

The Safety and Security of P-Hailing Riders in Kedah, Malaysia

Mohammad Izzat Abu Baker¹, Mohd Khairul Afzan Mohd Lazi^{1*}, Syed Muhammad Muhammad Noman^{1&2}

¹ School of Civil Engineering, Faculty of Engineering

Universiti Teknologi Malaysia, Jalan Iman, 81310 Skudai, Johor, MALAYSIA

² Faculty of Civil Engineering

NED University of Engineering and Technology, Karachi, 75270 Karachi City, Sindh, PAKISTAN

*Corresponding Author: syednoman@graduate.utm.my

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Abstract

P-hailing presents risks to security and safety. The aims of this study are to determine the demographic composition of Malaysian ride-hailing users, evaluate the difficulties and safety risks associated with this type of labor, and examine the variables that affect these users' ability to supply services. P-hailing users in Malaysia made up the sample population for the questionnaire based survey used to obtain the data. This survey was distributed through online medium as well as reach nearby p-hailing riders face to face. These two methods reduced the time period to reach targeted number of sample data. Male users of p-hailing outweighed female users by 97.4%, according to the report. Those between the ages of 18 and 30 made up 75.8% of respondents. In addition, the study discovered that, when it comes to hurdles for P-Hailing riders, COVID-19 infection, accident, robbery and physical harrassment score highest. The wheather condition, robbery, rape, and psychological persecution were among the other difficulties. In addition, using an application or getting interference from a mobile device while riding was one of the risk variables that could raise the danger level. A few riders also concurred that the new delivery location or unfamiliar route might have an impact on the degree of safety risk. The data indicated a variation in the degrees of safety concern over the difficulties of working as a ride-hailing service provider, which were influenced by the fatigue component. A few riders also concurred that the new delivery location or unfamiliar route might have an impact on the degree of safety risk. One element influencing the degree of safety risk among p-hailing users was the absence of risk management practices while working.

1. Introduction

The term "P-hailing" refers to the Passenger-hailing industry, a sector that has witnessed significant growth and innovation with the advent of digital technology and mobile applications. The increasing prevalence of P-hailing riders on the roads has also raised concerns about their safety, particularly in the context of traffic crash accidents. This finding is consistent with other studies on road traffic accidents in Malaysia, which indicate that motorcycles account for a high percentage of casualties in traffic crashes (Azami et al. 2024). In Malaysia,

delivery personnel, often known as P-hailing riders, play an essential part in the chain of this online-to-offline business.

According to the Road Transport Department (JPJ, 2022), there were a total of 1,242 accidents involving p-hailing riders from 2018 to May 2022. Of these accidents, 112 resulted in fatalities. The majority of accidents (70%) occurred during peak hours (7am to 9am and 5pm to 7pm). The most common cause of accidents was reckless driving (60%). Other factors that contributed to accidents included fatigue, distracted driving, and poor road conditions.

Therefore, it is critical to close this study gap and pinpoint the causes of P-hailing riders' involvement in traffic accidents during delivery in Malaysia. Policymakers, P-hailing businesses, and other stakeholders may create evidence-based policies to improve P-hailing riders' safety and lower the frequency of traffic crash incidents by gaining insight into the individual and contextual elements linked to these events.

To address the crucial issue of rider safety in the P-hailing market, the research explores and analyze the factors influencing the difficulties and security issues associated as a P-hailing riders in Malaysia which involving Foodpanda, Grabfood and McDelivery. This study has two (2) main aims, which are:

1. To identify the demographic profile of Malaysian P-Hailing riders in Alor Setar, Kedah.
2. To evaluate the difficulties and security issues associated as a p-hailing riders.

This study covers the demographic profile and difficulties and security issues associated among p-hailing riders in Alor Setar, Kedah, Malaysia. This study uses a quantitative method to observe and collect the data. The method used for a quantitative method is a questionnaire survey in which survey conducted on some 261 respondents working as the p- hailing rider in Alor Setar, Kedah, Malaysia. The number of respondents for this research depends on the Population of p-hailing riders in Alor Setar, Kedah, Malaysia. There was about 60,000 registered P-hailing riders in Malaysia reported. However, in April 2021 the government declared Malaysia has reached the endemic phase. A total of 95 respondents participated in providing feedback in this study because of the study area was hard to identify because the questionnaire was distributed only through an online medium. The sample size was calculated through 90% confidence interval and 8 % margin of error while the population size is 60000 registered user of P-Hailing riders.

