國立交通大學

運輸科技與管理學系

博 士 論 文

旅客行為意向管理：服務品質，滿意度，知覺價值與移轉障礙之整合模式

Managing Passenger Behavioral Intention: An Integrated Framework for Service Quality, Satisfaction, Perceived Value and Switching Barriers

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博士論文

A Dissertation

Submitted to Department of Transportation Technology and Management

College of Management

National Chiao Tung University

In Partial Fulfillment of the Requirements

for the Degree of

Doctor of Philosophy

Field of Transportation Technology and Management

June 2011

Hsinchu, Taiwan, Republic of China

中華民國 一百 年 六 月

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Abstract

This research seeks to improve our understanding of passengers' behavioral intention by proposing an integrated framework from the attitudinal perspective. According to the literature in marketing research, we establish a causal relationship model that considers "service quality-satisfaction-behavioral intentions" paradigm, perceived value theory, and switching barrier theory. Exploring passengers' behavioral intention from satisfaction and perceived value help to understand how passengers are attracted by the company, while switching barriers assist in realizing how passengers are "locked" into a relationship with the current company.

Furthermore, because previous studies on the links among these constructs are rather divergent and fragmented, we build structural causal relationships among these factors to explain passengers' decision processes. Several competing theories are also presented and compared to our research model. In order to capture the nature of service quality, we adopt a hierarchical factor structure which serves service quality as the higher-order factor. In this study, coach industry is selected as our research subject. The empirical results, as hypothesized, show that all causal relationships are statistically significant, and perceived value is the most important predictor of satisfaction and passengers' behavioral intention. In conclusion, the managerial implications and suggestions for future research are discussed.

Keywords: Passenger behavioral intention, Service quality, Satisfaction, Perceived value, Switching barrier.

誌　謝

「兩岸美景未看盡，輕舟已過萬重山」，雖然已順利取得博士學位，但仍覺得還有許多學術研究的美景是我還沒有機會體驗，過程中有許多挑戰與挫折，但也從中學習寶貴的知識與經驗，所以我並不覺得攻讀博士學位是漫長或辛苦，只是期許自己未來需要更加努力。

博士班的生涯中，首先要感謝我的兩位恩師任維廉教授與涂榮庭教授，在學術研究的無涯海域中，兩位老師就像領航員指引我渡過每個逆境。在任維廉教授的引領下，帶我進入學術的殿堂，讓我體會到研究的內涵與樂趣，研究期間除了不斷的給予鼓勵外，還讓我瞭解身為研究人員應該有的價值觀與道德感，並讓我前往北京大學交換學生，因此有更多的學習機會，並獲得涂榮庭教授的指導。在涂榮庭教授的指導下，拓展了我的學術視野，猶如帶我進入學術的名人堂，並透過您的醍醐灌頂下，令我茅塞頓開，對學術研究工作有不同的體認，也更描繪出未來的研究藍圖與努力的目標。兩位教授的師恩浩蕩，學生永銘難忘。

在論文計畫書審查期間，感謝交通大學運輸科技與管理學系姚銘忠教授與黃寬丞教授，在兩位教授的細心審閱，並提供寶貴意見與研究方向。在論文審查期間，感謝開南大學運輸科技與管理學系陳武正教授，與中興大學行銷學系李宗儒(濬紳)教授撥冗細審，使得本論文疏漏之處得以修正，並使本論文內容更為嚴謹。博士班就讀期間感謝系上全體老師與對我的啟蒙與教導，以及系上助理給於的協助。

研究期間很榮幸能與運輸行銷與管理實驗室的全體人員一起努力，讓我的研究旅途不孤獨，且在彼此不斷的激勵下，得以在研究上可以持續的發展與突破，也因此獲得許多獎項的肯定。此外，我也很榮幸能與北京大學軟件與微電腦學院趙占波教授，以及武漢大學市場營銷與旅遊管理學系朱華偉教授進行學術研究的合作，讓我的研究領域更加廣闊。

最後，謹以本論文獻給我最摯愛的家人，首先要感謝父親與母親，讓我有機會可以攻讀更高的學位，也要感謝姊姊與姊夫協助照顧父母親。謝謝婕茹的體貼關心，以及細心的照顧兒子與女兒，讓我無後顧之憂。有你們的支持，我才能無畏無懼的堅持自己的夢想，願以此榮耀與你們分享。

呂 堂 榮　謹誌

中華民國一百年六月

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1. INTRODUCTION

Research has shown that individual behavioral intention can directly influence a company's profits (Cronin et al., 2000; Oh, 1999; Zeithaml, 1988). Most researchers argue that the more positive a customer's behavioral intentions, the greater the possibility of that customer's retention, and the less likely a switch to a competitor, securing financial benefits to the firms currently serving said them. Thus, understanding passenger behavioral intentions has always been a crucial issue to transportation practitioners as well as to academics.

In the field of transportations management, researchers have indicated that studies focus mainly on passengers' choice behavior by using objective and quantifiable variables (Jen and Hu, 2003; Lin et al., 2008). Although previous research has identified variables which can successfully explain passenger choice behavioral, little information about passengers' underlying behavioral intentions and motivations exists. This drawback may be due to the neglect of adopting cognitive factors in the model, and research from the attitudinal perspective should be a more efficient way to understand consumer behavior (Zins, 2001). Thus, it is necessary for researchers to establish an attitudinal framework in order to have a better and clearer awareness of passenger behavioral intentions.

Since the last two decades, research in marketing has shown that one or both of the following strategies are often used to encourage desirable consumer behavioral intentions (Fornell, 1992; Patterson and Smith, 2003): establishing customers' true attitudinal loyalty so that they have little interest in competitors' offerings (Bolton and Drew, 1991; Cronin et al., 2000); and/or raising switching barriers so that customers are unlikely to change to an alternate provider (Balabanis et al., 2006; Jones et al., 2000; Liu et al., 2005; Wathne et al., 2001). To better understand the influence of customers' true attitudinal loyalty, researchers have started to focus on the cognitive aspects of decision making. Among these studies, there has been a great body of research emphasizing the relationships among service quality, satisfaction, and behavioral intentions (Choi et al., 2004; Cronin et al., 2000; Dabholkar et al., 2000; Oliver, 1993). Basing on the "quality-satisfaction-behavioral intentions" paradigm, customers' positive behavioral intentions come from their satisfaction, while satisfaction is the result of good service quality. Specifically, satisfaction is a strong mediator of the effect of service quality on behavioral intentions (Dabholkar et al., 2000). However, this research stream primarily discusses consumer behavioral intentions from the benefit aspect.

Thus, researchers have also proposed the concept of perceived value, which simultaneously combines the benefit and cost aspects to explain customer behavioral

intentions (Monroe, 1991; Zeithaml, 1988). In general, perceived benefits have most often been operationalized in terms of service quality (Jen and Hu, 2003; Lapierre et al., 1999; Zeithaml, 1988), and perceived costs have been divided into monetary prices and non-monetary prices (Choi et al., 2004; Wang et al., 2004). Existing literature also provides significant empirical evidence in support of the positive relation between service quality and perceived value, while the relation between perceived costs and perceived value is negative (Choi et al., 2004; Cornin et al., 2000; Jen and Hu, 2003; Lapierre et al., 1999; Liu et al., 2005; Wang et al., 2004). Moreover, researchers show that perceived value is not only an important antecedent of behavioral intentions, but also a new paradigm that offers a more comprehensive approach than simple focus on service quality or satisfaction (Ruiz et al., 2008). Comprehensively, these two streams, customer satisfaction and perceived value, can help induce customers' positive behavioral intentions and minimize customers' attraction to other competitors.

