

## ANALYSIS OF TRAVEL BEHAVIOUR IN PETALING JAYA, MALAYSIA: AN APPLICATION OF THE THEORY OF PLANNED BEHAVIOUR

Ahmed Madha<sup>1</sup>, Ali Dawod Salman<sup>2</sup>, Hussein Dhafir Hussain<sup>3</sup>, Nazri Borhan<sup>4</sup>, Riza Atiq O.K. Rahmat<sup>5</sup>

<sup>1,2,3,4,5</sup>Universiti Kebangsaan Malaysia, Faculty of Engineering and Built Environment, Selangor, Malaysia

<sup>1</sup>e-mail: aprodigy9@yahoo.com

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**Abstract:** *In order to understand travellers' willingness to use the train in Petaling Jaya, this study adds four predictors - situational factors, trust, novelty seeking and external influence - to the existing model of theory of planned behaviour (TPB). The study collected research data from employees in Petaling Jaya, Malaysia, resulting in valuable data of 400 participants. Results indicate that attitude, perceived behavioural control, and subjective norm are found to have positive effects on the behavioural intention of taking the train. Furthermore, novelty seeking and external influence also have positive influences on attitude. While the three antecedents of trust were found to have an indirect positive effect on commuters' intention to take the train via attitude, subjective norm and PBC. Situational factors were found to have an indirect negative significant influence on people's intention to take the train through perceived behavioural control.*

**Key words:** *public transport, private car, Theory of Planned Behaviour, Structural Equation Modelling, Petaling Jaya.*

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### 1. Introduction

#### 1.1. General description

Petaling Jaya is a Malaysian city originally developed as a satellite township for Kuala Lumpur comprising of mostly residential and some industrial areas. It is located in the Petaling district of Selangor with an area of approximately 97.2 square kilometres and a population of 613,977 (DOS, 2012). It was first developed as an answer to the problem of overpopulation in Kuala Lumpur in 1952, and has since witnessed a dramatic growth in terms of population size and geographical importance. Most of the time, Petaling Jaya faces severe traffic congestion issues, especially at peak hours. The town's central business district is growing rapidly, which is resulting in an increase of private car ownership where private cars and motorcycles are bottling up roads and highways in the city.

Transport systems are one of the main factors of economic development (Jacyna et al., 2014). Transport infrastructure is an indispensable component of a city's successful development, for it induces the creation of new attractions and the growth of existing ones (Kaul, 1985). With different trip purposes and trip lengths, people make different choices of travel mode (Georgi & Pandyala, 1999).

The train has the possibility to attract travelers who previously chose to travel by car, and can also provide new opportunities for long distance commuting which otherwise is too long for regular commuting via personal vehicles. However, it is not clear what drives travelers to take the train. To examine the process, this study applies the theory of planned behavior (TPB) as the research framework to predict the behavioral intention of taking the train. TPB, a widely used model to predict and explain human behavior, has been applied to a variety of social behaviors with strong predictive utility (e.g., Reinecke, Schmidt, & Ajzen, 1996; Nazri, 2013; Chan & Bishop, 2013; Donald, Cooper & Conchie, 2014). Furthermore, additional constructs are suggested to enhance the predictive power of TPB (Conner & Abraham, 2001), and thus this study employs situational factors, novelty seeking, trust and external influence to the original TPB theory.

#### 1.2. Theory of planned behaviour

Theory of Planned Behaviour, TPB: is a model that has been applied extensively to explain and predict human behaviour across various disciplines (Ajzen, 1991), such as psychology, health, technology applications, education, the environment, business, security and transportation. TPB is an extension of

the theory of reasoned action TRA that was founded by Martin Fishbein and Icek Ajzen in 1975 (Fishbein & Ajzen, 1975).

