International Journal of Physical and Social Science
Vol. 15 Issue 5, May 2025,
ISSN: 2249-5894 Impact Factor: 6.644
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gate as well as in Cabell's Directories of Publishing Opportunities, U.S.A

Exploring the Service Quality Support of Online Ride-Hailing Platform from the E-Commerce Politeness Perspective

I-Ching Chen*
Yunzhi Zhang **

Abstract

With the development of the internet, traditional transportation methods are increasingly unable to meet people's needs, leading to the rapid emergence and growth of online online ride-hailing platforms. While these platforms have brought convenience to users, they also face issues such as drivers' poor service attitudes and risks of passengers' personal privacy being compromised—factors that significantly influence passengers' perception of service quality. E-commerce etiquette has the potential to enhance the service quality of online ride-hailing platforms. Therefore, this study investigates the subjective perceptions of online ride-hailing platform service quality from the perspective of e-commerce etiquette. Using the Critical Incident Technique (CIT), this research collects and analyzes passengers' key experiences while using online ride-hailing services to gain deeper insights into their perceptions of platform service quality. The study aims to reveal the intrinsic relationship between e-commerce etiquette and passengers' perceptions of online ride-hailing platform service quality, providing theoretical foundations and practical guidance for optimizing services, improving passenger satisfaction and loyalty, and promoting the healthy and sustainable development of the online ride-hailing industry in the e-commerce domain.

Keywords:
Online Ride-Hailing Platform;
E-Commerce Politeness;
Service Quality;
E-commerce Politeness;
Critical Incident Technique.

Author correspondence:

I-Ching Chen,
School of Economics and Management, Zhaoqing University, 526060, Zhaoqing, Guangdong, China,

Email: Correspondence: jineandya@gmail.com; Tel.: 86-13211060079

1. Introduction

With the increasing demand for transportation among residents, people are placing higher requirements on efficient travel services. Traditional public transportation and taxi industries often fail to meet the public's need for convenient travel. Issues like frequent traffic congestion and difficulties in securing rides during peak hours occur regularly in daily life. At the same time, the rapid development of mobile internet technologies and the widespread adoption of smart devices have provided the technical foundation for the emergence of new travel methods, leading to the rise of online ride-hailing platforms. By leveraging mobile applications, online ride-hailing platforms break the traditional constraints of time and space, offering people more convenient travel options.

However, while online ride-hailing platforms bring convenience to travel, they still face several issues requiring improvement. These include inconsistent service attitudes among drivers, excessively high prices during peak hours with insufficiently transparent pricing mechanisms, challenges in maintaining vehicle hygiene standards, low entry thresholds for drivers, inadequate measures for ensuring passenger information security, and cumbersome complaint feedback processes. These problems severely impact passengers' perceptions of the service quality provided by online ride-hailing platforms.

E-commerce Politeness theory offers a path to enhancing platform service quality. This study explores the subject from the perspective of e-commerce etiquette, emphasizing courteous communication and thoughtful service as key elements that can effectively improve platform service quality while increasing passenger

*School of Economics and Management, Zhaoqing University , Zhaoqing, Guangdong, China

** School of Economics and Management, Zhaoqing University, Zhaoqing, Guangdong, China

satisfaction and loyalty. Based on the e-commerce etiquette framework, the study employs the Critical Incident Technique (CIT) to investigate passengers' experiential perceptions within the online ride-hailing scenario.

The research aims to provide theoretical support and practical pathways for online ride-hailing platforms to build a warmer and more user-centric service ecosystem. By improving E-commerce Politenesss and platform service quality in a mutually empowering way, the study seeks to contribute to the healthy and sustainable development of the online ride-hailing industry within the broader e-commerce domain.

2. Literature Review

2.1 Online Ride-Hailing Platforms

Online ride-hailing platforms serve as e-commerce platforms connecting passengers and drivers to provide travel services (Evans & Schmalensee, 2010). Ghasemi and Kucharski (2025) highlight that online ride-hailing platforms, represented by Uber and DiDi, have restructured traditional travel service models using e-commerce innovations, significantly enhancing travel efficiency. As e-commerce technologies advance, the service models of such platforms have evolved, transitioning from simple travel tools to comprehensive service ecosystems. Septadhika et al. (2024) argue that e-commerce has fundamentally transformed traditional business models, introducing the concept of "disruptive innovation" that enables online ride-hailing platforms to excel in real-time dispatching and dynamic pricing. By centralizing the management of drivers and orders, these platforms can respond quickly to user needs. Furthermore, online ride-hailing platforms can cater to diverse passenger demands by offering both standard and premium vehicle options (Zhang et al., 2025).

