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Exploring the Impact of Driver Behavior on Customer Trust: A Study of Ride-Hailing Services in Malaysia

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ABSTRACT

As one of the leading ride-hailing and delivery service platforms in Malaysia, Grab connects customers with drivers through its mobile application. This study aims to examine the impact of driver behavior on customer trust among Grab customers and role of customer trust in shaping customer experiences. Additionally, it seeks to reveal how levels of trust and driver interactions influence customer experiences with Grab services in Malaysia. Data were collected through a cross-sectional quantitative survey using a Google Form with five-point Likert-scale questions from approximately 100 Grab users. The findings reveal that driver-related factors, including usefulness ($b = 0.225$, $p < .05$), ease of use ($b = 0.327$, $p < .01$), and convenience ($b = 0.332$, $p < .01$), have significant positive effects on customer trust, while perceived risk has a negligible influence ($b = -0.010$, $p > .05$). These results highlight how trust shapes customer perceptions of driver behavior. The study concludes that positive driver behavior strengthens customer trust, emphasizing trust as a key mechanism through which driver interactions affect experiences. High trust levels lead customers to perceive interactions more positively, reinforcing confidence in the service. The findings suggest that Grab should prioritize trust-building strategies, including consistent driver training, improved communication, and transparent feedback systems, to strengthen customer relationships and ensure long-term customer loyalty.

Keywords: Customer Satisfaction; Customer Trust; Driver Behavior; Perceived Usefulness; Ride-Hailing Services

INTRODUCTION

The ride-hailing and delivery service industry in Malaysia has grown rapidly due to increased demand for convenience, accessibility, and fast mobility solutions. Digital platforms have transformed everyday travel experiences by offering seamless and efficient services. Among these platforms, Grab has emerged as a leading provider, connecting customers with drivers through an advanced mobile application that offers transportation, food delivery, parcel services, and more. With its wide service coverage and user-friendly interface, Grab has significantly influenced how Malaysians travel and access on-demand services. As competition intensifies within the industry, understanding what shapes customer experience and satisfaction has become essential for maintaining service quality and customer loyalty.

The motivation for this study stems from the increasing importance of service interaction quality, particularly the role of driver behavior in shaping customer perceptions. Driver professionalism, safety practices, communication style, and courtesy contribute directly to a customer's impression of the platform (Javed et al., 2021). At the same time, customer trust has become a critical emotional and psychological factor influencing user evaluations and behavioral outcomes (Schilke et al., 2021). Trust ensures that customers feel safe, confident, and secure when using ride-hailing services, especially when driver conduct is perceived as reliable and respectful (Aziz et al., 2024). As Grab continues to expand its services, identifying how these two factors work together is crucial for improving service performance and ensuring a reliable customer experience.

Although past studies have examined aspects of service quality, customer experience, and digital trust, a research gap remains in understanding how driver behavior and customer trust interact to influence satisfaction specifically within Grab services in Malaysia. Previous research often addresses these concepts separately, but few studies investigate their combined impact within the local ride-hailing context. This gap highlights the need for a more integrated and systematic analysis that considers both behavioral and psychological components of customer experience. The novelty of this study lies in its focus on the combined influence of driver behavior and customer trust, offering a more comprehensive understanding of customer satisfaction in ride-hailing services.

The purpose of this study is to examine the impact of driver behavior on customer satisfaction and the mediating role of customer trust among Grab users. Data were collected through a Likert-scale survey distributed to approximately 150 respondents across Malaysia. By analyzing these relationships, the study aims to reveal how trust strengthens or weakens the effect of driver interactions on satisfaction. Findings are expected to show that positive driver behavior enhances customer satisfaction and that this relationship becomes stronger when customer trust is high.

Overall, this study contributes to the literature by addressing an understudied area within the Malaysian ride-hailing sector. Its significance lies in providing practical insights to help Grab improve service delivery through enhanced driver training, transparent communication, and stronger trust-building mechanisms. The research objective is to identify the key behavioral and trust-related factors that shape customer satisfaction in Grab services. Its novelty lies in integrating driver behavior and trust into a single model, while its contribution is to offer strategic recommendations that can help Grab strengthen customer loyalty and maintain a competitive advantage in Malaysia's growing ride-hailing industry.

