

**THE INVESTIGATION OF PERCEPTION
AND SATISFACTION ON E-HAILING
SERVICE AMONG UNDERGRADUATE
STUDENTS OF UNIVERSITI TUNKU ABDUL
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UNIVERSITI TUNKU ABDUL RAHMAN**

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ABSTRACT

THE INVESTIGATION OF PERCEPTION AND SATISFACTION ON E-HAILING SERVICE AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI TUNKU ABDUL RAHMAN

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Abstract: In recent years, e-hailing firms have provided a new option to public transportation by providing private automobile services. E-hailing apps make public transit more accessible. However, users sometimes complain about e-hailing services, such as overpricing, driver misbehaviour, or safety issues. Grab is Malaysia's top ride-hailing service. This research examines Universiti Tunku Abdul Rahman undergraduate students' perception and satisfaction with e-hailing services. Besides, this research uses a quantitative survey questionnaire to collect data. The final analysis employs the Statistical Package for the Social Sciences (SPSS). The study includes descriptive, reliability, and inferential analyses. This study evaluate the dependent variable, user satisfaction level among UTAR students on the e-hailing service, by analyzing the independent variables, including perceived pricing, driver behaviour,

perceived safety and security, and perceived reliability. The results of the study indicate that the majority of respondents expressed a high level of satisfaction with e-hailing services. This study also uses the Pearson Correlation Coefficient Model (PCC) and Multiple Linear Regression Model (MLR) models to determine the factors influencing UTAR undergraduate students' satisfaction with e-hailing services.

Keywords: E-hailing Service; Users' Perception and Satisfaction; Perceived Price; Driver Behaviour; Perceived Safety and Security; Perceived Reliability.

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and progress checks. We appreciate their presence and support in times of difficulty. We appreciate them being a part of our college experience since it has helped us create more wonderful memories.

DECLARATION

I hereby declare that this final year project report is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.



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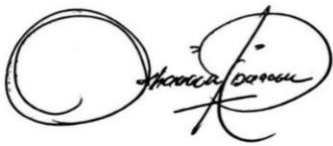


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APPROVAL SHEET

This final year project report entitled **“THE INVESTIGATION OF PERCEPTION AND SATISFACTION ON E-HAILING SERVICE AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI TUNKU ABDUL RAHMAN”** was prepared by TAN JEI RU, TAN YU XUAN, and TONG CHIA CHIAN and submitted as partial fulfilment of the requirements for the degree of Bachelor of Science (Hons) Logistics and International Shipping at Universiti Tunku Abdul Rahman.

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PERMISSION SHEET

It is hereby certified that **TAN JEI RU** (ID No: **20ADB03857**), **TAN YU XUAN** (ID No: **20ADB02506**), and **TONG CHIA CHIAN** (ID No: **20ADB02165**) have completed this final year project report entitled “THE INVESTIGATION OF PERCEPTION AND SATISFACTION ON E-HAILING SERVICE AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI TUNKU ABDUL RAHMAN” under the supervision of Ts. Khairul Rizuan Bin Suliman from the Department of Physical and Mathematical Science, Faculty of Science.

I hereby give permission to the University to upload the softcopy of my final year project report in pdf format into the UTAR Institutional Repository, which may be made accessible to the UTAR community and public.

Yours truly,



(TAN JEI RU)



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(TONG CHIA CHIAN)

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LIST OF ABBREVIATIONS

DART	Dialogue, Access, Risk Assessment, Transparency
ETS	Electric Train Service
GUI	Graphical User Interface
IoT	Internet of Things
KWIC	Key Word in Context
MLR	Multiple Linear Regression
MOT	Ministry of Transport
PCC	Pearson Correlation Coefficient
PLS	Partial Least Square
SPSS	Statistical Package of Social Sciences
UTAR	Universiti Tunku Abdul Rahman

CHAPTER 1

INTRODUCTION

1.0 Introduction

Chapter 1 included the study of Universiti Tunku Abdul Rahman undergraduate students' perception and satisfaction with e-hailing services. Moreover, it also contained the problem statement, research objectives and questions, the study's significance, the scope of the study, the definition of the term for this research, and a chapter summary.

1.1 Background of Study

The initiation of e-hailing service, also known as ride-sharing service, brings a new alternative to the world of public transport, which provides a private car service (Ooi and Nazar, 2021). This technology enables drivers to locate passengers who are ready to travel and allows passengers to find the locations of available vehicles in the chosen region (Ooi and Nazar, 2021). Jais and Marzuki (2020) show that an area's existing public transportation system will influence people's willingness and preference to use e-hailing services. Public transport in Kampar is underdeveloped, and the area is not yet well-equipped with an excellent public transport network. The lack of comprehensive public transport infrastructure has led to a growing interest in using e-hailing services

among the population in the region. At this point, students without cars benefit significantly from the ride-sharing program.

Kampar is a student-filled area as UTAR is built here, and Grab is the primary e-hailing service used by students. E-hailing services have brought many benefits, such as mobility to local students. Furthermore, there are 10,052 students enrolled at the UTAR Kampar campus, and they will be the subject of this research (Wong, 2022). Moreover, the student is responsible for finding a hostel near the university on their own because UTAR does not offer any hostels. The student who did not have a car, however, had to take the bus, walk, or use an e-hailing service to go to the institution. Primarily, it provides convenience for those who live far from the university and do not have their means of transportation. This phenomenon indirectly increases the demand for e-hailing services in the Kampar area. However, there are not all e-hailing services available in the Kampar area. Based on the research, the Grab application has become the primary choice in the Kampar area (Azham Hussain, et al., 2018). Hence, the student can use the e-hailing service by using the Grab application to travel anywhere they desire.

Nevertheless, there have been a few consumer complaints. Regarding safety concerns, including driver misconduct and the overloading of fares, complaints about e-hailing have been documented in numerous cases (Nor, Sabri and Isa, 2021). Despite these issues, users still need to consume e-hailing services, which is why the market for these services is growing. Besides, the level of satisfaction with e-hailing services has decreased for specific customers

in recent years. As a result of increased demand from customers, e-hailing services may increase their earnings and contribute to national development (Idros, Mohamed and Jenal, 2019). Hence, measuring customer satisfaction is essential since it provides insight into how well the e-hailing service functions. This research, therefore, intends to study Universiti Tunku Abdul Rahman undergraduate students' perception and satisfaction with e-hailing services.

1.2 Problem Statement

Grab is the main e-hailing service used by UTAR students in Kampar. Due to inconsistent school hours and travel times, most students prefer to use more flexible e-hailing services rather than cheaper public transport, such as buses and vans with fixed times and routes. For this reason, e-hailing service has grown in demand among UTAR students. Despite the popularity of e-hailing services among students in recent years, complaints from users indicate their dissatisfaction with using Grab service is still increasing, which also reflects the problem of e-hailing services (Buruhanutheen, et al., 2019). According to Chi, et al. (2020), more than 75% of tweets expressed negative sentiment towards e-hailing services in terms of price, time, safety, responsiveness, and other service qualities.

Teo, Mustaffa, and Rozi (2018) point out that peak and off-peak hours and driver management lead to price spikes or overcharging for e-hailing services. Especially during working hours, the demand for drivers will increase, resulting in higher prices on Grab than usual (Widyatama, et al., 2020). According to Mahudin and Sakiman (2020), driving experience, work hours,

and employment duration could influence the driver's behaviour. The Star reported that in frustrating situations such as delays and traffic jams, drivers' driving errors caused by negative emotions such as anger and stress increased by 2.51 times (Agency, 2023).

Besides that, several e-hailing users also complain about safety issues, including driver misconduct, misbehaviour, sexual harassment and assault, driver abuse, and violence. The Royal Malaysian Police (PDRM) recorded a total of 347 accidents involving e-hailing riders in 2021 due to common wrongdoing including running red lights and using their phones while riding (Jerrica, 2021). Other than that, in March 2021, The Star reported that there had been cases of e-hailing drivers sexually assaulting and robbing passengers in Malaysia (Nor, Sabri and Isa, 2021). Not only that but the e-hailing companies were mentioned in various media reports linked to thefts and the sexual assault of female drivers (Teo, Mustaffa and Rozi, 2018). This terrible and unpleasant e-hailing experience results in users' dissatisfaction with e-hailing services, thus affecting their riding intention and willingness.

Since there is a paucity of research on students' perspectives on e-hailing services, this warrants a need to investigate the major factors affecting students' perceptions and satisfaction with such services. The key factors used in the study are perceived price, driver behaviour, perceived safety and security, and perceived reliability to examine UTAR students riding intentions. Therefore, the problem statement will raise the question of what factors will influence

Universiti Tunku Abdul Rahman undergraduate students' perception and satisfaction with e-hailing services.

1.3 Research Objectives

1.3.1 General Objective

To investigate the e-hailing service perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman.

1.3.2 Specific Objectives

1. To analyze the factor of the perceived price that affects users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman.
2. To analyze the factor of driver behaviour that affects users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman.
3. To analyze the factor of perceived safety and security that affects users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman.
4. To analyze the factor of perceived reliability that affects users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman.

1.4 Research Questions

1. Does the factor of the perceived price affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?
2. Does the factor of driver behaviour affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?
3. Does the factor of perceived safety and security affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?
4. Does the factor of perceived reliability affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?

1.5 Significance of the Study

The ride-sharing travel economy system has been an emerging field in recent years; it is still in the early research stage (Teo, Mustaffa and Rozi, 2018). Besides, the consumer shift to e-hailing derivatives is a new area worth exploring. This is because there have been increased complaints about safety concerns associated with e-hailing services in recent years (Teo, Mustaffa and Rozi, 2018). Considering this, the researchers set out to gauge how UTAR students are with e-hailing services. Customer satisfaction with e-hailing services was the dependent variable, and perceived price, driver behaviour, perceived safety and security, as well as perceived reliability were the independent variables.

The research given essential information about e-hailing service consumers. It also helps e-hailing businesses and suppliers in the national

transportation industry. Based on consumer input, they may assess the findings and identify the best areas for improvement. While analysing the performance of the e-hailing system, e-hailing businesses might also make structural modifications to it. Furthermore, this research may also be helpful to future researchers. They may get some information and utilize it as a research reference.

1.6 Scope of Study

The general purpose of this study investigated users' perceptions and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman using the e-hailing application "Grab." Therefore, this study was done through questionnaires to the university student using Grab as a survey and reference. Researchers studied the UTAR undergraduate students' usage of e-hailing services by analysing the data they provided via their complete survey.

1.7 Chapter Summary

In conclusion, Chapter 1 indicated the research topic and briefly outlined the background of e-hailing services in Kampar, Perak. Besides that, the problem statement revealed the current issues with e-hailing services, including complaints from passengers about the pricing, driver behaviour, safety and security, and reliability which have led to dissatisfaction among numerous users. Also, this chapter provided an understanding of the research objectives, research questions, the significance of the study, and the scope of the study relevant to this research. In the next chapter, we further discuss the literature review of factors influencing users' perception and satisfaction with the e-

hailing service. We also further study the relationship between the dependent variables and four independent variables in the next chapter.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Chapter 2 discussed the theoretical perspective of e-hailing and reviews previous research related to the independent variables, and dependent variable. This chapter explored the link between the dependent and independent variables and constructs hypotheses based on the study's literature. Furthermore, this chapter discussed the research gap after reviewing the associated research issue: the factors that impact the users' perception and satisfaction level when using an e-hailing system. Finally, there was a chapter summary at the end of this chapter.

2.1 Literature Review

2.1.1 E-hailing in Kampar, Perak

In fact, in Kampar, most UTAR students still use bicycles, e-bikes, or scooters as their transportation to school, so the adoption rate of e-hailing services is not that high. Due to the low usage of e-hailing services in Kampar, the supply of drivers is relatively low. When demand is high for a certain period, but there is a shortage of drivers, booking fares may increase. This results in students preferring to use their transportation instead of e-hailing services because they are unwilling to pay higher fees. Not only that, but the e-hailing service still does not cover the whole Kampar area, especially some remote areas that are

not covered on the map. It creates inconvenience as e-hailing drivers are unavailable in all regions (Thong, et al., 2019).

2.1.2 Benefits of E-hailing

In Malaysia, the demand for e-hailing services has changed dramatically in the transportation industry as they provide customers with online booking services and a convenient ride experience (Idros, Mohamed and Jenal, 2020). An alternative to the traditional method of waiting at the bus stop is to use an e-hailing service to acquire a private car for transportation. Therefore, e-hailing services benefit the customers, drivers, and the environment.

Furthermore, the e-hailing service allows consumers a substitute transportation choice, which is convenient and reasonable (Ahmad Sahir and Azizan Marzuki, 2020). The customer can easily book a ride through the applications anytime and anywhere, while they can look for the price and driver's information. Moreover, customers do not need to request an unoccupied taxi from the side of the road, which might be difficult and ineffective during peak hours and on days when it is raining (Ooi and Nazar, 2021). E-hailing services also provide door-to-door services convenient to the consumers, which can fetch them from the pickup area to their destination within the estimated time. Besides, the e-hailing service creates employment opportunities for drivers. For instance, some people may lose their job due to the company shutting down, or the company wants to cut off employees during the COVID-19 period. Thus, people can apply for the job with an e-hailing company for the driver position. According to the information, ride-sharing firms in Malaysia

nowadays have over 60,000 drivers and 30,000 ride requests every month (Omar, Johan, and Aluwi, 2019). Therefore, the e-hailing services sector provides many job opportunities for those who do not have a job.

In several Malaysian metropolitan areas, car emissions are the most significant cause of air pollution (Shuhaili, et al., 2013). Since the number of motor vehicles in Malaysia has increased, this issue has resulted in specific impacts, such as traffic congestion and air pollution. Therefore, the recommendation to reduce air pollution is to encourage people to use public transportation to decrease the usage of private cars. However, e-hailing services are generally known as shared mobility (Jais and Marzuki, 2020). Thus, people are also encouraged to have e-hailing services to reduce the problem of pollution. According to the information, the researchers discovered that using an online ride-hailing service significantly reduced fuel use and pollution control (Lin, et al., 2019).

2.1.3 Challenges of E-hailing

E-hailing services are one example of an innovation that has helped propel the transportation services market's fast expansion. E-hailing services have the potential to open new possibilities, but they also bring with them specific difficulties.

Firstly, there's the issue of safety. E-hailing drivers are responsible for their customers safely getting them to their destinations. When passengers are unsatisfied with a driver's behaviour and driving approach, they will likely leave

a negative review since e-hailing firms depend on passenger input to determine driver ratings (National Association of City Transportation Officials, 2016). This is because most consumer safety concerns raised in response to ride-hailing services centre on problems of unsafe driving, driver fraud, sexual harassment, high costs, and vehicular accidents (Teo, Mustaffa and Rozi, 2018).

