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Public Transport Acceptance Among UTHM Undergraduate Students During Pandemic COVID-19

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Abstract: The COVID-19 pandemic has created unforeseen effects in public transportation in cities around the world including Malaysia. Due to rapid spreading of the virus, public transportation is reduced in demand to adhere to the Standard Operation Procedure (S.O.P) and ensure that the public is not infected by the disease. Thus, the objective of this study is to determine university students' level of acceptance towards public transportation. The number of respondents participated in this online survey was 348 and the respondents are all among Universiti Tun Hussein Onn Malaysia (UTHM) undergraduates' students. The data collection was done through survey method via an online questionnaire instrument where frequency method was used to analyze the socio-demographic questions. Mean Score Analysis were used to analyze the question regarding to the level of acceptance of students towards public transport before and during the occurrence of COVID-19. All the data was stored and analyzed using Microsoft Excel. The results shows that the acceptance towards public transport before the occurrence of COVID-19 is high while the acceptance towards public transport during the occurrence of COVID-19 is low. An authority should implement a strategy to enhance students to travel by using public transportation to increase the usage of public transport among students and increase the safety and health procedure to provide easiness and to lessen their worried to use public transport due to any infection when using public transport.

Keywords: COVID-19 Pandemic, Public transport acceptance, Usage of Public Transport

1. Introduction

In 2019, the World Health Organization (WHO) declared coronavirus, a contagious disease caused by severe acute respiratory syndrome (SARS-CoV-2). Within months, the sickness had spread across the planet. This novel and contagious disease was discovered and reported for the first time in December 2019 in Wuhan, China. COVID-19 symptoms vary, according to the WHO and can range from mild to severe sickness [1]. The Federal Government issued a Movement Control Order (MCO) on March 18, 2020 to prevent the virus from spreading any further. Many sectors have been compelled to cease operations and begin working from home because of the MCO's prohibitions on out-of-home activities. Though the safety measures were necessary to keep the virus from spreading, it came at a cost to every sector of the industry including public transportation. The public uses public transportation as a mode of transportation to travel from one location to another. City buses, railroads, fast transit, e-hailing, taxis, and ferries are some examples of public transportation.

When the Federal Government announces the MCO, the public must decide whether to use public transportation due to restrictions such as limited travel, avoiding crowded locations, no greetings and physically separating themselves from others [2]. This precaution is taken to prevent the virus from spreading further and to provide passengers with assurance that utilizing public transportation is safe. With the introduction of SOPs for using public transit, it is hoped that public acceptance of these systems will grow. To prevent and limit the chances of spreading and get infected, it is recommended by WHO to at least one meter apart from other individuals. During the occurrence of COVID-19 pandemic, numerous countries reported a significant drop in public transportation usage [3] as many people tend to avoid using public transport as they believe it is hazardous [4].

The occurrence of COVID-19 has led to a massive decline in public transport as restrictions had been made as to make sure to curb the risk of infections [5]. Due to sudden circumstances, unprecedented shutdowns led to a decline in travel demand at all geographic scales and across all of transportation modes [6]. The declines in transit demand are also unequal across social groups since many information, managerial, tech and knowledge workers can work from home while people with jobs that demand physical presence still need to travel to work [7] and the remaining public transport user are likely transit dependent riders who require public transport for mobility and accessibility jobs, healthcare, services and for education [8].

This research aims to determine UTHM undergraduate students' acceptance of the use of public transport before and during the occurrence of COVID-19. Public transportation was always prepared for the use of university students. It helps students which has not own any transportation to go to their destination and they have their own choices either to go by bus or they can even book an e-hailing services. This study will look at the impact on future planning and policy of public transportation systems to promote public transportation utilization and acceptance. During this study, it is hoped to prompt university management to ensure that students can utilize public transportation without fear of infection, even though the coronavirus is still intact, hence promoting student to use public transportation.

2. Research Methods

The research methodology explains the important procedures required to achieve the aim of the study.

2.1 Preliminary Study

Preliminary study purposely aimed to give an overview and ensure that the evaluation covers a relevant areas of focus study. This study specifically aimed to an established of an evaluation group, appointment of the institutions to be evaluated and finally, to the formulation of the terms or reference. Through this, it will help a better understanding regarding to the topic focuses and helps in ease to find other sources of references to relate with the issues of case study.

2.2 Questionnaire Distribution and Data Collection

In this step, questionnaire was constructed to queried regarding to the objective of the study. 3 sections included in the questionnaire including socio-demographic question and question of measurement scale using 5-point Likert scale to determine what factors influenced the acceptance to use public transport. The questions include the factors of (1) safety and security, (2) convenience, (3) travel time, (4) travel cost and (5) infection concern. Questionnaire was distributed to several students to performs the pilot study where the results of pilot study was used to improve the reliability of the questions. A pilot study is one of the important stages in a research project and was conducted to identify potential problem and deficiencies in the research instruments and protocol prior to implementation during full study [9].

