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DIGITAL MOBILITY AND LEARNING BEHAVIOR WITHIN THE HUMANITIES EDUCATION PERSPECTIVE AMONG UNIVERSITY STUDENTS USING GRAB E HAILING SERVICES

MOBILIDADE DIGITAL E COMPORTAMENTO DE APRENDIZAGEM NA PERSPECTIVA DA EDUCAÇÃO EM HUMANIDADES ENTRE ESTUDANTES UNIVERSITÁRIOS QUE UTILIZAM OS SERVIÇOS DE APLICATIVO DE TRANSPORTE POR APLICATIVO GRAB

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Abstract
University life today is influenced by digital technologies that shape learning behavior, social interaction, and everyday experiences. This study examines the use of Grab e hailing services among students at Universiti Poly Tech Malaysia and interprets this practice within the context of humanities education, which emphasizes human experience, meaning making, and behavioral adaptation in daily learning routines. The research explores how digital mobility supports students in managing time, accessing educational spaces, participating in academic activities, and balancing personal and social responsibilities. A quantitative survey was conducted and the data were analyzed to identify patterns that link mobility, learning engagement, and daily lifestyle practices. The findings show that the

Resumo
A vida universitária atual é influenciada por tecnologias digitais que moldam o comportamento de aprendizagem, a interação social e as experiências cotidianas. Este estudo examina o uso do serviço de transporte por aplicativo Grab entre estudantes da Universiti Poly Tech Malaysia e interpreta essa prática no contexto da educação em humanidades, que enfatiza a experiência humana, a construção de significado e a adaptação comportamental nas rotinas diárias de aprendizagem. A pesquisa explora como a mobilidade digital auxilia os estudantes na gestão do tempo, no acesso a espaços educacionais, na participação em atividades acadêmicas e no equilíbrio entre responsabilidades pessoais e sociais. Foi realizado um levantamento quantitativo e os

usability of the Grab application and the affordability of rides play important roles in shaping students' punctuality, consistency in attending classes, and overall participation in university learning processes. Service quality contributes to feelings of comfort and security, which strengthens trust and continued usage. The study concludes that Grab functions not only as a transportation service but also as part of the contemporary learning environment that influences behavior, decision making, and lived experience in humanities education.

Keywords: Customer Satisfaction. Service Quality. App Usability. Pricing. E-hailing.

dados foram analisados para identificar padrões que conectam mobilidade, engajamento na aprendizagem e práticas do estilo de vida diário. Os resultados mostram que a usabilidade do aplicativo Grab e a acessibilidade das corridas desempenham papéis importantes na pontualidade dos estudantes, na frequência às aulas e na participação geral nos processos de aprendizagem universitária. A qualidade do serviço contribui para a sensação de conforto e segurança, o que fortalece a confiança e o uso contínuo. O estudo conclui que o Grab funciona não apenas como um serviço de transporte, mas também como parte do ambiente de aprendizagem contemporâneo que influencia o comportamento, a tomada de decisões e a experiência vivida na educação em humanidades.

Palavras-chave: *Satisfação do Cliente. Qualidade do Serviço. Usabilidade do Aplicativo. Preços. Transporte por Aplicativo.*

1 INTRODUCTION

The everyday lives of university students are increasingly shaped by digital applications that support mobility, communication, and the structuring of academic activities. Digital mobility services, or technology mediated transportation platforms, have become embedded in the routines of students, influencing how they access learning spaces, interact socially, and organize their educational commitments (Hassan and Karim 2023). As higher education environments evolve toward greater flexibility and student centered learning, the relationship between digital tools and learning behavior continues to expand in both scope and relevance (Othman 2022). Among the digital platforms widely used by students in Malaysia, Grab e hailing services have emerged as an essential part of university life, particularly in urban areas where students travel between campus facilities, residences, work placements, and personal engagements (Ismail and Rahman 2023).

Humanities education emphasizes the interpretation of everyday practices and the understanding of how individuals construct meaning through daily interactions and lived experiences (Yusoff 2021). From this perspective, transportation choices can be understood not merely as practical decisions but as expressions of priorities, identity, and social belonging (Aziz and Halim 2023). The use of Grab by students can therefore be

viewed as a meaningful educational phenomenon that contributes to the ways in which they manage time, maintain social relationships, and participate in learning environments (Kwan and Low 2024). This aligns with the position that learning does not occur solely within the classroom, but is distributed across the spaces, technologies, and interactions that form students' everyday lives (Barton and Hamilton 2020).