The TPB can be regarded as a generalization of the theory of reasoned action (Ajzen & Fishbein, 1980). According to the TRA, the most important determinant of a person's behavior is the intention to perform a behavior. Intention is defined as a combination of attitude and subjective norm. Attitude toward a behavior is the degree to which the performance of the behavior is positively or negatively valued. Subjective norm is defined as perceived social pressure to engage or not to engage in a particular type of behavior. According to Fishbein and Ajzen (1975), the stronger the behavioural intention, the more likely the individual will perform that behaviour. Ajzen (1985) expanded TRA to TPB by adding another predictor that measures perceived behavioural control, PBC. Perceived behaviour control refers to the individual's perception of their capability to perform a particular behaviour. The predictor of perceived behaviour control is linked directly to intention and behaviour.

The TPB offers a good framework to explain mobility behavior, it contains the central predictors to explain mobility behavior. Also, the TPB is open to the inclusion of additional predictors to increase its predictive power.

### 1.3. Hypotheses

Constructs in the TPB model are used to examine the relationship between trust, situation factors, attitudes, subjective norms, perceived behavioural control, novelty seeking and external influences with intention use public transportation to work. Applied to this study, the TPB suggests that a person is more likely to use public transport instead of other travel modes if he/she has a positive attitude toward using public transport, and who is influenced by the opinion of family members, friends and colleagues to use public transport, as well as people who would take into consideration the external influences promoting public transport and have the necessary resources, the ability, or the opportunity to use public transport. Therefore, the previous discussion can be summarized in the following hypotheses:

- **Hypothesis 1:** Attitude is positively related to people's intention to take the train.
- **Hypothesis 2:** Subjective norm is positively related to people's intention to take the train.

- **Hypothesis 3:** Perceived behavioural control is positively related to people's intention to take the train.

Situation predictors' factors are defined as physical factors that can facilitate or inhibit a behaviour (Tonglet, Phillips & Read, 2004). In this study, situation predictors are seen as factors that could prevent or promote the use of public transport. People can show positive attitudes towards using public transportation to reduce congestion on the road and help reduce environmental pollution caused by cars, but this does not mean they are willing to use public transport in real situations. There are several factors that prevent them from using public transport such as the provision of free parking at work, poor conditions of public transport facilities, the limited transport routes covered by public transport networks, prolonged journeys using public transport and the remote location of transport stations. Therefore, the following hypothesis is proposed:

- **Hypothesis 4:** Situation Factors are negatively related to Perceived Behavioural Control.

Consumer trust is defined as the expectations held by the consumer in which the service provider is dependable and can be relied upon to deliver its promises (Sirdeshmukh, Singh & Sabol, 2002). For trust to exist, consumers must believe that the trustee has both the ability and the motivation to reliably deliver the expected quality goods or services (Gefen, Karahanna & Straub, 2003). Trust is usually formed as specific beliefs, so it has influence not only on behavioural intention but also on the antecedents of intention (Mcknight, Cummings & Chervany, 1998).

Hsiao and Yang (2010) have extended the TPB in their study of the use of high-speed trains among students in Taiwan. In the study, trust has been linked to the intentional behaviour through attitude, subjective norms and perceived behavioural control. In order to better understand the relationships between the belief structures and the antecedents of intention, these hypotheses were proposed:

- **Hypothesis 5:** Trust is positively related to the attitude to take the train.
- **Hypothesis 6:** Trust is positively related to the subjective norm to take the train.
- **Hypothesis 7:** Trust is positively related to perceived behavioural control to take the train.

Novelty seeking is often regarded as a curiosity drive or an exploratory drive which would influence consumers' attitudes toward technological products or travel destination choice (Jang & Feng, 2007). Hsiao and Yang (2010) assumed that in the decision-making of travel mode choice, tourists with higher propensity of novelty seeking would hold more positive attitude towards new kind of transportation. Therefore, the following hypothesis is proposed:

- **Hypothesis 8:** Novelty seeking is positively related to people's attitude toward the train.

While subjective norms have a more interpersonal influence expressed by friends, colleagues and family members, external influence on the other hand indicates mass media reports, expert opinions, and other non-personal information considered by individuals when performing a behaviour. Bhattacharjee (2002) found that external influence is an important predictor of subjective norms. Therefore, the following hypothesis is proposed:

- **Hypothesis 9:** External Influence is positively related to people's attitude to take the train.