2. Literature Review

Being a p-hailing rider is physically demanding, but it's also risky because to workplace dangers, traffic accidents, theft, and property damage. The majority of Malaysian companies also offer life insurance to their riders in order to safeguard and guarantee their wellbeing (Makhtar et al., 2024).

However, those working in the transportation and delivery industries frequently faced significant levels of danger when driving (Ahmad et al. 2023). The dangers associated with being a p-hailing rider must be appropriately managed to eliminate or reduce them. If there are elements like time constraints, poor riding habits, speeding, and a lack of safety precautions, there is a strong likelihood that the dangers will increase.

According to the Department of Occupational Safety and Health (Zulkify, 2023), some potential factors could affect the safety and health of P-hailing riders while working. For example, negligence of regular vehicle inspection can lead to road accidents and damage the property. The inspection of vehicles, especially for workers in the transportation sector, is crucial due to the regular usage of vehicles over a long period.

In addition, some motorcycle or p-hailing riders must travel long distances and follow a long working hour to transport the goods. They also have to work under minimal time or in dangerous work circumstances since their payment is determined by the number of deliveries they make. These variables may cause riders to break the rules or engage in violent behaviour on the road. Based on the Malaysian Institute of Road Safety Research (Rusli et al., 2022), there been reported that about 70% of p-hailing riders in Malaysia are riding with bad or risky behaviour. The research from MIROS revealed that hazardous rider intentions were mainly impacted by rider's attitudes and experience seeking. In addition, the perceived behavioural controls are also affected by safe driving behavior.

There was a statistically significant difference between motorcycle riders who had been in accidents and those who had not, with the accident-involved motorbike riders taking longer to recognise the threat. According to Cheng et al. (2011), hazard perception is the knowledge of risky circumstances in a transportation context. According to Crundall et al. (2013), there are three degrees of situation awareness that may be used to discriminate between drivers with various skill levels and provide an explanation for how different drivers scan the road. The initial degree of situation awareness calls for the motorist to observe their surroundings without evaluating the significance of the many variables they have seen. The driver may be aware of other drivers at this level, but he or she may not be able to predict their trajectories or hazards. At the second level, the driver typically has a grasp of the current circumstance and will integrate the first-level observations to form a concept of where other drivers have come from and what they are doing right now. Only the third degree of situation

awareness is linked to predicting other road users' conduct and anticipating how the present situation would change when other cars move, resulting in a course of action in line with that prediction (Zhang et al., 2022).