The flexibility of e-commerce is critical to enhancing the service quality of online ride-hailing platforms. Studies reveal that platforms can improve passenger experiences by dynamically adjusting pricing, vehicle combinations, and management strategies (Urban & Buraczyńska, 2025). Personalized human-computer interaction designs in user interfaces not only lower usage barriers but also enhance usability and trust, alleviating user concerns over data security and technical risks (Li et al., 2025). This "user-centered" design philosophy aligns closely with e-commerce's emphasis on optimizing customer service. During the pandemic, online ride-hailing platforms utilized simulated market growth mechanisms (Ghasemi & Kucharski, 2025) to flexibly balance driver supply and passenger demand, mitigating service quality declines caused by demand fluctuations. The ability to dynamically adjust underscores these platforms' capacity to handle unexpected crises effectively.

However, the development of online ride-hailing platforms also faces challenges. Insufficient service assurance for drivers may result in unstable service quality (Zhang et al., 2025), and excessive reliance on algorithm-based dispatching may neglect the courteous and humanized aspects of service. Looking ahead, platforms must balance technology-driven approaches with a focus on humanistic care. By implementing compliance policies to protect workers and leveraging e-commerce customer service expertise, platforms can build a more inclusive and transparent service ecosystem. Ultimately, this approach will achieve dual improvements in service quality and E-commerce Politenesss.

Figure 1 illustrates the relationships among regulatory authorities, online ride-hailing platforms, drivers, and passengers.

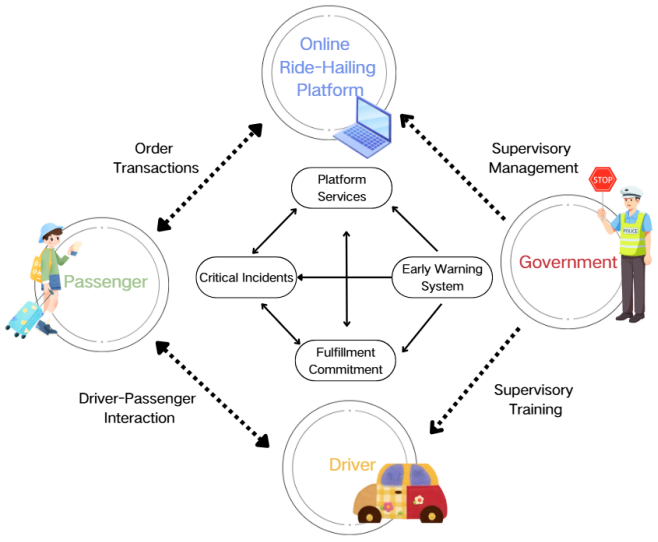

Figure 1: *Ecosystem Relationship Diagram of Online Ride-Hailing Platforms.*

2.2 E-Commerce Politeness

Politeness in e-commerce platforms can be described through four dimensions: respect for users, system transparency, practical functionality, and preference memory in human-computer interactions (Whitworth & Liu, 2008). The primary goal is to enhance platform service quality and optimize user experience. Neglecting these critical dimensions can lead to "discourteous" behavior, reducing user loyalty and causing platforms to lose users (Whitworth, 2005).

Whitworth and Ahmad (2013) emphasized the essential role of e-commerce courtesy in platform development through socio-technical system design. Chen and Hu (2017) further constructed a courtesy framework model for virtual scenarios and developed tools to measure courteous behaviors in e-commerce, proving that e-commerce courtesy improves platform service quality. In the latest research by Chen and Huang (2025), the courtesy framework is integrated with the user experience economy, revealing that immediacy demands in platform services can moderate the impact of courteous behaviors on user loyalty.

Thus, the theory and practice of e-commerce politeness need to blend technological rationality with social sensitivity to better build a high-quality service ecosystem of "human-computer collaboration." In highly real-time platforms like online ride-hailing services, user-friendly interface design and efficient customer service responses may become the core competitive elements of the politeness experience.

3. Research Method

3.1 Critical Incident Technique (CIT)

The Critical Incidents Technique (CIT), also known as the Critical Event Method, is an essential work analysis methodology. This technique was first proposed by Flanagan in 1954. Initially applied in the field of psychology for behavioral observation, CIT identifies effective or ineffective behavioral patterns by collecting "critical incidents." These incidents refer to events that have a decisive impact on work outcomes, encompassing both satisfactory and unsatisfactory events. The core logic of CIT is to extract key factors influencing outcomes through inductive analysis of incident descriptions. Flanagan emphasized that critical incidents must meet conditions such as clear situational purposes and observable consequences, allowing researchers to infer potential patterns from specific behaviors.

Over the past half-century, CIT has expanded from psychology into multiple domains. Butterfield et al. (2005) summarized its extensive applications in psychological counseling and verified its robustness as a qualitative research method. Subsequent studies further deepened the methodological attributes of CIT. For example, Dasinger and Solmon (2021) used CIT to identify core factors, such as social evaluation pressure and self-perception vulnerability, that trigger anxiety in sports scenarios, providing a basis for optimizing activity designs.Sadeghi et al. (2022) demonstrated CIT's effectiveness in evaluating healthcare information service quality through a literature review, analyzing the value and cost-effectiveness of information services in clinical decision-making.Woodburn et al. (2024) analyzed 335 critical incidents recorded in sports coaching internships, extracting the unique impact of mentor responsibility allocation on trainees' learning outcomes.Kováts and Primecz (2025) explored how human resource managers reconstruct work meaning using CIT, unveiling the dynamic influence of critical incidents on professional cognition in complex situations.

