

Article

Understanding the Factors Affecting Pro-Environment Behavior for City Rail Transport Usage: Territories' Empirical Evidence—Malaysia

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Abstract: The emerging population has increased travel demand and improved public transport mode in cities to connect the people. (1) Background: This study used the Theory of Planned Behavior (TPB) to assess the usage behavior for city rail transport with the factors attitude, subjective norm, and perceived behavioral control and its impact on pro-behavioral intentions to increase the actual usage of rail transports, i.e., LRT, MRT, and KTM commuter. (2) Method/Approach: To understand the antecedents of pro-environment behavioral intention, this study performed pilot testing, for which we collected the data through closed-ended questionnaires to test the instrument's reliability, specifically from the Klang Valley in Malaysia. (3) Findings/Results: This study revealed that the public attitude due to environmental concern and subjective norms and perceived behavioral control are the strongest predictors for public transport usage through behavioral intention. The study estimated that most respondents would have agreed to choose public transport mode if quality of services increased. (4) Conclusion: In future research, the goal of this study could be extended as a strategic indicator for sustainable development through efficient mobility choice in Malaysia. The TPB model helps to present the factors involved in growing and retaining clients for rail transport. In terms of implications for policy, this study also provides policymakers with valuable information to maintain the current public transport passengers and attract new users through the perceived service quality and customer satisfaction of public transport.

Keywords: pro-environment concern; intention; attitude; subjective norm; perceived behavioral control; theory of planned behavior; city rail transport; sustainability; Klang valley; Malaysia



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1. Introduction

Malaysia is a powerful nation in Southeast Asia of the developing world, and transportation plays an essential role in its economic development. Mostly, the public in Malaysia is motivated to use personal cars as compared to using public transports. One of the primary reasons is the rapid development of cities and the demand (purchasing power) for vehicles. This irrepressible mobility drift in Malaysia through personal cars is an alarming condition for the country that can result in climate change issues; congested roads; and social, environmental, and health issues.

Of course, it is concerning that people avoid using public transport. As a result, there is an increase in greenhouse gas (GHG) emissions, traffic issues, accidents, stress, environmental and climate change problems, inefficient resource utilization, and many other issues. Transportation is the second-largest factor for emitting carbon dioxide. Malaysia is number 26th for greenhouse gases emission. Every year, there are 7.27 tons of CO₂ (carbon dioxide) emissions per head, and there is a total population of 32 million in Malaysia (World Bank report, 2015) [1]. Carbon dioxide emission increased to 95% in Malaysia. The

transport sector of Malaysia shares a significant portion of national GHG emissions and leads to an increase [2]. The automobiles contribute around 59% of the GHG emissions, and a minimum of 3% is from buses in Malaysia. The fatality rate in Malaysia is 67%. United Nations Framework Convention Climate Change, 2015 [3] reported that around twenty-four people died due to road accidents when 100,000 people were measured as a sample. Presently, because of consistent increase in greenhouse gas (GHG) emissions, global warming should be considered as one of the most important issues in the strategic mobility plan for sustainable public transportation in Malaysia [4]. Malaysia ranked as the 49th most congested country in Asia after the Philippines [5]. Malaysia failed to fulfill its promise of decreasing GHG (greenhouse gas) emissions up to 40% by 2020 due to negligence [6].

In Southeast Asia, Malaysia has the third largest automobile industry and the ninth highest automobile production country, along with twenty-seven manufacturing companies and more than six hundred forty parts manufacturers as reported by Automotive Industry in Malaysia—Statistics and Facts [6]. The huge crude oil reserve and sufficient fuel supply have made this product affordable for use in private cars [7]. Pricing mechanisms, taxes, and trade regulations encourage automobile usage within the country [8]. Therefore, it is not easy to appeal to the public to avoid using automobiles.

Furthermore, another reason to avoid using public transport might be the lack of services provided to the commuters. Public transport services include high accessibility, safety, affordability, cleanliness, reliability, comfort, and punctuality. There are 13.8 million cars and 13 million two-wheelers on the road every single day, which causes congestion in metropolitan regions like federal territories as Kuala Lumpur, Labuan, and Putrajaya. Most public transport buses in Malaysia always arrive late at their destinations [9]. The commuters' satisfaction with public transportation can reduce GHG emissions and congestion issues. GDP losses of around RM 20 billion every year are caused by road congestion in Malaysia [10,11]. Traffic jams increase fuel costs and waste the prime time of working in Malaysia.

The number of passengers also depends on the high accessibility, high-quality services, and intention to use. Previous studies [12–15] show that on normal days 35% of passengers use public transport, while 75% are automobile users. Sustainability in Malaysian cities is only possible through greater use of public transport and regulation of automobile ridership. However, the unavailability of current city rail transport is a waste of time and money, discouraging people from using it. Although in megacities like Kuala Lumpur the government tries to provide sustainable programs like tax-free bus purchase, touch and follow incentive cards, and park-n-ride, many more improvements are required. Due to lack of services and convenience, people are not satisfied with public transportation.

Studies about public transport in Malaysia are found more in literature but less in practice. The public is still not motivated towards the usage of public transportation. This study aims to identify the several factors which, if focused, can positively affect the intention and usage of public transport in the urban region of Malaysia, and those factors can be attitude, pro-environmental concern, customer satisfaction, perceived behavioral control, and subjective norm. This study would help to increase the awareness among the public and transportation industry to use public transport and suggests multiple positive impacts of public transport usage for long-term development in Malaysia.