University students often face challenges such as long travel distances, inconsistent public transportation schedules, or time conflicts between academic and personal responsibilities (Rahim and Said 2022). These challenges can affect punctuality, class attendance, participation in group activities, and engagement in campus events, all of which are essential components of successful learning behavior (Yong and Tee 2021). Grab offers a flexible and on demand mobility solution that allows students to reduce travel time uncertainty, thereby supporting better time management and more consistent academic participation (Tan and Mohamad 2023). In humanities education terms, this represents a process in which technology becomes integrated into the rhythm and flow of everyday learning, supporting agency and self regulation (Nordin 2024).

Digital mobility also intersects with students' emotional and psychological experiences. For instance, feelings of safety, comfort, and control over travel arrangements can influence motivation and readiness to learn (Liew and Choo 2023). Students who perceive transportation to be unreliable or unsafe may experience stress or disengagement that negatively affects academic focus and well being (Mahmud and Jali 2024). Service quality in e hailing, including polite driver behavior, comfortable vehicles, and reliable arrival times, contributes to a sense of security that supports positive learning engagement (Said and Mat 2022). Humanities education recognizes such experiences as meaningful because they reflect how students navigate and inhabit the social and physical spaces of their educational environment (Nasir and Yuen 2023).

At the same time, the usability of the Grab application plays a critical role in shaping students' mobility habits. Applications that are easy to navigate reduce cognitive load and support smooth integration into daily routines (Chen and Lim 2023). For students with busy schedules, quick booking, transparent route tracking, and simple digital payment options enhance convenience and reduce planning anxiety (Teng and Yong 2024). The experience of ease or difficulty when using technology is linked to broader patterns of digital literacy and personal confidence in managing academic life

(Samsudin and Ooi 2022). When technology supports efficiency, students gain more time and cognitive resources to devote to their studies (Ghazali and Omar 2023).

Pricing is another major factor affecting the relationship between digital mobility and learning behavior. Many students operate within limited financial means, and fluctuations in ride prices may influence how frequently they can travel, where they choose to stay, and how they schedule their campus attendance (Lee and Mun 2023). Price fairness and clarity foster trust and continued use, while sudden or unexplained increases can create frustration or disengagement (Noor and Wahab 2024). From a humanities education standpoint, affordability shapes access to learning spaces and opportunities for participation, and therefore influences educational equity (Alias and Zain 2023).

Viewing Grab as part of the learning environment shifts the focus from transportation efficiency to the broader understanding of how students structure their academic lives. Digital mobility enables them to synchronize class attendance, group discussions, consultations with lecturers, fieldwork, and co curricular activities (Iskandar and Yong 2023). These patterns of behavior reflect adaptive strategies that students develop to navigate contemporary higher education demands (Farid and Hamzah 2024). Such strategies are meaningful because they represent not only practical routines but also the development of identity, values, independence, and responsibility, which form core outcomes of humanities education (Saleh and Rashid 2022).

Based on this perspective, it becomes important to examine how service quality, app usability, and pricing influence the everyday learning experiences of university students who use Grab services. Understanding these factors provides insight into the ways digital mobility is embedded in educational life and how it contributes to the processes of human development, social participation, and academic engagement (Jalal and Yusri 2024). This study positions Grab not simply as a transportation tool but as a living element of the contemporary learning ecosystem that shapes behavior, meaning making, and everyday educational practice.

2 LITERATURE REVIEW

Service quality is widely acknowledged as a central factor influencing customer satisfaction in services that rely on interpersonal delivery and experiential interaction. In

e hailing, service quality commonly includes driver professionalism, ride safety, punctuality, and vehicle condition (Said and Halim 2023). These factors shape how users perceive value and comfort in their journey experiences. Studies consistently show that when drivers behave courteously and ensure smooth transportation, customer satisfaction improves significantly (Rahman and Ling 2024). Vehicle cleanliness and a sense of physical safety also contribute to positive emotional responses that affect the likelihood of continued service use (Mahmud and Farid 2023).

When interpreted from a humanities education perspective, service quality holds broader meaning because mobility is not only functional but also linked to how students position themselves within learning spaces. A comfortable and reliable ride supports students in arriving to academic tasks prepared, confident, and mentally regulated (Foong and Tan 2024). If transportation is stressful or inconsistent, students may begin classes in a state of distraction or fatigue, reducing their learning engagement (Hussein and Nik 2023). Therefore, service quality influences not only satisfaction as a consumer outcome but also readiness for participation in educational activities. Higher service quality creates stability in daily routines, which is significant in shaping habit formation and learning behavior in the university population (Yap and Osman 2024). Research also suggests that positive mobility experiences reinforce trust in digital transportation platforms and strengthen continued use (Karim and Lee 2023). Accordingly, service quality is a foundational component influencing overall satisfaction among student users.