These studies highlight the advantages of CIT in capturing critical incidents in user experiences, refining service issues, and designing improvement strategies. Based on this, the current study introduces CIT into the analysis of online ride-hailing platform service quality to explore how platform functionality design enhances E-commerce Politenesss by improving service quality.

3.2Research Design

This study utilizes an online questionnaire survey method to gather user experiences regarding the "most satisfactory" and "most unsatisfactory" incidents encountered while using online ride-hailing e-commerce platforms. The questionnaire design includes prompts such as, "Please describe in detail the most satisfactory incident you experienced while using a online ride-hailing platform," and "Please describe in detail the most unsatisfactory incident you experienced while using a online ride-hailing platform." These questions aim to evaluate users' perspectives on politeness issues in interactions with online ride-hailing platforms and to identify key factors that influence service quality.

The study adopts a random sampling approach to select respondents and promotes the questionnaire through various channels, including online distribution, email campaigns, and social media groups. Data collection will be conducted from February 25, 2025, to March 15, 2025. This research provides empirical support for exploring passenger experiences of service quality on online ride-hailing platforms from the perspective of e-commerce politeness.

4. Data Analysis

4.1. Basic Information

In this data collection process, a total of 230 users participated in providing relevant responses, meeting the requirements of the Critical Incidents Research Method (Flanagan, 1954). From the gender perspective, the number of male participants was 115 (50%), while the number of female participants was also 115 (50%), indicating a balanced gender ratio.

In terms of age distribution, the majority of respondents were aged 19-25, totaling 153 individuals (66.52%). Participants aged 18 or below accounted for 5 individuals (2.17%); those aged 26-35 totaled 50 individuals (21.74%); those aged 36-55 accounted for 19 individuals (8.26%), and participants aged 56 or above numbered 3 (1.3%). This reflects a trend toward a younger demographic among online ride-hailing passengers.

Regarding occupational status, most respondents were full-time students (117 individuals, 50.87%), followed by employed professionals (97 individuals, 42.17%). Unemployed or job-seeking participants accounted for 12 individuals (5.22%), while retired individuals totaled 4 (1.74%), suggesting that online ride-hailing services are more popular among full-time students and employed professionals.

In terms of educational background, the largest group of respondents were university undergraduates, with 142 individuals (61.74%). High school graduates or those with lower levels of education accounted for 19 individuals (8.26%), those with college-level education totaled 39 individuals (16.96%), and those with postgraduate degrees numbered 30 (13.04%). This indicates a rising level of education in China.

Regarding monthly expenditures on online ride-hailing platforms, the majority of users spent approximately 101-500 yuan, accounting for 106 individuals (46.09%). Those spending 100 yuan or less constituted 95 individuals (41.3%), while 23 individuals (10%) spent between 501-1000 yuan. Both the 1001-1500 yuan and above 1500 yuan brackets accounted for 3 individuals each, highlighting an improvement in living standards.

After screening, 30 responses were excluded due to deviation from the research topic, missing critical incidents, or illogical answers, resulting in 408 valid data entries. Further analysis of the valid data identified 208 satisfactory incidents and 200 unsatisfactory incidents. These data provide strong support for subsequent in-depth exploration of passengers' perceptions of online ride-hailing platform service quality from the perspective of e-commerce politeness.

4.2 Classification Results

Research Design refers to the systematic framework outlining the strategies, methodologies, and procedures employed to collect, analyze, and interpret data in a study. It serves as the blueprint that ensures the research process is logically structured and methodologically sound.

Classification Results represent the outcomes derived from organizing data into predefined categories based on specific criteria. This process facilitates the identification of patterns and trends, thereby enhancing the objectivity and interpretability of the findings within the research context.

These components are essential in ensuring that a study is both rigorous and credible, contributing to the overall academic robustness of the investigation.

Researchers conducted an in-depth analysis and organization of 208 valid satisfactory incident data entries and 200 valid unsatisfactory incident data entries, extracting seven categories for classification. Both satisfactory and unsatisfactory incidents were categorized according to the following seven aspects: precise recommendations, platform functionality, price transparency, safety assurance, vehicle condition, driver service, and platform customer service. Among these, precise recommendations, platform functionality, price transparency, and safety assurance represent critical incidents that passengers focus on before boarding the vehicle. Vehicle condition and driver service reflect passenger experiences during the ride, whereas platform customer service serves as the basis for evaluations after disembarkation.Table 1 provides an overview of the critical incident workflow, naming classifications, and detailed descriptions.