However, companies can also encourage desirable consumer behavioral intentions by raising switching barriers so that customers are unlikely to change to an alternative provider. Research suggests that in addition to customer satisfaction and perceived value, switching barriers also play an important role in explaining customer behavioral intentions (Burnham et al., 2003; Huang et al., 2007; Jones et al., 2000; Liu et al., 2005; Yim et al., 2007). Furthermore, when switching barriers are high,

customers find it difficult or costly to defect even if they are not very satisfied or when short-term fluctuations in service quality occur (Renaweera and Prabhu, 2003; Wathne et al., 2001). The construct of switching barrier is a crucial factor in framing a passenger behavioral intention model because public authorities usually own the infrastructure (e.g., the public road network, railroad, and airport). Thus the transportation industry, in almost all cases, is subjected to some form of regulation or franchise authorization. Passengers encounter a monopoly or an oligopoly market under these circumstances (Quinet and Vickerman, 2004), which means that they may have difficulty changing service providers as they wish. Transportation practitioners have also adopted certain marketing programs, such as frequent flier programs or other loyalty programs, to "lock" passengers into a relationship with the current provider. Therefore, the inclusion of switching barriers in our research model should assist in realizing passenger behavioral intention.

In sum, the main purpose of this study is to explore passenger behavioral intentions from cognitive viewpoint, while most transportation studies focus on passengers' choice behavior. More specifically, our study is to construct an integrated framework that combines the three major research streams from marketing literature, including the "quality-satisfaction-behavioral intentions" paradigm", perceived value and switching barriers (see Figure 1). Although some transportation researchers have

done in this manner (e.g., Jakobsson et al., 2000; Jen and Hu, 2003; Lin et al., 2008; Park et al., 2006), their studies contain one or two of the major theories. Our research model carries the relationships among service quality, perceived costs, customer satisfaction, perceived value, and switching barriers in their prediction of passenger behavioral intentions. Thus, we believe that our model provides a more complete framework to explain passengers' cognitive process. Broadly speaking, for a better and clearer awareness of passenger behavioral intentions, we establish a passenger behavioral intention model from an attitudinal perspective, which helps to extend existing passenger behavioral intention models that mostly use objective and quantifiable variables.

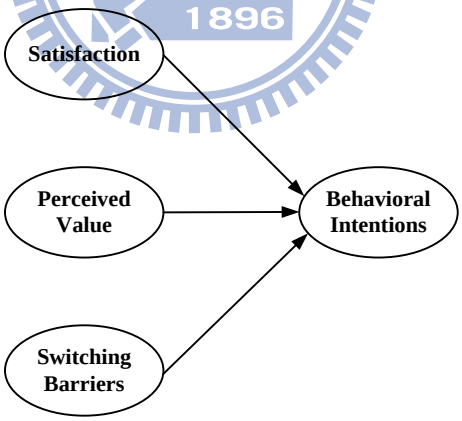


Figure 1 Conceptual Model

2. THEORETICAL BACKGROUND

In order to provide theoretical fundamental to formulate the hypotheses of research model, we start by reviewing relative research in the fields of transportation and marketing. The literature review is structured as follows. First, we elaborate the concept of service quality and the major components of service quality measurement. We then explore the way how service quality effect upon passenger behavioral intentions basing on the “quality-satisfaction-behavioral intentions” paradigm. Secondly, we present the perceived value model which integrates consumers’ perception of benefits and costs. We further delve into the relations among perceived value, service quality, and satisfaction. The literature review is end up with the introduction of switching barrier which is a useful strategy to encourage desirable consumer behavioral intentions. According to the previous research, two main factors of switching barriers are proposed. We also explore the connections between switching barriers and passenger behavioral intentions.

2.1 Conceptualization of Service Quality

Reflecting upon the three properties of service – intangibility, heterogeneity, and inseparability (Parasuraman et al., 1985) – service quality is specified as a complex, abstract, and multidimensional nature construct (Grönroos, 1984; Parasuraman et al.,

1988, Zeithaml, 1988). The identification of the dimensions of service quality is a critical topic in marketing literature. However, there is still no consistent agreement on the dimension of service quality. According to Brady and Cronin (2001), the specification of service quality can generally be categorized into two approaches. The first is the “Nordic” perspective (Grönroos, 1984), which emphasizes the interactive nature of services, and uses functional and technical quality as the dimensions of service quality. The functional quality focuses on how consumers receive the service (process dimension), whereas the technical quality focuses on what consumers receive (outcome dimension).

The second, the “American” perspective (Parasuraman et al., 1985; 1988), dominates the literature and uses terms that describe service encounter characteristics. Parasuraman, Zeithaml, and Berry’s (1985) model was founded on the expectancy disconfirmation theory, which defines service quality as the gap between the expected level of service and customer perceptions of the level received. In order to measure service quality, Parasuraman, Zeithaml, and Berry (1988) designed the most widely known and discussed scale, SERVQUAL, which consists of 22 items representing five dimensions: tangibles, reliability, responsiveness, assurances, and empathy. Although subsequent researchers have attempted to test and adopt the SERVQUAL instrument in various industries, these studies do not generally support the factor structure posited by

Parasuraman, Zeithaml, and Berry (1998) (Dabholkar et al., 1996). The generalization of SERVQUAL's five dimensions may explain why its utility is limited in certain service contexts (Woo and Ennew, 2005). Researchers further indicated that service quality evaluations are likely to be context dependent. Therefore, researchers should develop context-specific service quality models (Dabholkar et al., 1996; Dagger et al., 2007).

In order to appropriately represent some important elements of transportation service, the identification of service quality dimensions also arouses attention to transportation research. Thus transportation researchers have recently developed various scales to measure passengers' service quality perception (Hu and Jen, 2006; Joewono and Kubota, 2007; Park et al., 2006). For example, Hu and Jen (2006) adopted a multistage scale development procedure to develop a passengers' perceived service quality scale of bus service. Their scale contains four dimensions and 20 items. Furthermore, Park, Robertson, and Wu (2006) constructed an airline service quality scale based on in-depth interviews and focus groups with airline staff and passengers. After that, they proceeded to an exploratory factor analysis and confirmatory factor analysis. Their final proposed scale included three dimensions and 22 items.

However, when researchers further explored the effects of service quality on other variables (such as satisfaction, perceived value, or behavioral intentions), they usually

treated the measurement of service quality in the form of an average score of each dimensions. More specifically, each of the dimensions was calculated as the mean score of each item in each dimension (e.g., Jen and Hu, 2003; Joewono and Kubota, 2007; Lin et al., 2008; Park et al., 2006). Researchers indicated that measuring service quality in this way may not accurately reflect the concept of service quality (Dabholkar et al., 1996). Because using mean scores to represent each dimension may fail to capture customers' evaluations of service quality as a separate, multi-item construct, the reliability of each dimension is impossible to ascertain. Moreover, it is possible that customers could focus on certain aspects of the services in their mind while responding to these questions. Consequently, these measures may not exactly express service quality.

Furthermore, both the "Nordic" and "American" perspectives have treated relative dimensions as components of service quality (Dabholkar et al., 2000). The first is "Nordic" perspective (Grönroos, 1982; 1984), which defines the dimensions of service quality in global terms as consisting of functional and technical quality. The second, the "American" perspective (Parasuraman et al., 1988), use terms that describe service encounter characteristics (i.e., reliability, responsiveness, empathy, assurances, and tangibles). Thus, service quality is conceptualized as a formative construct which means the dimensions of service quality cause the overall service quality perception.

However, recently, service quality has been described as a higher-order factor which means the structural of service quality is a hierarchical conceptualization (Brady and Cronin, 2001; Dabholkar et al., 1996; Hansen, 2004; Woo and Ennew, 2005). This is because that previous research in service quality found high inter-correlations among indicators across dimensions (i.e., the indicators across dimensions may influence to each other), and several studies have found only one factor (Dabholkar et al., 1996). These latter instances are suggestive of the presence of a higher order factor. Thus, researchers proposed a hierarchical conceptualization of service quality, which suggest that service quality perceptions are not only multidimensional but multilevel (Dabholkar et al., 1996; Hansen, 2004; Woo and Ennew, 2005). In their models, the relevant dimensions are central to service quality, thus service quality is served as a higher-order factor. Furthermore, this structure suggests that service quality comprises several primary dimensions (e.g., reliability, responsiveness), which in turn share a common theme which means concept represented by the higher order global perceived by service quality constructs. Therefore, the dimensions are seen as reflective indicators of service quality.