#### 1.4. Aims of the study

Using the TPB model to measure the willingness to take the train, we expect that commuters are more likely to develop an intention to take the train if they: hold positive attitudes about the behaviour, expect family members, friends and colleagues to approve of the behaviour, and believe they have the proper resources such as time or money to undertake the behaviour. In addition, it is suggested in this paper that four more constructs – situational factors, trust, novelty seeking and external influence – are likely to influence commuters' willingness to opt for the train.

## 2. Methodology

### 2.1. Participants

Methods of data collection were conducted on the respondents through a questionnaire distributed in commercial and residential areas in Petaling Jaya, as well as in a few local companies. About a 100 questionnaires were completed through a series of one on one interviews. This method was the most effective in terms of informational accuracy but was not carried out extensively due to the lack of time and manpower. In residential areas, about 200 copies of the questionnaire were placed in mailboxes of residents and were collected later on from the

management office, though not all of them were included in the study as some of the collected questionnaires were incomplete and missing important data. Also, after discussions with the administration at some of the local companies, the distribution of some 200 copies was submitted to the management and the results were collected after a few days. The data was collected in about three months. In total, between 400 and 500 copies were distributed, however only about 400 copies were used in the final study.

Table 1 shows the demographic, socioeconomic and travel characteristics of the respondents. Male percentage (57.8%) was slightly higher than that of women (42.3%). The majority of participants were between 26 and 54 years old (75.1%). Most of respondents had a college degree (42.5%). The majority of monthly income was below RM4000 (59.4%). The sample representation is somewhat similar of that of official statistics: male percentage 51%, female percentage 49%. 67% of total population are less than 40 years old (DOS, 2012). About 47.5% had a degree and 7.5% had a higher education degree (DOS, 2008).

Table 1. Profiles of respondents

Attribute	Percentage		
	Study Data	Official Data	
Gender	Male	57.8	51
	Female	42.3	49
Age	18-25	14.2	16.9
	26-54	75.1	41.2
	55 and above	10.7	13.1
Education	Primary and Secondary School	23.6	data unavailable
	Diploma	24.8	29.8
	Degree	42.5	47.5
	Higher Education	9.3	7.5
Income	Below 4000	59.4	43.4
	Above 4000	40.6	56.6
Transportation mode	Car	59.3	
	Motorcycle	13.3	data
	Train	14.8	unavailable
	Bus	12.8	

### 2.2. Measures

The initial version of the survey instrument was tested through a pilot study with 50 subjects. Based on the feedback received by the participants, some questions were slightly altered in the questionnaire, which was designed to effectively collect

information and data from respondents.. Examples of questionnaires for the survey are shown in Appendix A. Revealed preference data were collected for socioeconomic characteristics. Socioeconomic data collected included the respondents' income, age, gender, vehicle ownership, income, household size and education levels. Eight constructs were measured in this study regarding the TPB data. Initial scale items were taken from previously validated measures and revised to relate specifically to the present study. All items were measured using a 5 point Likert scale, ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree", while the scale of 3 indicates a "not sure" or "neutral" response. Behavioural intention was measured using four-item scales taken from Ajzen & Driver (1992), Taylor & Todd (1995) and Bhattacharjee (2002). Attitude, Subjective norm and PBC were adapted from Taylor & Todd (1995). Situational factors and Trust both were measured using scales adapted from the work of Nazri (2013). Novelty seeking was adapted from the works of Mehrabian & Russell (1974), Lee & Crompton (1992), Hsiao & Yang (2010). The external influence was a variation of Bhattacharjee's (2002) scale, adapted to fit the wider notion of this construct.

### 3. Results

#### 3.1. Assumptions

In the process of developing the SEM model in this study, two methods of approach (measurement model and structural model) are used that has been proposed and recommended by Anderson & Gerbing (1988), Hair et al. (1998) and Jackson et al. (2005) to assess the construct validity, the appropriateness of the model and to test the hypotheses.