Table 1: Naming Classification and Descriptions of Critical Incidents

Process	Classification Titles	Description
Before the Trip	Precise Recommendations	The platform provides personalized recommendations based on users' historical orders and preferences, such as frequently used vehicle types and driver suggestions.
	Platform Functionality	The platform's functionalities are designed to achieve efficient travel services and optimize user experience. At its core, these functionalities emphasize the intuitiveness of platform interface design, simplicity of processes, ease of use, ability to meet immediate needs, and the measures implemented to address potential issues (e.g., software crashes, interface lag, inaccurate

		location services, payment failures, and inability to access the customer service system).
	Price Transparency	Users can clearly and accurately access pricing information for online ride-hailing services, including the differences between estimated and actual costs, whether surge pricing applies during peak periods, and the presence of any hidden fees.
	Safety Assurance	The platform implements protective measures to ensure the personal safety, property security, and legal rights of both drivers and passengers are safeguarded. These measures include driver qualification verification, identity authentication, trip safety monitoring, emergency assistance, and protection of user information.
During the Trip	Vehicle Condition	The overall performance of online ride-hailing vehicles during operation, encompassing aspects such as basic configurations, vehicle performance, and the interior environment.
	Driver Service	Online ride-hailing drivers provide transportation services to passengers through e-commerce platforms. These services encompass various aspects, including the driver's service attitude, adherence to behavioral standards, pick-up and drop-off efficiency, punctuality in arrival, selection of the most optimal route, and the smoothness of the ride.
End of Trip	Platform Customer Service	The platform's process of addressing customer service requests involves responding to user needs through various elements, including the speed of customer service response, efficiency in problem resolution, mechanisms for handling issues, and the quality of after-sales services.

4.3 Reliability Testing

Reliability is fundamental in research as it ensures that measurement methods consistently produce stable and dependable results across various contexts and time points. Insufficient reliability may lead to biased outcomes in research findings. When utilizing the Critical Incident Technique, the reliability analysis of classifications comprises both intra-rater (individual classification consistency) and inter-rater consistency assessments.Individual Classification Consistency: This refers to the requirement that the same coder categorizes an identical set of events at different times. The degree of agreement between these two instances is then evaluated. A high level of consistency indicates that the coder demonstrates strong stability and dependability throughout the classification process.Inter-Rater Consistency: This involves multiple coders independently classifying the same set of events and subsequently comparing their classifications. When there is a significant degree of agreement among different coders, it indicates high inter-rater consistency. This outcome suggests that different individuals are applying similar criteria and interpretations, thereby ensuring the objectivity and comparability of the classification results (Flanagan, 1954).

4.3.1 Individual Classification Consistency

Intra-rater consistency refers to the stability of an individual's characteristics under different classification criteria. When the consistency level between a rater's classification results at two different time points exceeds 0.8, it indicates good intra-rater consistency. This study engaged three raters to perform the classification task. All three raters work in the e-commerce industry, possess extensive online ride-hailing experience, and have a strong interest in online ride-hailing platforms. The three raters were invited to confirm the classification of passengers' satisfactory and unsatisfactory critical incidents regarding online ride-hailing service quality from the perspective of e-commerce politeness, ensuring alignment with the research topic. Once the raters agreed upon the classifications of satisfactory and unsatisfactory critical incidents, the subsequent classification process was carried out. After completing the classification tasks, each rater's intra-rater consistency was individually assessed. As shown in Table 2 and Table 3, the intra-rater consistency scores for all three raters exceeded 0.8, indicating that the raters demonstrated a high level of intra-rater consistency.

Table 2: Individual Classification Consistency of Raters – Satisfactory Incidents

Title	**Number of Individual Inter-Rater Consistencies**	**Individual Inter-Rater Consistency**
Rater One	186	0.8942
Rater Two	188	0.9038
Rater Three	184	0.8846

Table 3: Individual Classification Consistency of Raters – Unsatisfactory Incidents

Title	Number of Individual Inter-Rater Consistencies	Individual Inter-Rater Consistency
Rater One	181	0.9050
Rater Two	180	0.9000
Rater Three	183	0.9150

4.3.2 Inter-Rater Consistency

Inter-rater consistency refers to the degree of agreement between the results provided by different raters when classifying the same set of data across two separate classification sessions. This consistency serves as a critical basis for evaluating the stability and credibility of classification results. In this study, three raters were invited, all of whom are highly familiar with online ride-hailing platforms. The first rater is a university lecturer specializing in e-commerce, with extensive professional knowledge and a long-standing dedication to teaching and research in the e-commerce field. The second rater is an operations manager at a online ride-hailing platform, possessing substantial experience in platform operations, management, and process optimization. The third rater is a online ride-hailing driver with years of industry experience, demonstrating proficient driving skills and strong safety awareness. This study conducted two classification sessions, separated by an interval of 14 days. Upon completing these two sessions, the results presented in Table 4 and Table 5 were obtained.