LITERATURE REVIEW

Hypotheses Development

Perceived Usefulness

Perceived usefulness refers to the extent to which users believe that using a service will enhance their performance or overall experience (Davis, 1989). In the context of ride-hailing, perceived usefulness is shaped by how efficiently and reliably the service helps customers reach their destinations. According to Almunawar et al. (2021), ride-hailing is accepted more readily when users perceive clear performance benefits, while Gunarso (2023) found that utility and convenience factors influence the decision to use ride-hailing.

For Grab users, perceived usefulness can be closely tied to driver behavior, such as punctuality, route efficiency, and professional communication. As noted by Joe et al. (2024), Grab's mobile-app service attributes such as reliability and short waiting times are positively related to customers' purchasing behavior, suggesting that dependable service encounters improve perceived utility. When drivers are reliable and demonstrate safe driving habits, customers perceive the service as more beneficial than traditional transportation options. However, findings from Yo et al. (2021) suggest that perceived usefulness alone may not significantly influence customer satisfaction if factors such as trust and service reliability are weak. This indicates that although usefulness is important, it must be supported by consistent driver performance and trustworthy interactions. On the other hand, Lok et al. (2024) emphasize that perceived usefulness remains a key predictor of users' behavioral intentions in transportation platforms, as customers are more likely to use services that clearly offer value, efficiency, and convenience.

Similarly, Kee et al. (2025) argue that higher levels of perceived usefulness can strengthen customer trust, which is essential for developing long-term loyalty in ride-hailing services. When users believe that Grab helps them travel more efficiently and safely, they are more motivated to continue using the platform. Therefore, we hypothesize:

H1: Perceived usefulness positively affects driver behavior.
H6: Perceived usefulness positively affects customer trust.

Perceived Ease of Use

Perceived ease of use is defined as the degree to which an individual believes that using a system will be effortless or free of effort (Davis, 1989). Users define perceived ease of use based on several reasons, including the simplicity of booking a ride, the clarity of the map and navigation features, the ease of communicating with the driver, and the straightforwardness of making cashless payment (Tandon et al., 2021). A study focusing on e-hailing services confirm that perceived ease of use plays a pivotal role in shaping user attitudes (Choong & Goh, 2021). It also emphasized that for digital platforms such as ride-hailing applications, perceived ease of use is crucial because users often make travel decisions through mobile interfaces where convenience and simplicity influence continued usage. Xia et al. (2025) found that perceived ease of use had a significant positive effect on customer experience and satisfaction among GrabCar users. Their findings suggest that when the application interface supports easy booking, clear navigation, and seamless transactions, users experience greater convenience and satisfaction throughout the service process.

Furthermore, Choong and Goh (2021) highlighted that in ride-hailing services, perceived ease of use extends beyond the application interface to encompass the overall service

process, including booking efficiency, payment convenience, and interaction with drivers. Perceived ease of use is a fundamental factor influencing user adoption and satisfaction with technology-based systems. A study by Al-Fraihat et al. (2020) found that system quality, information quality, and perceived usefulness significantly influence user satisfaction, intention to use, and actual use of technology-based systems. Supporting this, Yo et al. (2021) found that perceived ease of use and convenience were more impactful than perceived usefulness in influencing customer satisfaction. Therefore, perceived ease of use serves as a foundational antecedent that affects customer satisfaction.

H2: Perceived ease of use positively affects driver behavior.
H7: Perceived ease of use positively affects customer trust.

Perceived Trust

Trust is key to understanding the dynamics of social relations, to the extent that it is often viewed as the glue that holds society together (Schilke et al., 2021). Trust is central to our lives at both the individual and societal levels. We trust our spouses, our friends, our children, and our work colleagues, though to varying degrees and in varying circumstances (Simpson, 2023). Trust is a fundamental concept in modern society (Blöbaum, 2021). This suggests that trust is not just a moral value, but a social mechanism that allows daily interaction to run smoothly. Without trust, relationships between individuals will become less effective, organizations will find it difficult to function, and society will become less stable. Trust also serves as a basis for cooperation by reducing uncertainty when dealing with others.

However, in an e-hailing environment such as Grab, perceived trust is more focused on the human-to-human interactions that occur between customers and service providers, as well as with the technology platform. The rise of e-hailing services has transformed urban transportation, offering on-demand rides via mobile apps that outpace traditional taxis and fixed public transport schedules (Aziz et al., 2024). Trust becomes one of the critical success factors towards this acceptance (Aziz et al., 2024). In this context, trust becomes the main basis that determines whether the user feels safe or not to continue using the service. E-hailing users must trust that drivers will act responsibly and professionally; meanwhile, users believe that the platform can provide accurate information to all parties and a strong safety system.