The respondents for this study are among UTHM undergraduate students. The total population distribution by Academic Management Office shows that population of undergraduate students is 15,000 [10]. Therefore according to the Krejcie & Morgan (1970) [11], the sample size of this study is 375. However, the total respondents response to this study was 348. Although the target number of respondents it not achieved, 200 is enough response to represents the whole population of the study [12]. Thus, the further analysis were conducted using this 348 responses.

General public may be able to reduce other less important trips during a pandemic, however they may be compelled to travel for a certain primary trip purpose. Hence, it is vital to focus towards of all of travel purposes as it determines the regular or main trips performed, distance travel, and mode chosen. The purposes of the data collection use to analyze the conceptualize of the mode of transport choices during pandemic Covid-19 and study the factors affecting parameter that manipulate the level of acceptance towards the use of public transport.

2.3 Analysis of Data

For the method use in this study which is Mean Score Analysis. To obtained the objective in this study, a mean score analysis was used to analyze the data. The average is one of the methods of the central tendency distribution used for estimating an average or center of distribution of values [13]. The 5-point Likert scale is shown with the value of 1 to 5 (Strongly disagree, disagree, neutral, agree, strongly agree) and the formula used in this method is the total mean and divided by the total amount.

3.0 Results and Discussion

The objectives of this research will be supported by the data collection through online survey (questionnaire). The analysis was identified using frequency method for socio-demographic question, mean score method. The mean score consists of two types of level and the range of mean score classification. Range from 1.00 to 3.66 is in category low level and range from 3.67 to 5.00 is in high category [14].

3.1 Socio-Demographic Question

The data analyzed from the socio-demographic section is somehow affected to the acceptance of students to use public transportation. For example, vehicle ownership, years of having license and how many times do they use public transportation for travel activities. This point of view from respondent contributes to the reason of the usage of public transportation. The data below shows the results of the demographic question.
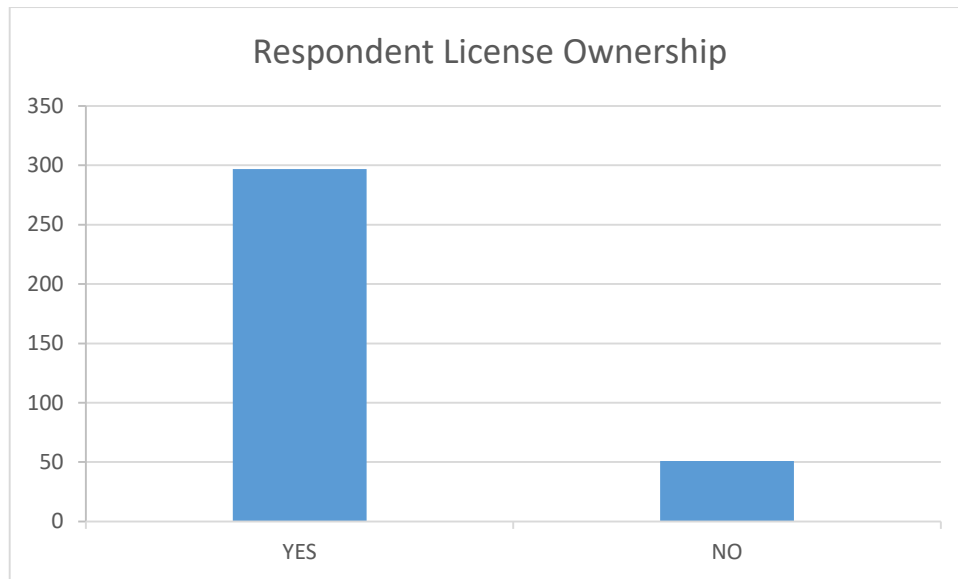
Respondent License Ownership

Figure 2: Respondent License Ownership Histogram

Figure 2 shows that the numbers of respondents who owned a license are 297 respondents. The number of respondents which do not owned license are 51. For Figure 3 below, the data shows the respondents' years of license ownership. The highest results shows that the respondents owned their license for a range of 4 to 6 years with a total of 144 responses, followed by the respondents which owned their license for 1 to 3 years with a total of 116 responses. For those who owned license for 7 to 9 years and more than 9 years is 36 and 3 responses respectively. Meanwhile, 51 respondents do not owned license.
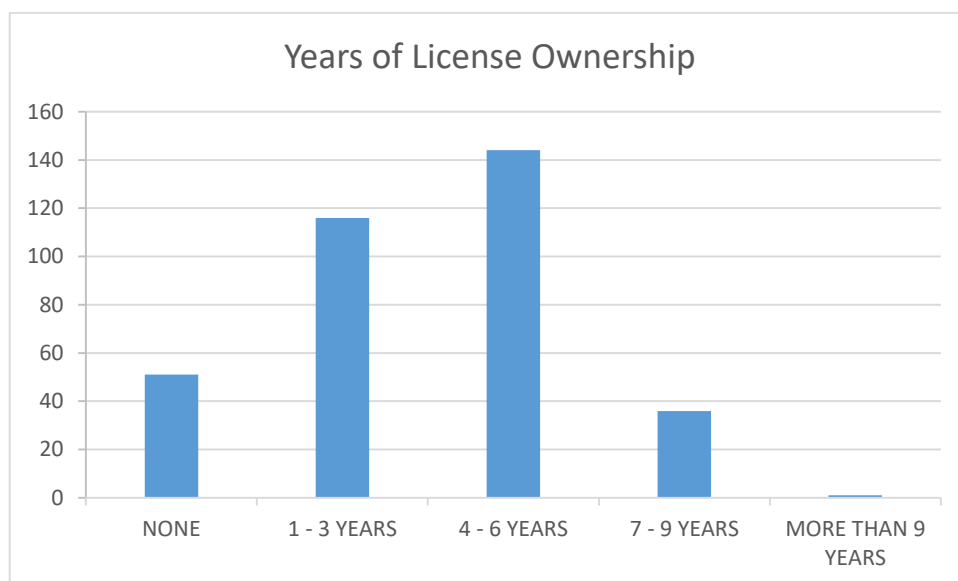
Years of License Ownership