Modeling service quality in this way may have two advantages. First, the hierarchical factor structure can capture dimensions important to the customer because the higher-order factor extracts the underlying commonality among the dimensions

(Dabholkar et al., 1996). Secondly, the hierarchical structure recognizes that the evaluation of service quality may be more complex than previously conceptualized (Dagger et al., 2007). Hence, such a structure may more fully account for the complexity of human perception. Empirical evidence is also provided to support the hierarchical factor structure in different settings, such as retail stores (Dabholkar et al., 1996), trade shows (Hansen, 2004), and business-to-business professional services (Woo and Ennew, 2005).

Considering our research subject – coach service – and the dimension-specific nature of service quality, we adopt Hu and Jen's (2006) passenger service quality scale as our measurement items. Their final scale contained four dimensions: interaction with passengers (with 6 items), tangible service equipment (with 6 items), convenience of service (with 5 items), and operating management support (with 3 items). Furthermore, owing to the mean score defect and the virtue of hierarchical factor structure, our model served service quality as a higher-order factor, which reflects on the four dimensions. We use the evaluations of each item to form the perceptions on each if the four dimensions (see Figure 2). Thus, we propose that:

H_1: Passenger service quality is a higher-order construct that represents (a) interaction with passengers, (b) tangible service equipment, (c) convenience of service, and (d) operating management support.

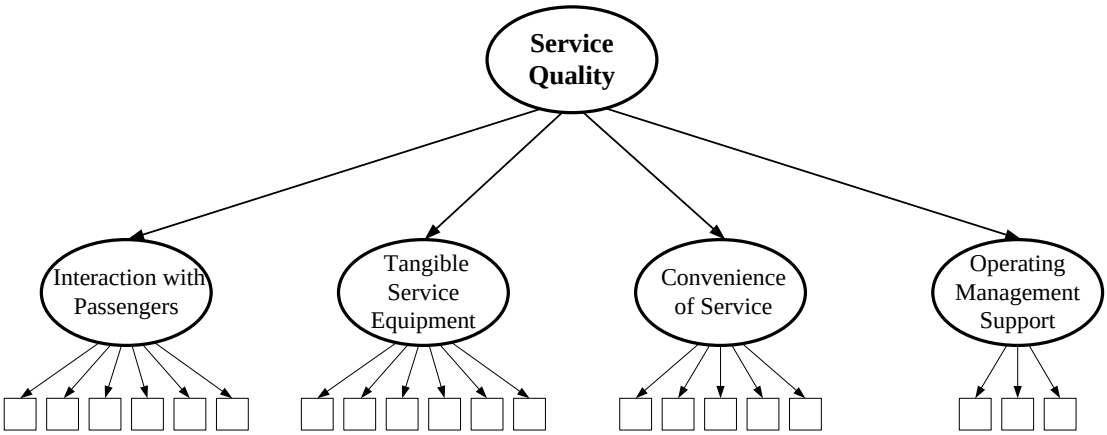


Figure 2 Hierarchical Factor Structure for Passenger Service Quality

2.2 Service Quality-Satisfaction-Behavioral Intentions Paradigm

There are several areas of study regarding customers' behavioral intentions, such as Total Quality Management, Customer Satisfaction Management, and Customer Value Management. These research streams often begin with the study of service quality and then carry through to satisfaction research, which is called the "quality-satisfaction-behavioral intentions" paradigm (Caruana, 2000; Dabholkar et al., 2000; Lapierre et al., 1999). Existing literature notes past use of expectancy disconfirmation theory in interpreting the two concepts of service quality and satisfaction (Oliver, 1993; Parasuraman et al., 1988; Rust and Oliver, 1994); however, since the two constructs share similar properties, researchers have not always been able to distinguish between them. Several studies attempt to provide conceptual and operational distinctions between service quality and satisfaction. For example, some researchers indicate that expectation in service quality can be viewed as either "ideal"

or “should,” whereas expectation in satisfaction refers to “desired” or “will” (Boulding et al., 1993). Some also argue that dimensions underlying service quality are rather specific, whereas satisfaction judgments have a broader range of dimensions which also include service quality aspects (Oliver, 1993). Furthermore, satisfaction assessments require customer experience, whereas service quality does not (Cronin and Taylor, 1992; Parasuraman et al., 1988).

The undistinguishable characteristics of service quality and satisfaction further induce argument surrounding causal. Traditionally, research has suggested that satisfaction would lead to an overall evaluation about service quality (Boulding et al., 1993; Fornell, 1992; Parasuraman et al., 1988). From this viewpoint, satisfactory service quality experiences may lead consumers to develop and modify their global attitude in the long run, such that an accumulation of specific evaluation (satisfaction with a transaction) results in a global evaluation (service quality) (Lapierre et al., 1999; Ledden et al., 2007). Thus, satisfaction is treated as an antecedent of service quality. However, a dominant view on the relationship between service quality and satisfaction is that service quality represents a cognitive judgment, whereas satisfaction is more of an effective evaluation (Cronin et al., 2000; Oliver, 1993). According to the multi-attribute attitude model framework, i.e., cognition→affect→conation model (Wilkie, 1986), service quality is an antecedent to satisfaction and in turn, drives

behavior intentions. Moreover, a theoretical justification also be attributed to the appraisal→emotional response→coping framework (Bagozzi, 1992), which indicates that satisfaction strongly mediates the effect of service quality on behavioral intentions. Hence, the relationship of service quality→satisfaction→behavioral intentions has been treated as a research paradigm, and several studies have found empirical support for this model (Brady et al., 2001; Choi et al., 2004; Dabholkar et al., 2000; González et al., 2007; Yu et al., 2005). According to previous research results, when customers perceive higher service quality, they feel more satisfied and exhibit more positive behavioral intentions. Building upon these findings, the first two hypotheses in this study are as follows:

H_2: Service quality is positively related to satisfaction.

H_3: Satisfaction is positively related to passenger behavioral intentions.

2.3 Perceived Value Model

In marketing literature, scholars highlight the delivery of perceived value as a strategic imperative for achieving customer loyalty and reducing defection rates (Lapierre et al., 1999; Ledden et al., 2007; Liu et al., 2005). These studies suggest that perceived value leads to favorable behavioral intentions (Wang et al., 2004). Other research further indicates that perceived value represents a new paradigm that creates

and sustains a competitive advantage and requires a more comprehensive approach than a simple focus on service quality or satisfaction (Ruiz et al., 2008).

Perceived value serves as a widespread construct which simultaneously integrates customers' perception of benefits and sacrifices. Researchers also reached considerable agreement in conceptualizing perceived value as the trade-off between benefits and sacrifices: Zeithaml (1988) defines value as "customer's overall assessment of the utility of a product based in perceptions of what is received and what is given"; Monroe (1991) defines customer-perceived value as the relationship between perceived benefits and perceived sacrifices (i.e. PB/PS); and Day (2000) introduces the value equation as a mechanism for understanding perceived value, with the value represented as the difference between the perceived benefits and perceived sacrifices (i.e. PB-PS). Hence, customers cognitively combine their perceptions of what they can get (i.e. benefits and/or gain) and what they have to give up (i.e. sacrifices and/or loss) in order to obtain a service. Furthermore, marketers can increase the value of their service by improving the service benefits, reducing sacrifice through productivity, or a combination of both.

Although previous research indicates the key components of perceived value are perceived benefits and perceived sacrifices, perceived value has most often been operationalized in terms of the trade-off between service quality and price (Bolton and

Drew, 1991; Dodds et al., 1991; Grewal et al., 1998; Zeithaml, 1988). Bolton and Drew (1991) have shown that quality and price perception influence value perceptions. Lapierre et al. (1999) suggest that perceived value of a service results in part from service quality. Caruana et al. (2000) refers to the idea that customers buy bundles of attributes that together represent a certain level of service quality offered by a firm at a certain price level. According to previous research, service quality is most commonly used to represent perceived benefits, and serves as an important element of perceived value. Researchers further offer significant empirical evidence in support of a relationship between service quality and perceived value (Cronin et al., 2000; Lam et al., 2004; Oh, 1999; Yang et al., 2004). Hence, when customers get better service quality from a firm, they perceive the firm offers a valuable service. Thus,

H_4: Service quality is positively related to perceived value.