#### 3.2. Measurement model

As a preliminary step, the original TPB model was replicated using our obtained data. After running the model, the results show an overall satisfactory goodness of fit indices, with Relative Chi-squared ( $\chi^2/df$ ) of 1.744, and other fit indices: GFI = 0.93, AGFI = 0.91, TLI = 0.96, CFI = 0.97, RMR = 0.049, RMSEA = 0.041. Table 4 summarizes the suitability of fit indices.

The next step in producing the model is developing the SEM measurement model and to validate it. Confirmatory factor analysis (CFA) method is used

to remove or drop items in the constructs that have a loading factor that is less than 0.5 or insignificant (Hair et al., 1998; Hsiao & Yang, 2010; Haustein & Hunecke, 2007; Lee & Gould, 2011). Moreover, the analysis is used to assess the reliability of the items and the reliability of the constructs. As shown in Table 2, the overall goodness-of-fit indices of CFA indicate a satisfactory fit of the measurement model, with Relative Chi-squared ( $\chi^2/df$ ) of 1.558, and other fit indices: GFI = 0.89, AGFI = 0.86, TLI = 0.95, CFI = 0.96, RMR = 0.053, RMSEA = 0.040.

To validate our measurement model, three types of validity were carried out: content validity, convergent validity, and discriminant validity. Content validity was initiated by ensuring consistency between the measurement items and the previous literature. Convergent validity was poised by examining composite reliability (CR) and average variance extracted (AVE) from the measures (Hair et al., 1998). As shown in Table 2, the composite reliabilities (CR) in this study ranging from 0.773 to 0.926, all exceed the recommend threshold of 0.50 (Hair et al., 1998). Furthermore, the average variances extracted (AVE) range from 0.529 to 0.719, which are also above the acceptable value of 0.50. In addition, Table 2 shows the loadings of the measures in our research model. Most paths in the measurement model have a loading factor above 0.5. Table 3 shows the intercorrelations for all variables. The results show a significant correlation among behavioural intention and other constructs.

Fornell and Larcker (1981) stated that cause-squared AVE for each construct should exceed the correlations value between the constructs with other constructs. The AVE for each construct will be squared right at source and will be compared with the correlation between the constructs. The analysis of the cause-squared AVE of the constructs of intention, attitude, situational factors, subjective norms, perceived behaviour control, novelty seeking, trust, and external influence for the measurement model is higher than the correlation between the constructs as shown in table 3. This shows a higher source-squared AVE value compared to the correlations between the constructs, this means that the discriminant validity has met the conditions. Table 3 shows a summary of the discriminant validity of the measurement model.

Table 2. Standardized loadings and reliability.

Constructs and items	loading factor	Composite reliability	AVE	Cronbach's alpha
Intention		0.849	0.592	0.849
IN1	0.622			
IN2	0.961			
IN3	0.795			
IN4	0.653			
Attitude		0.890	0.582	0.896
ATT1	0.686			
ATT2	0.900			
ATT3	0.926			
ATT4	0.678			
ATT5	0.746			
ATT6	0.583			
ATT7	Dropped*			
Situational factors		0.817	0.599	0.813
SF1	Dropped*			
SF2	0.822			
SF3	Dropped*			
SF4	0.784			
SF5	0.712			
Subjective norms		0.810	0.590	0.804
SN1	0.722			
SN2	0.883			
SN3	0.686			
Perceived behaviour control		0.868	0.529	0.852
PB1	0.825			
PB2	0.836			
PB3	0.831			
PB4	0.596			
PB5	0.622			
PB6	0.607			
Novelty seeking		0.911	0.719	0.901
NS1	0.927			
NS2	0.865			
NS3	0.828			
NS4	0.768			
Trust		0.926	0.643	0.928
TR1	Dropped*			
TR2	0.687			
TR3	Dropped*			
TR4	0.879			
TR5	0.759			
TR6	0.766			
TR7	0.905			
TR8	0.803			
TR9	0.795			
External influence		0.773	0.533	0.767
EI1	0.679			
EI2	0.808			
EI3	0.696			

Table 3. Correlations between constructs.

