responses within available research periods and resources. A Google form was developed as an online questionnaire and distributed to people who are known personally and are engaged in online shopping.

iv) Sample Size:

A total of 75 completed responses were collected through the questionnaire and used for primary data analysing. The sample size was not determined through formal probability-sampling power calculation; rather, it possessed the practical number of complete responses obtained through online distribution within the study period.

v) Data Collection Method and Research Instruments:

The primary data were collected by an online questionnaire which was developed based on the relevant practical experience. The survey questionnaire included mostly close ended questions and two open ended questions to receive both qualitative and quantitative insights. The questionnaire had six parts and 34 questions were there in total. The 1st part consisted of all demographic questions like age, profession, gender etc. The 2nd part contained the question about online shopping behaviour (preferred platform, preferred payment method etc). The 3rd and 4th part had questions about delivery experiences and delivery challenges respectively. The 5th part contained questions about customer trust. Lastly, the 6th part had questions about service improvement strategies and this part had two open ended questions for capturing qualitative insights about the respondents' suggestion for service improvement strategies and any other additional issues. We used a five-point likert scale where 1= strongly disagree, 5= strongly agree. The survey link was distributed through various social media platforms like Facebook Messenger and WhatsApp to reach people quickly and cost effectively. The survey was kept open for a certain time, during which a total of 75 responses were gathered. Secondary data were obtained from news articles, thesis papers, internship reports and other relevant scholarly sources identified through databases such as Google Scholar, ResearchGate. Secondary sources were used to identify the service improvement strategies and to contextualise the findings from the primary survey.

vi) Ethical Considerations:

Prior to data collection, all participants were informed about the study goals and they provided voluntary consent to participate. All the responses were anonymous and no personal information was gathered. Only the authors had access to the data to ensure confidentiality. The data were stored and used only for research purposes during the study period. No IP addresses or other identifiers were collected through the survey process.

4. Data Analysis and Findings:

4.1: Demographic profile of respondents

Table-1

		Frequency	Percentage (%)
Age	18-24	58	77.33
	25-30	8	10.67
	31-40	5	6.67
	Above 40	4	5.33
Gender	Female	49	65.33
	Male	26	34.67
Profession	Student	61	81.33
	Business	3	4.00
	Government employee	1	1.33
	Private employee	2	2.67
	Homemaker	7	9.33
	Other	1	1.33
Monthly Personal Income	Below 15,000 BDT	66	88.00
	15,000-30,000 BDT	4	5.33
	30,001-50,000 BDT	2	2.67
	Above 50,000 BDT	3	4.00

	Total	75	100
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Source: Survey questionnaire

The demographic profile of 75 respondents reveals a predominantly youth-oriented and economically diverse consumer sample. The sample is particularly relevant to the investigation of last-mile delivery experiences in the E-commerce sector. The age distribution is strongly concentrated with 58 respondents (77.33%) aged 18-24 years. Gender distribution reflects a higher female majority with 49 respondents (65.33%) and male 26 respondents (34.67%). The occupational distribution shows a notably large proportion of the students with 61 individuals (81.33%). The income distribution is skewed to the lower side with 88.00% having monthly personal income below 15,000 BDT.

4.2: Descriptive statistics of survey items

Table-2

Survey Item	N	Mean	SD
1. The delivery personnel behave professionally	75	3.52	0.58
2. I receive accurate delivery updates	75	3.64	0.73
3. My orders often arrive later than promised	75	2.67	0.83
4. Products arrive in good condition	75	3.72	0.65
5. Delivery charges are reasonable	75	3.11	1.05
6. The delivery time meets my expectations	75	3.40	0.75
7. Customer support results delivery issues effectively	75	3.35	0.88

Source : Author's estimation

The descriptive statistics summarize respondents' perceptions of selected aspects of last-mile delivery. Mean scores range from 2.67 to 3.72, while the standard deviations range from 0.58 to 1.05. It indicates variation in responses across the survey items.