Grab, an e-hailing service provider, claims that a lack of drivers is to blame for recent pricing swings. Grab Malaysia issued the following statement: "Since COVID-19 restrictions were loosened, more people have been using our service to make reservations. However, over the last two years, many drivers' partners have remained inactive on our platform because of fears about COVID-19 and a related drop in trip demand." (Kalbana Perimbanayagam, 2022)

Grab, Uber, and Lyft are just a few well-known companies operating in the e-hailing business. Also, new competitors, like AirAsia, emerge in fast-growing markets. Although e-hailing services are rapidly expanding, drivers and riders are notoriously unloyal, and drivers often split the cost of rides with passengers. As a result, e-hailing services need to give discounts on rides to remain competitive. Hence, many e-hailing businesses have suffered devastating losses. Moreover, most places have laws mandating that drivers treat all passengers fairly. Specifically, drivers are responsible for making reasonable accommodations for disabled riders and inhabitants in less fortunate areas. In contrast, these groups would go unserved if left to market forces alone. As wheelchair-accessible vehicles (WAVs) are more expensive than regular ones, it might be difficult for e-hailing services to accommodate their customers

who rely on wheelchairs (National Association of City Transportation Officials, 2016).

2.2 Past Studies

Table 2.1: Past Studies

Author, Date	Title	Objective	Methodology	Research Gap
Ahmad Sahir Jais, Azizan Marzuki (2020)	E-hailing services in Malaysia: current practices and future outlook	To investigate the use of e-hailing services, any issues that have arisen during the adoption process, and the future direction of the service in Malaysia.	Key-Word-In-Context (KWIC) Thematic analysis	Future research should focus on the effects of these rules on the drivers and other stakeholders in the e-hailing industry.
Boon-Chui Teo, Muhamad Azimulfadli Mustaffa and Amir Iqbal Mohd Rozi (2018)	To grab or not to grab? passenger ride intention toward e-hailing services	To study the factors influencing passenger ride intention towards e-hailing.	Smart PLS involving partial least square Path analysis model	Future research can expand with larger samples and investigate how new technologies in transportation affect national economies, legislation, and societies.

2.2 Past Studies Continued

Mohamad Niza Md Nor, Sabiroh Md Sabri, Najiah Filzah Mat Isa (2021)	E-hailing service satisfaction: A case study of students in a higher education institution in Perlis, Malaysia	To investigate factors influencing ride-hailing satisfaction, including safety, price, convenience, and accessibility.	Statistical Package of Social Sciences (SPSS) Pearson correlation analysis Multiple regression analysis (Statistical analysis involving Anova analysis and Hypotheses testing)	Future research could examine other factors improving customer satisfaction with e-hailing services.
Mustakim Melan, Nor Hasni Osman, Pichit Prapinit, Napal Uttayaratana and Mohamad Ghozali Hassa (2021)	Comparative study on the customer satisfaction towards the services of e-hailing in Malaysia and Thailand	To analyze the price, assurance, reliability, and tangibility that affect customer satisfaction in e-hailing services.	The survey uses convenience sampling (also known as Haphazard or Accidental Samplings) Correlation Analysis: Pearson's Correlation Analysis Multiple Regressions Analysis	The research can be extended in the future by looking in depth at the quality driven among the e-hailing drivers and towards safety precautions in both countries.
Nur Athirah Nabila Mohd Idros, Hazura Mohamed, and Ruzzakiah Jenal (2020)	Customer satisfaction of e-hailing: an item development	To develop an e-hailing project for customer satisfaction through embedded value cocreation.	DART model Pilot Testing	Future studies should undertake a survey with a significant number of e-hailing consumers.

2.2 Past Studies Continued

Ooi Bee Chen and Shafinaz Ahmad Nazar (2021)	Exploring factors influencing ehailing services in Klang Valley, Malaysia	To evaluate the aspects of the e-hailing service in Malaysia's Klang Valley that affect consumers' opinions and levels of satisfaction.	Statistically Packages for the Social Science (SPSS) software Hypothesis testing model	Future studies can extend with larger samples and not just focus on Klang Valley.
Ruzzakiah Jenal, Hazura Mohamed, Siti Aishah Hanawi and Nur Athirah Nabila Mohd Idros (2021)	Under satisfaction on the index of e-hailing services based on co-creation value	Research on the e-hailing services satisfaction index based on the cocreation value.	DART model	This study only looked at an overall level of user satisfaction index rather than according to each ehailing company.
Salman Salim, et al. (2020)	Factors influencing passengers' use of e-hailing services in Malaysia	To determine the variables that influenced the passengers toward using e-hailing services.	A survey by questionnaire, Reliability analysis, and Correlation analysis	Future research should consider other external factors, such as service quality and technology.

2.2 Past Studies Continued

<p>Vijayesvaran Arumugama, Mohd Roslan Ismailb, Moniezsa Joehareec (2020)</p>	<p>A review and conceptual development of the factors influencing consumer intention toward e-hailing service in Malaysia</p>	<p>To investigate the most critical factors influencing Malaysian passengers' willingness to use e-hailing services.</p>	<p>Frequency analysis</p>	<p>Future research suggests using nonprobability sampling methods to reduce the time and cost of collecting data from the population.</p>
<p>Wan Farha Wan Zulkiffli, Munirah Mahshar, Nik Alif Amri Nik Hashim, Nur Izzati Mohamad Anuar, Mohd Zulkifli Muhammad (2020)</p>	<p>Investigating the effect of service quality on customer satisfaction case study: ride-hailing service in Malaysia</p>	<p>To identify the factors that affect customer satisfaction toward ride hailing services in Malaysia is vital to overcoming the issues to expand the ride-hailing industry.</p>	<p>Quantitative approach: descriptive analysis, measurement model analysis, and path coefficient. Statistical Programmers for Social Science to analyze responses.</p>	<p>Future studies should include qualitative research methods, or both should be considered.</p>

Previous studies have shown that several authors centre their writing on the e-hailing service and its effect on the customers' experience. Moreover, several theoretical models, methodologies, analytical elements, and focal areas are discovered. However, almost all previous studies have offered sufficient data to support their conclusions and mentioned their research gaps.

Studies on the elements that influence user satisfaction and drivers' propensity to utilize e-hailing have increased in recent years. For example, Nor, Sabri, and Isa (2021) study university students in Perlis, Malaysia. Moreover, the younger generation (those born between 1980 and 2004) was the focus of research by Zulkiffli, et al. (2020). Besides, prior researchers favoured quantitative over qualitative techniques by gathering data from selected respondents. Therefore, various types of analysis will be used to examine the data obtained at the researchers' discretion.

2.3 Research Framework

Figure 2.1 shows the conceptual framework where the research investigates the relationship between perceived price, driver behaviour, perceived safety and security, and perceived reliability that affect the users' perception and satisfaction level of using e-hailing applications among Universiti Tunku Abdul Rahman undergraduate students.

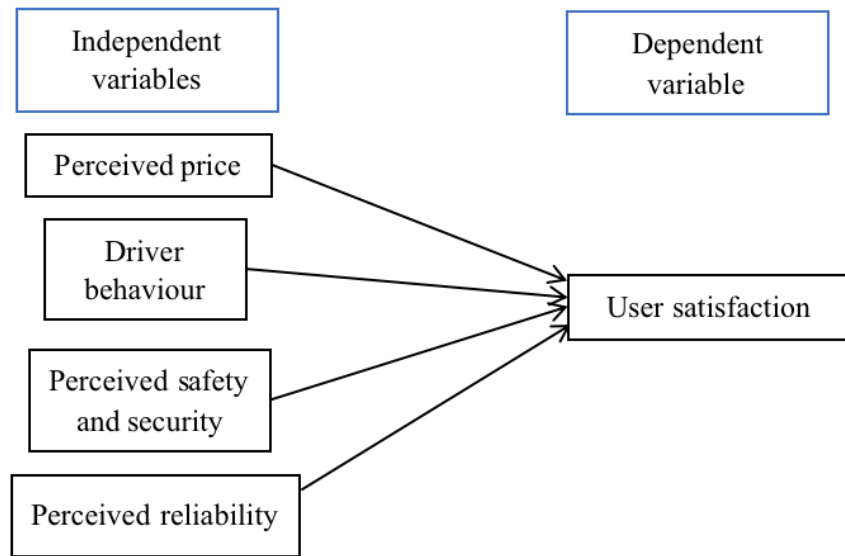


Figure 2.1: Research Framework

2.4 Dependent Variable

2.4.1 User Satisfaction

User satisfaction comes from the quality and reliability of the service provided by an organization (Adeniran and Fadare, 2018). According to Ooi and Nazar (2021), the level of user satisfaction reflects how well a service or product meets the expectations of its users. Similarly, it may be defined as a person's opinion of a product or service's success in meeting their needs. In addition, a growing number of businesses employ user satisfaction surveys to gauge the efficiency of their systems nowadays. Therefore, user satisfaction needs to be investigated from many angles, mainly from a systems viewpoint, since a well-designed, user-friendly system enhances user satisfaction (Gatian, 1994).

The future of e-hailing services depends heavily on the level of satisfaction now experienced by its users. To improve their services and stay ahead of the competition, e-hailing companies should do in-depth research on

users' experiences. Competition among e-hailing businesses is expanding to gain users' hearts even though e-hailing services offer several benefits over traditional taxi services, including speed, privacy, comfort, and the availability of 24-hour service (Ooi and Nazar, 2021). Therefore, the interaction between businesses and customers is crucial. Co-created value, a notion that may increase user happiness, is what user connections are termed when interactive platforms are established (Jenal, et al., 2021). However, each customer's satisfaction comes from different factors and requirements. Therefore, this study combined customer satisfaction with perceived price, driver behaviour, perceived safety and security, and perceived reliability to make a connection.

2.5 Independent Variables

2.5.1 Perceived Price

Price is one of the most critical variables influencing user satisfaction with e-hailing services. The service cost imposed by the e-hailing business to the passenger, depending on the distance from the origin to the destination, is referred to as the price (Teo, Mustaffa and Rozi, 2018). The inflated pricing of e-hailing businesses allows for peak and off-peak costs for rates and driver management (Teo, Mustaffa and Rozi, 2018). Compared to taxi services, the price of an e-hailing service is comparatively lower (Nor, Sabri and Isa, 2021). This is because taxi services determine charges based on metre hopping, which might result in exorbitant prices if the driver is dishonest.

In contrast, the cost of an e-hailing service is already posted in the application, and passengers may select whether to accept the trip based on the

price indicated in the application. Therefore, due to most e-hailing trips being less expensive than taxi charges, they are an attractive consumer choice. (Nor, Sabri and Isa, 2021). As a result, pricing is the sum of cash and value transferred from a consumer to profit from e-hailing companies in Malaysia (Zulkiffli, et al., 2021). Furthermore, in Malaysia, there are two primary payment options, cash, and e-wallet, which provide travellers with payment flexibility (Zulkiffli, et al., 2021).

2.5.2 Driver Behaviour

Furthermore, one of the elements influencing user satisfaction with e-hailing is driver behaviour. Driver behaviour encompasses all overt, covert, psychological, purposeful, and unintentional features and behaviours a driver displays during driving. Seat belt usage, fundamental vehicle control, speeding, lane changes, and other such behaviours develop habits over time (Mahudin and Sakiman, 2020). Many factors impact driving behaviour, one of which is that people's behaviour is often associated with a certain kind of feeling (Bucchi, Sangiorgi, and Vignali, 2012). Thus, emotions have been described in a variety of ways. For instance, the driver's abilities, driving experience, physical condition, and mental state can affect the driver's own emotions, which can lead to car accidents or reduce user satisfaction levels. Besides that, driver behaviour is not only affected by the driver's emotions but also by external factors. For example, traffic congestion, local weather, road conditions, and the environment can impact driver behaviour. These elements all impact a driver's driving style (Mahudin and Sakiman, 2020).

2.5.3 Perceived Safety and Security

Safety and security are fundamental factors in gaining customer trust and intention to use e-hailing services. Safety refers to customers' psychological and physical safety, whereas security refers to the transparency of the service and information provided by the e-hailing company (Salim, et al., 2021). While price is a significant priority for most customers using an e-hailing service, that doesn't mean they won't be concerned about their personal safety. According to Yunoh and Ibrahim (2020), customers want to feel protected, primarily when individuals use e-hailing services alone without accompanying others. The reason is that most e-hailing service systems automatically assign drivers to users, so users cannot have the right to choose a driver. Therefore, unclear driver information and background cause users to feel insecure and fearful when they ride the service and worry that their safety will be threatened.

To further improve user safety, most e-hailing services, such as the Grab app, have a "Share My Ride" feature that allows users to share information with others (Buruhanutheen, et al., 2019). Additionally, the Malaysian Ministry of Transport mandates that every driver undergo criminal and background screening to ensure zero criminal records (Arumugam, Ismail, and Joeharee, 2020). In addition, the transparency of information is always important to enhance security while using ride-hailing services. A security measure is whether a customer's privacy or personal information is appropriately protected and not exposed to outsiders (Yunoh and Ibrahim, 2020).

2.5.4 Perceived Reliability

Reliability, in general, means the attribute of being able to be relied upon to fulfil someone else's requirements or wants. Reliability in the context of e-hailing service refers to the ability of the driver to fulfil the commitment in a timely and accurate manner (Yee and Salleh, 2022). Dependable e-hailing service is crucial because it helps meet customers' needs and wants. If e-hailing companies can provide customers with high-quality services, it will help to improve users' perception of the quality of ride-hailing services. According to Razi, Tamrin, and Nor (2021), the reliability level of e-hailing services depends on service provider reliability and trustworthiness. The service provider's reliability can be reflected in several aspects, such as whether the driver arrives on time, notifying customers in advance about sudden changes in the situation, etc.

Besides that, the arrival of the correct destination, punctuality, service consistency, and scheduling routes are also elements of providing reliable customer service (Adam, et al., 2020). Also, Caesaron, Makapedua, and Lukodono (2021) point out that e-hailing services' reliability is attributed to delays and cancellations of services, wait times, on-time arrival at destinations, and delay issues. Therefore, reliability is crucial in providing users with a good riding experience in ride-hailing services.

2.6 Relationship Between Independent Variables and Dependent Variable

2.6.1 Relationship Between User Satisfaction and Perceived Price

Price has various implications on consumer loyalty and satisfaction (Assegaff and Pranoto, 2020). Price is an essential factor in logistics since it influences the affordability of services and rates paid (Balachandran and Hamzah, 2017). Each user has its cost acceptance limit, and multiple users have varying perceptions of what pricing still seems acceptable within their boundaries. This acceptable range may impact their loyalty. For example, they may be interested in using the services if the price is still within their price bracket. However, they may choose another transportation method if the price exceeds their financial range (Assegaff and Pranoto, 2020).