Although trust is often built by driver behavior, in the present study, customer trust is characterized as a moderating variable. The core function of trust as a moderator is to change the intensity of the key relationship between driver behavior and customer satisfaction. According to Javed et al. (2021), social trust has a rigorous effect on the association between customer satisfaction and brand loyalty. It is debatable that, by helping to build cooperation, the state also builds trust, which, crucially, depends on what we mean by trust (Herreros, 2023). This shows the role of trust as a variable that can simply strengthen or weaken the relationship between driver behavior and customer satisfaction. When trust levels are high, the impact of driver behavior on satisfaction becomes stronger.

H3: Perceived trust positively affects driver behavior.
H8: Perceived trust positively affects customer trust.

Perceived Risk

Perceived risk can be defined as a consumer's belief in suffering negative and uncertain consequences when purchasing online (Ventre & Kolbe, 2020). Drawing on the work of Dabrynin and Zhang (2019) and Threstia et al. (2022), found that online customer

experience significantly influences product risk, financial risk, and privacy risk. Perceived risk is in the form of potential losses in achieving the desired results from using electronic or online services (Gu et al., 2021). Perceived risk refers to a user's expectations of potential losses or negative consequences when using online services. It covers multiple dimensions, including product, financial, and privacy risks, all of which are significantly affected by the online customer experience. Understanding perceived risk is critical to managing customer trust, satisfaction, and decision-making in a digital service environment.

For integrated ride-hailing platforms, perceived risk is categorized into privacy, performance, security, and financial risks (Lu & Shi, 2025). According to Xia et al. (2025), customer experience is significantly influenced by perceived ease of use, perceived fare, and perceived risk, while customer satisfaction is significantly affected by perceived fare, perceived convenience, and customer experience. Therefore, perceived risk plays an important role in Grab services because it can affect the customer experience and, in turn, the level of customer satisfaction when using them.

Higher perceived risks will lead to a decreased attitude towards a specific service or product (Lu & Shi, 2025). Higher perceived risk is negatively related to users' behavioral intentions in ride-hailing services, as lower perceived risk factors are associated with higher intention to use the service (Mageto & Luke, 2025). According to Lu and Shi (2024), perceived risk, encompassing both driver-related and platform-related factors, negatively impacts satisfaction and attitude, including users' evaluation of driver behavior. In this regard, the perception of high risk has a negative impact on customer attitudes and satisfaction in Grab's services.

H4: Perceived risk negatively affects driver behavior.
H9: Perceived risk negatively affects customer trust.

Perceived Convenience

Perceived convenience refers to the degree to which a service allows customers to accomplish tasks efficiently, with minimal effort and time (Berry et al., 2002). In the context of ride-hailing services, convenience is reflected in features such as fast booking, real-time tracking, flexible pick-up locations, and smooth in-app navigation. Yeo et al. (2021) emphasized that platforms offering high convenience alongside clear service value tend to generate stronger user engagement and greater intention to continue using the service. Their findings also revealed that convenience has a more substantial influence on customer satisfaction compared to perceived usefulness in many digital service industries. For Grab users, perceived convenience is often shaped by the ease of accessing a ride, the speed of finding a nearby driver, and the simplicity of completing a booking. The behavior of the driver further enhances or reduces this convenience. According to Joe et al. (2024), service attributes such as reliability, responsiveness, and shorter waiting times can significantly improve users' perception of convenience. When drivers arrive quickly, choose efficient routes, and handle the trip professionally, customers perceive the entire service process to be smoother and less stressful.

Lok et al. (2024) also identified perceived convenience as one of the critical determinants of user intention in mobile-based transportation platforms. They argued that the ability to access transportation anytime and anywhere strengthens user confidence and increases overall satisfaction. This aligns with findings in broader service contexts, where convenience enhances user experience by reducing time and effort associated with service consumption (Berry et al., 2002). As a result, convenience not only improves immediate service evaluations but also fosters regular usage patterns.