4.3: Analysis of delivery problems experienced by the customers

Respondents were asked which delivery problems they had experienced to identify the major delivery-related problems encountered by them. The question allowed respondents to select more than one option. Therefore, the total number of responses exceeds the total number of respondents (N = 75). The percentages presented in Figure 1 represent the proportion of respondents who selected each particular problem. Late delivery was the most frequently reported problem among all the problems we specified, selected by 29.3% of the respondents. Damaged products were the second most frequently reported problem. Wrong product and poor communication both were reported by 20% of the respondents. 18.7% of the respondents reported that riders couldn't locate their address which implies the fact that GPS and other location-based technologies should be adopted to reduce the address-location issues and other difficulties.

► Which delivery problems have you experienced?

75 responses

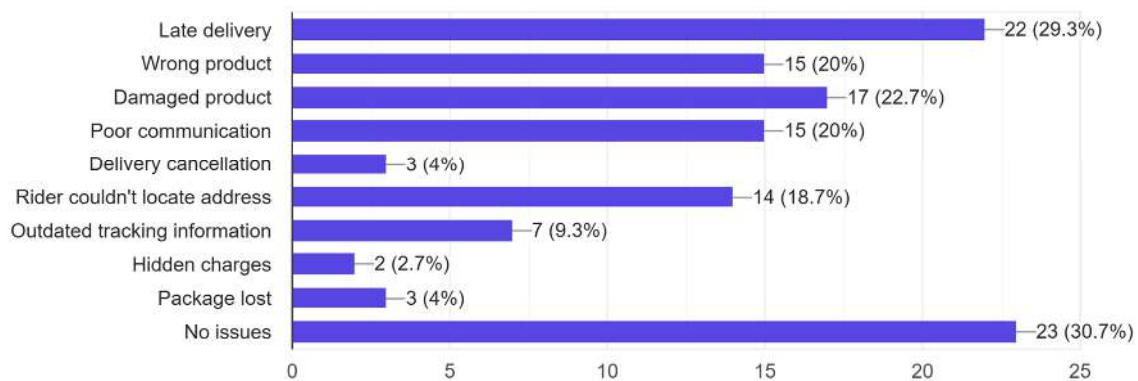


Figure 1: Delivery problems experienced by customers

Note: Since this was a multiple-response question, the percentages do not sum to 100%, as respondents could select more than one delivery problem.

4.4 Correlation analysis

This section investigates the relationships between product condition, tracking accuracy, and delivery delays, which are the independent variables, and customer satisfaction which is the dependent variable using “Pearson correlation analysis”. The aim is to identify whether significant associations exist between the variables and how delivery experience relates to customer satisfaction. Pearson’s correlation coefficient (r) was used to assess the strength and direction of these relationships, ranging from $[-1$ to $+1]$, where positive values indicate a direct relationship and negative values an inverse one. A significance level of $p < 0.05$ was applied.

Table 4.4.1 Pearson correlation matrix of study variables :

Variables	PC	TA	DD	CS
1.Product condition (PC)	1.00	0.2634	0.2182	0.2894
2.Tracking accuracy (TA)	0.2634	1.00	0.3281	0.2856
3.Delivery delay (DD)	0.2182	0.3281	1.00	-0.1804
4.Customer satisfaction (CS)	0.2894	0.2856	-0.1804	1.00

Source : Author’s estimation

Table 4.4.2 Hypothesis Testing Results for Pearson’s Correlation Coefficient (r) :

Variable	Pearson’s relation(r)	t-value	p-value	Decision
PC → CS	0.2894	2.589	0.012	Supported
TA → CS	0.2856	2.547	0.013	Supported
DD → CS	-0.1804	-1.571	0.121	Not Supported

Source : Author’s estimation

The table shows the Pearson correlations among the study variables. Product condition and tracking accuracy were positively related to customer satisfaction, while delivery delay showed a negative relationship.

Altogether, the findings suggest that product condition and tracking accuracy are more closely associated with customer satisfaction, while delivery delays show a less conclusive relationship in this study. These results provide a useful starting point for the regression analysis and hypothesis testing.