	IN	AT	SF	SN	PBC	NS	TR	EI
IN	<b>0.770</b>							
AT	0.372	<b>0.763</b>						
SF	-0.050	-0.263	<b>0.774</b>					
SN	0.255	0.122	-0.073	<b>0.768</b>				
PBC	0.257	0.167	-0.229	0.151	<b>0.728</b>			
NS	0.173	0.240	-0.094	0.199	0.157	<b>0.849</b>		
TR	0.125	0.275	-0.125	0.249	0.197	0.257	<b>0.802</b>	
EI	0.201	0.239	-0.139	0.162	0.094	0.115	0.169	<b>0.730</b>

### 3.3. Structural model

By modifying the measurement models, a complete structural model was developed to test or examine the cause of relationship structure as proposed in the theoretical model in this study. Results of the analysis resulted in the construct of a complete structure of the model as illustrated in Figure 1. AMOS 20 software was used to evaluate the suitability of the model and the path of suggested hypotheses. The results showed that most fit indices are above acceptable levels ( $\chi^2/df = 1.602$ , GFI = 0.88, AGFI = 0.86, TLI = 0.95, CFI = 0.95, RMR = 0.073, RMSEA = 0.041). According to Gefen, Karahanna and Straub (2003) the GFI can be increased by dropping items with small factor loadings. After dropping a few items with relatively small factor loadings, the GFI increased to an acceptable 0.9, other fit indices also improved accordingly: ( $\chi^2/df = 1.588$ , GFI = 0.9, AGFI = 0.88, TLI = 0.96, CFI = 0.96, RMR = 0.07, RMSEA = 0.041, Table 4 summarizes the fit indices of the structural model. According to some researchers, it is normal that in some studies using SEM, models rarely demonstrate the excellent suitability for all indices (Baumgartner & Homburg, 1996; Boudreau, Gefen & Straub, 2001)).

It is noted that the fit indices of the structural model are either equal to or lower than the original TPB model that was calculated earlier. This might be caused by the added number of parameters, as more parameters are estimated more degrees of freedom are lost, a model with 0 degrees of freedom will result in a perfect fit (a CFI of 1, an RMSEA of 0, a chi-square value of 0, etc.) With the majority of the fit indices being acceptable, the author wishes to continue with the modified model that suits this particular case study.

Table 4. Summary of the suitability of the applicable indices

Suitability index	Original TPB model	Modified TPB model (structural)	Cut-off Values of fit indices
$\chi^2/df$	1.744	1.588	2 - 5
GFI	0.93	0.90	$\geq 0.9$
AGFI	0.91	0.88	$\geq 0.9$
TLI	0.96	0.96	$\geq 0.95$
CFI	0.97	0.96	$\geq 0.95$
RMR	0.049	0.07	$< 1$
RMSEA	0.041	0.041	$< 0.08$

With a sufficient measurement model, structured equation modelling is used to examine the causal structure of the proposed model in this study. By examining the standardized path coefficients, we found that most of the paths are significant at 0.01 levels except for a few which are significant at 0.05 levels. As a result, all paths are significant and in the expected direction. Hypotheses 1–3 are supported as they have been in many studies by applying TPB to explain behavioural intentions. Attitude ( $b = 0.220$ ,  $p < 0.001$ ), subjective norm ( $b = 0.180$ ,  $p < 0.001$ ), and perceived behavioural control ( $b = 0.200$ ,  $p < 0.01$ ) all positively influencing behavioural intention of using public transport in Petaling Jaya. Situational factors have a significant negative influence on the perceived behavioural control of the respondents towards their behavioural intention to use the train among workers in the city. This finding supports hypothesis 4. Situation factors ( $b = -0.146$ ,  $p < 0.01$ ) are seen as negative influences that can prevent users from using the train. The results show that trust has an indirect significant influence on

students' intention to take the train via attitude ( $b = 0.243$ ,  $p < 0.001$ ), subjective norm ( $b = 0.226$ ,  $p < 0.001$ ), and perceived behavioural control ( $b = 0.128$ ,  $p < 0.01$ ). Hypothesis 8 is supported ( $b = 0.235$ ;  $p < 0.01$ ), indicating that novelty seeking is the antecedent of attitude. Hypothesis 9 is supported as well ( $b = 0.26$ ;  $p < 0.01$ ) indicating that external influence is an important predictor of attitude.