2. Literature Review and Proposition Development

Previous studies have identified different factors which affect the public transport usage behavior through the sustenance of the theory of planned behavior and pro-environment behaviors to motivate the public towards public transport usage. Different factors used for analysis are as follows.

2.1. Theory of Planned Behavior (TPB)

TPB is the underlying theory of this research which is used to predict actual customer behavior through intentions [16]. Several studies successfully applied the TPB to measure the behaviors and preferences for voting, smoking, driving, usage, traffic violations, technology use, and many more. Previous studies adopted other theories to indicate the behavioral choice of individuals towards a particular action. Therefore, the most used approach to predict human behavior is the theory of planned behavior TPB [17]. Previous studies have adopted a planned behavior approach to predict the public's behaviors towards transportation usage. Therefore, the most suitable theory for the current research is the TPB.

Some studies have used customer satisfaction and customer loyalty to understand the behavior intention [18]. Thus, a behavioral sense includes the use, re-purchase/re-use, and recommendation intention to perform actual behavior [19,20]. Literature reviews by [20–22] support that the Theory of Planned Behavior (TPB) is the most suitable to forecast the intention and behavior of the public [23]. The previous experience, concerns, and beliefs can develop the intention to (re) use public transport. Therefore, TPB can mainly construct the respondent's expectations, references, and ideas.

2.2. Pro-Environment Concerns

Concern about the environment has now attained extreme importance in the overall world. Environmental concern is termed as the affective environment attitude [24]. It evaluates one's behavior in terms of the environmental consequences [25]. Several studies [24–28] have focused on environmental concerns at the individual level. Attitude always influences actions; different studies have measured the cause-and-effect relationship to measure the attitudes which result in pro-environment behaviors [29]. It is evident that people who have a great concern for the environment behave sensibly and often sacrifice for the environment's sake [30]. Furthermore, the pro-environment behavior of the public leads to the successful execution of the environmental policies and regulations in a country [24]. The consistent pro-environment behavior has raised concern for the environment. The environmental concern is vast and needs sustainable decisions [31]. Most of the studies found that economic and ecological stabilities are positively related to environmental concerns [31].

Different environmental issues create hazards to environmental sustainability, including change in biodiversity, air pollution, water shortage, and noise pollution. Most of these issues belong to the human behavior [31] which can be managed through the relevant attitudes of the public towards reducing negative environmental impacts. The changes in human behavior resulting from consumption growth needs efficiency [32]. However, innovators should also focus on the proper usage behavior of the products or services, because consumption growth would have negative impacts as in the case of high consumption and usage of automobiles and less usage of city rail transit [33]. This phenomenon belongs to the environmental psychology which helps to improve environmental sustainability through changes in intention/usage behaviors. This research helps to understand the pro-environmental behavioral changes in energy and goods/services consumption. Environmental behavior causes a change in presence of material/energy from the environment which also has an impact on structural changes in the eco-system [34]. Thus, pro-environment behavior is the behavior which does not harm the biosphere or, in other words, attitudes which benefit the environment. Abusafieh and Razem [35] revealed that promoting behavioral change is effective when an individual carefully chooses the usage attitude for environmental friendliness; secondly, when one assesses the factors which cause damage to the environment; and third, when there are interventions by government and transport agencies to change the related behaviors and their antecedents. Fourth is to evaluate possible effects of those interventions on the actual behavior, antecedents, and quality of the life. There is a need to highlight the antecedents and factors through study. For ex-

ample, environmental concern, health concern, and social concern are the most highlighted antecedents of the pro-environment behaviors which were not examined before.

2.3. Attitude of Public

Attitude is instead the consistent recognition of an individual's behavioral feeling easily determined through their likes, particular objects, and the environment [36]. Attitude is the evaluative response of an individual towards public transport usage [36]. In travel behavior, people use public transport as per their perceptions and attitudes [37]. Ahmed et al. further explains that young people, primarily students with low income, are more motivated to use public transport.

According to the theory of planned behavior, attitude towards the conduct reflects the overall behavioral performance. Perspectives rely on individuals' beliefs, consequences, and concerns. Environmental concerns and health concerns affect the public's mood toward the reuse of public transport recommendations [38]. The results identified through available information that whether the individual has a positive or negative attitude towards public transport users can be evaluated through more, less, or no public transport usage—environmentally concerned people showing intention to use public transport [39]. Likewise, people concerned about their fitness and health show a positive attitude towards public transport usage [40].

2.4. Subjective Norms

Previously, subjective norm (SN) is the social pressure that stimulates the behavior to use or not use public transport [22]. This variable is wholly related to the perceptions of the other essential persons' expectations positively and significantly correlated with the behavioral intention to use public transport [41]. Subjective norm is the social norm followed by the individual social concerns and believes. Their leaders, celebrities, loved ones, parents, and friends recommend using public transport and consider public transport use good for the environment and health of society [41]. There is social pressure on the public to generally use public transit services to protect the environment and health issues [42]. Public transport quality services are provided to every individual without discrimination and help individuals reach their destinations without wasting the megacities' cost and time [42]. Several studies [43] suggested that more people intend to perform more than the subjective norm public transport usage. People are influenced by their loved ones for choosing public transports, but behavioral intention can indirectly affect the social norms and public transport usage behavior.