Table 4: Number of Inter-Rater Consistencies – Satisfactory Incidents

Number of Inter-Rater Consistencies	Rater One	Rater Two	Rater Three
Rater One	186	——	——
Rater Two	180	188	——
Rater Three	181	177	184

Table 5: Number of Inter-Rater Consistencies – Unsatisfactory Incidents

Number of Inter-Rater Consistencies	Rater One	Rater Two	Rater Three
Rater One	181	——	——
Rater Two	172	180	——
Rater Three	181	171	183

As shown in Table 4 and Table 5, the formula is as follows:

$$R=\frac{(N\times A)}{1+[(N-1)\times A]} \qquad \text{(Formula 1)}$$

$$A=\frac{\frac{2M_{12}}{n_1+n_2}+\frac{2M_{23}}{n_2+n_3}+\frac{2M_{13}}{n_1+n_3}}{N} \qquad (Formula\ 2)$$

R=Reliability

N= Number of Raters

A= Average Inter-Rater Consistency Level

M = Number of identical classifications among raters

n = Number of samples classified by each rater

Based on the formula, the results are presented in Table 6.

Table 6: Classification Reliability Table

Classification	Average Inter-Rater Consistency(A)	Reliability (R)
Satisfaction	0.878	0.956
Dissatisfaction	0.890	0.960

Flanagan (1954) posited that an inter-rater consistency score above 0.8 indicates strong stability and agreement. In this study, the average inter-rater consistency for both satisfactory and unsatisfactory incidents exceeded 0.8, meeting the required conditions and demonstrating the data's high stability and consistency. Additionally, the reliability indicators remained above 0.8, successfully passing the reliability test. These findings provide a solid foundation for future efforts to enhance passengers' perceptions of online ride-hailing platform service quality.

4.4. Validity Analysis

Validity refers to the ability of a research tool or method to accurately measure the intended characteristics or phenomena, reflecting the scientific rigor and reliability of the measurement. Validity encompasses three key dimensions: face validity, content validity, and expert validity (Laborde et al., 2018). Face validity assesses whether, at a superficial level, a measurement tool appears to effectively capture the intended content. This is typically determined by evaluators who judge a test's effectiveness based on its appearance and content (Mosier et al., 1947). Content validity measures the extent to which a tool comprehensively and accurately covers the intended subject matter (Berk et al., 1990). Expert validity relies on the assessment and judgment of domain experts to verify whether a measurement tool accurately evaluates its intended objectives (Yang et al., 2008).

In designing the survey to assess online ride-hailing platform service quality, this study carefully accounted for the requirements of face validity, content validity, and expert validity. The survey questions were meticulously crafted to enable passengers to intuitively understand the relationship between e-commerce etiquette and online ride-hailing service quality, ensuring high face validity. Three online ride-hailing industry experts were invited to classify and evaluate the survey items, ensuring that the content adequately addressed key aspects of online ride-hailing service quality, thereby establishing content validity. Expert evaluations provided valuable insights for optimizing the questionnaire, ensuring its scientific rigor and accuracy, and thereby reinforcing expert validity.

Through validity testing, this study confirmed that the measurement results aligned with the actual capabilities of the three raters, effectively capturing the true state of the evaluated subjects. The validity met research expectations, laying a solid foundation for further in-depth analysis and informed decision-making.

4.4.1 Classification Results

This term refers to the outcomes obtained after categorizing data or events according to predefined criteria, which typically reflects the patterns and distinctions identified during the analytical process. Key incidents cor responding to the classification categories were extracted separately from satisfactory and unsatisfactory events. Preliminary statistical analysis was conducted on the classified data to gain insights into user feedback across different classification categories.

Table 7: Examples of Key Satisfactory Incidents

Classification Name	Key Examples
Precise Recommendations	After completing the trip, the platform thoughtfully recommended hotels and restaurants in frequently visited nearby locations based on my travel habits. This level of personalized service left me highly satisfied.
	During my internship in another city, the car consistently arrived on time, and the platform regularly offered discount coupons.
Platform Functionality	The Didi Chuxing app interface clearly displays essential details, such as the driver's estimated arrival time, vehicle model, and license plate number. It also allows real-time tracking of the driver's route via the map.
	On the Amap platform, users can book rides from various providers and compare prices with a single click, reducing wait times caused by limited vehicle availability on a single platform and improving efficiency.
Price Transparency	Before booking a ride, the estimated price is displayed. After the trip, the detailed cost breakdown is transparent, with no hidden charges, ensuring controlled travel expenses.
	The transparent pricing mechanism on Sunshine Rides ensures that the estimated fare closely matches the actual cost, alleviating concerns about surge pricing.
Safety Assurance	Enjoy Travel conducts rigorous background checks on drivers by connecting with public security systems to verify their criminal records, providing passengers with a greater sense of security.
	Late at night, after working overtime, I felt slightly anxious about using online ride-hailing services to get home. However, the platform's safety measures, such as in-car monitoring and trip-sharing options, reassured me and made me feel at ease.
Vehicle Condition	When traveling with a child, I noticed that the online ride-hailing car was equipped with a child safety seat, saving me from the hassle of bringing one along.
	The car interior was exceptionally clean, and complimentary bottled water and tissues were provided.