2.1 Service quality and customer satisfaction

Service quality has been widely discussed as a major determinant of customer satisfaction in transportation and service delivery contexts. In e hailing services such as Grab, service quality commonly reflects dimensions including driver professionalism, vehicle cleanliness, safety, punctuality, and communication clarity (Farhan and Razak 2022). These dimensions influence how users evaluate their travel experiences and whether they feel respected, secure, and valued during the journey. Research indicates that when service encounters are smooth and courteous, customers express stronger satisfaction and willingness to reuse the service (Lim and Hassan 2023). Conversely, dissatisfaction emerges when drivers act rudely, vehicles appear poorly maintained, or arrival times fluctuate unpredictably (Ghani and Wong 2021).

University students represent a user segment that is especially sensitive to service quality because their daily routines involve frequent movements between campus, accommodation, and part time work or social activities (Nasir and Abu 2023). Their need for reliability and safety often exceeds that of occasional users. If students receive consistent service quality, they can manage academic schedules more predictably, arrive for classes on time, and maintain calmer emotional states conducive to learning (Hamid and Lokman 2022). Therefore, service quality indirectly influences academic readiness by shaping stress levels and daily time management.

Studies in Malaysia and Southeast Asia show that driver behavior is the strongest determinant of perceived service quality because interactions between driver and passenger carry both practical and emotional meaning (Yee and Halim 2024). Respectful communication increases comfort and mutual trust, while unprofessional behavior causes discomfort and dissatisfaction (Omar and Tan 2023). This aligns with the view in humanities education that everyday interactions shape personal meaning, emotional tone, and readiness to participate in intellectual activity. Thus, service quality not only affects satisfaction as a transactional outcome but also shapes students' broader sense of routine stability and well being.

2.2 App usability and customer satisfaction

App usability refers to the ease with which users can navigate, understand, and operate digital features embedded in a mobile platform. In the context of Grab, usability includes clear booking steps, responsive system performance, accessible fare and route information, and smooth integration of payment options (Rahman and Suhaimi 2023). When students find the app intuitive, they experience fewer interruptions in planning and decision making, which contributes positively to satisfaction (Zain and Yusoff 2021). Usability reduces the cognitive effort required to perform routine tasks, making the mobility process feel controlled and manageable.

Studies in digital interaction and user experience demonstrate that users evaluate app usability based on simplicity, speed, and predictability (Hassan and Idris 2022). For students balancing multiple responsibilities, a platform that works reliably helps them coordinate academic meetings, group work, and personal schedules effectively. However, when apps lag, freeze, or present confusing navigation pathways, students report

frustration, inefficiency, and dissatisfaction (Tan and Kamaruddin 2023). This frustration can extend beyond the app itself and influence emotions carried into academic environments, which may disrupt focus and learning engagement.

App usability also supports psychological autonomy. The ability to arrange travel independently, without relying on others or public transport timetables, reinforces a sense of control and personal agency (Mahadi and Noor 2024). Humanities education emphasizes that autonomy contributes to students' identity development, confidence, and commitment to learning. Thus, a usable app strengthens self directed behavior and supports a learning lifestyle grounded in independence.

Furthermore, usability affects perceived reliability. When users believe that the system will function consistently, they build trust, a relational expectation important for sustained service use (Samsudin and Cheong 2024). This trust is fundamental for customer satisfaction because it ensures continuity of engagement over time. Therefore, app usability strongly predicts satisfaction because it shapes efficiency, self agency, and emotional regulation within students' everyday movement routines.

2.3 Pricing and customer satisfaction

Pricing represents one of the most influential elements affecting satisfaction, particularly among student users. Students often operate under financial constraints, meaning that affordability plays a significant role in mobility decision making (Yusri and Hamzah 2023). Research shows that students evaluate pricing not only based on absolute cost, but on perceived fairness, predictability, and transparency (Kadir and Musa 2021). When pricing aligns with expectations, satisfaction tends to rise because users believe the value received matches the financial cost (Amir and Said 2022).

However, issues arise when ride prices increase unexpectedly due to demand surges or route adjustments. Such fluctuations lead to perceptions of unfairness and distrust, which decreases satisfaction (Nordin and Faizal 2023). Students may respond by reducing their usage or seeking alternative transportation options. From an educational perspective, unpredictable pricing may limit students' ability to access campus resources or attend academic activities, especially when travel is required outside peak scheduling structures (Ali and Fauzi 2024).