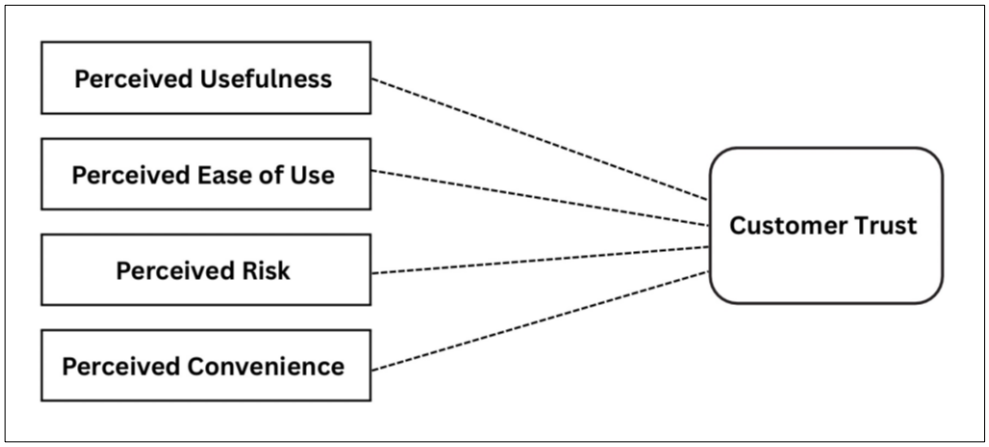
Additionally, perceived convenience plays an indirect role in shaping customer trust and loyalty. Kee et al. (2025) noted that when customers consistently experience a smooth, accessible, and effortless service process, they are more likely to rely on the platform, which strengthens trust and long-term engagement. For Grab, consistent convenience, supported by positive driver behavior, encourages repeat usage and reinforces customers' preference for the platform over alternatives. Therefore, we hypothesize:

H5: Perceived convenience positively affects driver behavior.
H10: Perceived convenience positively affects customer trust.

Conceptual Framework

Figure 1 presents the proposed research framework. Based on the literature reviewed, perceived usefulness, perceived ease of use, perceived risk, and perceived convenience are proposed as antecedents of customer trust. The framework illustrates the hypothesized relationships among these variables and serves as the basis for testing the study hypotheses.

Figure 1. Research Framework



RESEARCH METHOD

Research Design

This study employed a cross-sectional quantitative design using a structured questionnaire to examine how driver behavior influences customer trust among Grab users in Malaysia.

Sample and Procedures

This study employed a survey method to collect data from Grab users, aiming to examine the impact of driver behavior on customer satisfaction and the role of customer trust. The survey was administered through Google Forms using Likert-scale questions. A total of approximately 100 participants completed the survey. The data collected were analyzed using SPSS software.

Measures

All items in this study, including those related to perceived usefulness, perceived ease of use, perceived trust, perceived risk, perceived convenience, customer experience, and customer satisfaction (see Appendix 1), were measured using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale allowed respondents to indicate the extent of their agreement or disagreement with each statement, enabling the measurement of their perceptions and attitudes toward Grab services. The items

were developed in-house based on customers' experiences with Grab services in Malaysia and were pretested to ensure clarity and relevance.

Perceived Usefulness
Four items were used to assess how Grab enhances users' transportation experiences. An example item is: "Using Grab helps me reach my destination faster and more efficiently."

Perceived Ease of Use
Four items were designed to evaluate the ease of using the Grab application. An example item is: "It is easy for me to book a ride using the Grab app."

Perceived Trust
Four items measured users' trust in Grab and its drivers. An example item is: "I trust Grab drivers to provide safe and reliable service."

Perceived Risk
Four items assessed users' concerns regarding potential risks when using Grab services. An example item is: "I sometimes feel unsafe when riding with certain Grab drivers."

Perceived Convenience
Four items examined the level of convenience provided by Grab compared to other transportation options. An example item is: "Using Grab saves me time compared to other transport options."

