Measuring Passenger Loyalty to Public Transport Modes

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Abstract

This paper incorporates insights from relevant consumer behavior research in marketing to travel mode choice by adopting the loyalty model, a decision-making model, to better understand and evaluate passenger attitudes toward public transport modes. This paper describes the loyalty model and demonstrates and validates its use in transportation using a case study of a choice between two modes, rail and bus. Based on factor analysis, two factors from the loyalty model were identified: loyalty, which measures the repeat purchase of the service and the passenger's attitude toward it; and hedonic commitment, which measures the emotional feeling after using a mode. The full loyalty model was validated for both rail and bus passengers. The research shows that, like other consuming products toward which subjective emotional feelings affect the consumer's behavior, passenger choice is significantly affected by subjective emotional feelings toward the mode. Additionally, the subjective effect can be measured easily using marketing research techniques.

Introduction

The marketing literature, and modern research on consumer behavior, in particular, includes some well-established theories for dealing with the mechanism of choice among products (see, for example, Oliver 1999; Babin et al. 1994; Anderson and Mittal, 2000; and Dick and Basu 1994). This study adopts the loyalty model from the field of marketing as a measurement tool for better understanding and evaluating passenger attitudes toward public transport (PT). Considering PT modes as a product and passengers as consumers allows us to use this tool when investigating consumer attitudes toward this product. Some researches show that PT level-of-service attributes are evaluated differently for different PT and private vehicle modes, and these also differ between PT and private vehicle users (Wearden et al. 2007). This paper demonstrates the application of the loyalty model

as a transport-service measurement tool and tests its validity toward this end, using a case study of the choice between two PT modes, rail and bus.

Loyalty Model

The consumer choice process, according to the marketing literature, is motivated by three types of product values: a utilitarian value, which captures the functionality of the product for the consumer; a switching value, which reflects the technical effort in switching from one product to another; and a hedonic value, which captures the experience of emotion associated with the product in the consumer's mind. The outcome of the model yields the level of satisfaction and the repeated choice of the product; i.e., the consumers' loyalty to the product. Satisfaction is the "consumer fulfillment response ... a judgment that a product or service feature, or the product or service itself, provided a pleasurable level of consumption..." whereas loyalty is a "deeply held **commitment** to **re-buy** or re-patronize a **preferred** product or service **consistently** in the future" (Oliver 1996, pp. 178, emphasis added). While satisfaction is a short-term judgment of the product, loyalty reflects the consumer's attitude and commitment toward the product in the long term. Levinson (Oliver 1996, pp. 173) divided loyalty creation into four stages:

1. *Cognitive loyalty (knowing)* – the loyalty created after a short experience with the product, based on the level of satisfaction with the product's physical characteristics.
2. *Affective loyalty (attitude)* – the creation of an attitude toward the product after a significant period of experience, including a personal commitment toward the product.
3. *Conative loyalty (intention)* – the creation of intention to re-buy the product and an emotional feeling toward the product.
4. *Action loyalty (re-buy)* – the highest level of loyalty; involves automatic re-purchasing of the product and a blindness to competitors.

Marketing research usually deals with selected links among the loyalty model factors: satisfaction and loyalty (Oliver 1996), utilitarian and hedonic values (Babin et al. 1994), product utility and loyalty level (Oliver 1999) and others.

In classic utility theory, passengers will prefer a PT mode that provides a higher level of service (LOS) in terms of time, cost, and other attributes. Considering a corridor with rail and bus service, this theory holds that if the bus service is significantly improved relative to rail service, passengers will shift from rail to bus. However, investigation of passenger behavior using the loyalty model, which includes the loyalty attitude and the subjective emotional preferences toward PT modes, may show that fewer passengers will switch to bus transport due to their loyalty and emotional attitude toward rail.

Loyalty Model in Transportation Research

Although marketing research treats loyalty and satisfaction as outcomes of a decision-making process, these characteristics are rarely used in transportation research as powerful explanatory factors to evaluate passenger attitudes toward PT modes. The transportation research literature, for its part, mostly ignores modern marketing research

and its measurement tools; passengers are frequently asked directly about their loyalty and satisfaction toward a PT service. The mean results are used as a quality measure for level of service (Morface International and Cambridge Systematics 1999; Hargroup 2004); even when measured indirectly in factor analysis (Tyrinopoulos and Antoniou 2008; Basuki and Kubota 2007), these factors are not used as part of mode-choice modeling.