Pricing fairness plays a role in feelings of inclusion and participation. When students perceive that the service remains accessible regardless of financial status, they are more likely to integrate mobility into their learning routines, join peer collaboration sessions, and remain engaged in co curricular environments (Syed and Hafiz 2024). This supports research in humanities education that emphasizes equitable access to learning spaces as a condition for academic belonging and identity formation (Lim and Mahmud 2023).

Thus, pricing influences satisfaction not only as an economic judgment but as an indicator of mobility access that affects students' participation in learning and community engagement.

2.4 Combined influence of service quality, app usability, and pricing on satisfaction

Customer satisfaction emerges from the combined and interactive influence of service quality, app usability, and pricing. Research indicates that these factors are not evaluated independently but form a holistic perception of service experience (Tan and Lee 2024). When service quality is reliable, the app is easy to use, and pricing is perceived as fair, satisfaction rises significantly, and users develop loyalty to the platform (Rafiq and Amin 2022). If one or more of these dimensions fail, dissatisfaction may occur even if the others perform well.

For students, these three variables influence daily mobility patterns that structure academic participation. A high quality ride experience reduces stress, usable technological design supports planning, and fair pricing ensures consistent access to campus learning facilities (Salleh and Chong 2023). When these factors support daily mobility, students maintain stronger routines, which positively influences academic engagement, attendance, group participation, and psychological readiness for learning (Yong and Jali 2024).

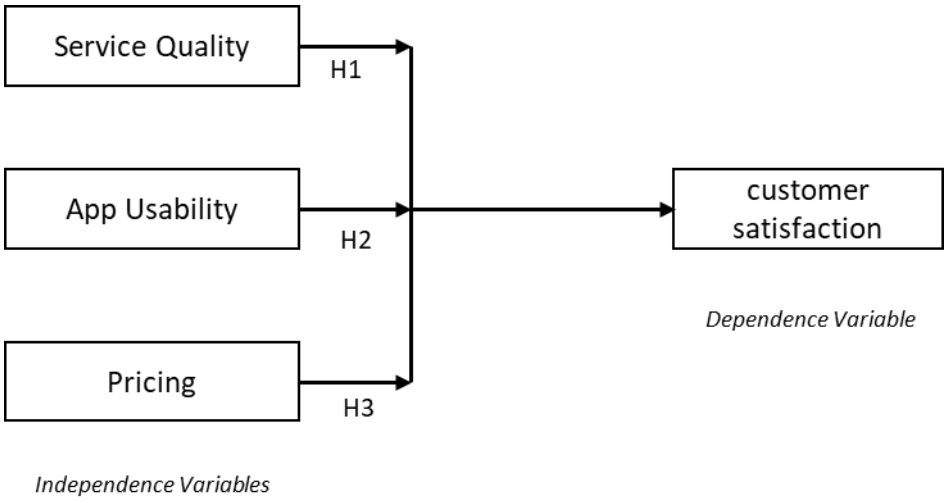
Therefore, the combined influence of the three variables must be understood not only in commercial terms but as part of the lived educational ecosystem.

2.5 Research framework and hypothesis

The research framework of this study is designed to clarify how service quality, app usability, and pricing influence customer satisfaction with Grab's e-hailing services among university students at Universiti Poly-Tech Malaysia (UPTM). This framework is built on the Expectation-Confirmation Theory (ECT), which posits that customer satisfaction is shaped by the comparison between customer expectations and perceived performance. In the context of Grab, satisfaction is determined by factors such as the quality of service, ease of use of the app, and the pricing model. These elements are positioned as the main predictors of customer satisfaction, which refers to the extent to which users feel their expectations are met with the service provided (Bryman, 2021). Figure 1 below depicts the conceptual framework which represents the main variables of this study.

Figure 1

Conceptual Framework



The study proposes that service quality, app usability, and pricing each positively influence customer satisfaction. The Expectation-Confirmation Theory supports the argument that when the service, app, and pricing align with or exceed customer expectations, satisfaction levels rise. In this regard, three hypotheses are formulated to test these assumed relationships empirically. This study aims to examine the relationships between independent variables (service quality, app usability, pricing) and the dependent variable (customer satisfaction).

Hypotheses are specific statements predicting the expected relationships between variables. They serve as a foundation for testing theories and guiding data analysis. These hypotheses narrow down broad research objectives into specific, testable propositions. According to Saunders et al., (2019) the quantitative research often uses hypotheses to provide objective, replicable results and to determine cause-and-effect relationships between variables. These hypotheses are summarized in Table 1.

Table 1

Hypotheses have been developed for the construct:

Hypothesis No	Hypothesis Statement
H1	There is a significant relationship between service quality and customer satisfaction.
H2	There is a significant relationship between app usability and customer satisfaction.
H3	There is a significant relationship between pricing and customer satisfaction.