RESULTS

Respondents' Demographic Profile
Table 1. Summary of Respondent's Demography (N=100)

Item	Classification	Frequency (n)	Percentage (%)
Gender	Male	19	19
	Female	81	81
Age	Below 18 years old	14	14
	18 - 25 years old	70	70
	26 - 35 years old	16	16
	36 years old and above	0	0
Race	Malay	76	76
	Chinese	12	12
	Indian	11	11
	Other	1	1
Occupation	Student	67	67
	Employed (Full-time/Part-time)	13	13
	Self - employed	16	16
	Unemployed	4	4
	Other	0	0
Educational Level	Diploma/Asasi/Matriculation	19	19
	Bachelor Degree	75	75
	Master	6	6
	PhD	0	0
Frequency of using Grab Services	Daily	23	23
	Weekly	31	31
	Monthly	28	28

	Rarely	18	18
Frequency of Using Grab Services	GrabCar	53	53
	GrabFood	38	38
	GrabExpress	9	9
	Other	0	0
Duration of Using Grab Services	Less than 6 months	14	14
	6 months - 1 years	25	25
	1 - 3 years	31	31
	More than 3 years	30	30

Table 1 shows the demographic profile of respondents (N=100). The majority of respondents are female (N=81, 81.0%), while males make up a smaller proportion (N=19, 19.0%). Most respondents are aged 18–25 years (N=70, 70.0%), followed by 26–35 years (N=16, 16.0%) and below 18 years (N=14, 14.0%), with no respondents aged above 36 years. By race, the largest group is Malay (N=76, 76.0%), followed by Chinese (N=12, 12.0%), Indian (N=11, 11.0%), and other races (N=1, 1.0%). Most respondents are students (N=67, 67.0%), while 16 (16.0%) are self-employed, 13 (13.0%) are employed full-time or part-time, and 4 (4.0%) are unemployed.

Regarding educational level, the majority hold a bachelor's degree (N=75, 75.0%), followed by Diploma/Asasi/Matriculation (N=19, 19.0%) and Master's degree (N=6, 6.0%), with no respondents holding a PhD. For Grab service usage, 31 respondents (31.0%) use Grab services weekly, 28 (28.0%) monthly, 23 (23.0%) daily, and 18 (18.0%) rarely. The most frequently used Grab service is GrabCar (N=53, 53.0%), followed by GrabFood (N=38, 38.0%) and GrabExpress (N=9, 9.0%), with no respondents selecting other services. Finally, the duration of using Grab services shows that 31 respondents (31.0%) have been using them for 1–3 years, 30 respondents (30.0%) for more than 3 years, 25 respondents (25.0%) for 6 months–1 year, and 14 respondents (14.0%) for less than 6 months.

Descriptive Statistics, Reliability, and Correlation Analysis

Table 2. Descriptive Statistics, Cronbach's Coefficient Alpha, and Zero-order Correlations for all study variables. Note

Variables	1	2	3	4	5
Usefulness	0.925				
EaseUse	0.711**	0.902			
Risk	0.317**	0.370**	0.924		
Convenience	0.495**	0.569**	0.234**	0.848	
Trust	0.618**	0.671**	0.259**	0.627**	0.858
Number of Items	4	4	4	4	4
Mean	4.303	4.188	3.800	4.170	4.083
Standard Deviation	0.731	0.707	0.990	0.641	0.654

Note: N=100 ;*p < .05, **p <.01, ***p < .001. The bold diagonal entries represent Cronbach's Coefficient Alpha.

Table 2 presents the descriptive statistics, Cronbach's alpha reliability coefficients, and zero-order correlations for the study variables. The results reveal significant positive correlations among all variables, indicating strong interrelationships. Usefulness is significantly correlated with ease of use ($r = 0.711$, $p < .01$), convenience ($r = 0.495$, $p < .01$), and trust ($r = 0.618$, $p < .01$), while ease of use shows significant associations with perceived risk ($r = 0.370$, $p < .01$), convenience ($r = 0.569$, $p < .01$), and trust ($r = 0.671$, $p < .01$). Perceived risk is positively related to convenience ($r = 0.234$, $p < .01$) and trust ($r = 0.259$, $p < .01$), and convenience demonstrates a strong positive correlation with trust ($r = 0.627$, $p < .01$). The Cronbach's alpha coefficients, presented along the

diagonal, range from 0.848 to 0.925, exceeding the recommended threshold of 0.70, thereby confirming the reliability of all measurement scales.