Moreover, price is one of the most important elements determining how customers perceive the reliability of transportation services and prices; consequently, in the context of e-hailing services in Malaysia, price surely determines the perception and satisfaction of particular consumers (Zulkiffli, et al., 2021). For instance, Grab will increase costs during peak hours, resulting in lower customer satisfaction, and the price is calculated based on the distance between the departure point and the destination. Therefore, when the users have to take the e-hailing service to a place with a significant distance, the user must be prepared to accept the higher cost.

In addition, due to the shortage of e-hailing drivers in Kampar, there are not enough drivers during peak hours. Therefore, users cannot get an e-hailing car immediately and must continuously seek drivers. Due to the peak hour

circumstances, the e-hailing company will prefer to boost the price of the application at this time to generate additional revenue. Consequently, user satisfaction may fluctuate in response to price increases.

2.6.2 Relationship between User Satisfaction and Driver Behaviour

Driver behaviour is also one of the variables that can affect the user satisfaction level in the e-hailing sector. The driver's friendly demeanour aids in effective communication and a greater understanding of the user's wants (Gokhale, 2021). On the other hand, poor driver behaviour can reduce customer satisfaction and threaten passenger safety. For example, many newspaper reports of e-hailing drivers trying to behave indecently towards passengers, such as deliberately taking the wrong route into pitch-dark places and doing things they shouldn't, such as sexual harassment. In addition, some drivers use vulgar words or treat customers rudely, reducing customer satisfaction. Therefore, drivers should be educated on the correct behaviour of e-hailing drivers to improve the safety of users, which will also increase user satisfaction levels.

Furthermore, there are several concerns concerning driver behaviour and the safety of e-hailing services. For example, some people believe that the bulk of customer unhappiness stems partly from driver perceptions, behaviours, and attitudes regarding safety (Mahudin and Sakiman, 2020). Moreover, some drivers are not in a good mood owing to extended working hours, which may impact the driver's driving process and cause automobile accidents, lowering

user satisfaction. As a result, in order to boost consumer trust and contentment, drivers must first adjust their mood.

2.6.3 Relationship Between User Satisfaction and Perceived Safety and Security

Safety and security are the factors that users will pay attention to when using online e-hailing services. Mustafa, et al. (2019) state that safety and security significantly impact user satisfaction with ride-hailing services. Providing a safe and secure e-hailing service is the key to attracting people to the service and gaining their trust. Therefore, some rules and policies are in place to keep users safe so they can feel at ease when using e-hailing services. One example is the Grab service, which has implemented several safety measures to improve the safety of its services, such as "SOS" emergency buttons and strict background checks on drivers. This move dramatically improves service security, allowing users to enjoy their journeys with peace of mind, thereby increasing customer satisfaction (Todd, Amirullah, and Hui Xing, 2018).

Besides that, according to Zailani, et al. (2020), they say that safety is vital when users seek e-hailing services. Typically, customers are asked to evaluate their ride experience after using an online e-hailing service. Safety and security are also included in the assessment. When customers perceive a high level of protection with the ride-hailing service, they will give five-star praise, which also means that the e-hailing service has high security and good service quality. High-security service quality can improve customer satisfaction with service and customer loyalty (Widyatama, et al., 2020). In

addition, Chalermpong, et al. (2022) also stated that the most critical factor affecting ride hailing users' loyalty is perceived safety, followed by satisfaction. Therefore, providing a safe and reliable online e-hailing service can effectively maintain customer loyalty and improve customer satisfaction.

2.6.4 Relationship Between User Satisfaction and Perceived Reliability

Reliability is critical to increasing user satisfaction, and the two are interrelated. For example, Razi, Tamrin, and Nor (2021) show a positive correlation between reliability and user satisfaction when using e-hailing services. The reason is that the reliability of e-hailing services significantly affects customers' intention to use the service. Yee and Salleh (2022) also reported similar findings that the reliability of Grab's e-hailing usefulness is highly correlated with user satisfaction. According to Nur'Najmah, Menudin, and Laidey (2019), a factor influencing consumers' perceptions of service quality is their expectations, and satisfaction is the basis of their perceptions of the quality of the services they receive. Also, they stated that reliability is one of the qualities users use to perceive a service. In other words, good service quality must be consistent with what customers expect from car-hailing services. Customers expect stable, consistent, punctual, dependable, and reliable e-hailing service (Melan, et al., 2021). In addition, when customers give good feedback on e-hailing services, they are satisfied with the service provided, thus increasing customer satisfaction.

Not only that, but the availability of Grab drivers in the neighbourhood also affects customer satisfaction and willingness to use e-hailing services. The

availability of drivers affects the reliability of e-hailing services, which affects customer satisfaction with e-hailing services. Unreliable services can reflect in certain areas, such as a lack of drivers in some areas, resulting in longer booking and waiting times for users. Especially in remote areas, where fewer drivers are around, it isn't easy to find drivers, affecting customer satisfaction (Ubaidillah, et.al., 2019).

2.7 Hypothesis Development

The study utilized four independent variables to measure UTAR students' satisfaction with e-hailing services in Kampar, Perak: perceived price, driver behaviour, perceived safety and security, and perceived reliability. We create four hypotheses further to analyze the relationship between the dependent and independent variables.

H1: Perceived price will affect user satisfaction with the e-hailing service.

H2: Driver behaviour will affect user satisfaction with the e-hailing service.

H3: Perceived safety and security will affect user satisfaction with the e-hailing service.

H4: Perceived reliability will affect user satisfaction with the e-hailing service.

2.8 Research Gap

Scholars have done several studies to examine how satisfied different groups are with e-hailing services, and several research gaps exist. Firstly, it will be possible to investigate other variables in the future in order to enhance customer satisfaction with e-hailing services (Nor, Sabri and Isa, 2021).

Similarly, Salim, et al. (2020) state that future research should consider other external factors, such as quality of service and technology used. Furthermore, according to Teo, Mustaffa, and Rozi (2018), Idros, Mohamed, and Jenal, (2020), and Ooi and Nazar (2021) stated that future research should be expanded to a larger sample, not limited to consumers in a single region, to investigate how new technologies in transportation affect national economies, legislation, and society. This is due to past studies have focused on other Malaysian states, such as Klang and Perlis, as well as other universities. Therefore, we are interested in studying at Utar undergraduate student in Kampar, Perak. Additionally, some authors suggest that future studies can use various research tools, such as changing the form of questionnaires in this study to interviews or using non-probabilistic sampling methods to reduce the time and cost of data collection. Therefore, future research should include qualitative research methods or a combination of both (Zulkiffli, et al., 2020). This helps the study to understand the impact of ride-hailing services on customer satisfaction more accurately.

2.9 Chapter Summary

Finally, Chapter 2 discussed the literature review of e-hailing adoption, including Kampar, Perak's e-hailing services, the benefits of e-hailing, and the challenges faced by the e-hailing industry. This chapter also indicated the dependent and independent variables, which can help readers to understand the relationship between dependent and independent variables. Furthermore, this chapter provided a conceptual framework and created four hypotheses further to analyze the relationship between the dependent and independent variables.

Lastly, we collected past studies based on them to find out some research gaps to help us understand the shortcomings of other research lines and learn from them. In Chapter 3, we focus on the research method of this study and get a survey to collect data from UTAR undergraduate students in Kampar, Perak.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

Research methodology is a technique used to identify and analyse collected data. It is critical to the research as it can provide a thorough plan for the researchers to develop the research objective from the data obtained. The research methodology in Chapter 3 consisted of the sampling design, research design, data collection methods, and sampling instrument. Besides that, the chapter explained the scale of measurement used, namely the nominal, ordinal scale, and 5-point Likert scale. Furthermore, data collection tools, data processing, and data analysis had been discussed to illustrate further their function in handling data collection. In the end, the chapter was summarised with a short conclusion.

3.1 Research Design

Research design is a strategy for linking conceptual research questions to relevant studies. The primary purpose of research design is to transform research questions into analysable data to obtain answers to relevant research questions (Asenahabi, 2019).

This study adopted a quantitative research method. Quantitative data analysis converts the data into useful information using the numerical

representations of observation findings to identify and clarify facts (Bilgin, 2017). With the aid of empirical methods and techniques such as focus group discussions, questionnaires, measurements, and sampling, quantitative research can assist researchers in fully understanding the items under study. It means that the conclusions drawn by researchers may have high standards of reliability and validity and may be extrapolated to a large population. However, data collected using this paradigm is not entirely accurate, as respondents occasionally give arbitrary answers rather than truthful ones (Pham, 2018). The quantitative research approach will test the relationship between dependent and independent variables statistically. In this study, the selected dependent variable is the user's satisfaction with the e-hailing service, while the independent variables are perceived price, driver behaviour, perceived safety and security, and perceived reliability. The study collected data on perception and satisfaction with e-hailing services among UTAR students in Kampar by distributing questionnaires.

3.2 Data Collection Methods

3.2.1 Primary Data

Primary data refer to first-hand data where the researchers collected original or new data without reference to any news, books, or journal articles (Mazhar, et al., 2021). In behavioural sciences, primary data are gathered via observation techniques, questionnaires, interviews, and databases. Qualitative methods and quantitative methods are the two main ways of primary data collection. The study mainly focused on the quantitative research method, and the surveys will be set up to gather valuable data from the target population. The questionnaire

is designed in E-form, also known as Google form. It will be distributed via various online platforms, such as Microsoft Teams, WhatsApp, Facebook, etc., to reach out to the target users and understand their satisfaction with the e-hailing service.

3.2.2 Secondary Data

Secondary data is previous information collected and statistically analysed by someone. The researchers can find secondary data sources from journal articles, newspapers, magazines, published books, etc. (Mazhar, et al., 2021). Secondary data comes from both internal and external sources. Internal sources of secondary data are data collected internally by the company, such as sales reports, company websites, annual accounts, etc. At the same time, external sources of secondary data are books, journal articles, social media, online data, census data, electronic statistics, etc. It is convenient for researchers as they can access to review past research done by previous researchers and explore more areas of research that are yet to be discovered. This study uses research engines, including Google Scholar, Science Direct, UTAR Library website, and others, to obtain secondary data such as journal articles and published books.

3.3 Sampling Design

3.3.1 Target Population

The target population is the people from whom the intervention will study and make findings. The ultimate purpose of the survey is to infer the whole set of units from the survey data. As a result, the target population determines the

units in which the survey findings are summarised (Millet, 2011). The demographic for this study was students at Universiti Tunku Abdul Rahman's Kampar Campus. According to the statistics, UTAR has 10,052 students with a campus at Kampar, Perak. (Wong, 2022) The respondents to the research questionnaire constituted the study's targeted population. The target respondents are asked to complete the surveys based on their initial thoughts and impressions of the e-hailing application.

3.3.2 Sampling Size

Sample size and sampling are critical topics in quantitative research that seeks to establish data-driven assumptions from research outcomes to the greater world. Sample size refers to the number of individuals or observations included in the research (Institute for Work and Health, 2008).

In this research, the researchers utilised the number of UTAR students enrolled in the Kampar campus, which is 10,052, to calculate the sample size (Wong, 2022). We used the G*Power software to determine sample size and power for different statistical techniques simply. G*Power also includes visual choices and impact magnitude tools (2021). Aside from that, this study contained four predictors and the effect size (f^2) will be 0.15, and the researchers utilised a 95% confidence level ($1-\beta$) with a margin of error of 5% (α). This is because the survey has not yet been conducted, a population proportion of 0.5 is a fair bet. Therefore, the sample size calculated from G*Power software was 129 respondents.

3.3.3 Sampling Process

In this study, questionnaires were generated in electronic forms to reach respondents, and the survey is done as an online survey using Google Forms. These surveys are disseminated to respondents via social media or a specific internet platform, such as WhatsApp, Facebook, Instagram, etc. This is the quickest and most convenient method of gathering data from participants. The respondents were then given the Google Form link to access and reply to the online survey. The data was collected from October 2022 to March 2023.

3.3.4 Sampling Technique

Probability sampling and non-probability sampling are the two main types of sampling techniques. In probability sampling, a sample is compiled using a random selection process. The probability is calculated for each element in the sample and is more significant than zero. The chances of inclusion in the sample are roughly the same for all population members. A sample frame is used to achieve this goal. Instead, probability sampling treats all population members as having an equal chance of being selected (Glen, 2022). In addition, the four main probability sampling methods—random, systematic, stratified, and cluster—are all relatively straightforward (Bhardwaj, 2019). Another type of sampling is non-probability sampling, in which no one in the population has a fixed chance of being selected (Bhardwaj, 2019). Some examples of non-probability sampling methods are quota sampling, purposive or judgemental sampling, snowball sampling, and convenience sampling (California State University, 2022).

In this study, the researchers used a non-probability sampling technique called convenience sampling. In order to accomplish the study objectives, convenience sampling meets specific logistical criteria, such as accessibility, being nearby, being available at a specific time, or being ready to participate (Etikan, Musa and Alkassim, 2016). Additionally, this strategy has several benefits, including convenience, real-time results, and direct communication with the target respondents (Bhardwaj, 2019).

3.4 Research Instruments

3.4.1 Questionnaire Design

For this investigation, a web-based questionnaire was used to assemble the data. We used convenience sampling to send out questionnaires to our chosen respondents. In order to collect data from a large population at little cost and in a short period, questionnaires are a helpful tool. Furthermore, using questionnaires, researchers may gauge a large sample's attitudes, beliefs, and views (McLeod, 2018). As a result, the goals of this research will inform the development of the questionnaire for this survey. The questionnaire is divided into two segments:

Section A: Socio-demographic profile

Section B: Questions developed from variables attributed to the e-hailing service and users' perception and satisfaction among UTAR undergraduate students.

According to Table 3.1, Section A is about several analyses of sociodemographic variables of personal attributes, including gender, faculty, and ethnic group. We also asked the respondents whether they are UTAR students in Kampar and their faculty. The next question asked the respondents whether they have their vehicle, have previous experience using the e-hailing service (Grab), and do they install the e-hailing mobile application (Grab). Besides, there are some questions related to personal experience of the e-hailing services, including the purpose of using e-hailing (Grab), frequency of using e-hailing (Grab) within one week, and weekly spending for e-hailing (Grab).