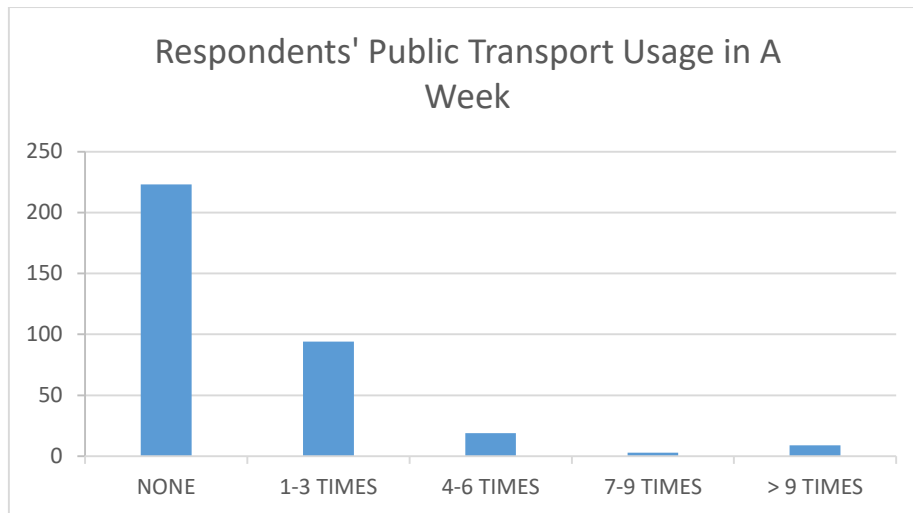**Figure 3: Years of License Ownership Histogram**

Figure 4: Respondents' Public Transport Usage in A Week Histogram

Figure 4 shows the results of public transport usage per week by the respondents. The highest responses recorded that UTHM undergraduate students do not use public transport for any of their travel activities with a total number of 223 responses. For the students that use public transport for 1 to 3 times in a week recorded a total of 94 responses. The response recorded for usage of public transport for about 4 to 6 times in a week is 19. Only 9 students use public transport for more than 9 times in a week and the least responses recorded is for student that use public transport in a week for 7 to 9 times with a total of 3 responses.

3.2 Public transport acceptance (Before and During Covid-19)

Following are the public transport acceptance among UTHM undergraduate students. The acceptance towards each factor is shown in Table 1. Before the occurrence of Covid-19, the parameters of factor of safety and travel time to use public transport is in low category while the other three parameters are considered high. Overall, the acceptance of public transport among UTHM undergraduate student before the occurrence of Covid-19 is high. To compare the parameters during the occurrence of Covid-19, parameters for factor of travel time and concern to infection when using public transport is in low category. For overall, the results concluded that acceptance to use public transport during the occurrence of Covid-19 is low, as expected.

Table 1: Difference of Public Transport Acceptance Before & During COVID-19

Factor	Before Covid-19		During Covid-19	
	Mean Score	Level	Mean Score	Level
Safety	3.6652	Low	3.7478	High
Convenience	3.8384	High	3.7665	High
Travel Time	3.4778	Low	3.5870	Low
Travel Cost	4.3179	High	4.1149	High
Concern to Infection	3.7950	High	2.7155	Low
Total Score	3.7829	High	3.5863	Low

4.0 Conclusion

In conclusion, the acceptance to use public transport among UTHM undergraduate students before the occurrence of COVID-19 is high and during the occurrence of COVID-19 is low. This happens due to following the government order in which only essential businesses and services were open during the occurrence of Covid-19, the dependent riders were likely performing necessary activities for themselves and society as much highlighting that the nature of public transport as a critical service. Other than that, regardless of following government order, during COVID-19 public transportation also contribute to the spreading of the virus thus results in low level of acceptance as they really concern about the disease infection when travel using public transportation. The study of the virus's likely responses indicates that avoiding public transportation would be a well-accepted protective measure to ensure individuals' safety [15]. Generally, related authorities should act in enhancing the usage of public transportation as this aims for a better surrounding and environment for the future generation.

Acknowledgement

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