3. Methodology

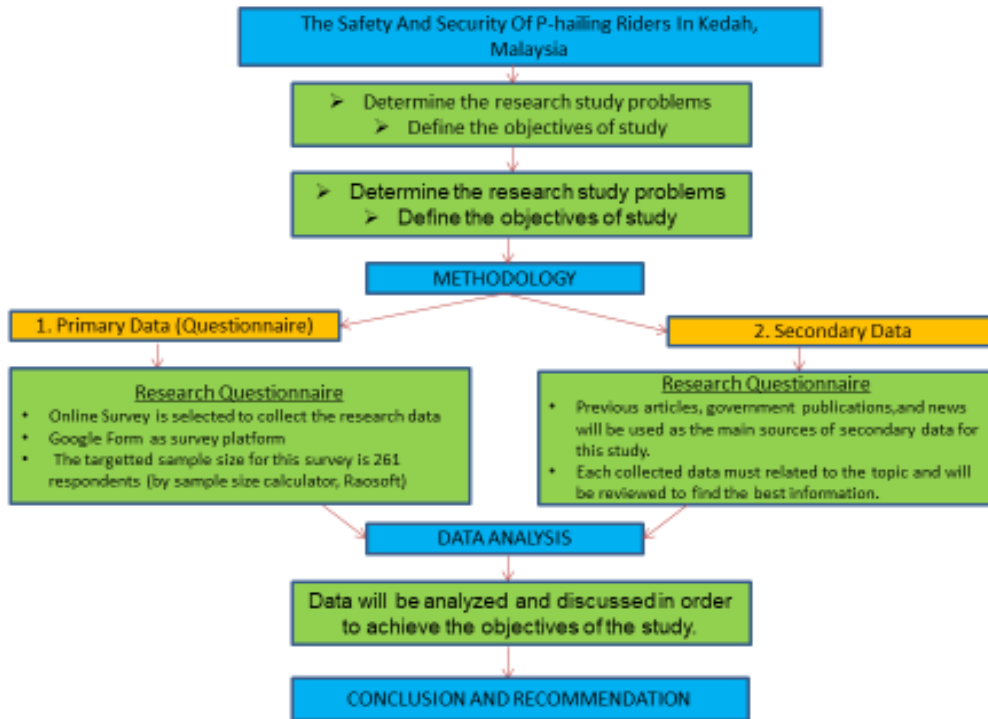


Fig. 1 Research methodology

The research approach that was adopted in this study was the deductive approach method. The deductive approach is the most common method used to determine the relationship between collected variable data and explain the theory based on the data analysis.

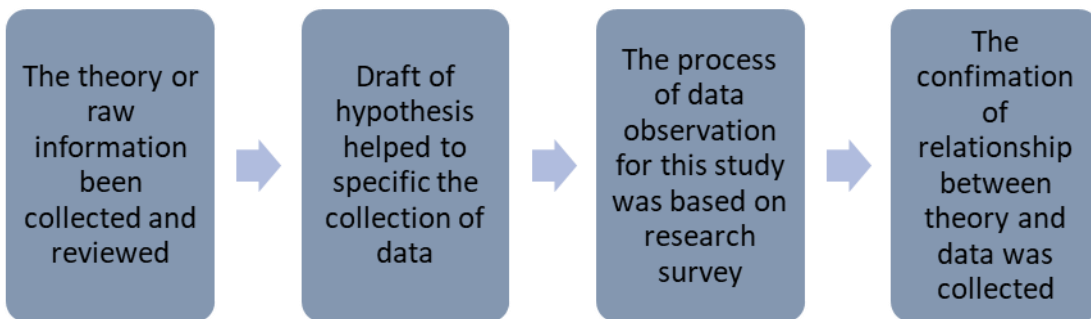


Fig. 2 The flow of the deductive approach method

Based on the flowchart of the research framework as shown in Fig. 1, two types of input or data were used, which are primary and secondary data. The primary data was collected from the research questionnaire survey, while the secondary data was obtained from published papers such as previous articles, journals, books, etc. Both data collection was assessed through online medium, firstly the questionnaire-based survey through social media and email while secondary data are obtained from different website and published articles that help in research.

In this research study, a questionnaire survey was used as a qualitative tool to assess difficulties and security issues associated as a p-hailing riders. Due to the relative scenario of gathering generic data adequate

for reaching the purpose, data collection using questionnaires was beneficial. In the questionnaire survey, four sections are demographic pattern, term of employment, riders' safety and security concerns and road violation and risk behaviour while working as P-hailing riders. This survey was distributed through online medium as well as reach nearby p-hailing riders face to face.

The research design approach used for this study was the quantitative method. The qualitative method was used to identify the pattern and average of collected data, to determine the relationship between variables and to analyse the finding based on the sample size.

The research study population refers to the type of respondents to be focused on in the research topic. This study focused on the P-hailing riders in Malaysia as the population study. People working or have experience as complete or part-timer P- hailing riders were encouraged to be involved in this study as the respondents. The survey was designed in manner to first ask about the job as a rider and then proceed with it. The respondents were from anybody as long as they have the experiences working as P- hailing rider in Malaysia.

The sample size of research study was determined by using an online Sample Size Calculator also known as Raosoft. Based on Raosoft, the study was suggested to have about 261 samples study. The sample size was calculated through 90% confidence interval and 8 % margin of error while the population size is 60000 registered user of P-Hailing riders.

There were some tools used to collect the study data for this research. The tools were Raosoft (sample size calculator), Statistical Analysis software, Google Scholar and Microsoft Excel. These online tools been used in preparing this research proposal to completing the study.

4. Result and Discussion

This research questionnaire covered the essential details of the study, such as demographic information of p-hailing riders, their term of employment, the riders' safety and security concerns/issues and their behaviour on the road and during working. These research survey results were collected through online survey activity over the past 2 to 4 weeks. The number of respondents collected from this survey is 95 among p-hailing riders in Kedah, Malaysia.

4.1 Reliability test of study

The reliability test is a method used to determine the appropriable validity and measure the consistency of the scale of Cronbach's alpha. A test's consistency is content validity dependability or item interrelatedness, known as coefficient alpha (Sarkar et al., 2001, Taherdoost, 2016). The internal consistency value or the scale for this study might be calculated automatically using the SPSS.