Section B will consist of questions about factors influencing users' perception and satisfaction with e-hailing services (Grab). This part explored the relationship between the e-hailing service and the factors that influence users using e-hailing service, including perceived price, driver behaviour, perceived safety and security, and perceived reliability. This part also involved the five-point Likert scale, which provided five possible answers to a statement or question and is used by respondents to express the extent to which they agree or disagree with a particular statement, allowing individuals to express how positively or negatively they feel about a topic (McLeod, 2019).

Table 3.1: Questionnaire Framework

Section	Variable	Measurement	Scale Technique
A	Are you a UTAR student in Kampar?	Nominal	-
	Gender	Nominal	

	Faculty	Nominal	-
	Do you have experience using the e-hailing service (Grab) previously?	Nominal	-
	Do you install the e-hailing mobile application (Grab)?	Nominal	-
	Purpose of using e-hailing (Grab).	Nominal	-
	Frequency of using e-hailing (Grab) within one week.	Ordinal	-
	Weekly spending for e-hailing (Grab).	Ordinal	-
B	Perceived price	Ordinal	5-point Likert Scale
	Driver behaviour	Ordinal	5-point Likert Scale
	Perceived safety and security	Ordinal	5-point Likert Scale
	Perceived reliability	Ordinal	5-point Likert Scale
	User satisfaction	Ordinal	5-point Likert Scale

3.4.2 Pilot Test

Good research, appropriate experimental design, and precise performance are necessary to acquire high-quality study findings. The pilot study is the initial phase in the entire research process and is often a tiny study that aids in planning and modifying the significant study (In, 2017). Pilot testing evaluates a research project's feasibility, duration, cost, risk, and performance (Hamilton, 2022). Before beginning a pilot study, researchers should thoroughly comprehend the aims and issues of the investigation and the experimental procedures. Pilot studies provide information for calculating sample sizes and evaluating all other parts of the significant research. They may decrease the

work of researchers and decrease the waste of research resources (Hamilton, 2022).

Pilot research should address the following factors: sample size and selection, study goals and criteria, testing measuring tools, data input and analysis, and the creation of flow charts (Enago Academy, 2022). The advantages of pilot testing include assisting in the identification of research topics as well as the development of study design and procedure. Furthermore, this study may be utilised to increase data dependability, persuade stakeholders of the skills and experience required for the research, and provide us with an idea of the accurate scale of the project (Enago Academy, 2022). Connelly (2008) states that a pilot study sample should be 10% of the sample expected for the larger parent study. In this research, a pilot test that enabled 13 participants to complete a questionnaire beforehand was built. To assess the usability of Google forms, questionnaires were delivered to them through various online channels, including email and social media. They provided input on how well the questionnaire is understood by them, how easy it is to use, how long it takes to complete, and other factors while the test is being developed. The questionnaire can be completed within 3-6 minutes, starting with the pilot test phase.

We also pretested our questions, including reviewing our questionnaire contents for the supervisor and two lecturers. Later, we modified the comments of the lecturers and participants and considered the input in order to raise the study's overall quality in terms of grammar, complexity, validity, and relevance.

Appendix A shows our original questionnaire questions, and the revised questionnaire is shown in Appendix B. Table 3.2 and appendix C indicated the result of the reliability analysis of the pilot test of this research.

Table 3.2: Reliability Analysis of Pilot Test

Description	Conbrach's Alpha	No. of Item
<i>DV</i> -User satisfaction	0.891	6
<i>1st IV</i> -Perceived price	0.870	6
<i>2nd IV</i> -Driver behaviour	0.759	6
<i>3rd IV</i> - Perceived safety and security	0.786	6
<i>4th IV</i> - Perceived reliability	0.728	6

3.5 Scale of Measurement

There are four different types of measurement scales, including ordinal, nominal, ratio, and interval. Measurements scale help categorize data obtained from questionnaires. The measurement scales used in this study were nominal, ordinal scales, and the five-point Likert technique.

3.5.1 Nominal Scale

A nominal scale is a name or characteristic with two or more categories and classifications, and the categories have no intrinsic order. In other words, nominal data has no existing natural ranking or order. Fundamentally, nominal scale variables are solely qualitative variables because nominal variables have no quantitative value. Therefore, the nominal scale is easy to use because it contains no numerical values. Examples of nominal data include variables that merely represent categories, such as gender (male, female), user behavioural pattern (extroverted, introverted, ambivert), marital status (single, divorced,

married), colour, race, occupation, etc. (Potdar, Pardawala, and Pai, 2017). For this study, the nominal measurement scales used in the questionnaire include are you a Kampar student, gender, faculty, do you have experience using the e-hailing service (Grab) previously, do you install the e-hailing service (Grab) application and purpose of using e-hailing (Grab).

3.5.2 Ordinal Scale

The ordinal scale is almost the same as the nominal scale. The critical difference between the two is that ordinal data, in contrast to nominal data, have some sort of order (Mishra, et al., 2018). So, the ordinal data will be classified according to a ranking system. Ordinal variables are not providing an amount of quantity or degree of quality. In this study, the ordinal scale used in the questionnaire is frequency of using the e-hailing service within one week, weekly spending on the e-hailing service, perceived price, driver behaviour, perceived safety and security, perceived reliability, and user satisfaction.

3.5.3 5- point Likert Scale

The 5-point Likert Scale is a kind of measurement scale that enables respondents to express their positive-to-negative strength of agreement regarding the stamen given. So, the 5-point Likert scale shows the degree of agreement with a specific statement and makes a judgement based on the respondent's attitude (Urcádiz Cázares and Monroy Ceseña, 2022). It consists of five scales used to determine an individual's degree of agreement regarding the questions in the questionnaire. In the Likert scale technique, there are five scales "strongly disagree," "disagree," "neutral," "agree," and "strongly agree," and the scales are ranked from 1 to 5, respectively.

3.6 Data Processing and Data Collection Tool

In research, data processing involves collecting and transforming an information source into meaningful and usable information. A researcher uses this procedure to turn original data into a more understandable format, either manually or with an automatic process. The researcher will then use this input to acquire discoveries, resolve issues, make changes, and provide better outcomes. Furthermore, collecting the data from the questionnaires should include a series of actions, such as coding, classification, tabulation, and so on (MBA, 2022). In this study, the collected data was encoded into data transformation, a statistical test that was used a Social Science Statistics Package (SPSS) software program.

The Social Science Statistics Program (SPSS) is a statistical data processing system software known as IBM SPSS Statistics. Social Science Research Software (SPSS) was initially used in the social sciences, although it has now expanded into other data-heavy fields. SPSS, for instance, sees extensive use in areas as diverse as healthcare, advertising, and instructional research. Statistics (both descriptive and inferential), numerical predictions, and identifying groups, among other uses, are all analysed. In addition, data management tools like processing, graphing, and e-mail marketing are also included in this application (Contributor, 2022). When it comes to usability, SPSS has several benefits. The most significant advantage of utilising this programme is its Graphical User Interface (GUI), which makes it simple to understand and use. In addition, it has extensive statistical capabilities. It

possesses the unique ability to generate factors from current data. In contrast, the first drawback is the program's professional licensing, which implies users must pay to access it. Even students will not be able to obtain the software for free, discounts are offered. However, there is a cost associated with them. Depending on the computer on which it is installed, the software may execute slowly (Rahman and Muktadir, 2021).

SPSS aids in creating an outline of the survey questionnaires and connecting replies. SPSS will thus be used to evaluate questionnaire responses:

1. Researchers assessed the characteristics of e-hailing users using demographic data distribution.
2. Researchers have implemented descriptive analysis using SPSS for all components to summarise the data collection.
3. Researchers have done the reliability analysis using SPSS to evaluate the ability of all elements.
4. To study all the hypotheses, the researchers absorbed the regression analysis using SPSS.

3.7 Data Analysis

Data analysis is used to clean, transform, and extract meaningful information from data and make data-driven choices (Johnson, 2022). Identifying, collecting, cleaning, preparing data, analysing data, and interpreting analysis findings are all part of the data analysis process (Coursera, 2022). Data analysis is vital because it allows decision-makers to base their judgments on solid evidence. For example, a bonus may save businesses from wasting money and

time on the incorrect plan. Also, it enables more accurate consumer targeting, which helps firms expand their reach and attract new clients. Many approaches and procedures may be used to analyse data, all of which rely on the specifics of the study's objectives. Descriptive statistics and reliability analysis were utilised to gather data for this investigation.

3.7.1 Descriptive Analysis

The purpose of descriptive statistics is to summarise the main aspects of a dataset. They provide a quick overview of the data collected. They offer the foundation for quantitative analysis of nearly any data, alongside elementary graphical analysis (Trochim, 2022). Descriptive statistics only explain what the data is or indicate to summarise and classify the features of a data collection. A data set is a compilation of information gleaned from a specific population via surveys or direct observation. After data collection is complete in a quantitative study, the first stage in statistical analysis is to characterize the answers, including averaging out the value of a variable (like age) or describing the connection between two variables (such as age and creativity) (Bhandari, 2020).

3.7.2 Reliability Analysis

Examining the measuring scale's properties and the items that comprise the scale is possible using reliability analysis. The reliability analysis software computes specific widely used scale reliability measures and reports on the connection between each item on the scale. Inter-rater reliability estimates may be calculated using correlation coefficients. Reliable data is the fundamental

criterion for addressing research questions. To evaluate if data sets gathered by various observers or at different periods vary, it is reasonable to presume that they are equally valid for analysis (Jansen, et al.,2003).

Cronbach's Alpha was utilised as a reliability analysis tool because of its efficacy in this investigation. We may think of this coefficient as the dependability index of the scale; it's called the internal consistency measure. We will use Cronbach's Alpha to know how reliable a set of scales. Cronbach's Alpha is determined by comparing the variance of all item scores on a scale to the correlation between the overall score and each observation's score on the scale (Goforth, 2015). Using Cronbach's Alpha technique, a value between 0-1 may be determined. In the same vein, findings are considered reliable when the coefficient Alpha value is 0.70 or above, whereas values below 0.6 are avoided since they might lead to unexpected difficulties (Habidin, et al., 2015). Table 3.2 indicates the rule of thumb for the results of Cronbach alpha analysis.

Table 3.3: Rule of Thumb of Cronbach Alpha Analysis

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Source: Habidin, et al., 2015.

3.7.3 Inferential Analysis

According to Ling, et al. (2022), inferential analysis is used to make an overall conclusion about the population characteristics based on the information obtained from the population sample. The purpose of using inferential statistics is that it helps researchers to generalize about the population based on the random sample collected. Inferential analysis is a technique that researchers can use to analyse data and fully comprehend the relationship between two variables. However, the problem with using inference analysis is that researchers may get inconclusive results because it is impossible to sample the entire population. In this research, the Pearson Correlation Coefficient (PCC) and Multiple Linear Regression (MLR) in the inferential analyses will be used to study the correlation between dependent and independent variables.

3.7.3.1 Pearson Correlation Coefficient Analysis

In mathematics and statistics, a correlation is a tendency for two variables to vary, relate, or occur together in a way that is not coincidental (Akoglu, 2018). The Pearson correlation coefficient weighs the connection between two normally distributed continuous variables, which is closely related to the linear correlation coefficient (Xu and Deng, 2017). However, Pearson correlation coefficient analysis is only suitable for measuring correlations between attributes of a normal distribution, not for nonparametric measures. According to Akoglu (2018), three types of descriptors, "weak," "moderate," and "strong," can be used to explain the relationship of the correlation coefficients. As shown in Table 3.3 and Appendix D, numerical quantification represents the correlation value between two variables. The sign of positive 1 indicates a

perfect correlation (positive linear correlation), while negative 1 shows an inverse correlation (negative linear correlation). Zero correlation means no linear correlation exists between the two variables.

Table 3.4: Interpretation of Correlation Coefficient Value

	Correlation Coefficient Value	Relationship
1)	Negative 1	Perfect downward linear relationship (Negative linear correlation)
2)	Negative 0.70	Strong downward linear relationship (Negative linear correlation)
3)	Negative 0.50	Moderate downward relationship (Negative linear correlation)
4)	Negative 0.30	Weak downward linear relationship (Negative linear correlation)
5)	0	No linear relationship
6)	Positive 0.30	Weak upward linear relationship (Positive linear correlation)
7)	Positive 0.50	Moderate upward relationship (Positive linear correlation)
8)	Positive 0.70	Strong upward linear relationship (Positive linear correlation)
9)	Positive 1	Perfect upward linear relationship (Positive linear correlation)

Source: Deborah J. Rumsey, 2021

3.7.3.2 Multiple Linear Regression Analysis

A statistical method called Multiple linear regression (MLR) is used to forecast the results of a variable between the dependent and independent variables. The philosophy of the model is to demonstrate that variable X is the single predictor used to model the response variable Y (Bevan, 2022). However, more than one explanatory variable can affect the response variables. So, multiple linear

regression can determine how strong the relationship is based on the explanatory variables (independent) and response variables (dependent) (Ciulla and D'Amico, 2019). In addition, the analysis can help to assess how one or more predictor factors influence the criterion value of one another. Also, it helps the researcher to spot anomalies or outliers. In contrast, the limitation of the multiple linear regression analysis is that the model's use typically depends on the data utilised.

The multiple linear regression equation is shown below:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4$$

Y = User satisfaction with the e-hailing service

X1 = Perceived Price

X2 = Driver behaviour

X3 = Perceived safety and security

X4 = Perceived reliability

3.8 Chapter Summary

In summary, this chapter described the study methods and the research design. The sampling strategy, questionnaire formulation, research instrument, and data analysis were all depicted. To collect data, quantitative methods such as questionnaire distribution are utilised. Finally, the information gathered through surveys will be analysed, and the results will be used to carry out the study findings.

CHAPTER 4

RESEARCH RESULTS

4.0 Introduction

The purpose of Chapter 4 was to analyze and interpret the information collected from the distribution of survey responses. Description analysis, reliability analysis, and inferential analysis were used to be further discussed in this chapter. Besides that, the SPSS computer software was also used to analyze the data in the questionnaire.

4.1 Descriptive Analysis

A total of 150 questionnaires were issued to Kampar Perak's UTAR students, and only 129 respondents completed the questionnaire. The analysis used a pie chart to display the demographic statistics collected from the respondents. The socio-demographic profile of the respondent is gathered from Section A of the survey. There were eight questions in the demographic, including the UTAR students in Kampar, gender, faculty, the experience of using e-hailing, installation of e-hailing mobile application, the purpose of using the e-hailing, frequency of using the e-hailing within one week and weekly spending for e-hailing.