Several studies confirmed that both attitudes of the public and social norms could significantly predict individual behavior [23]. People primarily use public transportation because their loved ones and close peoples are also fond of using public transports [44]. Most developed countries try to provide equal services to each class of people. The reason is that every individual prefers public transport services more than the alternatives like personal cars. Two beliefs follow the subjective norm. One is a unique/individual belief and the other one is a normative belief. Thus, the social model is the perception of social obligation and belief system is performing or not as per the essential people's expectations [45]. Normative belief is the fear of social permissions to act or not to perform any behavior. Thus, the intention determines by an individual's motivation to fulfil and fear social sanctions [46]. Individuals are more likely to act when their belief can indicate that there is social pressure or expectations of our loved ones towards public transport usage.

2.5. Perceived Behavioral Control

The ease, ease, effort, and trouble to perform a particular task are called Perceived Behavioral Control (PCB). For instance, if a person is more intent towards the transport mode choice, he has a positive experience. Any factor can provide a hindrance for choosing the mode; those factors can be socio-demographic variables (age, gender, income, job, family size, etc.), perceived social pressure of the family, education, occupation, etc. Public

transit usage by the public can increase the perceived behavioral control to maintain good health and the environment. Additionally, the concept of perceived behavioral control can refer to self-evaluation in terms of the environmental, health, and other issues which are contributing to pollution and congestion matter [47]. Previous studies [48] revealed different socio-demographic factors such as race, age, education level, and significant income have a relationship with awareness of using public transport on using public transportations. These factors control variables that significantly affect the usage behavior of public transportation via behavioral intention [49,50], which suggests the behavior of the individual in terms of how they are going to use the public transport.

2.6. Behavioral Intention

The attitude of the people influences the public transport travel behavior. Attitude is the evaluative response (liking and disliking) towards a particular behavior [46]. Assessment by the people develops the behavioral intention to use public transportation [51]. The idea to use TPB (Ajzen, 1985) is that people's behavioral intention can immediately determine people's actual behavior. Behavioral intention is the function of three main components: the public's attitude to using transport, social norms, and perceived behavioral control. The intention is the ability to accomplish a task [22]. Likewise, the psychological reflection and reaction of the actions' concerns can only develop the attitude. If an individual considers private car use as the factor that contaminates the environment and family also admits this fact, they use the MRT/LRT or any other public transport. The people who have positive attitudes have a stronger intention to conduct the behavior [23,52]. The previous study [52] considered the environment safe for transport mode choice usage.

2.7. Usage Behavior

Public transport is interpreted as the clients' shared transport services applicable to provide the public with mobility and accessibility of themselves and necessity products [53]. Public transport usage behavior is the actual outcome of satisfied customers and having serious concerns about their health, environment, and income [54]. Empirical evidence suggested that individual attitudes influence the behavior to choose public transport modes. Theory of planned behavior [22], as the rational choice model/framework with use intention, can determine public transport use behavior. The rapid increase in the population and economic growth have been capable of improving the current transportation system. There are different modes of transports like highways, railways, water, and airways. In Malaysia, public transports are a bus, taxis, railway, train, and airlines. Gradually, the public transport has become an essential travel mode for social humanity in Malaysia [55]. The focused public transport mode for this study, i.e., land public transportation. The public transport study is necessary for academia is due to its increased demand [56].

Behavioral intention is the function of three main components: the public's attitude to using transport, social norms, and perceived behavioral control. Behavioral intention is the measure of the individual ability to perform an activity [21]. Likewise, attitude can be defined as the individuals' reflection and reaction due to certain concerns to achieve a particular action. The more positive attitudes individuals have, the stronger their intention to conduct a certain behavior [22]. Study [52] has been undertaken to consider the environment safe for transport mode choice usage. Environmentally concerned people show intention to use public transport [26,31]. Attitude is rather the consistent recognition of an individual's behavioral feeling easily determined through their likes, particular objects, and the environment [57,58]. The results identified through available information that whether the individual has a positive or negative attitude towards public transport users can be evaluated through more, less, or no public transport usage. People are mostly using public transportation because their loved ones and close peoples are also fond of using public transport [55,57,58]. Thus, it is determined by an individual's motivation to comply and fear social sanctions [45]. An individual is more likely to act when their belief can indicate that there is social pressure or expectations of our loved ones towards

public transport usage. There are situational controllability and ease and obstacle for the individual to travel through public transport. Perceived behavioral controlled variables can be those factors that help or stop individuals in the usage of public transportation. The factors that help or hinder the public in terms of public transport usage have a significant relationship with the usage of public transport [45]. Attitude is the evaluative response (liking and disliking) towards a particular behavior [22,46]. According to the planned behavior theory [22], attitude is the reflective behavior after the individual overall evaluation to perform it. Assessment by the people develops the behavioral intention to use public transportation [55–57]. From the literature review assessment, the following propositions (relationship among factors) are developed:

- Proposition 1: Pro-environmental concerned people are actively involved in environmentally friendly activities, thus showing the positive attitude for city rail transport usage in Klang Valley.
- Proposition 2: Subjective norms are the social concerns of the people, which can have a positive effect on behavioral intention to use city rail transport.
- Proposition 3: Perceived behavioral control factor is also positively associated with the behavioral intention for public transit usage.
- Proposition 4: Public behavioral intention for city rail transit is positively associated with the actual usage.