4.5 Regression analysis and hypothesis testing

Multiple linear regression analysis was performed to investigate the influence of selected last-mile delivery factors on customer satisfaction. In the regression model, customer satisfaction was considered the dependent variable and product condition, tracking accuracy, and delivery delays were treated as independent variables. The analysis was carried out by using 75 usable responses. The variables were measured on a five-point Likert scale, with higher scores representing stronger agreement with the corresponding statements. The survey dataset contains direct measures of accurate delivery updates, delayed delivery, product condition, and overall satisfaction. The purpose of the regression analysis was to determine both the explanatory power of the model and the individual contribution of each independent variable to customer satisfaction.

Table-4.5.1

Model	R	R ²	Adjusted R ²	Standard Error
1	0.482	0.232	0.200	0.878

Source: Author's estimation

Table-4.5.2

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	8.006	3	2.689	7.155	<0.001
Residual	26.68	71	0.376		
Total	34.747	74			

Source: Author's estimation.

Table-4.5.3

Predictor	B	Std. Error	Standardized β	t	P	VIF
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Constant	1.676	0.536		3.127	0.003	
Product condition	0.386	0.122	0.366	3.155	0.002	1.242
Tracking accuracy	0.160	0.110	0.170	1.457	0.150	1.262
Delivery delays	-0.071	0.087	-0.086	- 0.818	0.416	1.019

Source: Author's estimation

Table-4.5.4

Hypothesis	Result	Decision
H1: Better product condition makes a statistically significant contribution to customer satisfaction with last-mile delivery services.	$\beta = 0.366$, $p = 0.002$	Supported
H2: Higher tracking accuracy has a significant positive association with customer satisfaction with last-mile delivery services.	$\beta = 0.170$, $p = 0.150$	Not Supported
H3: Frequent delivery delays have a significant negative association with customer satisfaction with last-mile delivery services.	$\beta = -0.086$, $p = 0.416$	Not Supported

Source: Author's estimation

The regression model is statistically significant which means that the selected delivery related variables together help explain customer satisfaction. However, their individual effects are not equally strong.

The strongest statistically supported determinant is product condition. The significant positive coefficient shows that customers place considerable value on receiving products in good condition. It also signifies that the physical integrity of the delivered product is not merely an operational consideration but rather a core component of the customer's evaluation of the delivery experience.

In contrast, despite having a positive coefficient, tracking accuracy does not reach statistical significance in the present sample. This indicates that customers may appreciate accurate delivery updates but variation in tracking accuracy alone is not sufficient to explain

differences in satisfaction while considering other predictors. Delivery delays exhibit the expected negative direction which means greater delivery delays tend to correspond with lower satisfaction. Nevertheless, the relationship is statistically insignificant in this model. This suggests that customer satisfaction may depend on a broader combination of delivery quality characteristics rather than delays alone. As a whole, the findings suggest that the condition in which the product reaches the customer is the most influential factor among the variables examined.

Although tracking accuracy and delivery delays had theoretically expected direction, they still fail to achieve statistical significance when other variables are considered. Thus the empirical evidence provides clear support for H1 while H2 and H3 are not supported at the 5% significance level. So, improving the physical condition of delivered products should receive particular attention from e-commerce businesses and last-mile delivery providers seeking to strengthen customer satisfaction.

Hypothesis Results:

Hypothesis	Correlation Analysis	Regression analysis
H1: Better product condition makes a statistically significant contribution to customer satisfaction with last-mile delivery services.	Supported	Supported
H2: Higher tracking accuracy has a significant positive association with customer satisfaction with last-mile delivery services.	Supported	Not supported
H3: Frequent delivery delays have a significant negative association with customer satisfaction with last-mile delivery services.	Not supported	Not supported

5. Discussion

The analysis indicates that the three delivery-related factors product condition, tracking accuracy and delivery delays do not influence customer satisfaction to the same extent. Their individual contributions differ.

The regression model was statistically significant and explained 23.2% of the variation in customer satisfaction. Among the individual factors, product condition showed the clearest effect.

- Product conditions had a positive and significant relationship with customer satisfaction. This suggests that customers are more satisfied when their orders arrive in good physical condition. It also recorded the strongest positive contribution in the regression model, showing that product condition remains important even when the other factors are considered. This finding is in line with previous studies that emphasize proper handling and product quality as important parts of a satisfactory delivery experience (Urmi et al., 2020; Mona, 2019). Thus, H1 is supported.