Table 1 *The value of Cronbach's Alpha (α) of reliability statistic*

Reliability Statistics	
Cronbach's Alpha	N of Items
.729	12

The reliability can be analyzed from the scale question in the research survey, also known as a Likert scale. The Likert scale is used to determine the satisfactoriness of the respondents towards some variables. In this study, the Likert scale question was questions 2 and 3 in section C. Section C was related to the concerns and challenges of P-hailing riders while working. Question 2 and 3 were asked about the level of concern about the listed risks or challenges while working as P-hailing riders in Malaysia.

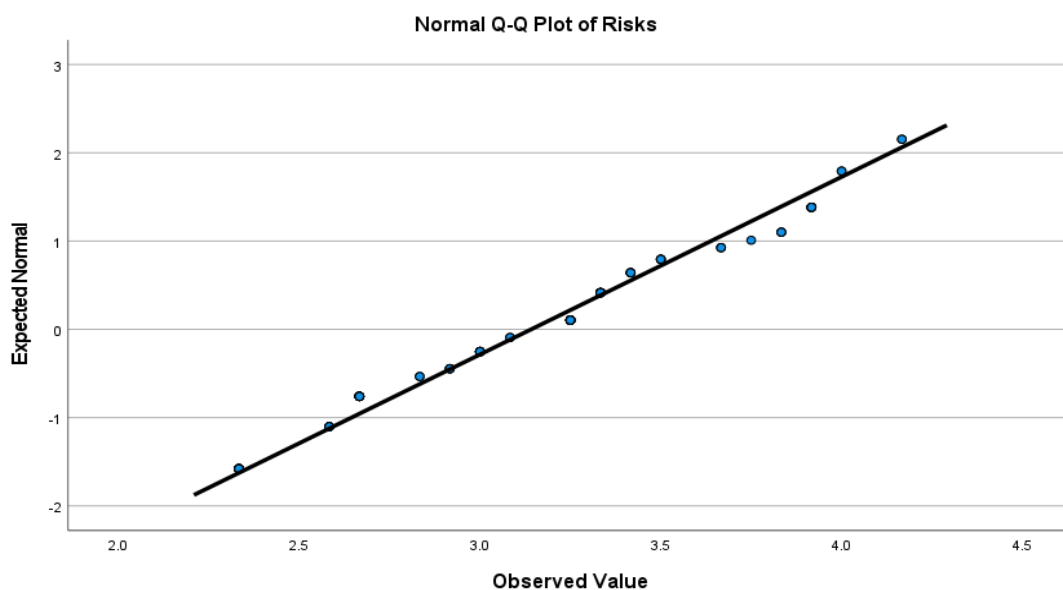
From the data analysis generated from SPPSS software, as shown in table 1 and 2, the Cronbach's Alpha (α) value of the reliability test was 0.729. According to the range of internal consistency values of the Cronbach's Alpha (α) table, the result showed that the reliability of this research questionnaire was excellent, as the Cronbach's Alpha (α) value was in range of 0.6 to 0.9. This indicated that the scale question in this research study was reliable and accepted as collected data.

Table 2 *The item-total statistics of reliability test*

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
COVID	33.52	32.635	.259	.723
Accident	33.52	32.635	.259	.723
Robbery	33.52	32.635	.259	.723
Kidnaping	35.66	32.375	.253	.724
Rape	36.31	35.193	-.009	.746
Sexual	35.59	31.649	.312	.718
Physical	33.52	32.635	.259	.723
Mental	35.66	32.375	.253	.724
Dark	34.34	26.353	.578	.676
Damage	34.36	26.296	.568	.678
Unfamiliar	34.33	26.414	.572	.677
Weather	34.34	26.353	.578	.676

4.2 Normality test of study

A normality test determines whether or not sample data was derived from a normally distributed population. The sample data distribution population is required for various statistical tests, including the T-test and one-way and two-way tests. The normality can be observed from the Normal Q-Q Plot graph of the variables, which can be generated from the SPSS. The normality is achieved based on the plots are lie in straight lines. So, this construct can be used for parametric analysis. In this study, the parametric analysis will determine the normality of variables. Fig. 3, Graph showed the normality of risks among riders and Fig. 4, Graph showed the normality of difficulties and security issues among P-hailing Riders was constructed. The graphs also indicated that the Normal P-P for risks and difficulties were normally distributed. Therefore, the parametric analysis, which were an independent t-test, been used to analyse the relationship between this variable and the factor impacting it.