2.8. Conceptual Framework

The research framework of this study is developed based on the above discussed literature review and theories, as shown in Figure 1. Research framework shows that people who are concerned about the environment show a positive relationship with attitude. Whereas attitude, subjective norm, and perceived behavioral control are significantly related with the behavioral intention, behavioral intention is significantly related with the usage behavior.

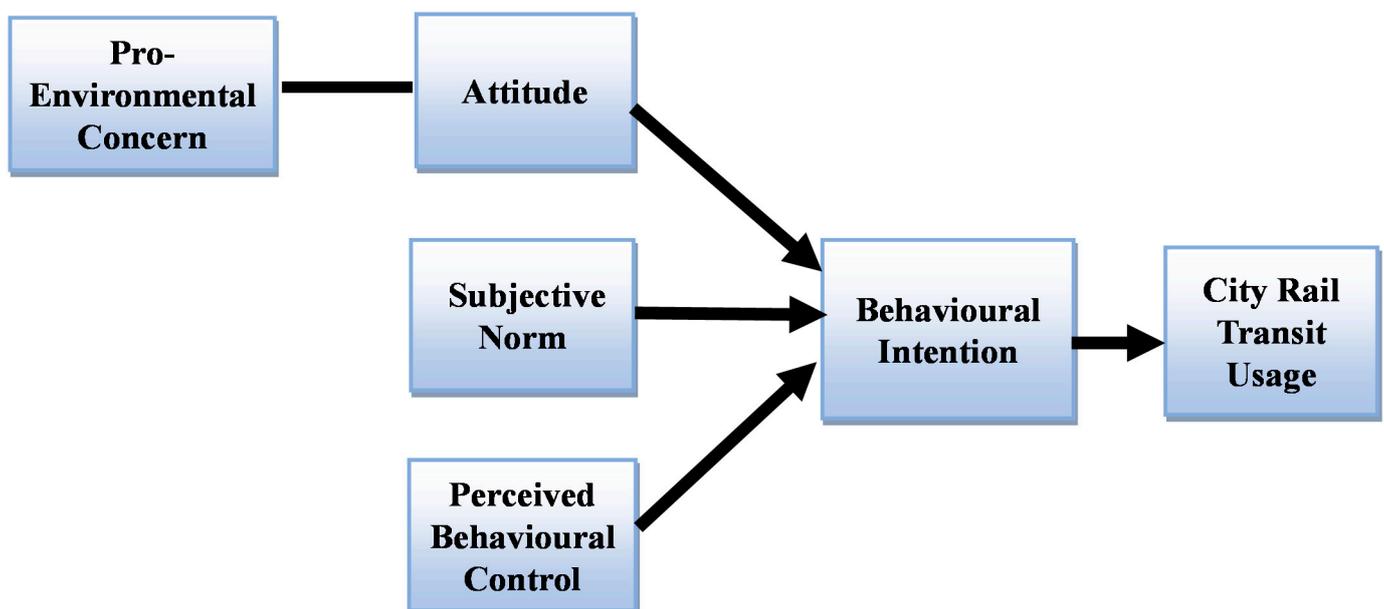


Figure 1. Conceptual framework of the study.

3. Materials and Methods

This study conducted the pilot test by using SPSS version 22-0 and used the quantitative instrument to explore the factors affecting the behavioral intention of public for public transport usage in Klang valley, Malaysia. The pilot test respondents are the residents of the Klang valley (Specifically the Selangor and Kuala Lumpur states where the

city rail transits (LRT, MRT, and KTM Commuter are functional). The researchers have constructed the closed-ended questionnaires and collected first-hand data (primary data) from the residents of Klang Valley (the federal territory of Kuala Lumpur and Selangor state), Malaysia. As per the honest approval letter with No: Re: U/SERC/191/2020 dated 18 November 2020 provided by our university in Malaysia for our research project, we are bound to follow the ethical procedure to collect, analyze, and display the primary data. The literature review collected from different search engines, i.e., Science Direct and Google Scholar, and ResearchGate was used as the secondary data to formulate the propositions of the research. Study publication sites collected from selected databases are displayed in Figure 2.

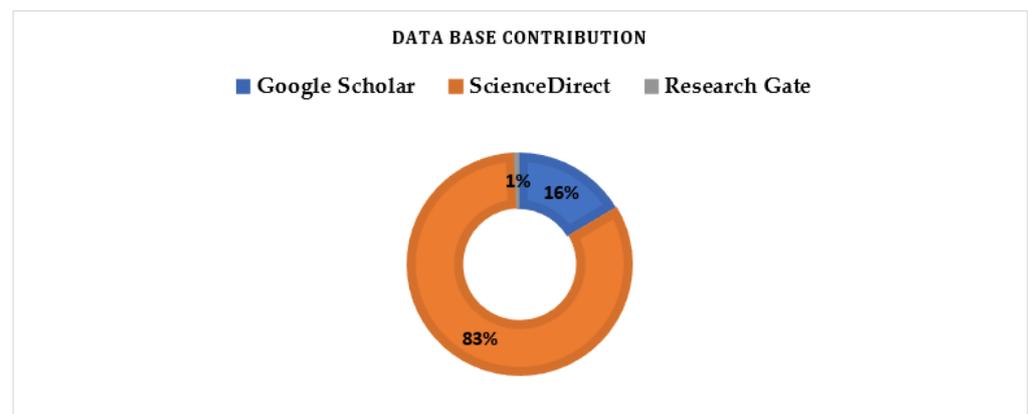


Figure 2. The publishing site of the study from the selected database.