Loyalty and satisfaction normally are measured in transportation without taking into account the full loyalty process, which includes a deeper investigation of the subjective and emotional effect on consumer choice. Eboli and Mazzulla (2007) investigated passenger satisfaction with PT level of service while ignoring the loyalty factor and other marketing factors that function as measurements of emotional value in marketing research. An attempt also was made to measure a service experience factor, which is related both to affective and cognitive variables (Olsson 2012). An indirect measurement for loyalty and satisfaction was made in Greece (Tyrinopoulos and Antoniou 2008), but without a thorough investigation of the effect of those factors. The effect of LOS variables on loyalty strength was investigated in Taiwan (Wen et al. 2005). However, they did not include a hedonic value or other factors that could measure the emotional effect on mode choice.

Methodology

The methodology aims to establish some practical tools that will enable an easy assimilation of the loyalty model from marketing research in transportation. The methodology has two main purposes:

1. Establish measurement tools (scales) for marketing research factors in transportation.
2. Validate the loyalty model in transportation, using a case study of a choice between two PT modes.

This investigation comprised six stages:

1. *Theory* – developing a full loyalty theory as a basis for the research.
2. *Measurement scales* – identifying measurement scales from marketing to measure the factors included in the loyalty model and adopting these scales to the mode-choice problem in transportation.
3. *Level-of-service factors* – identifying some level-of-service factors to be included in the model.
4. *Survey* – creating a database of a representative sample of PT users to measure the factor scales.
5. *Measurement* – measuring the factors using the factor-analysis technique.
6. *Validation* – validating a full loyalty model in transportation using the structural equation model (SEM) technique.

Each of these stages is described in detail in the following subsections.

Theory: The Loyalty Model

Based on the marketing research, we developed a full loyalty model. This model, shown in Figure 1, was synthesized from the various literature reviews presented above (references for each element are shown in the figure).

FIGURE 1.
Developed customer
loyalty theory

This theory assumes that the impressions that arise in the consumer's mind after using a product affect his/her level of satisfaction with the product, and long-term satisfaction leads to a loyal consumer's behavioral pattern. The first impression takes into account not only practical utilitarian value, but also emotional-hedonic value.

Measurement Scales

The loyalty model shown in Figure 1 identifies various factors in the loyalty attitude-building process. In marketing research, special attention is given to measurement scales that are used to construct various factors, using the factor-analysis technique. An internal consistency index, α , measures the consistency level between the direct questions and the factor value, with a value of 0.8 considered a satisfying value (Harris and Goode 2004).

The current research adopted appropriate scales from marketing theory to measure loyalty model factors in transportation. This was done in two steps:

1. Choosing an appropriate scale from marketing to adopt in this research.
2. Transforming the scales, which were developed for different products, to PT products (rail and bus).

The following factors play a critical role in loyalty theory and also have a well-established scale in marketing research:

- *Loyalty* – there are a large number of measurement scales to measure consumer loyalty strength toward a product. We selected an accepted scale based on Oliver's four-stage theoretical model of loyalty—cognitive, affective, conative, and action

loyalty (Morface International and Cambridge Systematics 1999). The scale was validated by a consistency α value of 0.88 (see Table 1).

- *Satisfaction* – a widely-used term in marketing and, as such, has a large number of measurement scales. Continuing with Oliver's theory (Oliver 1996), which explored the relationship between loyalty and satisfaction, we chose a measurement scale that had been developed by Allen and Mayer (1990) based on Oliver's theory. It is a validated 5-stage Likert scale composed of 6 questions ($\alpha=0.89$) (see Table 1).
- *Hedonic Value* – has been evaluated by various marketing researchers. A measurement of hedonic value developed by Babin et al. (1994) is frequently cited and accepted as the most common measure (see Mathwick et al. 2001; Ferrell and Beatty 1998). Babin's scale is a validated 5-stage Likert scale consisting of 12 questions ($\alpha=0.91$) that explore emotional feeling as adventure and escapism, which are generated in the passenger mind when using the PT mode (see Table 1).
- *Utilitarian Value* – based on a scale that was developed by Babin et al. (1994). The questions on this scale explore the extent to which passengers like or dislike the PT service and the time spent inside the vehicle. The original scale is a validated 5-stage Likert scale comprising 5 questions ($\alpha=0.80$).