4.1.1 Are you a UTAR student in Kampar?

Table 4.1: Number of UTAR Student

UTAR student in Kampar	Frequency	Percentage (%)
Yes	129	100
No	0	0

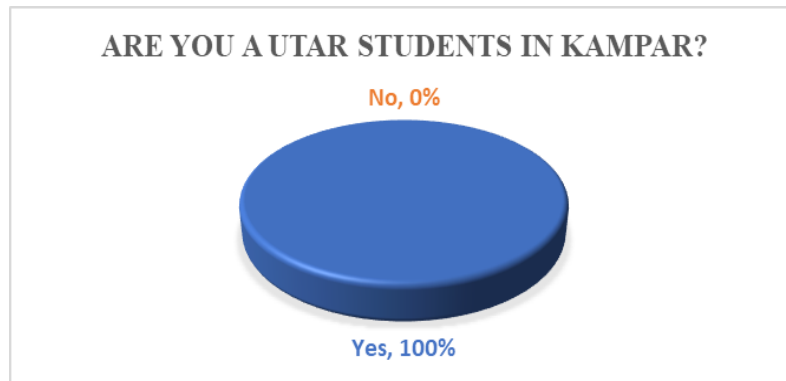


Figure 4.1: Percentage of UTAR student respondent

Table 4.1 and figure 4.1 shows that 100 % of the respondents are students studying in Kampar Perak.

4.1.2 Gender

Table 4.2: Gender

Gender	Frequency	Percentage (%)
Female	79	61.2
Male	50	38.8

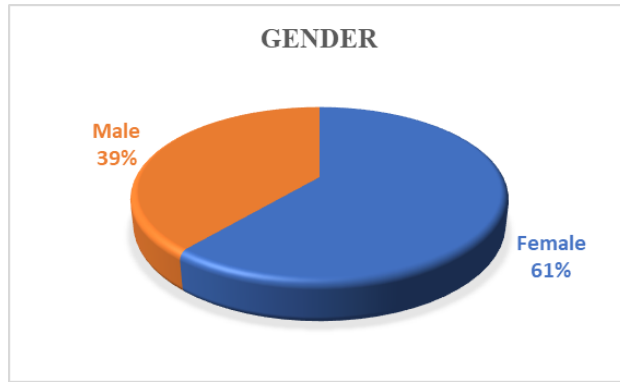


Figure 4.2: Percentage of Gender

Table 4.2 and figure 4.2 show the number of genders who participate in the questionnaire. Among the 129 respondents, female respondents were higher than male respondents, accounting for 61.25% with 79 respondents, while males accounted for 38.3% with 50 respondents.

4.1.3 Faculty

Table 4.3: Faculty

Faculty	Frequency	Percentage (%)
FSc	38	29.5
FBF	32	24.8
FEGT	15	11.6
FICT	15	11.6
ICS	15	11.6
FAS	14	10.9

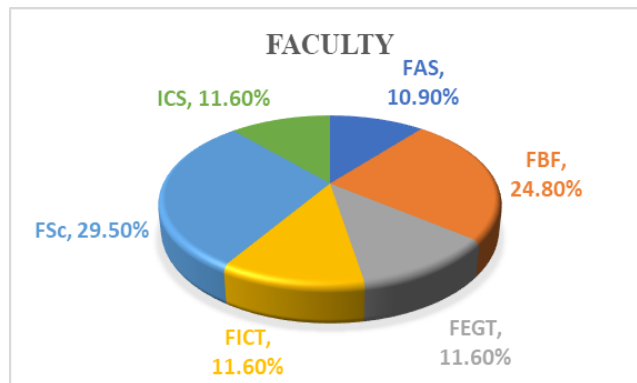


Figure 4.3: Percentage of Faculty

Table 4.3 and figure 4.3 show that the respondents are mostly from the Faculty of Science (FSC), which accounted for 29.5%, with 38 respondents. The following respondents from the Faculty of Business and Finance (FBF) consist of 24.8%, with 32 respondents. Next, the percentage of the Faculty of Information and Communication Technology (FICT), Faculty of Engineering and Green Technology (FEGT) and Information and Computer Sciences (ICS) represent equal, which is 11.6% with 15 respondents respectively. The least frequency of the respondents is Faculty of Arts and Social Science (FAS), consisting of 10.9% with 14 respondents.

4.1.4 Do you have experience using the e-hailing service (Grab) previously?

Table 4.4: Experienced E-hailing Service

Experience in using e-haling	Frequency	Percentage (%)
Yes	129	100
No	0	0

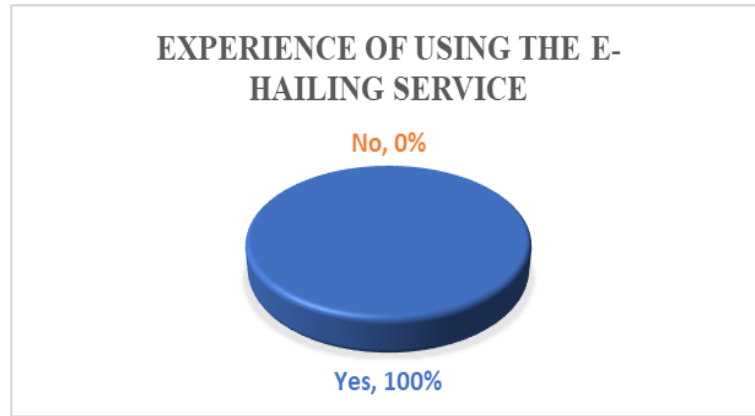


Figure 4.4: Percentage of Respondents Experienced the E-hailing Service

The pie chart in figure 4.4 shows that 100% of respondents have experience using the e-hailing service. It means that all 129 respondents have used Grab services previously.

4.1.5 Do you install the e-hailing mobile application (Grab)?

Table 4.5: E-hailing Mobile Application

Installation of e-hailing mobile application	Frequency	Percentage (%)
Yes	129	100
No	0	0

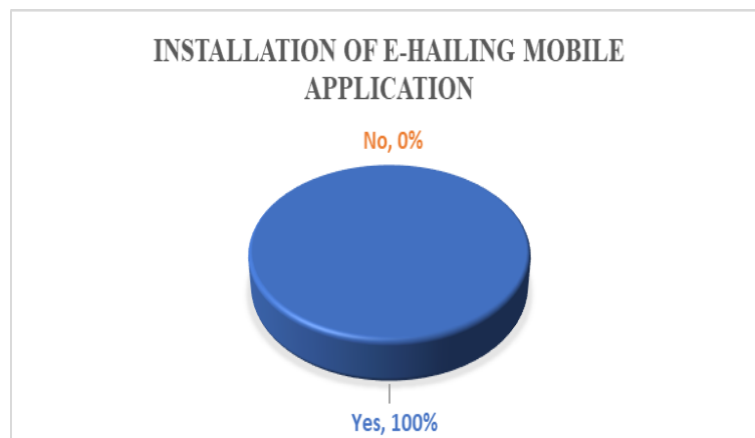


Figure 4.5: Percentage of E-hailing Mobile Application

Table 4.5 and figure 4.5 shows that all 129 UTAR respondents have installed e-hailing applications such as Grab services on their mobile phones.

4.1.6 The primary purpose of using e-hailing (Grab).

Table 4.6: Intention of Using E-hailing

Purpose of using e-hailing	Frequency	Percentage (%)
Go to grocery	61	47.3
Go to university	49	38
Others	19	14.7

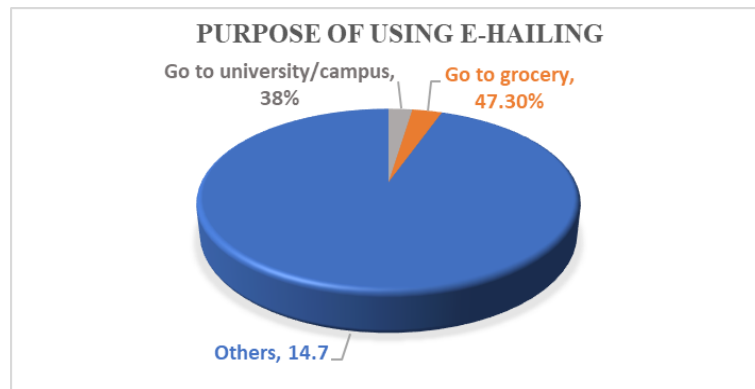


Figure 4.6: Percentage of the Intention of Using E-hailing

In table 4.6 and figure 4.6, the results show that the primary purpose of the majority of people using the e-hailing service is to go to the grocery store, and the percentage accounted for 47.3%, with 61 respondents. Travel to university is the following purpose of the respondents using the e-hailing service, and the portion is around 38% with 49 respondents. The remaining 14.7% of the respondents use e-hailing services for other purposes, such as ordering grab food, going to KTM, returning home, etc.

4.1.7 Frequency of using e-hailing (Grab) within one week.

Table 4.7: Frequency of Using the E-hailing

Frequency of using e-hailing per week	Frequency	Percentage (%)
Less than three times	103	79.8
Four to six times	19	14.7
More than six times	7	5.5

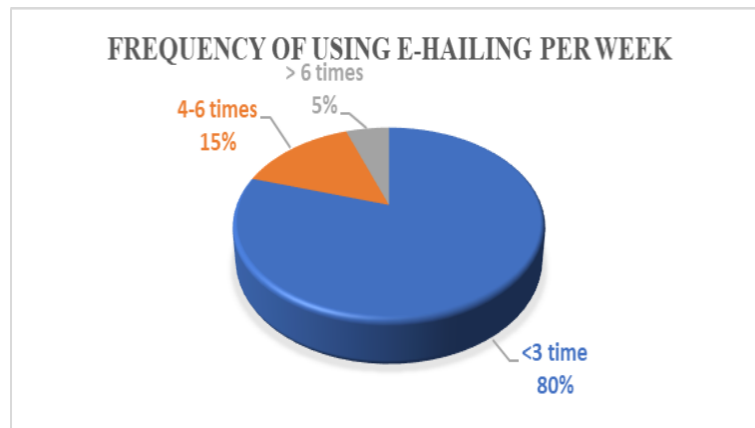


Figure 4.7: Percentage of Frequency of Using the E-hailing

Regarding the frequency of people using the e-hailing service per week, 79.8% of respondents show that they use the e-hailing service less than three times a week, followed by 14.7% of the respondents using the e-hailing service 4 to 6 times per week. The remaining 5.4% of people use more than six services a week.

4.1.8 Weekly Spending for E-hailing (Grab).

Table 4.8: Weekly Spending on E-hailing

Week spending for e-hailing	Frequency	Percentage (%)
RM10 to RM30	57	44.2
Less than RM10	54	41.9
RM30 to RM50	13	10

More than RM50	5	3.9
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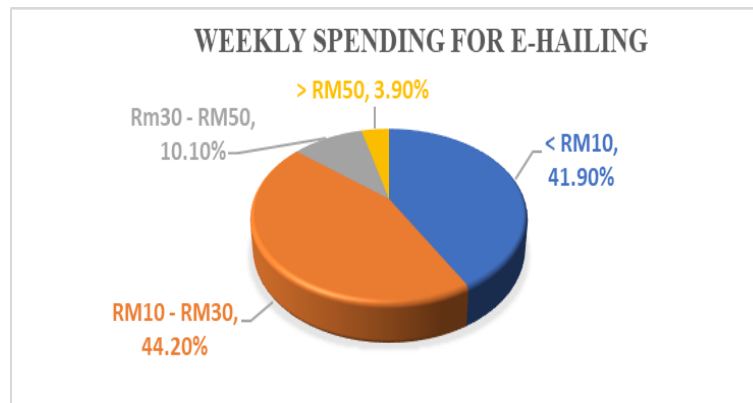


Figure 4.8: Percentage of Weekly Spending

Table 4.8 and figure 4.8 show the respondent's weekly spending on e-hailing services. The result shows that 44.2% of people spend between RM10 and RM 30 for the weekly e-hailing service. The people who spent less than RM10 accounted for 41.9%, followed by the 13% who would spend between RM30 and RM50 for the service. Only 3.9% of people will spend more than RM50 for weekly e-hailing services.

4.2 Descriptive Analysis of Major Variables

4.2.1 Perceived Price

Table 4.9: Data Frequency and Percentage of Perceived Price

	Perceived Price	Frequency						Cumulative Frequency	Percentage (%)
1	Strongly Disagree	6	6	7	6	6	6	37	4.78
2	Disagree	2	5	15	5	5	12	44	5.68
3	Neutral	5	3	10	2	16	4	40	5.17
4	Agree	48	48	53	64	59	43	315	40.70
5	Strongly Agree	68	67	44	52	43	64	338	43.67

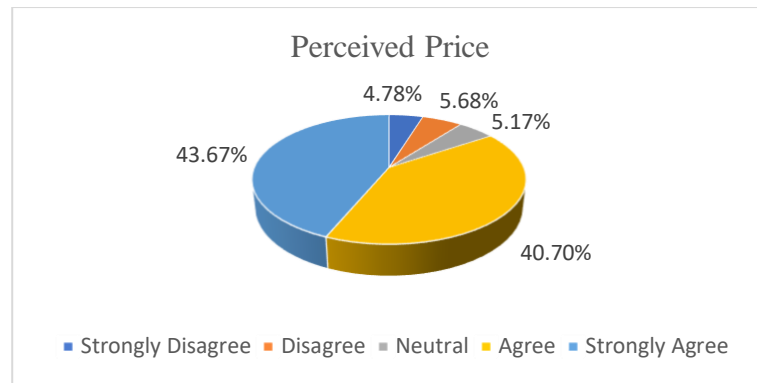


Figure 4.9: Perceived Price

The statistic specifies the independent variables for the perceived price. Pie chart 4.9 shows that 4.78% of respondents strongly disagree that perceived price will significantly impact user satisfaction, 5.68 % disagree, 5.17% remain neutral, 40.70% agree, and 43.67 of respondents strongly agree with this statement. Table 4.9 shows that the higher independent variable is strongly agreed (338), followed by agree (315), disagree (44), neutral (40) and strongly disagree (37).