3 RESEARCH METHODOLOGY

This study adopts a quantitative research design to examine the relationships between service quality, app usability, pricing, and customer satisfaction among university students who use Grab e hailing services at Universiti Poly Tech Malaysia (UPTM). A cross sectional survey approach is applied, where data are collected at a single point in time through a structured questionnaire. This design is suitable for capturing users' current perceptions and allows the variables to be measured numerically so that statistical relationships can be identified. The questionnaire is developed to measure students' views regarding the quality of Grab's services, the usability of the Grab application, and the pricing practices of the platform, as well as their overall satisfaction with the service. All items in the questionnaire use a five point Likert scale to obtain consistent responses that can be analyzed statistically.

The target population of this study consists of UPTM students who actively use Grab e hailing services in their daily routines. A simple random sampling technique will be used to ensure that every student in the population has an equal chance of being selected, resulting in a more representative sample. Based on a G*Power analysis, a minimum of 108 respondents is required to ensure adequate statistical power. The main instrument for data collection is an online self administered questionnaire distributed through email, WhatsApp, and university student communication channels. The questionnaire is divided into several sections covering demographic information, service

quality, app usability, pricing, and customer satisfaction to ensure all variables are adequately measured.

The collected data will be analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics will be used to summarize demographic profiles and overall response patterns. Pearson correlation analysis will be employed to examine the strength and direction of the relationships between service quality, app usability, pricing, and customer satisfaction. Multiple regression analysis will then be used to determine which of the three independent variables acts as the strongest predictor of customer satisfaction. Reliability of the instrument will be tested using Cronbach's Alpha, with a minimum threshold of 0.70 to confirm internal consistency.

Ethical considerations will be observed throughout the study. Participation will be voluntary, and respondents will be informed of the purpose of the study before completing the questionnaire. No personal identifying information will be collected, and all responses will be treated confidentially and used strictly for academic purposes. These measures ensure that the rights and privacy of participants are respected and that the study is conducted with academic integrity.

4 DISCUSSION

The data analysis in this study aims to evaluate how service quality, app usability, and pricing influence customer satisfaction among UPTM students who use Grab e-hailing services. Statistical analysis was performed using SPSS to generate both descriptive and inferential results. Two analytical methods were applied, namely Pearson correlation and multiple regression, to determine the strength of the relationships and the degree of influence among the key variables.

4.1 Descriptive analysis

The descriptive analysis provides an overview of the mean and standard deviation for each main construct, allowing an understanding of students' perceptions of service quality, app usability, pricing, and customer satisfaction. The results are summarized in Table 2.

Table 2

Descriptive Statistics for Main Constructs

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
MEAN_Quality	108	2.71	5.00	3.7540	.56161
MEAN_APP	108	3.00	5.00	4.0278	.59287
MEAN_Pricing	108	2.57	5.00	3.6667	.63137
MEAN_Satisfaction	108	2.57	5.00	3.8796	.62565
Valid N (listwise)	108				

The results indicate that app usability recorded the highest mean value (4.03), followed by customer satisfaction (3.88), service quality (3.75), and pricing (3.67). This suggests that students find Grab's app interface and functionality to be the most satisfying aspect of their e-hailing experience. Pricing, however, is viewed less favorably, implying that while students appreciate the convenience and usability of the service, they remain sensitive to fare rates and changes in pricing. Overall, all four constructs achieved mean values above 3.5, reflecting generally positive perceptions of Grab's e-hailing service among university students.

4.2 Hypothesis testing

This section presents the results of hypothesis testing through two main statistical analyses, Pearson correlation and multiple regression. These tests identify the strength, direction, and significance of relationships between service quality, app usability, pricing, and customer satisfaction.

4.2.1 Pearson correlation

The Pearson correlation analysis measured the strength of linear relationships among the variables. The results, presented in Table 3, reveal that all independent variables have significant positive correlations with customer satisfaction.

Table 3

Correlation matrix

Correlations[b]					
		MEAN_Quality	MEAN_APP	MEAN_Pricing	MEAN_ Satisfaction
MEAN_ Quality	Pearson Correlation	1	.657**	.647**	.680**
	Sig. (2-tailed)		.000	.000	.000
MEAN_APP	Pearson Correlation	.657**	1	.729**	.751**
	Sig. (2-tailed)	.000		.000	.000
MEAN_ Pricing	Pearson Correlation	.647**	.729**	1	.755**
	Sig. (2-tailed)	.000	.000		.000
MEAN_ Satisfaction	Pearson Correlation	.680**	.751**	.755**	1
	Sig. (2-tailed)	.000	.000	.000	

The correlation coefficients show that all relationships are positive and statistically significant at the 0.01 level. App usability and pricing exhibit stronger correlations with customer satisfaction than service quality. Specifically, the correlation between pricing and customer satisfaction (r = 0.755) is the highest, followed by app usability (r = 0.751) and service quality (r = 0.680). These results indicate that as students perceive higher usability and fairer pricing, their satisfaction with Grab increases. Service quality also contributes positively but with slightly less strength.