TABLE 1. Factors and Variables included in the Research: Bus Passenger Questionnaire

	Factor	Code	Variable
Affective	Loyalty	la1	I'm satisfied with the bus service.
		la2	I have a negative attitude toward buses.
Conative		lco1	Bus tickets are very expensive.
		lco2	The characteristics of a bus trip are inferior compared to rail.
Action		lp1	Buses will remain my favorite mode choice in the future.
		lp2	I prefer now and will prefer in the future bus service characteristics.
		lp3	I prefer a bus on new bus routes when rail service is also provided.
		lp4	I will always prefer this bus line even when competing rail lines will become available.
Cognitive		lc1	Bus is a better option compared to rail.
		lc2	Bus offers the best value for the money.
		lc3	I prefer bus service compared to rail.
		lc4	I'm satisfied with the bus trip.
	Satisfaction	S1	It is a smart decision to travel by bus.
		S2	This bus service didn't meet my expectations.
		S3	The bus service is well managed.
	Hedonic value	ca1	I feel a strong belonging to buses.
		ca2	I will continue to travel by bus, since I am happy to be a bus passenger.
		ca3	I'm in a good mood when traveling by bus.
		ca4	I feel part of the bus user's family.
		ca5	I have an emotional feeling toward buses.
		vh1	I enjoy traveling by bus.
		vh2	Using buses is a free willing choice, and not a forced necessity.
		vh3	I have an escapism feeling when using buses.
		vh4	I'm updated with timetables and new bus services.
		vh5	I have a feeling of adventure when using buses.
		vh6	I rest during bus trips.
		vh7	It is not really a pleasure to travel by bus.
	Utilitarian value	vu1	My travel time is well utilized.
		vu2	I am disappointed with the service.
		vu3	Arriving on time is all that concerns me when traveling by bus.
	Comfort	c1	bus is not overcrowded.
		c2	I'm satisfied with the temperature inside the bus.
		c3	I'm satisfied with the smoothness of the ride.
		c4	The seats are comfortable.
	Convenience	co1	Waiting conditions at stops are comfortable.
		co2	I feel safe and protected from threats when using the bus.
		co3	I am secure from accidents when using the bus.
		co4	I feel relaxed when traveling by bus.
		co5	Bus is environmentally friendly.
		co6	There is seat availability inside the bus.
		co7	I'm able to read when traveling by bus.
	Reliability	r1	Bus service is as fast as possible.
		r2	I feel confident that the bus will not need to stop for repairs.
		r3	Bus travel time is unaffected by traffic congestion or frequent stops.
		r4	Bus travel time varies by less than 5 minutes from day to day.
		r5	Bus is available in no more than 5 minutes from the time scheduled.
		r6	I'm able to estimate the actual time of arrival at destination.
		r7	Bus travel time performance is not influenced by weather.

Level-of-Service Factors

The literature includes some well-established measuring scales of LOS factors. The *Transit Capacity and Quality of Service Manual* (TCRP 2013) evaluates the components of each LOS factor in terms of its equivalent in-vehicle travel time. The reports supply objective measures for the different levels of service components such as availability (which includes reliability), comfort, and convenience. A former report includes some measurement scales for different levels of service factors using factor analysis technique (Morface International and Cambridge Systematics 1999). These manuals are the basis for some applicable research being conducted (for example, see Olsson et al. 2012, and Kuppam et al. 1999).

In addition to marketing factors, we explored some perceived LOS factors that are not customarily used in transportation research. These factors explore the passenger's perceived quality of the PT level of service (Table 1):

- *Comfort* – measures the level of trip comfort for the passenger. The questions explore the perceived physical comfort of bus seats, air conditioning, and crowdedness of the mode. The measurement scale is borrowed from the Morface International and Cambridge Systematics report (1999, Table 8.1).
- *Convenience* – measures the level of convenience of the service felt by the passenger. The questions explore the passenger's feeling about safety, relaxation, and other convenience issues. The scale is based on research conducted in Washington, DC (Kuppam et al. 1999).
- *Reliability* – measures the level of the trip's perceived reliability. The scale, originally developed by Prashker (1978), explores the passenger's view of service reliability (arriving at destination on time, etc.). The scale is a 5-level, 9-question Likert scale ($\alpha=0.85$).