**Fig. 1** *The normal Q-Q plot of the normality for risks factor among p-hailing riders*

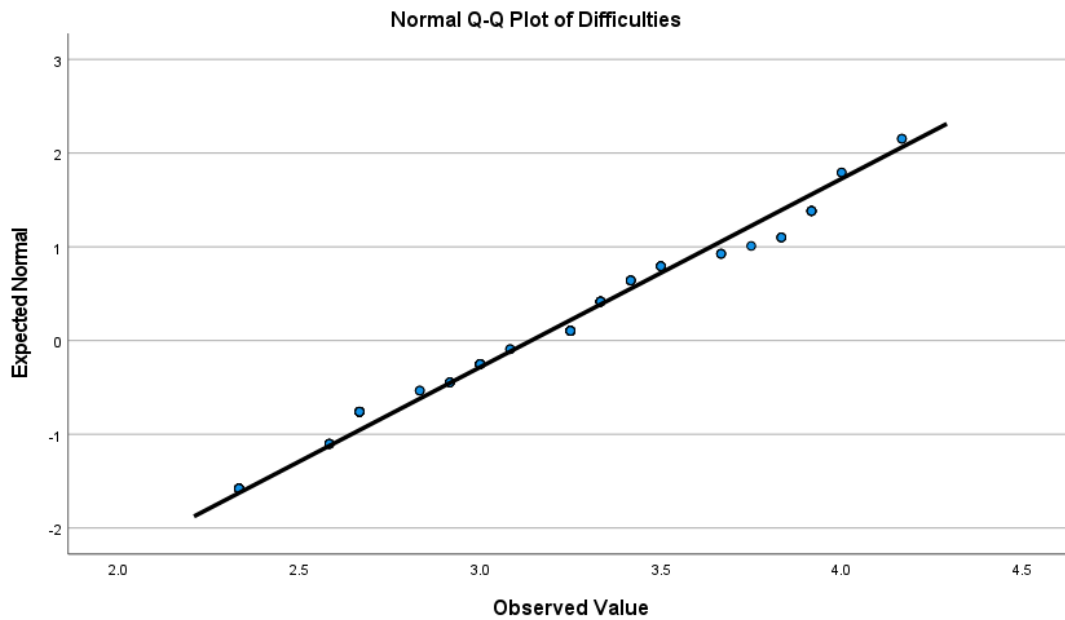


Fig. 2 The normal Q-Q plot of the normality for difficulties and security issues among p-hailing riders

4.3 Descriptive analysis

Descriptive analysis is the simplest way to analyze the trends and relationships of collected samples with some description and summarization. This type of analysis is used to show the collected input data and for demographic pattern analysis. By applying graphical displays such as bar charts and graphs, the data will be much easy to understand and interpret. Descriptive analysis was used to analyses the demographic profile pattern in the research study. The demographic profile analysis showed the backgrounds and the factors of the sample which could affect the result of the study.

4.4 Demographic profile pattern

The section that covered the demographic profile in this questionnaire survey was Section A, the demographic background of respondents. In this section A, the questions asked were gender, age, ethnicity, educational level and marital status. All the data of 95 respondents were recorded and analyzed by using SPSS. The collected data were displayed in the form of a pie chart.