Driver Service	Didi drivers often assist passengers with their luggage and offer attentive service. Sometimes, they even go the extra mile with a friendly demeanor, warmly caring for passengers and accommodating their needs whenever possible.
	While using Huaxiaozhu Online ride-hailing, I mistakenly set the wrong drop-off location and headed in the wrong direction. The driver willingly gave up their lunch break to accept another order and take me back, easing our awkward situation.
Platform Customer Service	When I reported a driver's behavior of using their phone while driving, customer service responded quickly, verified the issue, and imposed a fine and safety training on the driver.
	After I posted a complaint about Amap, the platform detected it and sent me a private message requesting details and the order number, ultimately compensating me with discount coupons.

Table 8: Examples of Key Unsatisfactory Incidents

Classification Name	**Key Examples**
Precise Recommendations	When using the app to book a ride, advertisements frequently pop up. Accidentally clicking on these ads redirects users to other applications.
	I have already confirmed my ride, yet the platform continues to send notifications about other vehicles accepting orders, which feels quite redundant.
Platform Functionality	The page design is poorly structured; entering the payment page triggers redirects to advertisements.
	When I was in urgent need of transportation, the online ride-hailing platform's location detection was inaccurate. Although I was at point A, the platform mistakenly identified my location as nearby point B. This caused the driver to struggle to find me, resulting in a lengthy wait and considerable delay.
Price Transparency	During rush hours after work, online ride-hailing platforms often implement surge pricing.
	When booking a ride, lower-priced options on the platform are often ignored by drivers. The system then prompts passengers to select higher-priced options, suggesting that no drivers will accept the order otherwise. This approach feels somewhat coercive, forcing passengers into higher expenditures.
Safety Assurance	The driver was watching videos while driving and even answered a phone call during the trip. Additionally, they ran a red light while driving, which made me feel very unsafe.
	The online ride-hailing vehicle did not turn on its hazard lights while driving at night. Additionally, the speed was excessively high, and during an emergency situation, it almost resulted in an accident.
Vehicle Condition	The seat was extremely worn-out, with several holes in the cushion, and the car roof even leaked during the rain.
	The car interior had noticeable pet hair and an unpleasant odor. Despite having informed the platform in advance about my pet allergy, no special accommodations were made, which caused significant discomfort throughout the trip
Driver Service	The driver failed to arrive on time and canceled the order at the last minute, causing me to miss my flight.
	The driver exhibited extremely poor behavior, using offensive language towards customers and displaying aggressive attitudes. In some instances, the driver would cancel orders without communication, forcing customers to rebook rides.
Platform Customer Service	Initially booked as a private ride, the trip was unexpectedly changed to a shared ride. Feedback submitted to the platform was limited to blacklisting the driver, and the platform's response was far from adequate.
	The customer service team responded slowly, showed indifferent attitudes, and, at times, even used vulgar language.

As shown above, Tables 7 and 8 present typical examples of key satisfactory and unsatisfactory incidents.

Table 9: Summary of Classifications for Satisfactory and Unsatisfactory Incidents

Classification Categorie	Rater One		Rater Two		Rater Three		Average Value	
	Satisfactory Incidents	Unsatisfactory Incidents	Satisfactory Incidents	Unsatisfactory Incidents	Satisfactory Incidents	Unsatisfactory Incidents	Satisfactory Incidents	Unsatisfactory Incidents
Precise Recommendations	25	21	25	20	25	20	25	20.33
Platform Functionality	33	46	31	30	31	43	31.67	39.67
Price Transparency	29	25	29	27	29	28	29	26.67
Safety Assurance	28	24	28	24	30	22	28.67	23.33
Vehicle Condition	25	22	25	23	25	18	25	21
Driver Service	35	42	40	55	33	50	36	49
Platform Customer Service	33	20	30	21	35	19	32.67	20

As shown in Table 9, the collected key incidents affecting passengers' perceptions of online ride-hailing platforms can be categorized into seven types. Online ride-hailing platforms play a significant role in areas such as content recommendations and service quality; however, issues like lack of safety guarantees and non-transparent pricing remain concerns.