#### 4. Discussion

This study has highlighted the major factors in affecting the travel mode choice in Petaling Jaya by adopting and extending the theory of planned behaviour (Ajzen, 1991). Our research model is well supported and all hypotheses are confirmed.

The results indicate that a favourable attitude toward using the train has the most decisive influence on the behavioural intention among the three factors. Therefore, the Majlis Bandaraya Petaling Jaya can attract riders by enhancing a positive disposition about itself. Next, the effect of perceived behavioural control on intention is influential as well. Therefore, reasonable fares and convenient access are suggested factors to improve a commuter's decision to take the train. Last, subjective norm has the least effect on intention as many researches stated (Ajzen and Driver, 1992; Sheppard, Hartwick & Warshaw, 1988). The weak effect of subjective norm implies that in the domestic travel market, travellers can make their own decisions independently while arranging their leisure activities with less need for further consultation from family or friends.

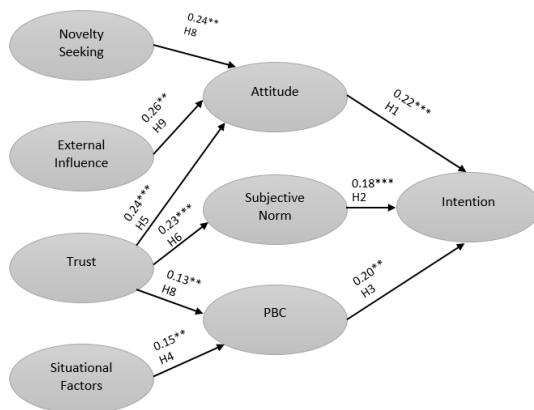


Fig. 1. Result of the research model. Notes: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

The study concluded that situational factors have an indirect significant influence on people's intention to take the train through perceived behavioural control. Situation factors are seen as negative influences that can prevent users from using the train. There are three indicators in situational factors' construct as shown in Table 1 that affect the use of with significant value. One of the reasons preventing workers from using the train is caused by the long distance between the train station and work/home, where respondents said travelling to the nearest train station affects their travel preference of transport. The second factor which prevents the use of the train, is the fact that using the train will increase travel time to get to work in terms of trains stopping at stations and delays along the track. Finally, the last factor is the lack of a sophisticated train operation network as most respondents stated that their destinations were not being covered by train routes and that was a major reason for choosing private transport over the train.

The results show that trust has an indirect significant influence on commuters' intention to take the train via attitude, subjective norm, and perceived behavioural control. It indicates that low intentions of commuters to take the train may be credited to unfavourable attitudes towards the train, which in turn is influenced by the trust towards the train. Trust is as critical in attitude-enhancing as novelty seeking is, because for traveling, reliability and safety are the most important traits sought by commuters. As Berry (1995) stressed, "trust is the basis for loyalty". Majlis Bandaraya Petaling Jaya can enhance a favourable attitude toward the train by promoting a trustworthy brand image. By doing so, MBPJ should exhibit its maintenance and management ability clearly. Moreover, higher quality service and comfortable seats must be provided and maintained, this is in line with (Nosal & Starowicz, 2015) as they state that improvement of travel conditions provided in public transport is essential in trips related to work because public transport means may be the most competitive alternative for cars.

The results also show that both novelty seeking and external influence play a role in the intention to take the train indirectly via attitude. Novelty seeking is the natural motivation to seek out new stimuli, new experiences, and novel products (Hsiao & Yang, 2010). Low intention to take the train is influenced

significantly by commuters' tendency of novelty seeking. Therefore, promotions about new stimuli and novel trip experiences -could enhance the favourability of position and consideration towards the train, leading to a stronger will to take it. External influence is generated through advertisements via online and offline media, and promotional offers. External influence is important in individuals' attitude towards using the train.