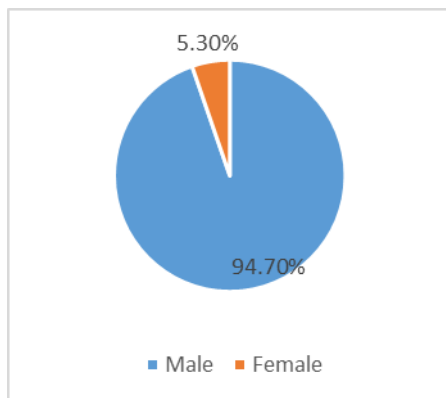


Fig. 3 The pie chart of gender among respondents

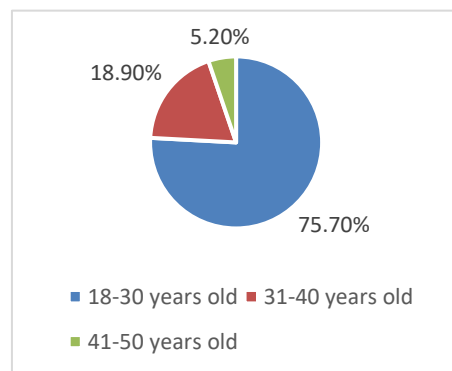


Fig. 4 The pie chart of range among respondents

First, Fig. 5 shows the pie chart of gender distribution among 95 respondents in the study. The pie chart shows that the involvement percentage of working as the p-hailing riders among men was 90 people, which was 97.4% higher than female riders with only 5 people. Next, Fig. 6 shows the pie chart of age distribution among riders. Most of the respondents aged around 18 - 30 years old, with a percentage of 75.8%. According to the Malaysian Statistical Department, around 15 million people aged between 24 -34 years old were employed in all

sectors in Malaysia (Taherdoost, 2016). This age range is also known as a young adult with a high working spirit. After that, the second place was 18.9% of respondents aged 31 – 40 years old, and lastly, only 5.3% of respondents were 41-50 years old.

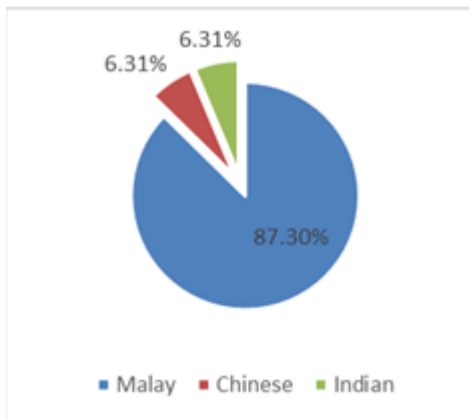


Fig. 5 The pie chart of ethnicity among respondents

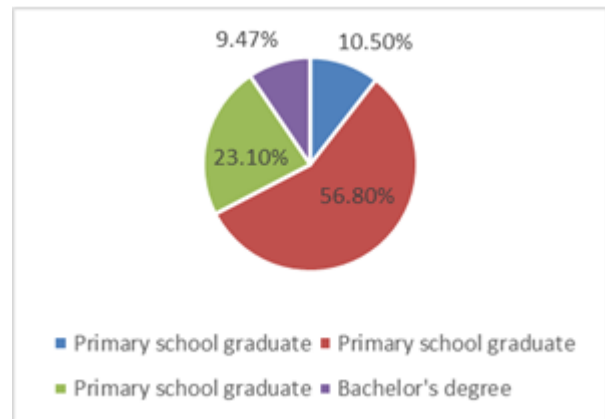


Fig. 6 The pie chart of education levels among respondents

Besides the age of respondents, this research also studied the ethnicity of respondents. As shown in Fig. 7, the most significant percentage of the ethnicity of p-hailing riders in Malaysia was Malay, with 87.4%. Chinese and Indian shared the second place with 6.3% each one. No other ethnicity was recorded in this study. Figure 8 shows the level of education among respondents. Referring to the pie chart of the level of education among respondents, the highest education level were people who graduated from high school with a percentage of 56.8%. In contrast, 23.2% of them graduated with a diploma, 10.5% from primary school and 9.5% people from Bachelor's degree. Last but not least, the percentage of the marital status of respondents. Further the respondents with single status recorded were 52.6%, and respondents with married status recorded were 47.4%. It shows that the percentage value of married respondents is slightly lower than single-status respondents. For this study, the single status included a person who did not have a partner or had a separated partner.

There are some difficulties and security issues the p-hailing riders are concerned about while working. In the questionnaire survey of this study, some possible safety risks were listed and evaluated to determine the level of safety for each risk among the respondents. The analysis of challenges and safety concerns working as p-hailing rider was analysed by using the relative importance index (RII) method. Relative Importance Index (RII) is used to determine the relative importance of quality factors involved.

Table 3 Difficulties and security issues among P-hailing rider

Difficulties And Security Issues among P-hailing Rider						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
COVID	95	3	5	4.18	.785	.617
Accident	95	3	5	4.18	.785	.617
Robbery	95	3	5	4.18	.785	.617
Kidnaping	95	1	4	2.01	.856	.733
Rape	95	1	4	1.39	.673	.453
Sexual	95	1	4	2.11	.893	.797
Physical	95	3	5	4.15	.785	.617
Mental	95	1	4	2.03	.856	.733
Dark	95	1	5	3.35	1.279	1.637
Damage	95	1	5	3.34	1.301	1.694
Unfamiliar	95	1	5	3.37	1.280	1.639
Weather	95	1	5	3.36	1.279	1.637

According to Table 3, there were 12 different risks among p-hailing riders, which were the infection of COVID-19, road accident, robbery, kidnap, rape, sexual harassment, physical harassment, emotional harassment, riding at night, loss of property, unfamiliar route and the unpredictable weather condition. Each level of these items was evaluated among the respondents. Therefore, the RII method was used to determine the ranking of potential difficulties and security issues while working as the p-hailing rider.