3.1. Population and Sampling

For the primary data collection this study adopted a convenient sampling method which is the type of non-probability technique. The questionnaires are mostly filled by the residents of the Klang valley who have experience of MRT, LRT, and KTM commuting at the stations/platforms. There are around 8.3 million people residing in the Selangor state and Kuala Lumpur territory of Malaysia. The population size is given in Table 1 below.

Table 1. Population size.

No.	Name	Population (in Thousands)
01	Kuala Lumpur	1769.3
02	Selangor	6554.8
	Klang Valley	8324.1

Source: Department of Statistics, Malaysia (2020).

3.2. Instrument Development

The closed-ended questionnaire consists of three sections. In the questionnaire, Section I is about the introduction and the consent form, Section-II is about the demographic/background information, and Section-III is about the constructs of the study. The measurement items for each construct are adopted with some textual modifications to fit in the public transport usage behavior context. Several items for each construct and its sources are presented in Table 2.

Table 2. Instrument Development.

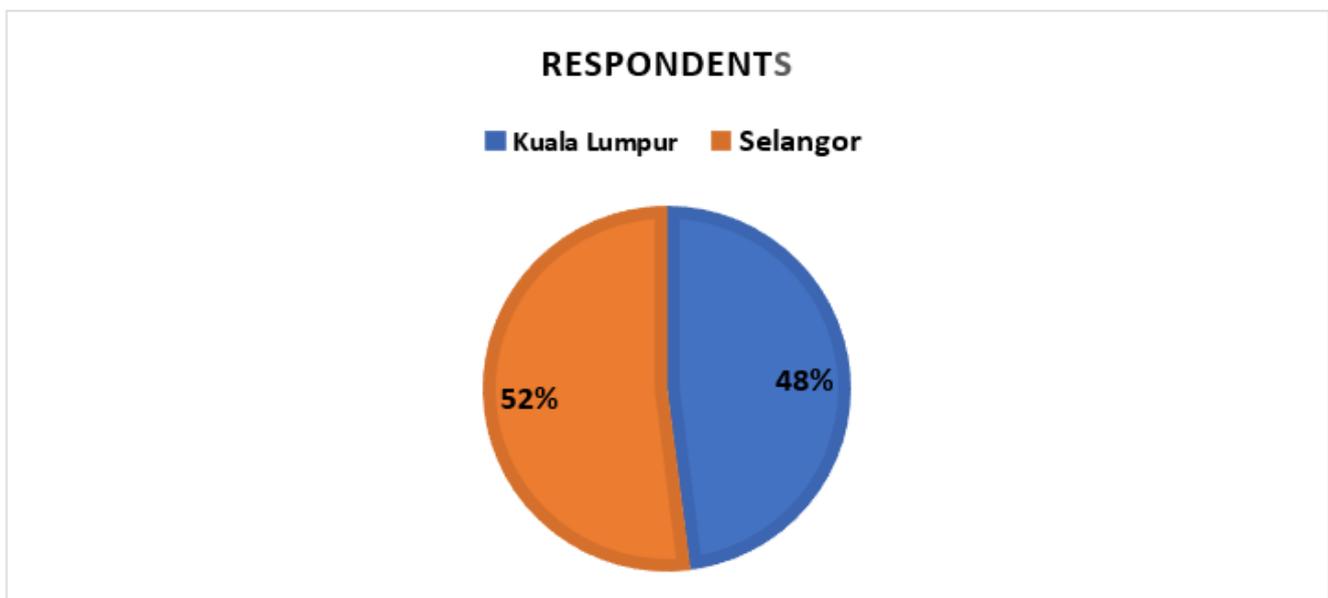
Constructs	Items	Source
Environment concern	8	
Attitude (AT)	8	
Subjective Norm (SN)	11	
Perceived Behavioral Control (PCB)	8	[23,35,44,51–54]
Behavioral Intention (BI)	7	
Usage Behavior (USE)	6	

3.3. Data Collection

This study adopted a convenient sampling method which is the type of non-probability technique for the data collection. To conduct the survey from January 2021 to April 2021, people who were accessible by the researcher have filled and forward the questionnaire online and offline. The respondents are above 18 years of age, around 8.3 million people are residing in the Selangor state and Kuala Lumpur territory of Malaysia. Fifty questionnaires were filled, among which 46 were considered valid for pilot data analysis. In present COVID-19 circumstances, the rail transit was functional in urban regions by following and manual questionnaire was also filled during peak hours of 08:30–10:00 a.m. and 5:50–7:30 p.m. and instrument was also converted into Google form and distributed among the citizens in the federal territory of the Kuala Lumpur citizens having experience of city rail transit. The data pre-tested and analyzed through SPSS version 22-0.