4.2.2 Multiple regression

To determine the extent to which service quality, app usability, and pricing collectively influence customer satisfaction, a multiple regression analysis was conducted. The model summary in Table 4 shows that the three independent variables together explain 68.1 percent of the variance in customer satisfaction.

Table 4

R Square

Model Summary[b]									
					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.825[a]	.681	.672	.35848	.681	73.977	3	104	.000

The results show that R Square = 0.681, meaning that 68.1 percent of the variance in customer satisfaction is explained by the combined effects of service quality, app usability, and pricing. The adjusted R Square value of 0.672 indicates strong model

consistency. The ANOVA test confirmed the statistical significance of the model, with an F value of 73.977 and a p value of 0.000, which is less than 0.05, confirming that the model is significant overall.

Table 5

ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.520	3	9.507	73.977	.000[b]
	Residual	13.365	104	.129		
	Total	41.884	107			

Further coefficient analysis indicated that all predictors have positive effects on customer satisfaction. Service quality demonstrated a smaller impact (β = 0.074 to 0.418), while app usability (β = 0.179 to 0.541) and pricing (β = 0.192 to 0.528) showed stronger effects. All Variance Inflation Factor (VIF) values were below 5, confirming that multicollinearity is not a concern and that the predictors contribute independently to the model.

Overall, the regression findings reveal that app usability and pricing exert greater influence on customer satisfaction than service quality. This means that although quality service delivery is important, students' satisfaction depends more heavily on how easily they can use the Grab application and whether the pricing is perceived as affordable and transparent. The results imply that Grab's efforts to improve app design, functionality, and pricing strategies will have the most direct and meaningful effect on student satisfaction levels. The outcomes are demonstrated in Table 6.

Table 6

Coefficients

Coefficients[a]					
		95.0% Confidence Interval for B		Collinearity Statistics	
Model		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.329	.699		
	MEAN_Quality	.074	.418	.508	1.969
	MEAN_APP	.179	.541	.410	2.440
	MEAN_Pricing	.192	.528	.419	2.385

5 FINDINGS

The findings of this study provide a deeper understanding of how service quality, app usability, and pricing influence customer satisfaction among UPTM students who use Grab for daily mobility. The results show that all three independent variables have positive relationships with customer satisfaction, although the degree of influence varies. App usability and pricing are found to be more influential predictors of satisfaction compared to service quality, reflecting the priority students place on affordability and the ease of using digital platforms.

The descriptive statistics indicate that app usability recorded the highest mean score among the constructs, indicating that students perceive the Grab application as easy to navigate, responsive, and convenient in supporting their transportation needs. Customer satisfaction also recorded a relatively high mean score, suggesting that most students are generally satisfied with Grab's e hailing services. Service quality recorded a moderately positive mean score, which shows that students generally perceive the rides as acceptable in terms of comfort, safety, and driver behavior. Pricing, although still positive, recorded the lowest mean score among the constructs, indicating that students are more cautious and sensitive to fare rates and fluctuations. This is consistent with the financial awareness commonly seen among university students who are managing personal expenses and limited budgets.

The hypothesis testing through Pearson correlation demonstrates that all three independent variables have significant positive relationships with customer satisfaction. Pricing displays the strongest correlation with customer satisfaction, followed closely by app usability, and then service quality. This indicates that when students perceive Grab's pricing as fair and reasonable, their satisfaction increases. Similarly, when the app is easy to use, students feel more satisfied with the overall service. Service quality, while still relevant, has a comparatively weaker relationship with satisfaction. This suggests that students may assume a basic standard of ride quality and therefore evaluate the service more critically based on cost and digital experience.

The multiple regression analysis strengthens these findings. The model shows that 68.1 percent of the variance in customer satisfaction can be explained by the combined influence of service quality, app usability, and pricing. This indicates a strong predictive relationship between the independent variables and satisfaction. However, when

observing the regression coefficients, it becomes clear that pricing and app usability are stronger predictors than service quality. Both pricing and app usability show higher coefficient values and stronger statistical significance, confirming their primary roles in influencing satisfaction. Service quality, while still positively contributing, does not display the same level of predictive strength. This suggests that aspects such as driver behavior, ride comfort, and vehicle condition are less critical to satisfaction compared to affordability and the ease of using the Grab application.