The findings indicate that, among the 205 satisfactory incidents, driver service accounted for the largest proportion, with an average of 36 incidents, suggesting that users are most satisfied with driver service on online ride-hailing platforms. This is followed by platform customer service and platform functionality, with averages of 32.67 and 31.67 incidents, respectively, reflecting passengers' high recognition of platform features and customer support. Additionally, transparent pricing and safety guarantees averaged 29 and 28.67 incidents, indicating passenger satisfaction with the platform's pricing structure and safety measures. However, precise recommendations and vehicle conditions both averaged 25 incidents, representing the smallest proportions. This highlights the need for improvements in the platform's recommendation functionality and enhanced vehicle management. Among the 200 unsatisfactory incidents, driver service accounted for the largest proportion, with an average of 49 incidents, indicating the need to strengthen driver training and standardize driver-related practices. Moreover, the platform also exhibited issues with incomplete functionality and non-transparent pricing, with averages of 39.67 and 26.67 incidents, respectively. The average number of key incidents related to safety guarantees was 23.33, vehicle conditions 21, precise recommendations 20.33, and customer service 20. Although these four categories represented smaller proportions of unsatisfactory incidents, they still warrant further improvement.

5. Conclusion

The study shows that e-commerce courtesy behaviors on online ride-hailing platforms have a significant impact on passengers' perceptions. For both satisfactory and unsatisfactory key incidents, driver service accounted for a high proportion of incidents. Moreover, platform functionality ranked exceptionally high among unsatisfactory key incidents. Therefore, to enhance passengers' perceptions, online ride-hailing platforms should pay special attention to driver service and platform functionality. Instances of "discourteous" behaviors—such as complex platform operations, inaccurate location detection, and non-transparent pricing—tend to decrease passengers' trust and satisfaction with the platform. To minimize such behaviors and improve service quality in online ride-hailing, the following recommendations are proposed for transportation regulatory authorities, online ride-hailing platforms, and drivers to enhance service quality:

5.1 Recommendations for Government Agencies

5.1.1 Establish an Emergency Response System

Government agencies should develop an intelligent emergency service dispatch platform that integrates resources such as 110 (police), 119 (fire services), 120 (medical emergency services), and roadside assistance. When passengers or drivers activate the in-car emergency button, the system should automatically synchronize vehicle location and in-car camera footage with police, fire, and medical command centers to enhance coordinated emergency handling.

5.1.2 Build Cross-Departmental Regulatory Mechanisms

The government should establish a comprehensive online ride-hailing governance office to coordinate regulatory authorities across transportation, police, market supervision, and cybersecurity departments. This office would strengthen driver background checks and implement multi-departmental oversight over online ride-hailing platforms, improving passenger safety and preventing major traffic accidents.

5.1.3 Enforce Information Transparency Standards

Government agencies should implement online ride-hailing service transparency regulations that allow passengers to view driver violation records, cancellation rates, driving behavior scores, and vehicle performance before booking a ride. Additionally, platforms should publicly disclose the calculation methods and algorithms for base fares, mileage rates, and time-based surge pricing coefficients, providing passengers with clear complaint channels.

5.2 Recommendations for Online ride-hailing Platforms

5.2.1 Implement Mutual Selection Mechanisms

Platforms should transition from the traditional random dispatch model to a mutual selection mechanism. Passengers can actively filter drivers based on credit ratings, vehicle preferences, or service quality, while drivers can set preferences for accepting long-distance airport trips or avoiding high-risk areas at night. Algorithms should adjust weighting factors to match needs effectively, such as rewarding drivers who accept remote orders with additional points.

5.2.2 Strengthen Real-Time Monitoring of Driving Behavior

Platforms should install in-car intelligent devices to monitor driver fatigue using facial recognition and GPS data to track continuous driving durations. When driving exceeds four hours, automatic rest reminders should be pushed, and order dispatch paused. For drivers using phones while driving, gyroscopic sensors could detect phone angle deviations, combined with in-car camera verification for further confirmation. All violation data should generate reports synced with the driver system, and three cumulative warnings would trigger mandatory safety training.

5.2.3 Build Rapid Emergency Response Networks

Platforms should establish 24-hour emergency command centers. When collision sensors or passenger emergency alerts are activated, remote assessments through in-car cameras should immediately begin, coordinating nearby repair shops and medical institutions. Legal advisors and insurance claims specialists should be involved in resolving significant accidents and facilitating disputes between drivers and passengers.

5.3 Recommendations for Online ride-hailing Drivers

5.3.1 Enhance Professional Ethics

Drivers should actively participate in professional ethics training. Monthly learning of online ride-hailing service standards and mastering service skills for special scenarios are recommended. Additionally, drivers should improve communication skills to ensure a positive service attitude.

5.3.2 Acquire Emergency Response Skills

Drivers should possess basic emergency first-aid skills and be encouraged to obtain relevant certifications. Platforms could organize quarterly safety drills to improve drivers' emergency response capabilities.

5.3.3 Strictly Enforce Vehicle Safety Inspection Standards

Drivers should regularly inspect whether online ride-hailing vehicles are equipped with fire extinguishers, first-aid kits, safety hammers, and other emergency safety tools. Weekly checks on the expiration dates and integrity of safety equipment are advised to ensure comprehensive safety measures.