4.2.2 Driver Behaviour

Table 4.10: Data Frequency and Percentage of Driver Behaviour

	Driver Behaviour	Frequency						Cumulative Frequency	Percentage (%)
1	Strongly Disagree	5	4	5	8	4	4	30	3.88
2	Disagree	2	10	12	38	6	10	78	10.08
3	Neutral	3	3	4	16	6	12	44	5.68
4	Agree	41	38	58	36	53	49	275	35.53
5	Strongly Agree	78	74	50	31	60	54	347	44.83

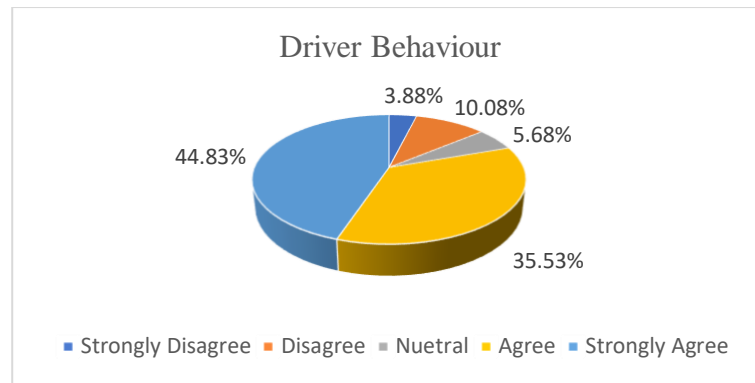


Figure 4.10: Driver Behaviour

The statistic specifies the independent variables for driver behaviour. Pie chart 4.10 shows that 3.88% of respondents strongly disagree that perceived price will significantly impact user satisfaction, 10.08 % disagree, 5.68% remain neutral, 35.53% agree, and 44.83% of respondents strongly agree with this statement. Table 4.10 shows that the higher independent variable is strongly agreed (347), followed by agree (275), disagree (78), neutral (44) and strongly disagree (30).

4.2.3 Perceived Safety and Security

Table 4.11: Data Frequency and Percentage of Perceived Safety and Security

	Perceived Safety and Security	Frequency						Cumulative Frequency	Percentage (%)
1	Strongly Disagree	5	5	5	7	6	6	34	4.39
2	Disagree	5	8	13	14	12	8	60	7.75
3	Neutral	5	10	10	5	9	7	46	5.94
4	Agree	56	63	58	60	64	60	361	46.64
5	Strongly Agree	58	43	43	43	38	48	273	35.27

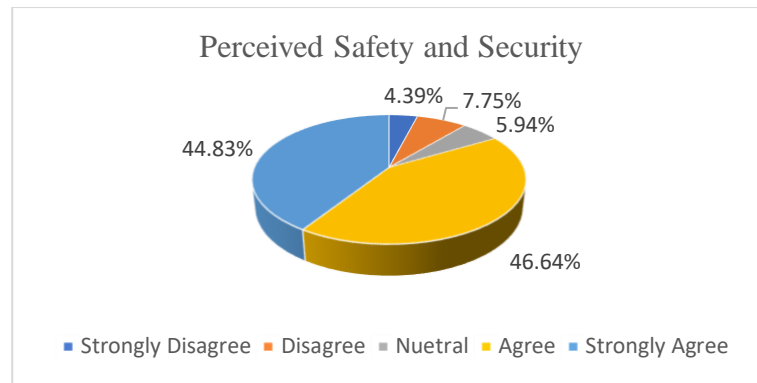


Figure 4.11: Perceived Safety and Security

The statistic specifies the independent variables for perceived safety and security. Pie chart 4.11 shows that 4.39% of respondents strongly disagree that perceived price will significantly impact user satisfaction, 7.75% disagree, 5.94% remain neutral, 46.64% agree, and 44.83% of respondents strongly agree with this statement. Table 4.11 shows that the higher independent variable is agreed (347), followed by strongly agree (273), disagree (60), neutral (46) and strongly disagree (34).

4.2.4 Perceived Reliability

Table 4.12: Data Frequency and Percentage of Perceived Reliability

	Perceived Reliability	Frequency						Cumulative Frequency	Percentage (%)
		1	2	3	4	5	6		
1	Strongly Disagree	4	4	4	7	3	5	27	3.49
2	Disagree	18	18	17	23	21	14	111	14.34
3	Neutral	8	11	12	11	4	12	58	7.49
4	Agree	53	64	61	53	66	53	350	45.22
5	Strongly Agree	46	32	35	35	35	45	228	29.46

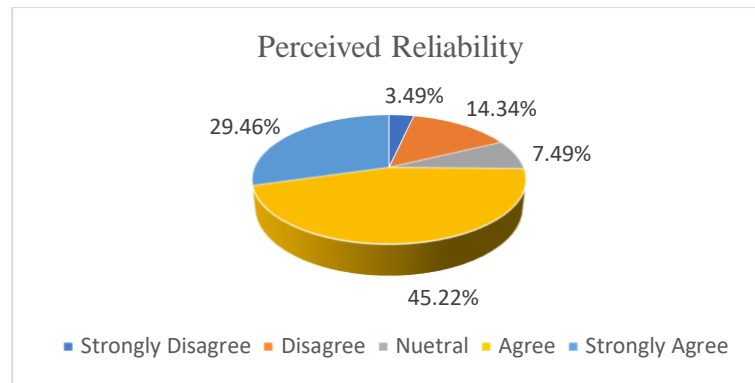


Figure 4.12: Perceived Reliability

The statistic specifies the independent variables for the perceived reliability. Pie chart 4.12 shows that 3.49% of respondents strongly disagree that perceived price will significantly impact user satisfaction, 14.34% disagree, 7.49% remain neutral, 45.22% agree, and 29.46% of respondents disagree with this statement. Table 4.12 shows that the higher independent variable is agreed (350), followed by strongly agree (228), disagree (111), neutral (58) and strongly disagree (27).

4.2.5 User Satisfaction

Table 4.13: Data Frequency and Percentage of User Satisfaction

	User Satisfaction	Frequency						Cumulative Frequency	Percentage (%)
1	Strongly Disagree	3	3	3	4	4	3	20	2.58
2	Disagree	8	11	13	13	13	11	69	8.91
3	Neutral	10	9	7	4	3	2	35	4.52
4	Agree	60	54	55	54	54	57	334	43.15
5	Strongly Agree	48	52	51	54	55	56	316	40.83

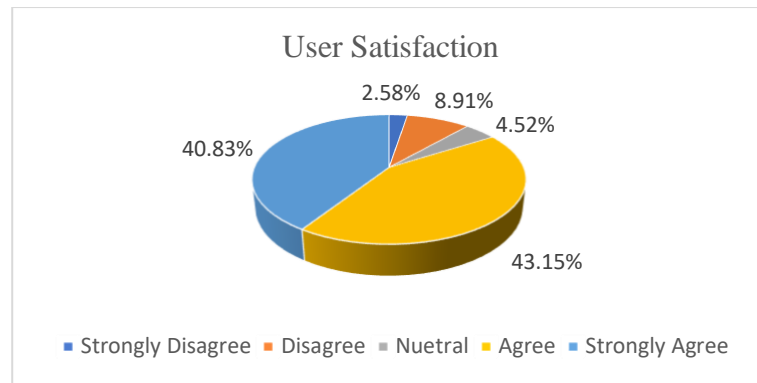


Figure 4.13: User Satisfaction

The statistic specifies the dependent variables for the dependent variable. Pie chart 4.13 shows that 2.58% of respondents strongly disagree that perceived price will significantly impact user satisfaction, 8.91% disagree, 4.52% remain neutral, 43.15% agree, and 40.83% of respondents strongly agree with this statement. Table 4.13 shows that the higher dependent variable is agreed (334), followed by strongly agree (316), disagree (69), neutral (35) and strongly disagree (20).

4.2.6 Mean and Standard Deviation

Table 4.14: Descriptive Statistics for Variables

	Variables	Sample size (N)	Mean	Standard Deviation
IV1	Perceived Price	129	4.1384	0.0378
IV2	Driver Behaviour	129	4.0736	0.0420
IV3	Perceived Safety and Security	129	4.0065	0.0380
IV4	Perceived Reliability	129	3.8282	0.0399
DV1	User Satisfaction	129	4.1072	0.0365

Table 4.14 shows the descriptive statistics for the dependent and independent variables. The independent variable of perceived price has the highest mean value among the four independent variables, with 4.1384. It means that most UTAR students agree that the perceived price will significantly impact their satisfaction towards the e-hailing service in Kampar, Perak. The mean value of the independent variables, which are driver behaviour, perceived safety and security and perceived reliability, is 4.0736, 4.0065, and 3.8282, respectively. Lastly, the mean value for the dependent variable of user satisfaction is 4.1072.

Besides that, the independent variable of driver behaviour shown in Table 4.14 has the largest standard deviation value, with 0.0420. The larger the standard deviation value means the higher the volatility of the sample. The second largest standard deviation value is the perceived reliability, with 0.0399. Then followed by the remaining independent variables are perceived safety and security and perceived price, with the standard deviation value of 0.0380 and 0.0378, respectively. The dependent variable of user satisfaction has the least standard deviation value, with 0.0365.

4.3 Reliability Analysis

Cronbach's Alpha was created in response to the need to objectively evaluate internal consistency dependability in research (Adeniran, 2019). Cronbach's Alpha is often stated as a number ranging from 0 to 1. A value of 0 indicates that the measurements are inconsistent, whereas a value of 1 shows that the measurements are perfectly consistent. Depending on the kind of investigation, the permissible range is between 0.809 and 0.90 or higher. Following Table 4.15

and appendix E, the total reliability analysis range of Conbrach's Alpha area is 0.809-0.891 for both dependent and independent variables, as evidenced by the data. All questions asked for each variable are “good.”

Table 4.15: Reliability Analysis

Description	Conbrach’s Alpha	No. of Item
<i>DV</i> -User satisfaction	0.891	6
<i>1st IV</i> -Perceived price	0.890	6
<i>2nd IV</i> -Driver behaviour	0.809	6
<i>3rd IV</i> - Perceived safety and security	0.890	6
<i>4th IV</i> - Perceived reliability	0.841	6

4.4 Inferential Analysis

Inferential statistical analysis is an area of statistics that employs analytical methods to generate findings by analyzing random samples and seeking to generalize regarding a particular population (Cue Math, 2023). The primary analysis approaches that the research used was Pearson Correlation Analysis and Multiple Linear Regression Analysis.

4.4.1 Pearson Correlation Coefficient Analysis

Pearson Correlation Coefficient Analysis (PCC) is a form of correlation statistic that shows the connection between two factors evaluated on the same proportion or interval scale (Kenton, 2022). The interpretation of correlation coefficient value has shown in Table 3.3 above.

Table 4.16: Pearson Correlation Coefficient Analysis Result

		Correlations				
		User Satisfaction	Perceived Price	Driver Behaviour	Perceived Safety and Security	Perceived Reliability
User Satisfaction	Pearson Correlation	1	.716**	.745**	.621**	.735**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	129	129	129	129	129
Perceived Price	Pearson Correlation	.716**	1	.850**	.805**	.672**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	129	129	129	129	129
Driver Behaviour	Pearson Correlation	.745**	.850**	1	.777**	.697**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	129	129	129	129	129
Perceived Safety and Security	Pearson Correlation	.621**	.805**	.777**	1	.732**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	129	129	129	129	129
Perceived Reliability	Pearson Correlation	.735**	.672**	.697**	.732**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	129	129	129	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

According to Table 4.16, the link between perceived price and user satisfaction was $r = 0.716$, while the association between driver behaviour and user satisfaction was $r = 0.745$. Furthermore, the connection between perceived

safety and security and user satisfaction is $r = 0.621$, while the association between perceived reliability and user satisfaction is $r = 0.735$.

As a result, the correlation between the independent variables, including perceived price, driver behaviour, and perceived reliability, and the dependent variable, user satisfaction with the e-hailing service, was positive and strong, with correlation values greater than $+0.70$ but less than exactly $+1$. Furthermore, as their association values were greater than $+0.50$ but less than $+0.70$, the independent variables, perceived safety and security, had a favourable moderate upward linear connection with the dependent variable, customer happiness with e-hailing services. Furthermore, at the 95% confidence range, all P-values were less than the critical threshold of 0.01 . As a result, every independent variable had a statistically significant association with every dependent variable.

4.4.2 Multiple Linear Regression Analysis

The multiple linear regression (MLR), also known as multiple regression, is a statistical method that used to describe the linear connection between causal (independent) factors and answer (dependent) variables (Hayes, 2022).

4.4.2.1 Model Summary

Table 4.17: Model Summary of Multiple Linear Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.817 ^a	.667	.656	2.88413

a. Predictors: (Constant), Perceived Price, Driver Behaviour, Perceived Safety and Security, Perceived Reliability

b. Dependent Variable: User Satisfaction

The degree of the relationship among the hypothesis and the dependent variable is shown in the model summary chart (IBM Corporation, 2016). According to table 4.17 of the model summary, the R-value is 0.817. This value indicates that there is a strong relationship between the independent variable (perceived price, driver behaviour, perceived safety and security, perceived reliability) with the dependent variable (user satisfaction). Besides, the R square is 0.667. The regression model, which included perceived price, driver behaviour, perceived safety and security, and perceived reliability, described 66.7% of the variation in the dependent variable, user satisfaction with the e-hailing service.

4.4.2.2 ANOVA

Table 4.18: ANOVA of Multiple Linear Regression Analysis

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2066.140	4	516.535	62.097	<.001 ^b
	Residual	1031.457	124	8.318		
	Total	3097.597	128			

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), Perceived Price, Driver Behaviour, Perceived Safety and Security, Perceived Reliability

The F-value in the ANOVA table above was 62.097, while the P-value was less than 0.001, which was less than 0.050. According to the findings, the independent factors of perceived price, driver behaviour, perceived safety and security, and perceived reliability were dependable indicators of the dependent variable, user satisfaction. As a result, the regression model was statistically significant in connection to the dependent variable.

4.4.2.3 Multiple Liner Regression Analysis Coefficients

Table 4.19: Coefficient Table

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.206	1.427		2.246	.026
Perceived Price	.269	.106	.278	2.541	.012
Drive Behaviour	.385	.114	.357	3.375	<.001
Perceived Safety and Security	-.207	.095	-.214	-2.165	.032
Perceived Reliability	.450	.079	.455	5.704	<.001

a. Dependent Variable: User Satisfaction

Based on the table of coefficient above, the multiple linear regression formula is,

$$Y = 0.3206 + 0.269x_1 + 0.385x_2 + (-0.207)x_3 + 0.450x_4$$

Where Y indicated the dependent variable, user satisfaction, and x indicated the independent variables: x_1 indicated the perceived price, x_2 indicated driver behaviour, x_3 indicated perceived safety and security, and x_4 represented

perceived reliability. The equation shows that user satisfaction with e-hailing services is related to all four independent variables.

According to the calculation, when x_1 (perceived price) rises by one unit, Y increases by 0.269 units. Besides, when x_2 (driver behaviour) grows by one unit, Y increases by 0.385 units. Moreover, when x_3 (perceived safety and security) rises by one unit, Y decreases by 0.207 units. When x_4 (perceived reliability) rises by one unit, Y increases by 0.450 units. Furthermore, this correlation chart demonstrates that all significant values are less than 0.050, indicating that all independent factors favourably impact the dependent variables and are statistically significant.