Although service quality is an important element of perceived value, research suggests that price to be another crucial component, in which consumers pay to acquire a service. Previous research defines service sacrifice as what is given up or cost to acquire a service (Heskett et al., 1990; Zeithaml, 1988). In this regard, sacrifices can be divided into two types: monetary prices and non-monetary prices (Choi et al., 2004; Wang et al., 2004). The former can be assessed by a direct measure of the dollar price of the service, and the latter can be defined as the time, effort, and

energy invested by a customer to obtain that service. Since it can be difficult to measure non-monetary prices, most studies use monetary prices to assess service sacrifice (e.g. Heskett et al., 1990; Oh, 1999). However, researchers also indicate that for some customers or in certain situations, non-monetary prices could prove more important than monetary prices. For example, time-constrained consumers patronize convenience stores and increasingly shop online to save time (Wang et al., 2004; Ruiz et al., 2008). In this context, both time spent making the buying decision and time spent waiting to access, receive, and complete the service are relevant (Berry et al., 2002). Service sacrifice is one of the key determinants of customer perceived value, and many empirical studies have confirmed the relationship between these two variables. These findings suggest that the more customers have to give up or sacrifice to acquire services, the less value they perceive in the services. Hence, we have:

H_5: Perceived costs are negatively related to perceived value.

Previous research also consistently agrees that perceived value is a stable construct with which to predict satisfaction and customers' behavioral intentions (Anderson and Srinivasan, 2003; Brady et al., 2001; Cronin et al., 2000; Grewal et al., 1998; Liu et al., 2005; Pura, 2005; Yang and Peterson, 2004). These studies find that customers' value perceptions can increase satisfaction, brand preference, and willingness to buy, while decreasing customers' search intentions for alternatives.

Many empirical evidences from the health care service, sport service, telephone service, insurance service, and mobile service industries further support the relationship between perceived value and behavioral intentions (e.g. Bolton and Drew, 1991; Brady et al., 2001; Cronin et al., 2000; Yu et al., 2005). Thus, we propose that:

H_6: Perceived value is positively related to satisfaction.

H_7: Perceived value is positively related to passenger behavioral intentions.

2.4 Switching Barriers

Emerging research suggests that two strategies are often used to increase customers' behavioral intentions: (1) increasing customer satisfaction so that customers are willing to stay; and (2) making any switch difficult for the customer (Balabanis et al., 2006; Huang et al., 2007; Jones et al., 2000; Ranaweera and Prabhu, 2003). Studies further argue that satisfaction plays a lesser role when switching barriers are high. Jones et al. (2000) notes the importance of switching barriers in potentially fostering greater customer retention in general and helping companies to weather short-term fluctuations in service quality that might otherwise result in defection. Sharma and Patterson (2000) also indicate that customers often face a considerable risk in switching to an alternate service provider because it is difficult to evaluate a service before actually purchasing it. It is sometimes a case of the "devil

you know is better than the devil you don't." Research further shows that switching barriers explain more of the variation in repurchasing behavior than satisfaction (Burnham et al., 2003; Patterson and Smith, 2003). Hence, not only satisfaction but also switching barriers should be taken in forming a more complete framework for studying customers' behavioral intentions.

Previous research notes that switching barriers refer to many factors, making it difficult or costly for customers to change providers (Jones et al., 2000). Many studies focus discussion on the property of switching costs, i.e., costs incurred when a customer changes from one service provider to another. Researchers find that switching costs not only have economic in nature, but can have psychological and emotional once as well (Burnham et al., 2003; Jones et al., 2002; Sharma and Patterson, 2000; Yang and Peterson, 2004). For instance, customers wishing to switch to other service providers may be forced to terminate a current relationship in which they have already invested a great deal. Researchers view switching costs as sunk costs which represent a customers' perception of the non-recoupable money, time, and emotional effort involved in establishing and maintaining a friendly, quasi-social relationship with a service provider (Patterson and Smith, 2003). Furthermore, customers must secure an alternative prior to changing service providers. Hence, customers have to spend money, time and effort, i.e., search costs, in order to look for an acceptable,

alternative service provider (Jones et al., 2000). Other research also indicates that switching costs can not only be categorized into financial switching costs, but also procedural switching costs involving expenditure and effort, and relational switching costs causing psychological or emotional discomfort due to a loss of identity and the breaking of brands (Burnham et al., 2003). Hence, as the switching costs of an activity increase, the likelihood of customers engaging in such behavior should diminish, and they are “locked” into a relationship with the incumbent service provider.

Past research also emphasizes that alternative attractiveness is an important factor when customers consider switching providers (Jones et al., 2000; Patterson and Smith, 2003; Wathne et al., 2001; Yim et al., 2007). Alternative attractiveness is conceptualized as the customer’s estimate of the likely satisfaction available in an alternative relationship (Patterson and Smith, 2003; Sharma and Patterson, 2000). Competitors encourage customers to switch by offering superior service quality, reputation, and brand image than those of the existing provider. Some new competitors even conduct marketing programs to captivate customers, such as lower prices or enhanced value offers through a service portfolio whose breadth exceeds that of the current provider in meeting future needs (Wathne et al., 2001). Empirical evidence suggests that when the alternative attractiveness increases, the expressed customer satisfaction with the existing provider decreases (Patterson and Smith, 2003; Yim et al.,

2007) and repurchase intentions increase (Jones et al., 2000; Wathne et al., 2001). Comprehensively, if customers are either unaware of attractive alternatives or simply do not perceive them as any more attractive than the current relationship, they are likely to remain in the current relationship.

Although most studies show that switching barriers play a critical role in the process of improving customer behavioral intention, the effect of switching barriers on behavioral intentions is less than conclusive. One research stream indicates that switching barriers has main/direct effect on customer behavioral intentions (Burnham et al., 2003; Jones et al., 2002; Liu et al., 2005; Wathne et al., 2001), whereas the other proposes the moderating/interaction effect of switching barriers (Balabanis et al., 2006; Jones et al., 2000; Patterson and Smith, 2003; Ranaweera and Prabhu, 2003; Sharma and Patterson, 2000). The former viewpoint suggests switching barriers represent one of the main antecedents of customer behavioral intentions: the higher the switching barrier, the more a customer is forced to stay with the incumbent provider (Jones et al., 2002; Liu et al., 2005) and the less likelihood of the customer defecting (Wathne et al., 2001). Other studies find that switching barriers have moderate effects on the link between satisfaction and retention (Balabanis et al., 2006; Jones et al., 2000; Ranaweera and Prabhu, 2003) and the relationship between trust and commitment (Sharma and Patterson, 2000). These research results show that when switching

barriers are substantial or the switching process especially painful, customers remain in relationships with service providers even if not highly satisfied. Patterson and Smith (2003), however, propose that there are no significant interaction effects between satisfaction and switching barriers. On the basis of the foregoing arguments and evidence, we further propose:

H_8: Switching costs are positively related to passenger behavioral intentions.

H_9: Alternative attractiveness is negatively related to passenger behavioral intentions.

2.5 Discussion

A review of the relevant literature reveals that quality-satisfaction-behavioral intentions paradigm, perceived value model, and switching barriers are three important theories to explore consumer behavioral intentions. However, most of these studies only quote part of the three theories. For example, some research examines two factors, such as satisfaction and perceived value (Ander and Srinivasan, 2003), service quality and perceived value (Jen and Hu, 2003; Lin et al., 2008), and satisfaction and switching barriers (Balabanis et al. 2006; Huang et al., 2007; Jones et al., 2000; Ranaweera and Prabhu, 2003). Some research models include three variables, such as service quality, satisfaction, and perceived value (Brady et al., 2001; Caruana et al.,

2000; Choi et al. 2004; Cronin et al., 2000; Oh, 1999; Yu et al., 2005), and satisfaction, perceived value, and switching cost (Lam et al., 2003; Yang and Peterson, 2004). No research has fully and simultaneously compared the relative influence of the three research streams. Consequently, the stability and applicability of past finding across the relations among service quality, satisfaction, perceived costs, perceived value, switching barriers (i.e., switching costs and alternative attractiveness), and behavioral intentions remain largely untested.