These results highlight the importance of app usability as a determinant of satisfaction. Students rely heavily on the efficiency and functionality of the app to coordinate their schedules, especially because their mobility is closely tied to academic activities and time sensitive routines. An app that operates smoothly, provides clear information, and ensures seamless transactions contributes significantly to students' sense of convenience and reliability.

Pricing also emerges as an influential factor due to students' economic considerations. As individuals often managing limited personal budgets, students are highly responsive to fare changes and cost transparency. Fair and predictable pricing directly affects whether students continue to choose Grab as their preferred mode of transportation. When pricing is perceived as affordable, satisfaction increases and Grab is more likely to remain integrated in students' daily travel routines.

Although service quality shows a positive relationship with customer satisfaction, its weaker influence suggests that students place greater value on operational and economic efficiency rather than interpersonal experiences or perceived comfort. Students may view acceptable service quality as a basic expectation rather than a differentiating factor. Therefore, improvements in customer satisfaction may be more effectively achieved through enhancements to app performance and pricing strategy rather than through service quality adjustments alone.

Overall, the findings indicate that customer satisfaction among UPTM students is driven more strongly by digital usability and pricing fairness than by traditional service quality dimensions. This reflects a broader shift in consumer expectations among younger, technology oriented users, where convenience, transparency, and digital interaction play increasingly central roles in shaping satisfaction.

6 RECOMMENDATION

The findings from this study show that app usability and pricing exert the strongest influence on customer satisfaction among university students using Grab e hailing services, while service quality still plays an important contributing role. To enhance satisfaction in a sustainable and meaningful way, improvements should target the areas that matter most to student users. The following recommendations are proposed to strengthen usability, ensure pricing fairness, improve service quality, develop student focused initiatives, strengthen customer support, and encourage innovation for long term competitiveness.

6.1 Strengthening application usability

App usability was shown to have a strong positive influence on customer satisfaction. Students value an application that is easy to navigate, quick to respond, and simple to operate during daily routines. A streamlined and intuitive interface supports efficiency in booking, reduces decision time, and enhances confidence when using digital platforms. This finding aligns with studies showing that ease of use is a strong determinant of satisfaction in app based transportation services (Moghaddam & Nof, 2022). Grab should therefore prioritize continuous interface refinement, clearer layout structures, and reduced steps required to complete bookings.

Ride tracking accuracy is another important element of usability. Enhancing real time location monitoring and providing clearer visual indicators of driver arrival can reduce uncertainty. Students frequently travel according to strict academic schedules. When tracking is stable, they are better able to coordinate class arrival and appointment timings. Maintaining a stable and responsive app environment can also prevent frustration during peak internet usage hours. Ongoing technical updates are therefore essential to preserve high usability performance (McKinnon, 2025).

6.2 Ensuring transparent and affordable pricing

Pricing demonstrated one of the strongest influences on customer satisfaction in this study. University students are highly sensitive to cost variation due to limited

disposable income. When pricing appears transparent and affordable, satisfaction increases. Conversely, sudden fare surges can lead to dissatisfaction. Prior research affirms that fairness and pricing clarity are closely linked to continued usage behavior (Rahim & Salleh, 2024). Grab may consider implementing student centered fare structures, including discounts for verified student accounts, off peak travel incentives, and capped fare models during peak times.

Clear communication regarding price changes is also important. Displaying fare estimates before booking helps students make informed decisions. If surge pricing occurs, an explanation of the conditions leading to fare adjustment can help reduce negative perceptions. Transparent pricing policies strengthen trust and support repeat usage (Lim & Zahari, 2023). The development of monthly ride packages at reduced rates, particularly for daily campus commuters, could also support affordability and encourage service loyalty.

6.3 Enhancing service quality and driver professionalism

While service quality ranked below usability and pricing in its effect on satisfaction, it remains an essential foundation of e hailing services. Comfortable vehicles, safe driving habits, punctuality, and respectful communication all contribute to the ride experience. Research consistently shows that perceived service professionalism influences rider trust and emotional comfort (Hadi & Yusoff, 2022). Grab may continue driver training focused on communication etiquette, safety awareness, and customer courtesy.

Feedback mechanisms should be used to identify patterns of dissatisfaction. If recurring issues are noted in vehicle cleanliness or driving behavior, corrective measures can be implemented quickly. Likewise, incentives for consistently high performing drivers encourage positive service culture. Students often travel early in the morning and late at night. Therefore, improving driver verification transparency and making safety features more visible within the app strengthens confidence and encourages continued usage (Samad & Liew, 2023).