Multiple Regression Analysis and Hypothesis Testing

Table 3. Regression Analysis

Variables	Customer Trust
Usefulness	0.225
EaseUse	0.327
Risk	- 0.010
Convenience	0.332
R-Square	0.564
F-Value	30.664
Durbin-Watson Statistic	1.704

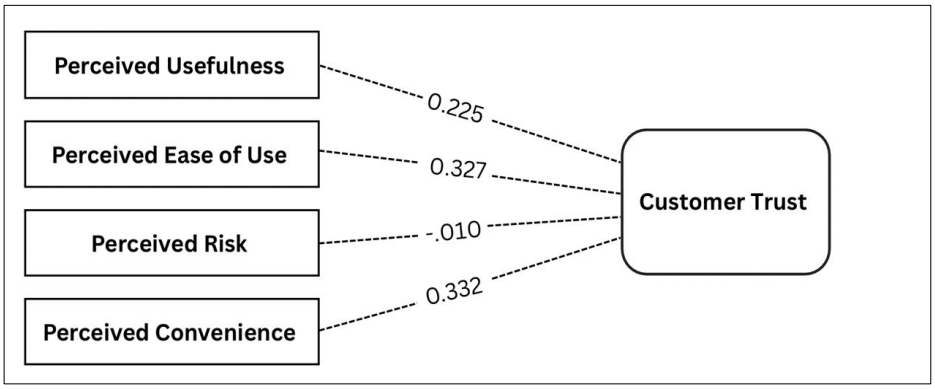
Note: N=100 ;*p < .05, **p <.01, ***p < .001.

Table 3 presents the results of the multiple regression analysis examining the effects of driver-related factors on customer trust among Grab users. **Significant beta coefficients are indicated with asterisks (*p < .05, **p < .01, *p < .001). The results show that usefulness has a positive and significant effect on customer trust (β = 0.225, p < .05), therefore H1 is supported. Ease of use is also positively and significantly related to customer trust (β = 0.327, p < .01), indicating H2 is supported. Perceived risk has a negative but statistically insignificant effect on customer trust (β = −0.010, p > .05), and thus H3 is not supported. Convenience demonstrates a positive and significant influence on customer trust (β = 0.332, p < .01), providing support for H4.

It is important to note that while Risk shows a significant correlation with Trust in the zero-order correlations (r = 0.259, p < .01, Table 2), it becomes non-significant in the regression analysis due to shared variance with the other predictors. This is a normal outcome in multivariate analysis and does not indicate a measurement problem.

The regression model explains 56.4% of the variance in customer trust (R^2 = 0.564) and is statistically significant (F = 30.664). The Durbin–Watson statistic of 1.704 suggests no serious autocorrelation issues. Overall, the majority of the hypotheses are supported, confirming that driver-related factors, particularly usefulness, ease of use, and convenience, are key determinants of customer trust, while perceived risk has a negligible unique influence. An overview of the results is presented in Figure 2.

Figure 2. Overview Result



The results of this study contribute to understanding customer trust in the ride-hailing service industry, using Grab as a case study. This section discusses the findings in relation to existing literature and research hypotheses. The regression results show that usefulness, ease of use, and convenience positively influence customer trust, while

perceived risk has a negligible effect. Overall, the findings highlight the importance of service functionality and convenience in building customer trust on digital platforms.

DISCUSSION

Perceived Usefulness and Its Impact

The findings confirm that perceived usefulness positively affects both driver behavior and customer trust, supporting hypotheses H1 and H6. This aligns with Davis (1989), who suggested that users are more likely to evaluate a system positively when it enhances efficiency and effectiveness. In the context of Grab services in Malaysia, users value the platform for enabling timely travel, accurate location tracking, and reliable ride arrangements, which contribute to higher levels of trust and more favorable evaluations of driver behavior.

Positive driver behavior, such as punctuality, safe driving, and professional communication, further reinforces the perceived usefulness of the service. When drivers perform reliably and efficiently, customers are more likely to perceive Grab as a beneficial and dependable transportation option compared to traditional alternatives. This finding supports the view that perceived usefulness strengthens both customers' confidence in the platform and their assessment of driver actions during service encounters.

Although some studies have reported mixed findings regarding the direct influence of perceived usefulness, Lok et al. (2024) emphasized that it remains a key predictor of positive behavioral outcomes in ride-hailing platforms. Users are more inclined to trust and engage with services that clearly deliver value, efficiency, and convenience. Similarly, Kee et al. (2025) argued that higher levels of perceived usefulness enhance customer trust, which is essential for fostering long-term engagement and continued service usage. Overall, the findings highlight perceived usefulness as a critical factor in shaping driver behavior and customer trust in Grab services.