Moreover, there exists a large body of literature including models and theories of consumer behavioral intentions, but most of the past studies were conducted within bank service (Jones et al., 2000; Yang and Peterson, 2004), courier service industry (Lam et al., 2003); mobile service (Yu et al., 2005), e-store (Ander and Srinivasan, 2003; Balabanis et al., 2006), fast-food (Brady et al., 2001); health care (Choi et al., 2004), hotels service (Oh, 1999). Hence, further empirical studies of behavioral intentions, especially in the transportation context, are needed. This research considers each of the concepts of service quality, satisfaction, perceived costs, perceived value, switching costs, alternative attractiveness, and behavioral intentions; it develops a theoretically based that are formulated in research hypotheses, and seeks to test these hypotheses among a representative sample of passengers' of transportation practices. This study contributes to the transportation literature by introducing cognitive factors

into passenger behavior, and simultaneously integrating three major research streams in marketing field.

3. RESEARCH DESIGN

The goal of this research is to better understand the relationships among seven key constructs: service quality, perceived costs, perceived value, satisfaction, switching costs, alternative attractiveness, and behavioral intention. In order to explore the relations among these constructs, indicators of each construct should be developed first. Following the literature, this study employed 34 measurement variables (V_1-V_{34}) as multiple indicators for seven latent variables including service quality, perceived costs, perceived value, satisfaction, switching costs, alternative attractiveness, and behavioral intentions. These measurement variables are further modified to fit for the transportation service (Appendix 1).

In the methodology aspect, the Structural Equation Modeling (SEM) is selected to exam the research model. Since the research model combines the measurement model and the causal model, SEM is able to explain a series of inter-related dependence relations simultaneously between a set of constructs, each measured by one or more indicators. The two-step approach is applied in this study, because it provides a superior diagnosis for the specific sources of the fallibility.

Furthermore, three competing models are constructed for a better understanding the underlying relations among seven constructs. These competing models are derived

from the literature of satisfaction, perceived value, and switching barrier. The coach industry is selected as the research subject, and a long distant route and a middle distant route are chosen as the investigation subject.

3.1 Measurements

In order to measure service quality, and in consideration of the dimension-specific nature of service quality, we adopted a well development passenger service quality scale from Hu and Jen's (2006) study. However, two items were deleted from the original scale in the "interaction with passengers" dimension, including "the company deals with accidents quickly and reasonably" and "the company deals with passengers' opinions and complaints." Because most of the passengers indicated that they did not have any experience with these two situations in this trip. Therefore, the final measurement of service quality (SQ) applied to the following analysis includes "interaction with passengers (IP)" with four questions (V_1-V_4); "tangible service equipment (TSE)" with six questions (V_5-V_{10}); "convenience of service (CS)" with five questions (V_{11}-V_{15}); and "operating management support (OMS)" with three questions (V_{16}-V_{18}). Since previous research defined service quality as the comparison results of expected and perceived service (Grönroos, 1984; Parasuraman et al., 1988; Oliver, 1993), we follow these studies and measure both perceived and expected

performance of all items. And the values of V_1-V_{18} come from the value of perceived performance minus the value of expected performance (Table 1).

Previous researchers defined perceived costs (PC) as what is given up or sacrificed to acquire a service (Zeithaml, 1988), and divided perceived costs into categories of monetary prices and non-monetary prices (Choi et al., 2004; Wang et al., 2004). Therefore, as relative literature had used to evaluate PC, we adopted the dollar price of the coach service to measure monetary price (V_{19}), whereas time spent associated with the coach service is measured to represent the non-monetary price (V_{20}-V_{21}) (Jen and Hu, 2003; Lin et al., 2008).

Furthermore, literature consistently agrees that perceived value (PV) is the comparison between what is received and what is given (Mornoe, 1991; Zeithaml, 1988). Specifically, perceived value is the trade-off between the perceived benefits and perceived costs. Basing on the relative studies, we use three items to evaluate PV (V_{22}-V_{24}) (Cornin et al., 2000; Jen and Hu, 2003; Liu et al., 2005).

According to the research on satisfaction (SA), suggesting that satisfaction reflects the degree to which consumers believe that possession of a service evokes positive feelings (Bagozzi, 1992; Wilkie, 1986), and the evaluation of satisfaction

should be an emotion-based response (Oliver, 1993). Thus, we adopt three emotion descriptions to measure SA (V_{25}-V_{27}).

Table 1 The Measurement Items of Each Construct

Construct	No.	Indicators
Service Quality (SQ)		Interaction with Passengers (IP)
	V_1	Derivers appreciate the safety of passengers when they get on/off the vehicle
	V_2	Drivers are polite and friendly when communicating with passengers
	V_3	Drivers driver buses smoothly, and their road-craft is fine
	V_4	Drivers driver on the right route and never fail to stop when passengers want to get on
		Tangible Service Equipment (TSE)
	V_5	Bus companies provide safe and brand new vehicles
	V_6	Vehicles are clean inside
	V_7	Noise on the vehicle is not too loud
	V_8	Equipment in the vehicle satisfies passengers' needs
	V_9	Air-conditioning is very comfortable
	V_{10}	Stop's layout is fine
		Convenience of Service (CS)
	V_{11}	Places of bus stations are proper and convenient
	V_{12}	Transshipping on the network is convenient
	V_{13}	Information about bus routes is marked clearly
	V_{14}	Company will have notification on the buses in short time when the routes and bus schedule are changed
	V_{15}	Company will correct the information at stops in the short time when the routes and bus schedule are changed
		Operating Management Support (OMS)
	V_{16}	I do not have to worry that there is no bus
	V_{17}	I usually wait for a bus longer than the scheduled headway
	V_{18}	Company dispatches buses according to the schedule
Perceived Costs (PC)	V_{19}	The fare charged to travel by this coach company is high
	V_{20}	The time required to arrive at the station is high
	V_{21}	The time required to wait at the station is high
Perceived Values (PV)	V_{22}	The company's service offered is valuable
	V_{23}	The company's service based on certain price is acceptable
	V_{24}	It is worthier to travel by this company's coach than by other coach companies
Satisfaction (SA)	V_{25}	I felt interesting to travel by this company's coach
	V_{26}	I felt enjoyable to travel by this company's coach
	V_{27}	I felt surprised to travel by this company's coach
Switching Costs (SWC)	V_{28}	It would be a hassle for me to get information about other companies
	V_{29}	For me, it would take a lot of costs to travel by other coach companies
	V_{30}	For me, it would be a high risk to travel by other coach companies
Alternative Attractiveness (AA)	V_{31}	I would probably be happy with the services of another coach company or mode
	V_{32}	Compared to this coach company, there are other coach companies or modes with which I would probably be equally or more satisfied
Behavioral Intention (BI)	V_{33}	I would like to travel by this coach company again
	V_{34}	I would like to recommend this coach company to others

Moreover, customer behavioral intentions (BI) are usually discussed from their repurchase intentions and recommendation intentions (Jen and Hu 2003; Lin et al. 2008; Zeithaml et al. 1996). Following these studies, BI is measured by two items (V_{33}-V_{34}).

In this study, switching barriers consisted of two elements that were the most adopted in relative literature: switching costs (SWC) and alternative attractiveness (AA). Basing on previous studies, we define SWC as passenger perceptions regarding the time, money and effort associated with changing coach service providers (Burnham et al., 2003; Jones et al., 2000; Sharma and Patterson, 2000), and AA as passenger perceptions regarding the extent to which competitors offer equal or superior coach services (Patterson and Smith, 2003; Sharma and Patterson, 2000). Following these definitions, we adopt three items to measure SWC (V_{28}-V_{30}), and another two items to assess AA (V_{31}-V_{32}) (Jen and Hu, 2003; Jones et al., 2000). These measurement variables are modified to fit for the coach service. To measure all the items in our study, we used a five-point, Likert-type response format, ranging from "strongly agree" to "strongly disagree." The relationships between the constructs and the indicators, and our research hypotheses are shown in Figure 4.