4. Results

The global COVID-19 pandemic has changed passenger preferences for mobility, as well as behavioral intentions towards the public. In the case of Klang Valley study conducted and found that most of the city rail transit users' frequency is from Kuala Lumpur (federal territory) with a percentage of 48% whereas from Selangor it is 52% as shown in Figure 3. There is a need to find the reasons for these changes; some might be the lack of accessibility and safety in city rail transits, or the services do not appeal to the age and gender of the passengers.

**Figure 3.** Total respondents from Klang Valley, Malaysia.

For ethnicity of the respondent's other race, the people are more with the 30% whereas Malay and Chinese with 28.3%, and Indian with 6%. Most of the participants were single

with 58.7% and postgraduate with 47.8%. Participants who have mostly given responses are private-sector employees with 41.3%. Furthermore, 5–10 years experienced respondents are more with the 47.8%. Results also show that the respondents with below income of RM 2000 are major group using city rail transport. Primarily people use public transport for extended travel, and many of the respondents use Light Rapid Transit compared to other types like MRT, coach and buses system, etc. Results further show that most people are using public transport for social activities with 26.1%. Most of the respondents use public transport with the frequency of 6–10 times a week. The respondents mostly traveled for less than 15 min on public transport with 32.6% per day, and the average travel distance covered by most respondents is 16 to 22 km per day.

Moreover, Cronbach's Alpha reliability for Pro-Environment Concern (ATE) is 0.913. whereas, for Attitude (AT) it is 0.949. Cronbach's Alpha Reliability statistics for Subjective Norm (SN) is 0.797. The Perceived Behavioral Control (PCB), whose reliability Alpha value found, is 0.841. Behavioral Intention (BI) is the mediating variable with the Cronbach's Alpha reliability value of 0.686. Public transport usage (USAGE) is the dependent variable with Alpha reliability statistics of 0.816. Reliability Cronbach's Alpha value for customer satisfaction is 0.861. Standard deviation and mean and alpha reliability of inter-items also found positive for all six variables. The standard, acceptable, and satisfactory result for Alpha reliability should be more than 0.60 [59], and results show that all the constructs are reliable.

Tables 3 and 4 present Spearman's correlation of the attitude. Results show a strong positive correlation between attitude (AT) and environment concerns (ATE) like as AT2 has $Rho = 0.722^{**}$, $p < 0.01$, AT3 with $Rho = 0.537^{**}$, $p < 0.01$ and AT7 ($Rho = 0.298^*$, $p < 0.01$), whereas for ATE2 ($Rho = 0.662$, $p < 0.01$, and ATE3 ($Rho = 0.420$, $p < 0.01$). Table 5 presents Spearman's correlation between subjective norms and social concerns. The result shows a strong and monotonous effect of SN3 with Rho rank, i.e., 0.370^* , $p < 0.01$.

Table 3. Spearman's Rho Rank Correlation of Attitude.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
AT1	I like traveling by public transport.	1.000	
AT2	Using public transport is convenient for me.	0.722 **	0.000
AT3	Using public transport is time efficient.	0.537 **	0.004
AT4	I have good feeling towards using the public transport.	0.350	0.017
AT5	The public transport use will be extremely pleasant for me.	−0.047	0.757
AT6	For me, to use the public transport is interesting.	0.185	0.220
AT7	I would enjoy using the public transport.	0.298 *	0.045
AT8	I like the idea of using public transport.	−0.127	0.400

Note: **. Correlation is significant at the 0.01 level (2-tailed) as well as *. Correlation is significant at the 0.05 level (2-tailed) respectively.

Table 4. Spearman's Rho Rank Correlation of Environment Concern.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
ATE1	I prefer to use public transport services because it protects the environment.	1.000	
ATE2	I prefer to use public transport services because it reduces air pollution.	0.662 **	0.000
ATE3	I prefer to use public transport services because it reduces traffic congestion.	0.420 **	0.004
ATE4	I prefer to use public transport because it is more environmentally friendly option than driving a personal vehicle.	0.260	0.080
ATE5	I would like to travel by public transport without damaging the environment.	−0.013	0.930
ATE6	I prefer to use public transport because it emits less carbon dioxide (CO ₂) than a personal car.	0.212	0.157
ATE7	I choose to use public transport because it is cleaner for the environment.	0.290	0.051
ATE8	I think my environmental attitude will encourage me to use public transport.	−0.111	0.464

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

Table 5. Spearman's Rho Rank Correlation Coefficient of Subjective Norms.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
SN1	People who are important to me always encourage me to use public transport because it is safer/easier.	1.000	
SN2	People who are important to me always encourage me to use public transport because it is affordable.	0.214	0.153
SN3	People who are important to me always use public transport for their daily commuting trips.	0.370 *	0.011

Table 5. Cont.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
SN4	My family and friends should always use public transport to save travel expenses.	0.220	0.142
SN5	My family and friends will support my decision to use public transport daily.	0.111	0.463
SN6	The existence of important/close people around the passengers/peers suggest using public transport services in the future.	0.044	0.770
SN7	Society needs to prioritize using public transport services over the private vehicle.	0.112	0.459
SN8	Using the public transport service shows my life principle in a community.	0.023	0.880
SN9	I become more socially active by using public transport.	0.044	0.770
SN10	There is the existence of social pressures to use public transport.	0.112	0.459
SN11	Society needs to prioritize using public transport services over the private vehicle.	0.023	0.880

Note: * Correlation is significant at the 0.01 level.