Table 4 *The ranking of safety challenges while working as P-hailing rider among respondents*

Safety challenges while working as p-hailing rider	RII	Ranking
COVID -19	4.81	1
Accident	4.81	
Robbery	4.81	
Physical Harassment	4.81	
Rape	0.458	9
Sexual Harassment	0.519	6
Kidnap	0.435	8
Emotional Harassment	0.484	7
Riding at Night	0.631	4
Loss of Property	0.612	5
Unfamiliar Road	0.742	2
Weather Condition	0.662	3

Based on data analysis, the COVID-19 infection, accident, robbery and physical harassment was analyzed as the highest ranking in difficulties among p-hailing riders with mean value 4.81. The second place was unfamiliar delivery area or route with mean value 3.37 and followed by the third place was whether condition ($M=3.36$), fourth place was riding at night ($M=3.35$), fifth place was afraid to loss property ($M=3.34$), sixth place was sexual harassment ($M=2.11$). The ranking then followed with emotional harassment ($M=2.03$) in eighth place, kidnaping ($M=2.01$), and lastly rape ($M=1.39$) as the lowest rank in safety challenge among riders.

5. Conclusion

In conclusion, this study successfully achieved all the objectives and covered the topic of the safety and security of p-hailing riders in Kedah, Malaysia. Although the data sample collected did not reach the research target, it can still be considered and analyzed. The objectives are: -

The demographic profile pattern was background information about the sample population. The collected data is displayed in graphical analysis such as charts, tables and figures. This type of analysis is used to interpret the data easily. In this research study, the main indicator in the demographic analysis was the gender of respondents. The study stated that the proportion of males operating as p-hailing drivers was 90, 97.4% more than the percentage of female drivers, who was just 5. Around 75.8 per cent of survey respondents were between 18 and 30. While 18.9 per cent of respondents were between the ages of 31 and 40, the ages between 41 and 50 have about 5.3 per cent. Next, the population's background that was observed was ethnicity. Around 87.4 per cent of p-hailing riders in Malaysia were of Malay descent, the most proportion of any ethnic group. Indians and Chinese ranked second with 6.3 per cent. In addition, the other demographic profile was the respondent's level of education, and 56.8 per cent of the population had attained a graduated at high school. In contrast, 23.2% of them graduated with a diploma, 10.5% from primary school and 9.5% people from Bachelor's degree. Lastly, 47.4 per cent of respondents stated that they were single, while 52.6 per cent of respondents indicated that they were married. Therefore, these were the analysis of demographic profile pattern among p-hailing riders in Kedah in this study. So, it can be concluded that the first objective in this study had been achieved.

According to an examination of the data, the COVID-19 infection, accident, robbery and physical harassment was analyzed as the highest ranking in difficulties among p-hailing riders with mean value 4.81. The second place was unfamiliar delivery area or route with mean value 3.37 and followed by the third place was whether condition ($M=3.36$), fourth place was riding at night ($M=3.35$), fifth place was afraid to loss property ($M=3.34$), sixth place was sexual harassment ($M=2.11$). The ranking then followed with emotional harassment ($M=2.03$) in eighth place, kidnaping ($M=2.01$), and lastly rape ($M=1.39$) as the lowest rank in safety challenge among riders.

After completing this study, it still lacks some parts and requires improvement to produce a much better research study. The parts that need to be improved include the limitations of this study. This study is one the first kind in this topic and has much more potential which will need to explore. Therefore, it is recommended for the following paper research to refer to and use the right platform or application that has easy access to the latest research paper. In addition, it is also recommended to have a sample population with a specific research location or area for the subsequent research study. This is because the more specific the research area used in the study, the more accurate the data collected. It will also help the researcher focus more on the sample population's background. Lastly, it is recommended that the subsequent study have this objective to determine the relationship between location and safety risks among p-hailing riders

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

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