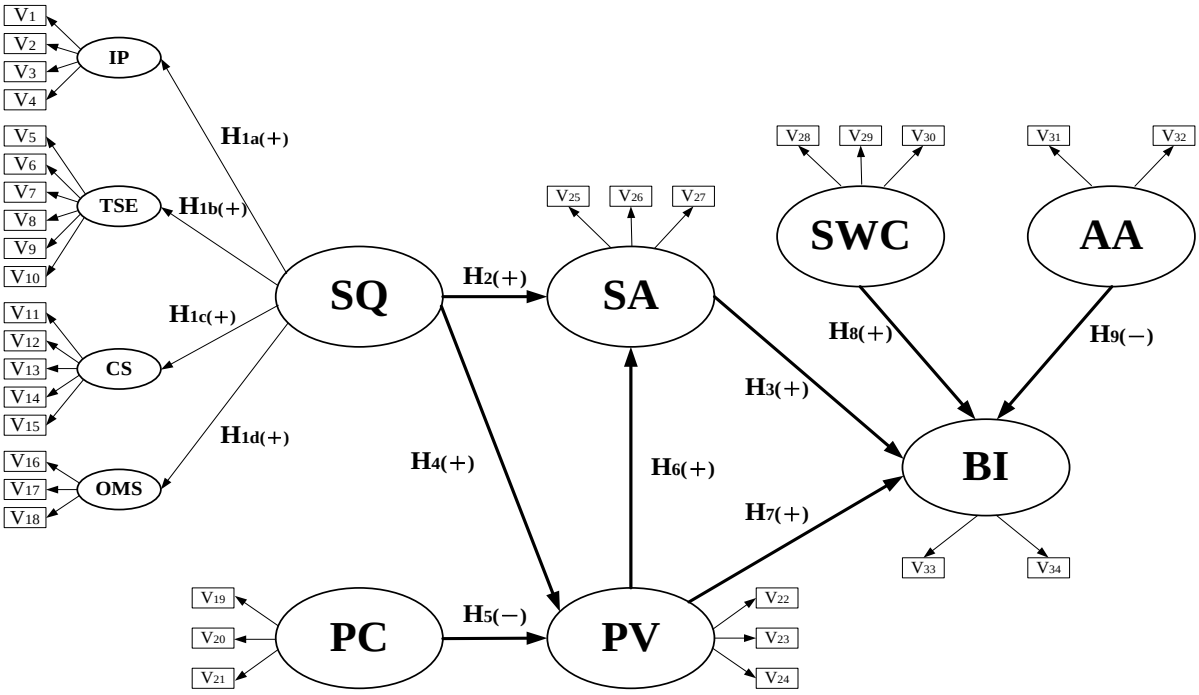


Figure 3 Measurement Model and Research Hypotheses

3.2 Methodology

3.2.1 Methodology Selection

Since the major purpose of our research is to explore passenger behavioral intentions from cognitive perspective, we adopt many scientific constructs (e.g., service quality, satisfaction, perceived value, and passenger behavioral intentions) which cannot be directly observed. These constructs can only be measured through indicators or observable measures (e.g., V_1-V_{34}). Moreover, our integrated model explores many causal relationships among these constructs, and a series of linear equations need to be solved. Therefore, our research model consists of two components: a measurement model and a causal structural model. The former specifies

links between the latent constructs and their corresponding indicator variables, while the latter specifies causal relationships between the latent constructs themselves. On the basis of research model formulation, the Structural Equation Modeling (SEM) is one of the most applicable methods to examine our theoretical model. This is because that SEM is to explain the pattern of a series of inter-related dependence relations simultaneously between a set of latent constructs, each measured by one or more indicators (Reisinger and Turner, 1999). And SEM has also been widely applied in activity and travel behavioral research during the last decade (Kuppamn and Pendyala, 2001).

More specific, any observed measures of constructs are invariably contain measurement error, but regression approaches typically do not take into account measurement error in the observed variables and thus susceptible to these biases (Steenkamp et al., 2000). In contrast, SEM makes it possible and encourages researcher to identify measurement errors. Furthermore, SEM is covariance-based rather than variance-based, thus comparing to other modeling techniques, SEM is mode focused on explaining consumer phenomena than on predicting specific outcome variables. Comprehensively, previous studies suggest that SEM is the superior method on both theoretical and empirical statistical ground than other approaches (e.g., regression) (Iacobucci et al., 2007; Reisinger and Turner, 1999).

3.2.2 Structural Equation Modeling

The structural equation modeling general consists of two parts: **the measurement model** and **the structural model** (Hatcher, 1998; Jöreskog and Sörbom, 1996). **The measurement model** specifies the relations between *the latent variables* and *the manifest variables* (or indicators). A *manifest variable* is one that is directly measured or observed in the course of an investigation, while a *latent variable* is a hypothetical construct that is not directly measured or observed. **The structural model** specifies the causal relations between the latent variables themselves. Moreover, the latent variables can further classified to the *latent endogenous variables* and the *latent exogenous variable*. Specifically, *an endogenous variable* is one whose variability is predicted to be causally affected by other variables in the model (e.g., satisfaction or behavioral intentions in our research model), whereas *an exogenous variable* is influenced only by variables that lie outside of the model and never affected by other variables in the model (e.g., service quality and perceived costs in our research model). The measurement models are shown as Equation (1) and (2).

$$\mathbf{X}=\begin{bmatrix} X_1 \\ . \\ . \\ . \\ X_q \end{bmatrix}, \quad \mathbf{\Lambda_X}=\begin{bmatrix} \lambda_{11} & . & . & . & \lambda_{1n} \\ . & . & . & . & . \\ . & . & . & . & . \\ . & . & . & . & . \\ \lambda_{q1} & . & . & . & \lambda_{qn} \end{bmatrix}, \quad \boldsymbol{\xi}=\begin{bmatrix} \xi_1 \\ . \\ . \\ . \\ \xi_n \end{bmatrix}, \quad \boldsymbol{\delta}=\begin{bmatrix} \delta_1 \\ . \\ . \\ . \\ \delta_q \end{bmatrix} \qquad (1)$$

$$\mathbf{Y} = \begin{bmatrix} Y_1 \\ . \\ . \\ . \\ Y_p \end{bmatrix}, \quad \Lambda_Y = \begin{bmatrix} \gamma_{11} & . & . & . & \gamma_{1m} \\ . & . & . & . & . \\ . & . & . & . & . \\ . & . & . & . & . \\ \gamma_{p1} & . & . & . & \gamma_{pm} \end{bmatrix}, \quad \eta = \begin{bmatrix} \eta_1 \\ . \\ . \\ . \\ \eta_m \end{bmatrix}, \quad \varepsilon = \begin{bmatrix} \varepsilon_1 \\ . \\ . \\ . \\ \varepsilon_p \end{bmatrix} \tag{2}$$

The two equations can be rewritten as

$$\mathbf{X} = \Lambda_X \xi + \delta \tag{3}$$

$$\mathbf{Y} = \Lambda_Y \eta + \varepsilon \tag{4}$$

$\mathbf{X}$ is a *q*×*1* vector of the indicators of the latent exogenous variables,

$\mathbf{Y}$ is a *p*×*1* vector of the indicators of the latent endogenous variables,

ξ is a *n*×*1* vector of the latent exogenous variables,

η is a *m*×*1* vector of the latent endogenous variables,

Λ_X is a *q*×*n* coefficient matrix for exogenous variables,

Λ_Y is a *p*×*m* coefficient matrix for exogenous variables,

δ is a *q*×*1* vector of error terms associated with the exogenous variables,

ε is a *p*×*1* vector of error terms associated with the endogenous variables,

A general matrix of the structural model for the latent variable is represented as shown in Equation 5.

$$\begin{bmatrix} \eta_1 \\ . \\ . \\ . \\ \eta_m \end{bmatrix} = [\eta \; \xi] \begin{bmatrix} B \\ \Gamma \end{bmatrix} + \begin{bmatrix} \zeta_1 \\ . \\ . \\ . \\ \zeta_m \end{bmatrix} \tag{5}$$

This equation can be rewritten as

$$\eta = B\eta + \Gamma\xi + \zeta \quad (6)$$

η is a *m*×*1* vector of the latent endogenous variables,

B is a *m*×*m* coefficient matrix for endogenous variables,

ξ is a *n*×*1* vector of the latent exogenous variables,

Γ is a *m*×*n* coefficient matrix for exogenous variables,

ζ is a *m*×*1* vector of error terms associated with the endogenous variables.