Spearman's correlation results between the Perceived Behavioral Control (PBC) shows the strong positive correlation between behavioral intention (refer to Table 6) where PBC3 has a strong Rho rank of 0.609, $p < 0.01$, PBC4 (Rho = 0.451 **, $p < 0.01$, PBC7 (Rho = 0.548 **, $p < 0.01$) as shown in Table 6. The presentation of Table 7 shows that Spearman's correlation between behavioral intention and usage is positive and strong. As, BI2 have Rho = 0.567 **, $p < 0.01$, BI3 (Rho = 0.380 **, $p < 0.01$), and BI7 (Rho = 0.468 **, $p < 0.05$). The Spearman's correlation between the usage is also positive and strong, i.e., USAGE2 (Rho = 0.662 **, $p < 0.01$) and USAGE3 (Rho = 0.420 **, $p < 0.01$) is monotonous (refer to Table 8).

Table 6. Spearman's Rho Rank Correlation Coefficient of Perceived Behavior Control.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
PBC1	I face difficulties whenever I use the public transport.	1.000	
PBC2	For me, to use the public transport on a regular basis is possible.	0.229	0.126
PBC3	I am not comfortable when I travel with people I do not know well.	0.609 **	0.000
PBC4	The decision to use public transport is under my Control.	0.451 **	0.002
PBC5	Whether I use the public transport on a regular basis is completely up to me.	0.548 **	0.000
PBC6	It is hard to take public transport when I travel with my children.	0.099	0.514
PBC7	It is hard to take public transport when I travel with bags or luggage.	0.548 **	0.000
PBC8	My income allows me to use this public transport.	0.099	0.514

Note: **. Correlation is significant at the 0.05 level (2-tailed).

Table 7. Spearman's Rho Rank Correlation Coefficient of Behavioral Intention.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
BI1	I say positive things regarding the public transport service to others.	1.000	0.000
BI2	I recommend using the public transport service to someone who seek my advice.	0.567 **	0.000
BI3	I encourage friends and relative to do business with the public transport.	0.380 **	0.009
BI4	I consider the public transport service as my first choice to travel.	0.258	0.840
BI5	I will do more business with the public transport service in the next few years.	0.218	0.145
BI6	I intend to use the public transport in future.	-0.157	0.297
BI7	Public transport is pleasure and reliable to use.	0.468 **	0.001

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

Table 8. Spearman's Rho Rank Correlation Coefficient of Usage.

Items	Description	Correlation Coefficient Spearman's Rho	Sig. (2-Tailed)
USAGE1	I travel by using public transport because it can relax.	1.000	
USAGE2	I travel by using public transport because I feel safer from the accident.	0.662 **	0.000
USAGE3	I travel by using public transport because it is economical.	0.420 **	0.004
USAGE4	I travel by using public transport to avoid traffic congestion.	0.260	0.080
USAGE5	I travel by using public transport because it is better for my health.	-0.013	0.930
USAGE6	I travel by public transport without damaging the environment.	0.212	0.157

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

Furthermore, Table 9 presents the Spearman's correlation among the variables, i.e., environmental concern, attitude, subjective norm, perceived behavioral control, behavioral intention, and usage. Attitude has a strong correlation with behavioral intention, whereas the correlation coefficient value is 0.407 ** with a significant 2-tailed value is 0.004. Moreover, there is also a strong positive relationship between subjective norm and behavioral intention (Rho = 0.681 **, $p < 0.01$). Furthermore, there is a strong, positive correlation between perceived behavioral control and behavioral intention (Rho = 0.614 **, $p < 0.01$);

behavioral intention also has positive relation between behavioral intention and usage with the coefficient correlation (Rho = 0.407 **, $p < 0.01$).

Table 9. Spearman's Rho Rank Correlation Coefficient.

		Environment Concern	Attitude	Subjective Norm	PBC	Behavioral Intention	Usage	
Spearman's rho	Environment Concern	Correlation Coefficient	1.000	1.000 **	0.445**	0.405 **	0.407 **	0.960 **
		Sig. (2-tailed)	.	.	0.002	0.005	0.004	0.000
	Attitude	Correlation Coefficient	1.000 **	1.000	0.445 **	0.405 **	0.407 **	0.960 **
		Sig. (2-tailed)	.	.	0.002	0.005	0.004	0.000
	Subjective Norm	Correlation Coefficient	0.445 **	0.445 **	1.000	0.496 **	0.681 **	0.399 **
		Sig. (2-tailed)	0.002	0.002	.	0.000	0.000	0.006
	PBC	Correlation Coefficient	0.405 **	0.405 **	0.496 **	1.000	0.614 **	0.309 *
		Sig. (2-tailed)	0.005	0.005	0.000	.	0.000	0.036
	Behavioral Intention	Correlation Coefficient	0.407 **	0.407 **	0.681 **	0.614 **	1.000	0.407 **
		Sig. (2-tailed)	0.004	0.004	0.000	0.000	.	0.004
	Usage	Correlation Coefficient	0.960 **	0.960 **	0.399 **	0.309 *	0.407 **	1.000
		Sig. (2-tailed)	0.000	0.000	0.006	0.036	0.004	.

Note: **. Correlation is significant at the 0.01 level (2-tailed) as well as *. Correlation is significant at the 0.05 level (2-tailed) respectively.