Survey

A survey was conducted among bus and rail passengers along the Haifa–Tel Aviv corridor (100 km apart). Tel Aviv is the largest metropolitan area in Israel and the business core of the country, and Haifa is the third-largest metropolitan area and features a port, industry, hi-tech centers, and two major research universities. Until two decades ago, this corridor was served mostly by buses. In the past two decades, a parallel rail service was introduced, and it has achieved a large share of the PT passengers in the corridor even though the bus service remained competitive with the rail service and the availability of both modes is similar, including the time of journey, access to stations, and service headway.

The questionnaire comprised three parts:

1. Questions concerning the trip being made: origin, destination, access and egress modes, and purpose.
2. Questions concerning passenger characteristics: age, level of income, number of persons and children in the household, and availability of a vehicle for the specific trip.
3. Questions concerning the passenger's attitude toward both rail and bus modes.

Respondents were asked to evaluate their attitudes toward each mode through 50 questions (variables) according to the scales developed, which are detailed in Table 1. This evaluation served as the basis for the marketing research and the perceived LOS factors.

In all, 505 respondents completed the questionnaire—286 rail passengers and 219 bus passengers.

Measuring Marketing Factors with Factor Analysis

Factor analysis classifies attitudinal variables in such a way as to reduce the number of these variables and detect structural relationships among them while retaining the explanatory power of each manifest attitudinal statement. This process groups the various attitudinal questions into a series of attitudinal factors. The factor analysis for the present study is based on the last part of the questionnaire, which asked passengers about their attitude toward both modes and included two stages:

- *Exploratory factor analysis (EFA)* – a process that explore the survey data to determine the nature of factors accounting for the covariance among variables, without imposing any a priori hypothesis about the number and structure of factors underlying the data.
- *Confirmatory factor analysis (CFA)* – a process in which judgment is applied in regard to the structure and content of the factors, and then the statistical results of these established factors are estimated.

We present here only the confirmatory factor analysis results.

Validation of the Model using SEM

The aim of the last part of the study was to test the validity of the loyalty model in transportation, using the Simultaneous Equation Model (SEM) technique (using MX software). SEM is a modeling technique that enables the simultaneous testing of a set of linear equations. Two types of variables are used in the SEM:

- *Manifest variables* – observed variables that are directly measured from the questionnaires and can be classified to two groups: (1) attitudinal variables, which are the ratings that travelers gave to their attitude toward various travel statements, and (2) socioeconomic and demographic variables.
- *Latent variables* – unobserved variables that are not directly measured, but are inferred by the relationships or correlations among manifest variables in the analysis. There were two groups of latent variables in the SEM: (1) marketing factors representing the most important attitudinal and emotional dimensions for traveler behavior and, in our case, also include the perceived level of service factors; and (2) error terms associated with each variable involved in the SEM model.

Using SEM, we were able to examine the structure of the loyalty model and the significance of the relationships among the factors composing it. We examined separately the attitudes of users of each mode toward their chosen mode: bus users toward bus and rail users toward rail.

Results

This section includes an investigation of two main issues:

1. The existence of marketing behavioral phenomena (such as loyalty and satisfaction) in the PT mode-choice process; this was done by identifying such factors in the factor analysis investigation.
2. The validity of the loyalty model in transportation; this was done by examining the full loyalty-model structure (including the factors and the links among them), using SEM.

Descriptive Statistical Results

Table 2 shows mode choice according to certain socio-economic variables and access modes. As can be seen, rail users are wealthier than bus users and have higher levels of income, education, and motorization rate. Rail passengers use their private vehicles more frequently than bus users (either as a driver or as a passenger) as an access mode to the station.

TABLE 2.
Socio-Economic Variables –
Rail and Bus Users

Variable	Category	Rail	Bus
Car availability		53%	29%
Education	< 12 years	34%	47%
	>= 13 years	66%	53%
Income	Low	56%	69%
	>= Average	44%	31%
Access mode	Bus	25%	60%
	Private vehicle	48%	17%
	Walk	20%	15%
Transit-use frequency	<= 1 time per week	41%	26%
	2–3 times per week	32%	32%
	> 3 times per week	27%	41%

Factor Analysis Results

Factor analysis was conducted for bus and rail passengers separately. The inputs for these procedures were the scales described in Table 1. The values, which are shown in Table 3, are the loading values of each variable for each factor. The value ranges from 0 (no correlation between the variable and the factor) to 1 (full correlation between the variable and the factor). The analysis identified two marketing factors and two level-of-service factors that were significant for both rail and bus users. These factors were used in the marketing model that was tested in the structural equation model (SEM) phase described later.