- Tracking accuracy showed a significant positive correlation with the customer satisfaction, indicating that reliable delivery information can contribute to a better customer experience. However, its effect was not statistically significant in the multiple regression model. This may suggest that while customers value accurate tracking, it may have a smaller independent influence when other delivery factors are considered together. Previous research has similarly highlighted the value of timely updates and transparent tracking in building customer confidence (Rabbi et al., 2025; Islam, 2025). Therefore, H2 is not supported.

- Delivery delays were negatively associated with customer satisfaction, meaning that more frequent delays were linked with lower satisfaction. However, the relationship was not statistically significant in either the correlation or regression analysis. The negative direction nevertheless agrees with earlier research that identifies timely delivery as an important element of delivery reliability (Rahman & Ray, 2025). Hence, H3 is not supported.

Taken together, the findings point to product condition as the strongest individual factor associated with customer satisfaction. Although tracking accuracy and delivery delays followed the expected directions, their independent effects were not statistically significant.

6. Service Improvement Strategies

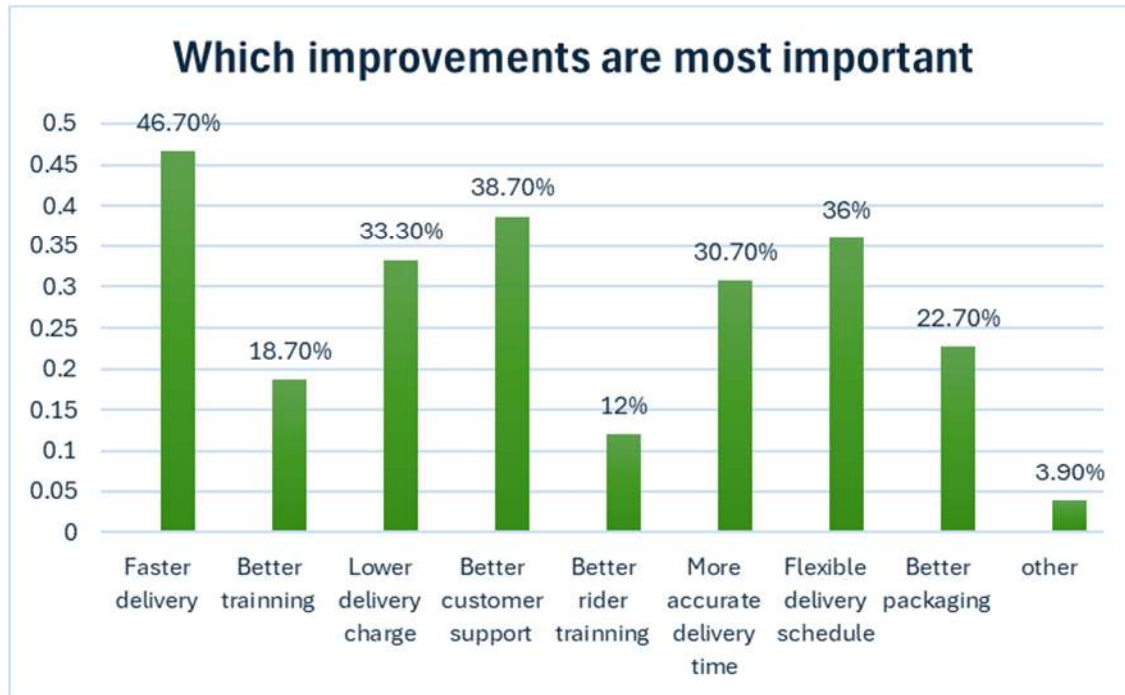


Figure 2: Service improvements suggested by the respondents

Note: Since this was a multiple-response question, the percentages do not sum to 100%, as respondents could select more than one delivery improvement.

Figure 2 shows the percentage of specific improvements that the respondents considered important. Respondents were asked which improvements were most important to them. 46.70% of the respondents selected faster delivery as an important improvement. Better customer support and flexible delivery schedules ranked second and third position respectively, which highlight that the logistics managers should take initiative to implement flexible delivery schedules and improve customer support. The other improvements identified by the respondents included lower delivery charges, more accurate delivery time, better packaging, better rider training and others. The improvement strategies based on the findings and respondents' preferences are proposed below.