Structural equations systems are estimated by covariances-based analysis in which the difference between the sample covariance and the model implied covariance matrices is minimized (Bollen, 1989). The fundamental hypothesis for the covariance-based estimation is that the covariance matrix of the manifest variables is a function of a set of parameters as shown in Equation 7.

$$\Sigma = \Sigma(\theta) \quad (7)$$

Σ is the sample covariance matrix of the manifest variables,

θ is a vector that contains the model parameters,

$\Sigma(\theta)$ is the covariance matrix written as a function of θ.

The relation between Σ and $\Sigma(\theta)$ is basic to an understanding of identification estimation, and assessments of model fit. The matrix $\Sigma(\theta)$ has three components including the covariance matrix of η, the covariance matrix of ξ, and the covariance matrix of η with ξ. Let Φ is the *n*×*n* covariance matrix of ξ, and

Ψ is the *m*×*m* covariance matrix of ζ. Furthermore, the model assumes that $(I-B)$ is nonsingular, so that $(I-B)^{-1}$ exists. Thus, it can be shown that (Bollen, 1989):

$$\sum(\theta)=\begin{bmatrix}(I-B)^{-1}(\Gamma\Phi\Gamma'+\Psi)(I-B)^{-1'} & (I-B)^{-1}\Gamma\Phi \\ \Phi\Gamma'(I-B)^{-1'} & \Phi\end{bmatrix} \quad (8)$$

The unknown parameters in B, Γ, Φ, and Ψ are estimated so that the implied covariance matrix, $\hat{\Sigma}$, is close to the sample covariance matrix S. In order to realize when the estimates are as close as possible, the fitting function $F(S,\sum(\theta))$ is defined to be minimized (Bollen, 1989). There are various methods which can be used for parameter estimation including maximum likelihood (ML), weighted least square (WLS), generalized least square (GLS), and scale free least square (SLS) (Kuppamn and Pendyala, 2001). Among these methods, ML is the most widely used method for minimizing the fitting function (Bollen, 1989; Hatcher, 1998). The fitting function is shown in Equation 9.

$$F_{ML}=\log|\sum(\theta)|+\mathrm{tr}(S\Sigma^{-1}\sum(\theta))-\log|S|-(p+q) \quad (9)$$

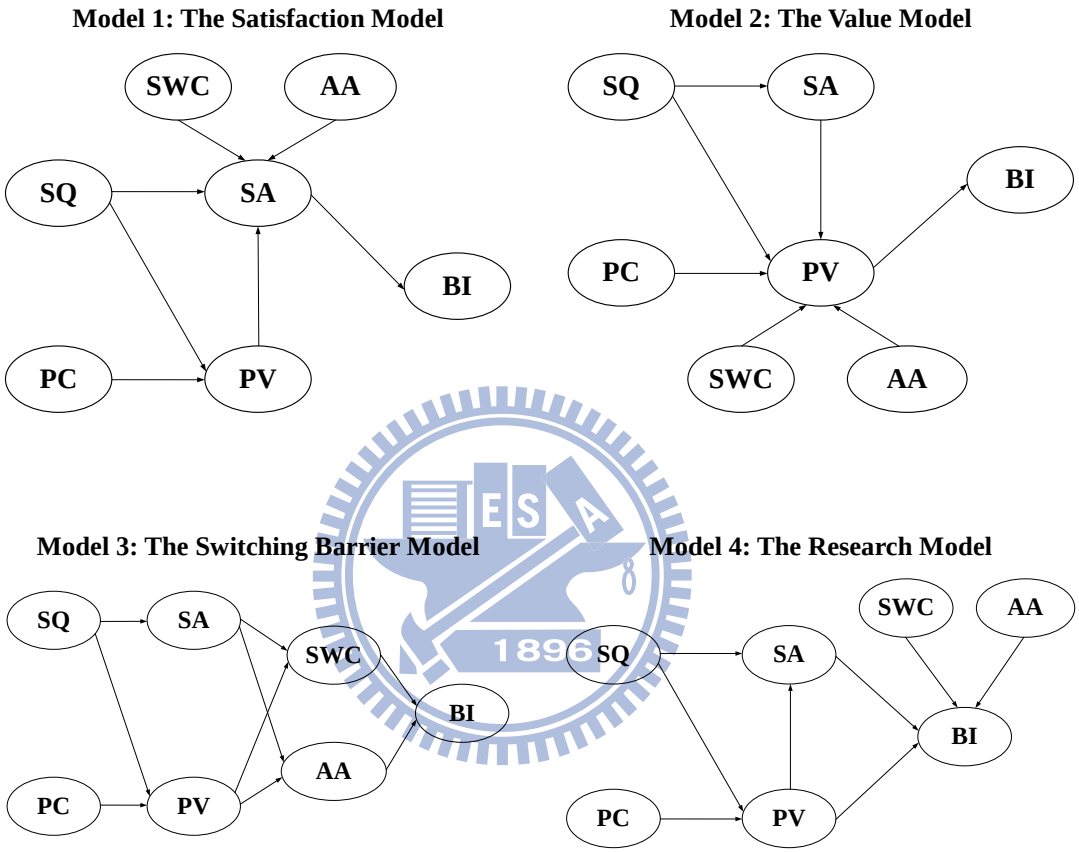
3.3 Competing Models

As shown in the literature review, many researchers have clarified the relationships among service quality, perceived value, satisfaction, switching barriers and such consequences as repurchase intention, customer loyalty, and switching

behavior. However, a detailed assessment of previous research shows little uniformity regarding which of the aforementioned variables, or combinations therein, directly affect behavioral intentions. For example, if the purpose of the research is to evaluate customer satisfaction implications, then the associated model tends to be “satisfaction dominated,” in which the major link to behavioral intentions is through satisfaction. This could also be found in the studies that focus on either perceived value or switching barriers. To better understand the underlying relationships among these variables, an investigation of a more collective model is needed (Jones et al., 2000). We, in this study, construct three competing models inspired by the different focus areas of previous and designed according to the nature of the relationship as found in the dominant literature of that area.

The first model seen in Figure 3 is derived from satisfaction literature, where satisfaction is suggested to lead directly to customer behavioral intentions (Dabholkar et al., 2000; Eggert and Ulage, 2002; Hsu et al., 2006; Lapierre et al., 1999; Yim et al., 2007; Yu et al., 2005). The second model is based on perceived value literature, which defines perceived value as the primary and direct link to customer behavioral intentions (Bolton and Drew, 1991; Choi et al., 2004; Grewal et al., 1998; Ruiz et al., 2008; Sweeney et al., 1999; Wang et al., 2004; Zeithaml, 1988). The third model emanates from switching barriers literature which indicates that switching barriers

represent the key antecedent of behavioral intentions (Burnham et al., 2003; Jones et al., 2002; Lam et al., 2004; Liu et al., 2005; Patterson and Smith, 2003; Ranaweera and Prabhu, 2003; Wathne et al., 2001).



Note: SE: Service Quality, PC: Perceived Cost, SA: Satisfaction, PV: Perceived Value, SWC: Switching Cost, AA: Alternative Attractiveness, BI: Behavioral Intentions.

Figure 4 Competing Models

With the research hypotheses, I propose a fourth model which suggests that all three variables (perceived value, satisfaction, and switching barriers) directly lead to favorable behavioral intentions. I believe this fourth model goes further in exploring the relationship between these variables than the three existing competing models

described above and thus account for a greater share of variance in customer behavioral intentions.