4.5 Hypotheses Testing

Table 4.20: Summary of Hypothesis Testing

Hypothesis Testing	Status
H1: Perceived price has a positive relationship with the user satisfaction level of using e-hailing applications.	Supported
H2: Driver behaviour has a positive relationship with the user satisfaction level of using e-hailing applications.	Supported
H3: Perceived safety and security has a positive relationship with the user satisfaction level of using e-hailing applications.	Supported
H4: Perceived reliability has a positive relationship with the user satisfaction level of using e-hailing applications.	Supported

4.6 Chapter Summary

In a nutshell, all the obtained data were analysed using SPSS, and the findings are shown in the tables and figures, demonstrating the relevance of each

independent variable. It also demonstrated the presence of strong and substantial correlations between independent and dependent variables. Moreover, the findings in this chapter showed that user satisfaction level of using e-hailing applications among Universiti Tunku Abdul Rahman undergraduate students has a positive association with perceived price, driver behaviour, perceived safety and security, and perceived reliability.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.0 Introduction

Chapter 5 highlighted the significant discussion based on the result analysis in Chapter 4. This chapter further discussed the finding and outcomes of each variable according to the research question and objective. Moreover, the hypotheses stated in Chapter 1 also be endorsed based on the results. Furthermore, the implications of the study, limitations of the study, the recommendation for improvement, and the direction for future research had been covered in this chapter as well. Lastly, a short conclusion was given.

5.1 Recapitulation of Research

E-hailing service refers to a private vehicle where passengers can request the driver pick them up or leave them off. It permits drivers to identify people ready to journey and travelers to locate accessible cars in the selected area. Furthermore, user satisfaction is the degree to which a service or product fulfils the standards of its consumers. To enhance their services and remain ahead of the competition, e-hailing firms should conduct extensive studies on customer experiences and satisfaction.

In UTAR Kampar, the primary approach for most UTAR students to school is bicycles, e-bikes, scooters, or e-hailing services. However, there have been some issues that UTAR students faced with e-hailing service, such as driver shortages, high fares, and so on. Therefore, the researchers investigated

users' perception and satisfaction with e-hailing services with the independent variables, perceived price, driver behaviour, perceived safety and security, and perceived reliability, and analyzed how each factor influences users' perception and satisfaction on e-hailing services in UTAR Kampar, Perak in this research.

The conceptual framework that performed and showed the research questions is shown below:

RQ1: Does the factor of the perceived price affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?

RQ2: Does the factor of driver behaviour affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?

RQ3: Does the factor of perceived safety and security affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?

RQ4: Does the factor of perceived reliability affect users' perception and satisfaction among undergraduate students of Universiti Tunku Abdul Rahman?

Four research hypotheses were tested in order to solve the research question. In addition, this study effort used a quantitative method and disseminated a questionnaire survey to subjects at UTAR Kampar in Perak. A total of 129 answers were gathered, with all data being analysed using SPSS software. According to the findings, there was a statistically significant connection between all the independent factors, including perceived price,

driver behaviour, perceived safety and security, and perceived reliability, and the dependent variable, user satisfaction with e-hailing services.

5.2 Discussion of Major Findings

5.2.1 Perceived Price

According to the result of Pearson Correlation Analysis in Chapter 4, the correlation value of the variable is 0.716, which shows a positive and strong correlation linear relationship. It also means that perceived price significantly impacts the users' perception and satisfaction with the e-hailing services.

Perceived price has been proven to be a factor most customers consider before purchasing an e-hailing service (Ann and Shafi, 2022). When the price is modest or reasonable, the students are more likely to accept the service; on the contrary, if the price is too high, it may impair their willingness to ride or may even cause them to reconsider choosing an alternative method of transportation. Therefore, users are more likely to make a purchase or reserve a service when the perceived level of price attractiveness is high. (Sadam, et al., 2022). For instance, Grab is becoming ever more expensive due to the increased demand for the service at a particular time. The price will skyrocket, especially during the peak hours of 5 pm to 8 pm when students need to go for dinner or go home. When prices are high, students get dissatisfied with e-hailing services because they need spend more money than usual for the service. Thus, the price range will significantly affect users' perception and satisfaction when using the e-hailing service.

Besides that, students can view prices before deciding on purchasing the services. For instance, the grab service will display the price range of the service, and students can consider whether the price offered is acceptable and thus have the option to accept or reject the service. The high level of price transparency contributes to increased user satisfaction with e-hailing services. In addition, convenience may also have a significant impact on user satisfaction. The fact that there are more payment choices than with traditional taxi services would make it more convenient for students. Students benefit from this since they don't have to carry as much cash when they go out because they can use Grab pay e-wallets instead of cash to pay for services. In addition to this, the e-hailing service is also cheaper than traditional taxi services.

Based on the discussion above, it is evident that perceived price has a positive impact on user satisfaction in the e-hailing industry. Therefore, the research question RQ1 was answered, and hypothesis H1 was supported.

5.2.2 Driver Behaviour

Based on the Pearson Correlation Analysis, the outcome shows that the correlation value of the independent variables is 0.745. It indicates that the factor of driver behaviour has a strong positive linear relationship with the users' perception and satisfaction with the e-hailing services.

It turns out that UTAR student satisfaction with e-hailing services is significantly impacted by driver behaviour in terms of professional, courteous, patient, and friendly (Adam, et al., 2020). Good driver behaviour is considered

one of the factors to measure the quality of service. A well-behaved driver indicates that the user will feel happy because the excellent ride experience is perceived, thus raising their satisfaction. For example, driver behaviour can be determined through student ratings. Students may give the driver a higher rating or write a positive review if they are pleased with the driver's attitude. However, if the user were dissatisfied with the riding experience, they tend to give a lower rate to drivers. Besides, the driver's emotions will also affect the user's satisfaction when experiencing e-hailing services. To illustrate, some drivers may experience fatigue and difficulty focusing when driving as a result of lengthy workdays. This behaviour will endanger the user's safety which will make them unhappy.

According to the author, a driver should always be friendly, courteous, knowledgeable, trustworthy, and skilled (Mohamad, 2021). A professional driver is reflected in whether the driver obeys the traffic rules and does not exceed the speed limit. It is crucial because an experienced driver can make users feel at ease and comfortable with the service they are using and leave a favourable impression on the driver's behaviour. In addition, user satisfaction will also depend on the degree of trust in the driver. For example, drivers using navigation apps like Google Maps or Waze can give students peace of mind knowing that the driver follows the route provided and does not end up in the wrong location. Therefore, trustworthy and skilled drivers directly impact increasing customer satisfaction.

Based on the discussion above, it is evident that driver behaviour positively impacts user satisfaction in the e-hailing industry. Therefore, the research question RQ2 was answered, and hypothesis H2 was supported.

5.2.3 Perceived Safety and Security

Based on Pearson's correlation analysis, showed the result of variable correlation value was 0.621. Therefore, it indicated the factor of perceived safety and security had a moderate upward (positive) linear relationship with the satisfaction of e-hailing.

Perceived safety and security were sensitive elements for public transportation riders. Passengers in a ride-sharing service are worried about their safety. While utilizing e-hailing services, they perceive safety concerns as concerns about driver and passenger privacy, car quality, and insurance coverage, which may influence their desire to ride. Firstly, users are concerned about drivers speeding or disregarding traffic laws, putting their safety in danger. Passengers may be worried about the vehicle's safety condition, such as if there is safety equipment, the vehicle's state of upkeep, and so on. Moreover, when customers encounter a strange driver using an e-hailing service, most agree to report the driver's information, license plate number, and location to trusted persons (family/friends). Passengers feel safer and more at ease to some degree. One safety problem that e-hailing businesses should consider is prior safety issues (abuse/sexual harassment), which would restrict passenger usage of e-hailing services. As a result, rigorous and stringent screening of respectable and dependable drivers is required, while comprehensive driver training is the

company's main focus (Teo, Mustaffa and Rozi, 2018). Moreover, commercial insurance for passengers and drivers is critical in e-hailing networks. Governmental authorities such as the Overland Public Transportation Commission must undertake effective regulation and enforcement to assure passenger safety (Teo, Mustaffa and Rozi, 2018).

Based on the discussion above, it was concluded that Universiti Tunku Abdul Rahman undergraduate students' perceptions of perceived safety and security had a favourable impact on their level of user satisfaction while using e-hailing services. The hypothesis, H3, was validated, and the research question, RQ3, was addressed.

5.2.4 Perceived Reliability

Pearson's correlation analysis showed that the result of the variable correlation value was 0.735. Therefore, it indicated the perceived reliability factor had a solid upward (positive) linear relationship with the satisfaction of e-hailing.

Perceived reliability comes from the ability to deliver services consistently and on time (Adam, et al., 2020). The capacity to reliably and on-time supply services is essential to building trust. The user often cares whether e-hailing services have a consistent and punctual transportation experience. Dissatisfaction with e-hailing services will surely rise if users wait too long for a response from the driver during the peak hours (between 7 am-9 am and 5 pm-8 pm). The user also needed confirmation that drivers' predicted and actual arrival times were consistent inside the app because the passenger's mood might

take a turn for the worse and decrease in satisfaction if the driver is late. Furthermore, according to a survey of UTAR undergraduate students, they generally like carpooling feature in the Grab service, where users can share a car with someone, set up two locations at once, and book rides in advance. The reason is it provides a more convenient and fast way to travel, passengers can get to their destination directly without changing halfway and share the cost with others, which is also environmentally friendly and energy-saving.

Based on the discussion above, it was concluded that Universiti Tunku Abdul Rahman undergraduate students' perceptions of perceived reliability positively impacted their level of user satisfaction while using e-hailing services. Thus, the hypothesis, H4, was supported, and the research question, RQ4, was addressed.

5.3 Implications of Study

The demand for e-hailing services is increasing all around the globe. E-hailing services provide on-demand services at a lower cost than traditional types of transportation, such as taxis, and are sometimes cheaper than market rates (Ahmad Sahir and Azizan Marzuki, 2020). User satisfaction is an essential measure of a company's past, present, and future trends, and it relates to how a user considers a particular service or product as either acceptable or dissatisfactory depending on the anticipated level or achievement of that good or service (Nor, Sabri and Iza, 2021). Moreover, this study provided elements for determining consumer satisfaction with e-hailing services. The independent variables in this study were perceived price, driver behaviour, perceived safety

and security, and perceived reliability, while the dependent variable was user satisfaction. Given the small number of studies undertaken, especially at UTAR Kampar in Perak, the findings of this study had a significant influence on the body of knowledge.

Furthermore, the independent variables investigated were also advantageous to the users. This research indicated that customers believed that the pricing of e-hailing services should be affordable. Because this survey was done among university students with lower means, the price was a significant worry despite the requirement for the e-hailing service. As a result, e-hailing companies and drivers were urged to concentrate on pricing in order to boost user satisfaction with e-hailing services. Apart from price, driver behaviour towards e-hailing services was significant to consumers. It related to how drivers' behaviour may influence customer satisfaction with e-hailing services. This study benefited drivers by informing them that their actions impact customer satisfaction. The e-hailing company must instruct them, and they must accept responsibility for their attitude and behaviour.

The third component, safety and security considerations significantly influenced users' perception and satisfaction with e-hailing services. To ensure that e-hailing applications are safe for users and passengers are safe in driver-owned vehicles, the government should make sure that e-hailing firms abide by all applicable laws, regulations, and policies. E-hailing companies should also make sure that drivers and systems abide by the rules established by the government to preserve the security of their operations and customers.

Moreover, reliability significantly impacted user satisfaction since it was one of the attributes that consumers use to evaluate a service. Reliability may be defined as the consistency and affordability of e-hailing services in a particular place and the capacity to influence the choices of these drivers and passengers. The reliability and effectiveness of e-hailing usefulness were crucial since consumers were more likely to arrive at their destination on time. For example, the e-hailing business should guarantee enough drivers in that region to enhance user satisfaction.

Apart from that, the government will learn from the research that users' current issues with perceived price, driver behaviour, perceived safety and security, and perceived reliability. In light of these problems, the government should investigate and improve its oversight of the e-hailing sector. E-hailing services, which were first viewed as a competitive service in the early years of their adoption, are now accepted by governments, users, and rivals together and are recognised as an addition to the current public transportation networks. Lower prices, safer, more reliable, and regulated e-hailing services will also increase the satisfaction of the users. However, excessive government regulation will have an impact on the industry as a whole, particularly drivers, and could ultimately impede the growth of e-hailing services.

Additionally, the findings of this study helped the public transport industry, the e-hailing industry, and other business industry service providers enhance their services by providing more reliable and effective e-hailing services. This study also presented a unique insight that e-hailing companies

should concentrate more on perceived price, driver behaviour, perceived safety and security, and perceived reliability in the long term to retain more current consumers and attract future users. Therefore, the industry of e-hailing applications may improve its knowledge of the aspects that influence the degree to which users are satisfied with their experiences. They need to increase the quality of service while simultaneously focusing on the characteristics identified in this study to raise the level of user satisfaction.

5.4 Limitation of Study

The study's limitations must be fully acknowledged to improve future research. There were various limitations to the investigation. Initially, a survey of Tunku Abdul Rahman University undergraduate students was used to perform the analysis. Since the respondents were young, the opinions of a particular age group were likely examined. We needed access to the respondent from other age groups. Thus, our sample size did not reflect the total Kampar or Ipoh population. As a result, the constraint was the limited geographical coverage. Due to time and financial restrictions, conducting research in some areas of Malaysia is not possible. Moreover, information may reflect an individual's experience and opinions, resulting in contradictions in data and information. Furthermore, the research focused on four factors: pricing, driving behaviour, safety and security, and reliability. As a result, new parameters influencing e-hailing service customers' perception and satisfaction may be incorporated into the research model in the future.

5.5 Recommendation for Improvement

Customer satisfaction with e-hailing services depends on how well the service is perceived, and it can also be seen as one of the tactics for service improvement. Based on the overall research outcome, it is recommended that the e-hailing service company implements an appropriate marketing strategy to offer customers excellent service. An effective marketing strategy can enhance the customer experience with the e-hailing service and contribute to customer satisfaction (Widyatama, et al., 2020). For instance, the e-hailing service company can strongly emphasize advertising to raise brand awareness of the service.

Also, promotional strategies can grab people's attention and make them use e-hailing services more frequently. To illustrate, a company could provide a voucher or cashback to frequent users or new users to incentivize people to use the services (Widyatama, et al., 2020). This marketing strategy can maintain consumer satisfaction and encourage them to use the e-hailing service. Additionally, because the price offer significantly impacts user satisfaction, user contentment will increase when the consumer is happy with the price of the service received. In addition, it is suggested that service providers continuously follow up with customers to understand their needs (Caesaron, Makapedua and Lukodono, 2021). Customers are encouraged to provide feedback on the quality of service they perceive, such as driver behaviour, reliability, safety, etc. By collecting customer feedback, service providers can get the most accurate and authentic advice about customers. Accurate information enables service providers to be aware of service deficiencies and benefits the company's future

improvement plans. Also, regular follow-up service helps improve the service quality so that users have complete confidence and are loyal to the service.