Improving Package Condition:

Companies should implement sustainable and multi layer packaging that uses biodegradable materials to protect products from transit damage (Jawad et al., 2024). For fragile items, they should implement five levels of meticulously checked packaging to ensure no damage occurs during the delivery process (Romero & Lefebvre, 2015). Logistics managers should categorise the shipments based on risk levels (Rahman & Ray, 2025). Fragile parcels should have specific handling protocols and clear warranty if damage occurs (Rahman & Ray, 2025).

Technological Implementation Strategies:

AI-driven route optimization should be implemented to analyze traffic, weather and roadblocks (Islam et al., 2024). Dark stores or micro-warehouses within high-density urban areas could lower fixed costs and increase the service speed significantly (Islam, 2025). Drone delivery can be conducted for small and urgent parcels, bypassing terrestrial congestion, potentially reducing delivery times by 30-40% and cutting costs by 30-70% (Raza et al., 2024; Hai et al., 2023). Real-time GPS tracking or real time order visibility should be provided by e-commerce platforms via mobile apps to reduce nonsynchronous problems and failed deliveries (Islam et al, 2024; Ahmed et al., 2024). Blockchain can be implemented as it improves traceability (Hai et al., 2023). It can also enhance secure transactions and the optimization of logistics management (Onee et al., 2023).

Strategic Steps for E-commerce Companies,Businessmen and Logistics Managers:

Companies should implement clear and expedited return policies (Ridwan et al., 2021). A study found that customers are often willing to pay slightly higher delivery charges for guaranteed and easy return processes (Ridwan et al., 2021). An effective return policy reduces the perceived risk of online purchases (Monsuwé, 2004; Mukhopadhyay, 2004). E-commerce platforms and logistics managers both should provide effective training programs for their staff and gig workers so that they can act more professionally (Prince, 2026). For urban areas, a university centric gig model can reduce delivery costs from 60-70tk to 40-45tk (Jawad et al., 2024).Some of the courier companies should take the initiative to implement flexible delivery schedules.

Limitations:

1. A non probability convenience sampling method limits generalisability as 75 respondents may not represent all online customers in Dhaka.
2. The sample size was small in our research which may reduce the statistical power and precision of the statistical analysis.
3. The use of an online only survey may introduce selection biases and response biases. Also, self reported responses may be affected by social desirability bias which may lead the respondents to understate and overstate their delivery experiences.
4. The research was conducted exclusively in Dhaka.So, the findings may not apply to consumers outside Dhaka.
5. As a cross sectional design was used for the research, data were collected one point at a time which cannot track changes over time or establish a causal relationship between the variables.
6. The questionnaire provided limited depth in complex issues as it contained only two open ended questions which may not capture full contextual details.

7. Lack of triangulation is another limitation in our study as the study relied on only consumer reports. Operational data from the courier and merchants were not collected because such data were not accessible.
8. Though the study targeted e-commerce consumers of every generation in Dhaka, the respondents were mostly young generations.

7. Conclusion

Last-mile delivery plays a critical role in the rapidly growing e-commerce sector of Bangladesh, specifically within the urban context of Dhaka. The study successfully identified that product condition is the significant predictor of customer satisfaction, which shows a significant positive association with how consumers perceive the delivery experience. However, tracking accuracy and delivery delays were not statistically significant predictors in the regression model. To enhance delivery performance and maintain consumer trust, e-commerce businesses and logistics providers must adopt evidence-based improvement strategies instead of traditional methods. Key recommendations include prioritizing product safety, technological integration, infrastructure and service innovation and other improvements. Future growth in this sector will depend on a well-organized distribution system that balances logistical efficiency with a customer-centric approach.

Future research could include a larger sample from different demographic profiles and other districts of Bangladesh. While our research was entirely based on customer perspective, future researchers should approach delivery riders, courier companies, warehouse managers and operational managers to get a combined perspective. Empirical testing of the service improvement strategies should also be investigated longitudinally in future.

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