There are some limitations of the current study that need to be addressed. Firstly, there are two aspects to novelty seeking; one regarding new train users that might find using the train a novel and exciting experience as many Malaysians haven't had the need to use the train before. Frequent train users would not consider using the train as a stimulating exciting new experience. It is recommended that future studies consider incorporating other important factors, such as comfort, security, accessibility, reliability, dependability, and time and budget constraints for a more accurate result. By including some of the above important variables, a more fitted model might be obtained.

Based on TPB, this study has produced useful observations into an employee's behavioural intention to use the train in Petaling Jaya, and the findings display a relatively good predictive validity. For future research, a multi-aspect approach or alternative models can be utilized to understand the entire picture of an employee's choice of travel mode. Furthermore, future studies may question if past behaviour serves as a mediator in the causal relationship between the antecedents and behavioural intentions or loyalty as more and more travellers experience taking the train.

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## Appendix A. Study questionnaire

Constructs and items	Source
<b>Behavioural Intention</b>	
IN1 - I intend to use the train to reduce congestion	Ajzen and Driver (1992), Taylor and Todd (1995), Bhattacharjee (2000)
IN2 - I am willing to use the train to reduce congestion	
IN3 - I want to take the train to reduce congestion	
IN4 - I will try to use the train	
<b>Attitude</b>	
ATT1 - I feel good about using the train	Taylor and Todd (1995), Bhattacharjee (2000)
ATT2 - Using the train is a good idea	
ATT3 - Using the train is a wise idea	
ATT4 - I like the idea of using the train	
ATT5 - Using the train is the right thing to do	
ATT6 - I prefer using the train	
ATT7 - It is inconvenient to use the train	
<b>Subjective norms</b>	
SN1 - People who are important to me (family, spouses, friends, neighbours, colleagues, etc.) would support me to take the train	Taylor and Todd (1995), Bhattacharjee (2000), Hsiao and Yang (2010)
SN2 - People who influence me would want me to take the train instead of my alternative means	
SN3 - People whose opinions I value would prefer that I should take the train	
<b>Perceived behaviour control</b>	
PB1 - I am able to take the train	Taylor and Todd, 1995, Mathur (1998), Sparks (2007), Hsiao and Yang (2010)
PB2 - I think taking the train would be entirely within my control	
PB3 - It is completely my decision to take the train	
PB4 - I think taking the train would be very easy	
PB5 - I have enough money to take the train	
PB6 - I can use the train all by myself	

### **Appendix A. Study questionnaire (cont.)**

<b>Constructs and items</b>	<b>Source</b>
Situational factors	Nazri (2013)
SF1 - On-site parking is available and free at work/school	
SF2 - Distance between train stations and work/school is far	
SF3 - Train facilities are crowded and uncomfortable	
SF4 - Travel time to work/school increases using the train	
SF5 - My travel destination is not covered by train route	
Novelty seeking	
NS1 - I am always seeking new ideas and experiences so I use the train	Mehrabian and Russell (1974), Lee and Crompton (1992), Hsiao and Yang (2010)
NS2 - When things get boring I like to find some new and unfamiliar experiences so I use the train	
NS3 - I like to continually change activities so I use the train	
NS4 - I like to experience novelty and change in my daily routine so I take the train	
Trust	
TR1 - Services: ATM, kiosk & store availability at train stations	Nazri (2013)
TR2 - Travel cost reduction	
TR3 - Providing shuttle services from bus stop to train station	
TR4 - Increase frequency of trains	
TR5 - Timeline of trains arriving and departing	
TR6 - Cleanliness on the train	
TR7 - Travel time reduction	
TR8 - The preparation of a systematic purchase system	
TR9 - Trains and train stations are safe and secure	
External influence	
EI1 - I read/saw news reports that using the train was a good way to reduce congestion	Bhattacharjee (2000)
EI2 - The popular press depicted a positive sentiment for using the train	
EI3 - Mass media reports influenced me to try out the train	

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