5. Discussions

The world is facing many issues, and most of the problems originated and extended due to human behaviors. The climate change/environmental problem is severely needed to resolve possible factors that inspired the public towards the behavior. Researchers have identified the factors like environmental concern, attitude, subjective norm, perceived behavioral control, and customer satisfaction to understand the usage behavior of public transport. These factors are essential to solve any issues faced by the earth [31,60–63]. At present, for pilot testing, SPSS-22-0 was used to analyze the construct's validity. Results show that all the constructs are strongly interrelated among themselves and reliable. During pilot testing, Spearman's correlation test has performed the correlation among the variables. Attitude has a strong correlation with behavioral intention, whereas correlation coefficient value is 0.407 ** at significant 2-tailed value is 0.004. Moreover, there is also a strong positive relationship between subjective norm and behavioral intention (Rho = 0.681 **, $p < 0.01$). Furthermore, there is a strong and positive correlation between perceived behavioral control and behavioral intention (Rho = 0.614 **, $p < 0.01$). Behavioral intention also has a positive relation with usage, and the coefficient correlation value is Rho = 0.407 **, $p < 0.01$.

Public transport sustainability is the main driver for economic development. Effective public transport in a country is an important tool to reduce automobile dependence, which minimizes auto-based pollution. These benefits may include all the effects including reduced emissions and land use (environment), improved access (social), increased economic efficiency, and contribution to economic activity. Different researchers advised that the shift of public from private automobile to public transport can achieve sustainability and urbanization development. The idea is that replacing a transit trip with a car trip would bring great benefits to the transportation system—usually replacing a car trip with public transit trip. The benefits of public transportation are beyond the scope of direct transportation service—for example, the Canadian Urban Transit Association (CUTA) estimates that the Canadian economy generates \$10 billion in profits each year due to transportation (Canadian Urban Transit Association, 2010) [64].

The results show that mainly the students and private job holders use public transport specifically for long-distance and social and recreational activities in Klang valley. In cities, public transport has become compulsory for urban regions to reduce traffic congestion and environmental issues.

6. Recommendations and Conclusions

Sustainable transportation systems increase welfare for society, the environment and can create many benefits for human welfare. It can enable economic growth and increase accessibility for people towards essential services. However, it also causes a lot of challenges. The research examined the current mobility trends in transportation and its usage behavior impacts on environmental, economic, and social factors. Congestion

is recognized as a global consequence of increases due to the increase in automobile dependence. Adverse effects include environmental (increased pollution), loss of economic productivity, and social (human health and equity effects).

The people should develop usage behavior for city rail services to reduce climate change issues caused due to high usage of automobiles like traffic stream, decreased accident rates, and take initiatives to save fuel costs in Malaysia. Presently, the Government tries to put great efforts to control the quantity of the private car on the road and encourage the public to use public transport, for instance, to implement the congestions penalties, taxes, and purchase restrictions strategically. However, the general behavior towards city rail transport is not as per the threshold provided by the World Bank in the year 2015. Though, roughly the interventions expected are not as effective as anticipated. There is a need to highlight the factors through the lens of Planned Behavior's theory like environmental concern, attitude, subjective norm, perceived behavioral control, intention, and usage, which severely affects the positive public behavior towards public transport in Malaysia. The theoretically grounded research is also needed to investigate the psychological factors desired to enhance public transit use. An integrated framework/mechanism should be presented and executed. There is a significant consensus that the public in Malaysia has needed a drastic change in their attitude towards the environment and mobility behavior. There is a need to develop pro-environmental behavior towards city rail transport usage to better society and environmental sustainability.

Increase of automobile dependency has challenged the economies to gain sustainable development goals by year 2030. Different long-term strategies had been discussed in several studies and policy papers to propose eco-friendly footprint for current mobility patterns in developed and developing nations. Present study first performed literature analysis and extracted the factors which effects on the mode choice and usage behavior of public transport after that through pilot test was conducted to understand the relationship among the factors themselves and with the usage behavior. Different factors greatly affect the pro-environment behavior towards using ecological concern, attitude, perceived behavioral control, and intention to use public transport consistently which can elaborate the intention-behavior gap of the public towards the public transport. The government and transportation agencies can get information regarding highlighted factors to reduce congestion and pollution in Klang Valley, Malaysia. In 2018, the World Bank forecasted that almost every person living in the urban region of Malaysia has a car. There are chances of high climate change/environmental hurdles that could shake the country's economic condition. The studies on the preference of car use compared to urban rail transport in Malaysia can also generalize the findings to resolve the issue in the country. Moreover, this study will activate further empirical analysis. Furthermore, the study found that quality of the public transportation is significantly related to the commuters' loyalty/behavioral intention of the commuters. This research contributes to the literature by increasing the core focus of the behavioral intention to enhance the usage of public transits. It determines the factor that primarily affects the usage behavior based on the Theory of Planned Behavior (TPB). Thus, this study contributes in the empirical knowledge to understand the factors (psychological/socio-cognitive factors) with the help of the prominent theory of planned behavior, thus the government of Malaysia and policy makers can also focus above studied factors which can increase the city rail transit usage in Malaysia. In the future researchers should examine more detailed aspects contextually and methodologically) interacting with the constructs to examine the fundamental theoretical framework.

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