Finally, the e-hailing service provider is suggested to add value to its service by creating new features in the app. The coverage of Grab's services should consider all customer segments. For example, Grab service in Indonesia has taken steps to launch its Grab Gerak service, designed for people with disabilities (Widyatama, et al., 2020). This is a great innovative service as it caters to the special needs of disabled clients. However, this service has not yet been implemented in Malaysia, so it is recommended that service providers also provide this service to Grab users in Malaysia.

5.6 Directions for Future Research

Although this study accomplished its goal of identifying the elements impacting Tunku Abdul Rahman University undergraduate students' satisfaction with e-hailing services (grab), there is still room for new ideas and improvements in future study. Recommendations for future research must first address the study's limitations.

First and foremost, due to our research questionnaire only targeted UTAR undergraduate students, collecting the perspectives of people of various ages would yield more credible statistics. Second, we propose that future researchers explore similar themes in a broader range of places, such as Johor, Penang, and Selangor, considered important cities, to obtain a larger sample size and more accurate data. Third, future scholars can study from various

perspectives, such as those of service providers rather than users. Furthermore, quantitative research methods examine the perspectives of more potential consumers. Because the questionnaires utilised are preset, survey participants do not have the opportunity to express their thoughts. However, qualitative research methodologies can reveal more in-depth and new insights into customer behaviour and experience that closed questions in a questionnaire survey cannot. As a result, future research should employ qualitative research methods or a combination of the two (Zulkiffli, et al., 2020).

Future researchers may also consider performing an analysis with more independent factors. This study included four independent variables: perceived price, driver behaviour, perceived safety and security, and reliability. Other independent elements, such as perceived convenience (Teo, Mustaffa and Rozi, 2018), perceived accessibility (Teo, Mustaffa and Rozi, 2018), perceived trustworthiness (Salim et al., 2020), and perceived comfort (Salim, et al., 2020). Salim, et al. (2020), also state that future studies should consider other external aspects, such as service quality and technology employed. Another interesting research direction is a market comparison of various e-hailing services, such as AirAsia Ride, MyCar, etc. Furthermore, future research can investigate the impact of cultural elements on our user satisfaction because there are few studies on how cultural factors affect user satisfaction. Shiau, et al. (2021), compare consumers in China and the United States, and national cultural elements influencing customer satisfaction with ride-sharing services are discussed. The authors discovered that cultural characteristics (such as

individualism and collectivism) affect customer satisfaction differently in the two countries.

5.7 Chapter Summary

In conclusion, the study aimed to identify the factors influencing UTAR students' satisfaction with e-hailing services in Kampar, Perak. By using PCC and MLR analysis models, the study achieved its objectives and found out the relationship between variables. The four independent variables of perceived price, driver behaviour, perceived safety and security, and perceived reliability all showed positive relationships with the dependent variables of user satisfaction. Among all independent variables, driver behaviour was considered the most crucial factor affecting the satisfaction of UTAR students with e-hailing services due to the correlation being closest to 1 and most closely related to DV (user satisfaction), followed by perceived reliability, perceived price, and perceived safety and security. Besides, the research benefited e-hailing service companies to improve their services, retain existing customers, and attract potential customers by increasing user satisfaction. The study's limitations and recommendations for improvement were also provided and stated in the study. Lastly, future directions were essential for future researchers to enhance the validity of their studies.

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Appendices

Appendix A

Research Questionnaire- Old version

Section A: Socio-demographic profile

Please TICK on one of the MOST appropriate options.

1. Are you a UTAR student in Kampar?
 - Yes
 - No

2. Please specify your gender.
 - Male
 - Female

3. What is the range of your age?
 - 18-21
 - 22-25
 - Above 25

4. Please specify your ethnic group.
 - Chinese
 - Malay
 - India

5. Please choose your faculty.
 - FAS
 - FBF
 - FEGT
 - FICT
 - FSc
 - CEE
 - CFS
 - ICT

6. Do you have your own vehicle?
 - Yes
 - No

7. Do you have experience using the e-hailing service (Grab) previously?
 - Yes
 - No

8. Do you install the e-hailing mobile application (Grab)?
 - Yes
 - No

9. Purpose of using e-hailing (Grab).
 - Go to university/campus
 - Go to grocery
 - Others :

10. Frequency of using e-hailing (Grab) within one week.
 - < 3 times
 - 4-6 times
 - > 6 times

11. Weekly spending for e-hailing (Grab).
 - < RM10
 - RM10-30
 - RM30-50
 - > RM50

SECTION B: Factors influencing user satisfaction in e-hailing services (Grab). Kindly TICK the rating which best describes your experiences with using e-hailing services.

The following statements are about the components of elements that influence user satisfaction. The numbers 1 to 5 reflect a scale, with 1 representing strongly disagree and 5 representing strongly agree. Please choose the option that best represents your view regarding that statement based on your experience as a user of e-hailing services.

1-Strongly disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly agree

Part 1: User satisfaction in e-hailing service

No	Statement	1	2	3	4	5
I	I am satisfied with the overall service provided by the e-hailing service (Grab).					
II	I feel comfortable and safe while using the e-hailing services.					
III	Grab Pay brings convenience and security to passengers because there is no need to carry cash.					
IV	E-hailing services provide users convenient ride experience, such as door-to-door service.					

Part 2: Price in e-hailing service

No	Statement	1	2	3	4	5
I	Nowadays, the price of using an e-hailing service is higher than before.					
II	The prices will increase and get higher than the normal price during the peak hour (between 7am-9am and 5pm-8pm).					
III	The user will switch their mind from e-hailing to public transportation when the price of e-hailing increases.					

IV	Price transparency makes it easy for passengers to get a precise, comprehensive, up-to-date, and effortless overview of the company's quoted price.					
V	I think e-hailing rates are cheaper than taxi fares.					

Part 3: Driver behaviour in e-hailing service

No	Statement	1	2	3	4	5
I	A driver who has a good driving experience will make passengers feel comfortable.					
II	The driver's attitude towards the passenger affects the passenger's mood in the car. Ex: The driver treats the passengers friendly.					
III	The radio's sound decibels are loud will affect passengers' comfort.					
IV	I think drivers should chat with passengers.					
V	The driver should follow the rules and regulations of traffic, such as the driver's driving speed should be based on the speed limit signboard.					

Part 4: Safety and security in e-hailing service

No	Statement	1	2	3	4	5
I	I will be worried about driver over-speed driving and causing car accidents.					
II	A stranger driver makes me worry about my safety being threatened.					
III	I am worried about my privacy being leaked while using the e-hailing application.					
IV	I will send the driver's details and license plate numbers to trust people (family/friends) before or during the ride.					

V	Past incidents of e-hailing safety issues (abuse/sexual harassment) made me reduce the use of e-hailing services.					
VI	I feel comfortable utilising e-hailing services because of the systematic recording of my past trips and the ability to broadcast my whereabouts on social media.					

Part 5: Reliability in e-hailing service

No	Statement	1	2	3	4	5
I	I need to wait a long time to get a response from the driver during peak hours (between 7am-9am and 5pm-8pm).					
II	The e-hailing application (Grab) displays that the driver's estimated arrival time differs from the actual time.					
III	Occasionally navigation provides inaccurate real-time location, leading drivers to the wrong destination.					
IV	I like the carpooling feature in the Grab service, where users can share a car with someone and set up two locations at once.					

Appendix B

Research Questionnaire- New version

UNIVERSITI TUNKU ABDUL RAHMAN (UTAR KAMPAR)

FACULTY OF SCIENCE

BACHELOR OF SCIENCE (HONS)

LOGISTICS AND INTERNATIONAL SHIPPING

FINAL YEAR PROJECT

THE INVESTIGATION OF PERCEPTION AND SATISFACTION ON E-HAILING SERVICE AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI TUNKU ABDUL RAHMAN

We are students of Bachelor of Science (Hons) Logistics and International Shipping from Universiti Tunku Abdul Rahman (UTAR). We are currently doing our final year project titled **“The investigation of perception and satisfaction on e-hailing service among undergraduate students of Universiti Tunku Abdul Rahman”**.

This study investigates the perception and satisfaction level with e-hailing services among UTAR students in Kampar, Perak. Besides, this survey aims to collect data on the factors influencing the user to use the e-hailing service. This questionnaire is suitable for all students who currently study at UTAR Kampar Campus and have the experience of using the e-hailing service.

This study is targeted among **UTAR undergraduate students** only.

This questionnaire consists of **2 sections** (Section A and Section B) and will only take 3 to 6 minutes. Section A consists of 8 questions and is basically about several analyses of socio-demographic variables of personal attributes, followed by questions related to personal experience of using the e-hailing services. Section B consists of 6 questions related to each factor influencing the adoption of e-hailing service with a 5-point Likert measurement scale.

We thank you for taking the time to complete this questionnaire; your feedback is highly appreciated.

Section A: Socio-demographic profile

Please TICK on one of the MOST appropriate options.

1. Are you a UTAR student in Kampar?
 - Yes
 - No

2. Please specify your gender.
 - Male
 - Female

3. Please choose your faculty.
 - FAS
 - FBF
 - FEGT
 - FICT
 - FSc
 - CEE
 - CFS
 - ICT

4. Do you have experience using the e-hailing service (Grab) previously?
 - Yes
 - No

5. Do you install the e-hailing mobile application (Grab)?
 - Yes
 - No

6. Purpose of using e-hailing (Grab).
 - Go to university/campus
 - Go to grocery
 - Others :

7. Frequency of using e-hailing (Grab) within one week.
 - < 3 times
 - 4-6 times
 - > 6 times

8. Weekly spending for e-hailing (Grab).
 - < RM10
 - RM10-30
 - RM30-50
 - > RM50

SECTION B: Factors influencing user satisfaction in e-hailing services (Grab). Kindly TICK the rating which best describes your experiences with using e-hailing services.

The following statements are about the components of elements that influence user satisfaction. The numbers 1 to 5 reflect a scale, with 1 representing strongly disagree and 5 representing strongly agree. Please choose the option that best represents your view regarding that statement based on your experience as a user of e-hailing services.

1-Strongly disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly agree

Part 1: User satisfaction in e-hailing service

No	Statement	1	2	3	4	5
I	I am satisfied with the overall service provided by the e-hailing service (Grab).					
II	I feel comfortable and safe while using e-hailing services.					

III	Grab Pay brings convenience and security to passengers because there is no need to carry cash.					
IV	E-hailing services provide users with convenient ride experiences, such as door-to-door service.					
V	I am pleased with the environmental sustainability provided by Grab.					
VI	I will recommend Grab to family and friends and encourage them to use it.					

Part 2: Perceived price in e-hailing service

No	Statement	1	2	3	4	5
I	Nowadays, the price of using an e-hailing service is higher than before.					
II	The prices will increase and get higher than the normal price during the peak hour (between 7am-9am and 5pm-8pm).					
III	The user will switch their mind from e-hailing to public transportation when the price of e-hailing increases.					
IV	Price transparency makes it easy for passengers to get a precise, comprehensive, up-to-date, and effortless overview of the company's quoted price.					
V	I think e-hailing rates are cheaper than taxi fares.					
VI	I feel that e-hailing service is flexible because there are different payment options (e-wallet versus cash).					

Part 3: Driver behaviour in e-hailing service

No	Statement	1	2	3	4	5
I	A driver who has a good driving experience will make passengers feel comfortable.					
II	The driver's attitude towards the passenger affects the passenger's mood in the car. Ex: The driver treats the passengers friendly.					
III	The radio's sound decibels are loud will affect passengers' comfort.					
IV	I think drivers should chat with passengers.					
V	The driver should follow the rules and regulations of traffic, such as the driver's driving speed should be based on the speed limit signboard.					
VI	I think drivers should turn on the navigation app, such as Google Maps, and follow the routes on the map to take the passenger to their destination.					

Part 4: Perceived safety and security in e-hailing service

No	Statement	1	2	3	4	5
I	I will be worried about driver over-speed driving and causing car accidents.					
II	A stranger driver makes me worry about my safety being threatened.					
III	I am worried about my privacy being leaked while using the e-hailing application.					
IV	I will send the driver's details and license plate numbers to trust people (family/friends) before or during the ride.					

V	Past incidents of e-hailing safety issues (abuse/sexual harassment) made me reduce the use of e-hailing services.					
VI	I feel comfortable utilising e-hailing services because of the systematic recording of my past trips and the ability to broadcast my whereabouts on social media.					

Part 5: Perceived reliability in e-hailing service

No	Statement	1	2	3	4	5
I	I need to wait a long time to get a response from the driver during peak hours (between 7am-9am and 5pm-8pm).					
II	The e-hailing application (Grab) displays that the driver's estimated arrival time differs from the actual time.					
III	Occasionally navigation provides inaccurate real-time location, leading drivers to the wrong destination.					
IV	I like the carpooling feature in the Grab service, where users can share a car with someone and set up two locations at once.					
V	I find it difficult to find a driver when I'm in a remote area.					
VI	The e-hailing app provides good responsiveness to meet customer requirements and expectations.					

Appendix C

Reliability Test – Pilot Test

Part 1: User satisfaction in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.891	6

Part 2: Perceived price in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.870	6

Part 3: Driver behaviour in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.759	6

Part 4: Perceived safety and security in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.786	6

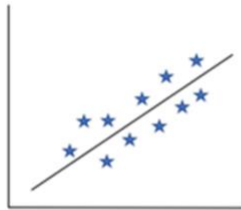
Part 5: Perceived reliability in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.728	6

Appendix D

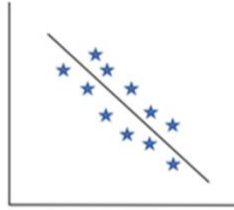
Types of Correlation



Positive correlation

The points lie close to a straight line, which has a positive gradient.

This shows that as one variable increases, so does the other.



Negative correlation

The points lie close to a straight line, which has a negative gradient.

This shows that as one variable increases, the other decreases.



No correlation

There is no pattern to the points.

This shows that there is no connection between the two variables.

Appendix E

Reliability Test

Part 1: User satisfaction in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.891	6

Part 2: Perceived price in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.890	6

Part 3: Driver behaviour in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.809	6

Part 4: Perceived safety and security in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.890	6

Part 5: Perceived reliability in e-hailing service

Reliability Statistics

Cronbach's Alpha	N of Items
.841	6