- *Loyalty attitude* – originally, four loyalty factors, representing the four loyalty stages included in Oliver's theory, were measured (Oliver 1996). Another factor, measuring the passenger level of satisfaction—a satisfaction factor—also was measured. The analysis found the satisfaction factor to be insignificant. It also found no difference in passenger attitudes toward the four stages of loyalty. The loyalty factor, which

was accepted in the factor analysis stage, combines variables representing the four loyalty components. This factor describes the level of loyalty, in terms of both attitude and behavior, of a passenger toward the PT mode; therefore, it was termed the *loyalty attitude*.

- *Hedonic value* – this factor captures the emotional value associated with each mode in the consumer's mind.
- *Comfort and convenience* – the analysis included two factors that reflect the perceived comfort and convenience of the PT mode. The factor analysis found no difference in passenger attitude toward these two factors. Therefore, the perceived comfort factor combines variables from both factors.
- *Reliability* – this factor measures the perceived reliability of the PT mode.
- *Utilitarian value* – this was found to be insignificant for both rail and bus users.

TABLE 3.
Factors and Loading
Variables: Loading Values in
Confirmatory Factor Analysis

Factor	Code	Rail	Bus
Loyalty	la1	-	0.62
	lp1	0.64	0.62
	lp2	0.52	-
	lp3	-	0.53
	lp4	0.65	0.63
	lc1	0.44	0.54
Hedonic Value	ca2	0.91	0.00
	ca3	-	0.62
	ca4	0.99	0.54
	ca5	0.86	0.56
	vh1	0.82	0.59
	vh2	0.99	0.62
	vh3	0.71	0.53
	vh5	0.75	0.63
Comfort & Convenience	c1	-	0.54
	c2	0.52	0
	c3	0.53	0.59
	c4	0.57	-
	co1	0.00	0.63
	co2	0.52	0.56
	co3	-	0.51
	co6	-	0.52
Reliability	r3	0.65	-
	r4	0.94	-
	r5	0.90	1.00
	r6	-	0.82

A summary of the confirmatory factor analysis results is shown in Figure 2.

FIGURE 2.
Confirmatory factor
analysis results

SEM: Model Structure and Validity

The third part of the study aimed at testing the validity of the loyalty model using the SEM technique (MX software). Using this technique enabled us to test the significance of the relationships between the factors composing the model. The factors included in the investigation are those that were found to be significant in the confirmatory factor analysis investigation (see Figure 2). Since the utilitarian value factor was found to be insignificant, but it was important to include some LOS variable in the SEM, we decided to include a time-proportion variable (TIMPOR) that measured the ratio between the time by rail and the time by bus for each origin-destination as the representative variable of the utilitarian value.

We separately examined the passengers' attitudes toward their chosen mode: bus users toward the bus mode and rail users toward the rail mode. The two models were tested using two statistics (Kuppam et al. 1999):

1. *Root Mean Square Error Approximation* (RMSEA statistic), which measures the extent of the fitness of the model to the data: a value of zero reflects perfect fitness between the data and the model; a value lower than 0.08 is accepted as sufficient to accept the model's validity (Kuppam et al. 1999).
2. *Comparative Fit Index* (CFI statistic), which measures the extent of improvement of the model compared to a base model that assumes no links between the factors; a value higher than 0.9 is accepted as sufficient to accept the model's validity (Mathwick et al. 2001).

The full loyalty theory, as shown in Figure 1, could not be investigated in this research, because it was impossible to measure all the factors composing it. The model shown in Figure 3 checks the most important links from loyalty theory that were found significant:

1. Link between utilitarian value (TIMPOR variable) and loyalty – link a
2. Link between other LOS values (reliability & comfort) and loyalty – links b and c
3. Effect of the emotional value (hedonic value factor) on loyalty – link d
4. Link between LOS values (reliability & comfort) and the emotional value (hedonic value factor) – links f and g
5. Internal link of LOS values (reliability and comfort) – link e

These links attempt to explain the generators of the emotional attitude toward a PT mode.

This model is the platform for the bus and rail models that were tested using the RMSEA and CFI statistics.

FIGURE 3.
Model structure investigated
by SEM technique

Rail Loyalty Model

The rail loyalty model, which investigated rail passengers' attitudes toward the rail mode, is shown in the left side of Figure 4. The loading value and its significance (t-test in parentheses) are written on the arrows representing the links between the factors.