Perceived Ease of Use and Its Importance

The findings of this study demonstrate that perceived ease of use has a positive impact on both customer experience and customer satisfaction, supporting hypotheses (H2 and H7). This aligns with the Technology Acceptance Model (TAM), which posits that the simpler a technology is to use, the more likely users are to adopt and find satisfaction in it. In the context of Grab services in Malaysia, respondents highlighted that the user-friendly interface, characterized by effortless booking, clear navigation, and seamless cashless payment systems, reduces the cognitive effort required to use the platform. These results are consistent with the findings of Xia et al. (2025), which noted that an intuitive app design enhances customer experience and satisfaction by providing a more convenient and seamless service experience.

Furthermore, the data suggests that when communication with drivers is straightforward and the transaction process is frictionless, the overall customer experience is significantly enhanced. This is particularly critical in ride-hailing services, where users often make travel decisions in time-sensitive situations through mobile applications (Choong & Goh, 2021). A complicated interface or difficult service process in such moments would likely lead to immediate platform abandonment. Ultimately, these findings reaffirm that perceived ease of use serves as a foundational factor that not only attracts users but also sustains long-term satisfaction by making daily mobility solutions accessible and stress-free.

Perceived Trust and Its Impact

The findings indicate that perceived trust has a positive and significant impact in the Grab Malaysia context, supporting the proposed hypotheses regarding trust. The results show that higher levels of perceived trust led to stronger customer confidence when using Grab services. This suggests that customers who perceive Grab as secure and trustworthy are more willing to engage with the platform and continue using the service. These findings are consistent with Schilke et al. (2021), who emphasized that trust serves as a social glue, facilitating cooperation and reducing uncertainty in social and service-based interactions.

The results further support H3, indicating that perceived trust positively affects driver behavior. When customers trust the platform, they are more likely to perceive driver behavior such as professionalism, safe driving, and courteous communication more positively. Trust creates a psychological assurance that shapes how customers interpret driver behavior during service encounters.

In addition, the findings also support H8, demonstrating that perceived trust positively influences customer trust. Higher perceived trust strengthens customers' belief in Grab's integrity, including its ability to protect personal and financial information and to manage service issues fairly. As a result, trust enhances customers' sense of safety and confidence throughout the service experience. Overall, these findings highlight the central role of perceived trust in strengthening customer-platform relationships and reinforcing positive service outcomes in the e-hailing industry.

The Role of Perceived Risk

The findings indicate that perceived risk plays a significant negative role in the Grab e-hailing service, thus supporting (H4 and H9). Perceived risk arises when customers anticipate possible negative outcomes, such as safety threats, privacy breaches, or unexpected financial charges, while using the service. In the Grab service, these risks are more salient due to the physical proximity between customers and drivers, which increases feelings of vulnerability. As suggested by Lu and Shi (2024), perceived risk in ride-hailing services involves both driver-related and platform-related factors that affect customer perceptions and evaluations during the service encounter.

The results further support H4, showing that higher perceived risk negatively affects customers' evaluations of driver behavior. When customers feel safety concerns or feel uncertain during a ride, they tend to interpret the driver's behavior more critically. Even unprofessional conduct may be perceived as a serious issue under high-risk perception. This finding aligns with Mageto and Luke (2025), who suggested that higher perceived risk leads to more negative attitudes toward service providers, particularly in services that involve close human interaction.

In addition, the findings support H9, indicating that perceived risk negatively influences customer trust. Concerns over personal information protection, payment security, and unexpected charges can undermine customers' confidence in the platform. This is consistent with Ventre and Kolbe (2020), who argued that fear of negative consequences in online services weakens users' willingness to trust and continue engagement. In the Grab context, perceived risk generates anxiety and doubt throughout the journey, reinforcing negative perception and undermining customers' willingness to rely on the service.

Perceived Convenience and User Outcomes

The findings also confirm that perceived convenience has a significant positive effect on customer trust, supporting the proposed hypothesis (H5). This is consistent with previous

studies by Lok et al. (2024) and Yeo et al. (2021), which highlighted convenience as a key determinant of trust and positive user outcomes in digital service platforms. In ride-hailing contexts, convenience reduces the effort required from users and enhances the overall service experience, making it a critical factor in shaping customer trust. For Grab services, convenience is reflected through features such as easy ride booking, real-time driver tracking, multiple payment options, and quick access to nearby drivers. These features allow users to travel with minimal planning and reduced waiting time, contributing to a smoother service experience.