Acknowledgement

This research work was funded by the grant from the Guangdong Science and Technology Program (China) under Grant No. 2024A0505050036. We deeply appreciate their financial support and encouragement.

References

[1] Evans, D. S., and Schmalensee, R., " Failure to launch: Critical mass in platform businesses," *Review of network economics*, vol. *9*(4), pp. 1-28, 2010.

[2] Septadhika, S., and Adirinekso, G. P., "Analysis of Promotion Mix, Price Perception, and Service Quality on Purchase Decisions for Mask Products on Tokopedia," *Asian Journal of Engineering, Social and Health,* vol. 3(3), pp. 541-547, 2024.

[3] Urban, W., and Buraczyńska, B., "E-commerce enterprise flexibility leading to better customer perception," *Journal of Retailing and Consumer Services,* vol. 85, pp. 104267, 2025.

[4] Zhang, J. H., Zhu, R., and Wang, J. P., "Joint re-dispatching and pricing on a business-to-consumer online ride-hailing platform," *Transportation Research Part E: Logistics and Transportation Review*, vol. 196, pp. 103998, 2025.

[5] Li, J., Ling, R., Sun, F., Zhou, J., and Cai, H., "Personalized human-computer interaction as an information source for online ride-hailing platforms: behavior intention perspective," *Asia Pacific Journal of Marketing and Logistics*, vol. 37(2), pp. 518-536, 2025.

[6] Ghasemi, F., and Kucharski, R., "MoMaS: Two-sided Mobility Market Simulation framework for modeling platform growth trajectories," *Transportation Research Part C: Emerging Technologies*, vol. 171, pp.104990, 2025.

[7] Whitworth, B., and Liu, T., "Politeness as a social computing requirement," In *Human computer interaction: Concepts, methodologies, tools, and applications*, IGI Global, pp. 2675-2692, 2009.

[8] Whitworth, B., and Ahmad, A. *The social design of technical systems: Building technologies for communities*. Aarhus, Denmark: Interaction Design Foundation, 2013.

[9] Chen, I. C., and Hu, S. C., "Measuring Perceived Politeness In Virtual Commercial Contexts With A Multi-Dimensional Instrument," *International Journal of Economics, Business and Management Research*, vol. 1(03), pp. 97-120, 2017.

[10] Whitworth, B., "Polite computing, " *Behaviour & Information Technology*, vol. *24*(5), pp. 353-363, 2005.

[11] Chen, I. C., and Huang, J., "Research on the Service Quality of E-commerce Platforms-From the Perspective of Politeness Framework," *International Journal of Multidisciplinary Research and Growth Evaluation*, vol. 6(1), pp.286-291, 2025.

[12] Flanagan, J. C., " The critical incident technique, " *Psychological bulletin*,vol. 51(4), pp.327-358, 1954.

[13] Butterfield, L. D., Borgen, W. A., Amundson, N. E., and Maglio, A. S. T., " Fifty years of the critical incident technique: 1954-2004 and beyond," *Qualitative research*, vol. 5(4), pp. 475-497, 2005.

[14] Szőts-Kováts, K., and Primecz, H., "How do human resource managers make sense of their work? A study of changing work meaningfulness using the critical incident technique,"*Human Resource Development International*, vol. 28(1), pp. 132-151, 2025.

[15] Woodburn, A., Allison-Abaunza, A., Couture-Légaré, J., and Thompson, M., "Mentor requirements in the student-coach practicum: An analysis using the critical incident technique," *Sports Coaching Review*, vol. 13(3), pp. 317-341, 2024.

[16] Dasinger, T. M., and Solmon, M. A., "Using Critical incident technique to investigate anxiety in physical activity settings, "*Journal of Sport and Exercise Psychology*, vol. 43(2), pp. 171-177, 2021.

[17] Sadeghi, H., Nowkarizi, M., and Tajafari, M., "Critical incident technique helps determine how health library and information services influence clinical decision making and patient care: A literature review," *Health Information & Libraries Journal*, vol. 39(2), pp. 102-115, 2022.

[18] Mosier, C. I., "A critical examination of the concepts of face validity," *Educational and Psychological Measurement*, vol. *7*(2), pp. 191-205, 1947.

[19] Laborde, S., Dosseville, F., Aloui, A., Ben Saad, H., Bertollo, M., Bortoli, L., ..., and Allen, M. S., "Convergent and construct validity and test–retest reliability of the Caen Chronotype Questionnaire in six languages," *Chronobiology International*, vol. 35(9), pp. 1294-1304, 2018.

[20] Berk, R. A., "Importance of expert judgment in content-related validity evidence," *Western journal of nursing research*, vol. 12(5), pp. 659-671, 1990.

[21] Yang, Y. T. C., and Chan, C. Y., "Comprehensive evaluation criteria for English learning websites using expert validity surveys," *Computers & Education*, vol. 51(1), pp. 403-422, 2008.