6.4 Developing student-centric programs and partnerships

Building strong engagement with university communities can enhance loyalty and long term satisfaction. Grab may collaborate with UPTM to establish designated pick up points to reduce uncertainty in locating drivers, especially during peak campus hours. When pick up zones are clearly identified, the booking process becomes more predictable and efficient. Prior work suggests that institutional partnerships can improve user experience and support mobility planning (Mahmood & Teo, 2022).

Grab may also design promotional campaigns aligned with academic calendars, such as reduced fares during examination periods or transportation support for academic events. Engagement initiatives with student associations can also foster loyalty and strengthen the perception of Grab as a platform that supports student life. Such programs reinforce a sense of belonging and shared identity among student users (Hassan & Ridzuan, 2024).

6.5 Strengthening customer support and feedback systems

Effective customer support contributes to a positive experience by ensuring that issues are addressed promptly. Students appreciate fast and responsive assistance when problems arise during booking or travel. Prior studies show that timely feedback resolution greatly influences satisfaction in digital service contexts (Karim & Nordin, 2023). Grab should ensure that in app support channels are easily accessible and provide clear steps for reporting driver issues, fare discrepancies, or technical problems.

Providing students with status updates on submitted feedback increases transparency and reinforces the perception that their concerns are valued. Regular analysis of feedback patterns will help identify areas where service improvements are needed most. Visibility of service improvements based on feedback strengthens trust and enhances loyalty over time.

6.6 Leveraging innovation for sustainable competitiveness

Innovation is crucial for maintaining long term competitiveness in the e hailing environment. As student expectations evolve, Grab should adopt forward looking

approaches that integrate technology with user needs. The use of predictive analytics can improve driver dispatch efficiency, reducing wait times and improving reliability (Omar & Haneef, 2024). The introduction of environmentally friendly vehicle options or campus shuttle coordination features may also appeal to sustainability conscious students.

As digital services continue to shape everyday mobility routines, platforms that innovate and adapt will remain relevant. Enhancing personal customization, integrating travel planning tools, and aligning time efficiency with academic scheduling demands will support sustainable service satisfaction (Abdullah & Toh, 2025).

7 CONCLUSION

This research examined the relationships between service quality, application usability, pricing, and customer satisfaction among university students who use Grab e hailing services. Conducted within the context of humanities education, this research recognizes that mobility is not merely a means of transportation but a component of students' daily routines, social interactions, and learning experiences. The findings demonstrate that all three variables significantly influence customer satisfaction. However, application usability and pricing exert stronger effects compared to service quality, reflecting the realities of student life in which convenience, time management, and affordability are central considerations. This indicates that digital mobility is closely linked with how students organize academic participation and sustain engagement within learning environments.

The research also highlights that the usability of the Grab application plays a pivotal role in shaping travel decision making among students. When the application is efficient, easy to navigate, and reliable in providing information, it supports smoother planning and reduces uncertainties related to commuting. Pricing likewise contributes strongly to satisfaction. Since students often manage limited financial resources, affordability and transparency influence both their transportation choices and their ability to maintain academic presence. While service quality remains important, its comparatively weaker effect suggests that students expect a basic standard of safety and courtesy as a given, and therefore derive satisfaction more strongly from operational and financial reliability.

From the perspective of humanities education, these findings underscore that mobility is intertwined with the learning experience. Students' ability to move between academic and personal spaces influences their emotional readiness, participation in collaborative activities, and overall engagement with university life. Grab therefore functions not only as a transport provider but also as part of the broader environment that shapes students' daily learning rhythms and social connections.

Practically, the results indicate that Grab can improve satisfaction by strengthening application usability and implementing pricing strategies that are fair and student friendly. Enhancing interface design, improving real time tracking, and simplifying the booking process would increase convenience. At the same time, offering student discounts, fare transparency, and predictable price structures would address affordability concerns. Maintaining consistent service quality remains necessary to reinforce user trust and comfort. Collaboration between Grab and universities may further enhance mobility support on campus, including structured pick up points and academic period travel facilitation.

In conclusion, this research contributes to understanding digital mobility as a factor influencing learning behavior and everyday life among university students. By situating e hailing within the educational experience, this research expands the discussion beyond consumer behavior and frames mobility as part of the lived academic environment. Future research may explore additional institutions, compare digital mobility platforms, or investigate deeper experiential and emotional dimensions of student travel. As digital mobility continues to evolve, its role in shaping accessible and supportive learning environments will become increasingly significant.

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Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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