Furthermore, the regression analysis reveals that perceived convenience has the strongest positive effect on customer trust among the examined variables. This highlights the importance of seamless service processes in building user confidence. Positive driver behavior, such as timely arrivals, efficient route selection, and responsive communication, further reinforces perceived convenience by ensuring a hassle-free journey. As a result, users who consistently experience convenient, reliable service are more likely to trust Grab and rely on it for their transportation needs. Overall, the findings emphasize perceived convenience as a vital factor in strengthening customer trust within the Grab service environment. Elements align with modern consumers' preference for efficiency and flexibility. As a result, higher levels of perceived convenience led to more favorable customer evaluations of Grab services and greater satisfaction. When users consistently experience easy access and smooth service processes, they are more likely to rely on Grab for their transportation needs. Overall, the findings highlight perceived convenience as a critical factor in shaping customer satisfaction within the Grab service environment.

CONCLUSION

This study provides a comprehensive understanding of the factors influencing customer experience and satisfaction with Grab services in Malaysia. The findings reveal that perceived usefulness, perceived ease of use, perceived trust, perceived risk, perceived convenience, and driver behavior significantly affect user perceptions and behaviors. Perceived usefulness positively impacts customer experience and satisfaction, as respondents value Grab's efficiency, ability to save time, and features that enhance the overall travel experience. Perceived ease of use also contributes significantly, with a user-friendly app interface, clear navigation, seamless booking, and cashless payment options promoting continued usage.

Perceived trust plays a critical role in enhancing customer satisfaction. Trust is established through professional and reliable driver behavior, secure transactions, timely service, and transparent communication. High trust levels strengthen the relationship between driver behavior and customer satisfaction, ensuring users feel confident and safe while using Grab. Conversely, perceived risk negatively influences satisfaction and experience, with concerns regarding safety, driver conduct, payment security, and privacy. Mitigating these risks through effective driver training, safety protocols, and transparent policies can enhance customer confidence.

Perceived convenience is another major factor, with features such as flexible service availability, multiple service options (GrabCar, GrabFood, GrabExpress), real-time tracking, and ease of booking contributing to efficient and practical user experiences. Positive driver behavior further enhances convenience, as punctuality, professional communication, and smooth ride experiences reduce stress and improve overall satisfaction.

Overall, the study confirms a strong positive relationship between customer experience and satisfaction, emphasizing that positive interactions driven by driver behavior, trust, convenience, and ease of use directly lead to higher satisfaction and foster customer loyalty. The findings suggest that Grab should continue focusing on building trust, enhancing driver professionalism, improving app usability, and maintaining convenient service features to strengthen customer relationships, ensure long-term satisfaction, and sustain competitive advantage in Malaysia's ride-hailing market.

LIMITATION

Despite providing meaningful insights, this study has several limitations. First, the sample size of 100 respondents, though adequate for the research scope, limits generalizability. The sample predominantly consisted of young users, particularly students aged 18–25 years, which may not reflect the perceptions of older users, working professionals, or those with varying socioeconomic backgrounds. This demographic homogeneity may introduce potential bias, as younger users may exhibit distinct behavioral patterns and expectations compared to a more diverse population.

Second, the study was geographically limited to Malaysia, restricting its applicability to other regions or countries. Variations in cultural norms, transportation infrastructure, market competition, and service quality standards may affect user perceptions in ways not captured here, and caution should be exercised when generalizing findings.

Third, the reliance on self-reported survey data introduces potential biases, including social desirability, recall inaccuracies, and subjective interpretation of survey items. Respondents may have provided answers based on perceived expectations rather than their true experiences, affecting the validity and reliability of the results.

Additionally, the cross-sectional design captures data at a single point in time, preventing examination of changes in perceptions, trust, and satisfaction over time. A longitudinal approach could better capture evolving user experiences and satisfaction as interactions with Grab services continue.

Finally, while this study focused on key constructs such as perceived usefulness, ease of use, trust, risk, convenience, driver behavior, and customer experience, other influential factors such as promotional incentives, customer service responsiveness, loyalty programs, and sustainability practices were not included. Future research incorporating these variables could provide a more comprehensive understanding of customer satisfaction and experience in ride-hailing services.

Recognizing these limitations provides important context for interpreting the study's findings and highlights avenues for further research to expand and refine the understanding of customer experience and satisfaction in the ride-hailing industry.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

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