FIGURE 4.
Loyalty model link system,
rail passengers toward rail
mode compared to bus
passengers toward bus mode

The rail passengers loyalty model shows that the strong loyalty attitude that exists among rail users is derived from both emotional and utilitarian sources. The emotional source is shown in the link between the hedonic value factor and the loyalty attitude (with a loading value of 0.53). The utilitarian source (time, reliability and comfort) is shown in the links between the time variable and the reliability factor to the loyalty attitude factor (with loading values of -0.59 and 0.55, respectively). The negative value for the time-loading value is a result of the time-definition variable, whereby the higher the value, the slower the rail service is compared to bus for a selected trip. The model also shows the links between utilitarian and emotional factors. The perceived comfort of the service increases the hedonic value factor. The model is validated through the CFI and RMSEA statistics.

Bus Loyalty Model

The bus loyalty model, which investigated bus passenger attitudes toward the bus mode, is shown in the right side of Figure 4. The loading value and its significance (t-test in parentheses) are shown on the arrows representing the links between the various factors.

The lower loyalty-attitude value of bus passengers compared to rail passengers can be explained by the absence of a link between the time variable and the reliability factor to the loyalty attitude. The utilitarian source exists only in the link between the comfort factor and the loyalty-attitude factor (loading value of 0.6). The perceived comfort of the service increases the hedonic value factor. The model is validated with the CFI and RMSEA statistics.

Discussion

This research explored the loyalty theory from marketing and tested its validity to travel behavior in regard to choosing between two alternative PT modes, bus and rail. The research had two main goals: 1) to show the existence of loyalty and other attitudinal and emotional factors from marketing in transportation, and 2) to validate the loyalty process mechanism in choosing between two alternative PT modes.

Loyalty Phenomena in Transportation

Four marketing research phenomena were investigated: utilitarian and emotional values, satisfaction, and loyalty, which are the outcomes of the process. Two factors were identified in the factor analysis investigation:

1. *Loyalty attitude* – the investigation could not differentiate among the four loyalty stages. The joint factor, therefore, includes the four loyalty stages and was termed the loyalty attitude. This factor measures the repeated use of the PT service, as well as passenger attitudes toward it.
2. *Hedonic value* – this factor measures the emotional feeling that is created among passengers as a result of using a PT mode.

Utilitarian value and *satisfaction* factors were not identified among bus and rail passengers. The main phenomena we were seeking to find among passengers—loyalty and emotional value—were identified in passenger attitudes. The loyalty phenomenon indicates that passengers develop an attitude toward a PT mode that may affect their behavior and the probability of choosing the selected PT mode. The emotional value shows that pas-

sengers develop a feeling, and not just a consideration of its utilitarian value, that might affect their mode choice.

Validity of Loyalty Model in Transportation Research

Of the two factors that were not identified in the factor analysis investigation, the utilitarian value factor was essential for the SEM investigation. In the absence of a marketing scale measurement, we used the level-of-service factors that were measured: perceived comfort and perceived reliability of the PT mode. In addition, a direct variable that calculates the relative travel time between the two modes was used. The objective was to identify the effects of utilitarian and emotional values on passenger loyalty toward a PT mode in the same way that these effects have been found in marketing research (Babin et al. 1994).

The mechanism by which an emotional value is created in a passenger's feeling after using a PT mode, thereby increasing the loyalty attitude toward this mode, was shown for both rail and bus passengers. We were mainly interested in the link between emotional value and loyalty, a link that shows a similarity to other consumer products; just as subjective emotional feelings affect a consumer's behavior, a passenger's choice is significantly affected by subjective emotional feelings toward the mode. This effect was found to be highly significant in both the rail and bus models, with a higher coefficient for the rail model, showing a stronger effect of hedonic value on loyalty for rail users than for bus users.

Governments, local authorities, and PT operators are seeking a measurement tool that will provide them with a deeper and better understanding of passenger attitudes toward a PT service. This research supplies a measurement tool that is:

1. Based on a solid theory that was deeply explored by marketing researchers.
2. Measures not only the current attitude toward the service but also forecasts future attitude and long-term passengers choice.
3. Includes detailed academic-based measurement scales.
4. Is efficient in developing a policy and strategy that are based on a deeper understanding of passenger attitude sources, whether hedonic (emotional) or utilitarian (practical).

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