3.4 Data Collection

In order to realize passengers' behavioral intentions, we selected the coach industry in Taiwan as the research subject. After considering the geographic distribution and the population, I selected four large cities (Taipei, Taichung, Tainan and Kaoshiung) as the investigation areas. I further considered the popular routes and transfer distances, and chose the passengers of a long distant route (Taipei-Tainan) and a middle distant route (Taichung-Kaohsiung) as our investigation subject. Both routes contain three coach companies. Among the three companies in the Taipei-Tainan route, the price of a company A's ticket is between $ 220 and $ 360 Taiwan dollar(TWD), the price of a company B's ticket is between $ 350 and $ 400 TWD, and the price of a company C's ticket is between $ 350 and $ 600 TWD. Among the three companies in the Taichung-Kaohsiung route, the price of a company E's ticket is between $ 220 and $ 300 TWD, the price of a company F's ticket is between $ 260 and $ 310 TWD, and the price of a company G's ticket is between $ 350 and $ 390 TWD.

300 questionnaires were given to each company of both routes, for a total of 1800 questionnaires. The questionnaire was distributed randomly in the waiting area of each

company. Respondents were asked to fill out the questionnaire after they finished their trip, and to base their answers on the actual experience of the trip. Afterwards, we requested that they mail the completed questionnaires back to us. This helped to avoid responses from non-users, and to avert responses based on recollections of a remote consumption experience.

3.5 Procedure for Structural Equation Modeling Analysis

Previous researchers proposed different machineries conducting SEM analysis including one-step approach (Fornell and Yi, 1992) and two-step approach (Anderson and Gerbing, 1988). One-step approach can simultaneously estimate the measurement model and a causal structural model, thus it is treated as a more efficient way. However, the two-step approach can provide a superior diagnosis for the specific sources of the fallibility. This is because that the constructs are allowed to freely intercorrelate in a measurement model, and the lack of model fit must be due to fallibility in a researcher's theory of how one or more of the measures are related to the constructs (Anderson and Gerbing, 1992). Therefore, the two-step approach had been widely applied in the literature during last two decades (e.g., Choi et al., 2004; Cronin et al., 2000; Jen and Hu, 2003; Jones et al., 2000; Lapierre et al., 1999; Lin et al., 2008; Wang et al., 2004).

Basing on the above-mentioned discussion, we utilized a two-step SEM approach, and the maximum-likelihood parameter estimation was used to assess our research model. The first step involves using confirmatory factor analysis to develop an acceptable measurement model. When a measurement model is tested, we look for evidence that all indicator variables are measuring the underlying constructs, and that our measurement model demonstrates an acceptance fit to the data. The second involves using path analysis to test the predicted causal relationships between the latent constructs. It also reviews a number of indices that can be used to determine whether our research model provides an acceptable fit to the data. This study applies AMOS to estimate our research model.

3.5.1 The Rules of Confirmation Factory Analysis (CFA)

Before conduct confirmation factory analysis and path analysis, the definition of two variables should be clarified: exogenous variables and endogenous variables. An exogenous variable is a construct that is influenced only by variables that lie outside of the causal model, while an endogenous variable is one whose variability is predicted to be causally affected by other variables in the model (Hatcher, 1998). Therefore, exogenous variables do not have any straight, single-headed arrows pointing at them, but any variable that has a straight, single-headed arrow pointing at it is an endogenous variable. In my research, service quality, perceived cost, switching costs, and

alternative attractiveness are exogenous variables, while satisfaction, perceived costs, and passenger behavioral intentions are endogenous variables.

Confirmatory factory analysis is used to test the fit of my measurement model, and there are several rules that should be followed (Hatcher, 1998).

【Rule 1】In general, only exogenous variables are allowed to have covariances.

【Rule 2】A residual term must be identified for each endogenous variable in the model.

【Rule 3】Exogenous variables do not have residual terms.

【Rule 4】Variances should be estimated for every exogenous variable in the model, including residual terms.

【Rule 5】In most case, covariances should be estimated for every possible pair of manifest exogenous variables; covariances are not estimated for endogenous variables

【Rule 6】For simple recursive models, covariances should not be estimated for residual terms.

【Rule7】One equation should be created for each endogenous variable, with that variable's name to the left of the equals sign.

【Rule8】Variables that have a direct effect on the endogenous variable are listed to the right of the equals sign.

【Rule9】Exogenous variables, including residual terms, are never listed to the left of the equals sign.

【Rule10】To estimate a path coefficient for a given independent variable, a unique path coefficient name should be created for the path coefficient associated with that independent variable.

【Rule11】The last term in each equation should be the residual term for that endogenous variable; this term will have no name for its path coefficient.

【Rule12】To estimate a parameter, create a name for that parameter.

【Rule13】To fix a parameter at a given numerical value, insert that value in the place of the parameter's name.

【Rule14】To constrain two or more parameters to be equal, use the same name for those parameters.

【Rule15】The variances of the latent variable are usually fixed at 1.

3.5.2 The Rules of Path Analysis

After confirming the fit of the measurement model, researcher can conduct the path analysis. Specifically, the purpose of path analysis is to test the causal relations among the latent variables. Most of the rules in CFA are also apply when performing path analysis with latent variables. Two additional rules should be followed in the path analysis (Hatcher, 1998).

【Rule 16】In path analysis with latent variables, the variances of the exogenous variables are free parameter to be estimated.

【Rule 17】In path analysis with latent variables, one factor loading for each latent variables should be fixed at 1.

【Rule 18】In a confirmatory factor analysis of nonstandard model, the variance of a manifest structural variable should be a free parameter to be estimated.

4. RESEARCH RESULTS

For a total of 1800 questionnaires, 747 passengers returned valid questionnaires. Among the respondents, 380 (50.9%) passengers were male, 468 passengers were between the ages of 20-29 (62.7%), 314 (42.0%) passengers had traveled by coach more than five times per season, and 341 (45.6%) passengers' purpose of traveling by the coach were to return to their hometown. Table 2 provides a summary of descriptive statistics for the measurement items, all of which display the distributional properties required for a SEM analysis. Specifically, the data are normally distributed with all skewness and kurtosis values falling within the acceptance range.

4.1 Measurement Model

The measurement model was tested by confirmatory factor analysis (CFA), and the quality of the measurement model was assessed according to the relative model fit index, reliability, convergent validity, and discriminant validity. Table 2 demonstrates measurement reliability using Cronbach's alpha and composite reliability. The estimations of Cronbach's alpha of all constructs were above 0.7, ranging from 0.749 (operating management support and alternative attractiveness) to 0.904 (behavioral intention). The results of composite reliability assessment in each construct also suggested an acceptable reliability with composite reliability estimates ranging from

0.743 (operating management support) to 0.963 (service quality). Hatcher (1998) suggests that the minimal acceptance level of composite reliability should exceed 0.6. Consequently, these results reflect the internal consistency of the indicators.

Table 2 The Property of CFA Results

Constructs	Items	Mean	S.D	Skewness	Kurtosis	λ (*t* value)	α[a]	CR[b]	AVE[c]
SQ	IP					0.752 (13.513)			
	TSE					0.914 (15.949)	0.851	0.963	0.868
	CS					0.876 (15.454)			
	OMS					0.927 (15.122)			
	IP V_1	-0.925	0.836	-.555	.448	0.626 (14.221)			
	V_2	-0.920	0.910	-.502	.148	0.636 (14.416)	0.762	0.807	0.512
	V_3	-0.922	0.898	-.320	.384	0.734 (16.020)			
	V_4	-0.818	0.887	-.884	1.386	0.679 (14.731)			
	TSE V_5	-0.711	0.771	-.442	.737	0.626 (15.570)			
	V_6	-0.744	0.894	-.637	.209	0.619 (15.327)			
	V_7	-0.849	0.935	-.660	.523	0.602 (15.002)	0.831	0.844	0.475
	V_8	-0.869	0.972	-.563	.084	0.718 (17.732)			
	V_9	-0.846	0.957	-.652	.566	0.715 (17.677)			
	V_{10}	-1.158	1.113	-.417	-.245	0.702 (16.832)			
	CS V_{11}	-0.901	1.015	-.639	.505	0.675 (17.746)			
	V_{12}	-0.969	1.002	-.696	.153	0.698 (17.296)			
	V_{13}	-0.914	0.955	-.598	.295	0.754 (19.810)	0.848	0.844	0.520
	V_{14}	-1.091	1.087	-.591	-.015	0.721 (22.303)			
	V_{15}	-1.017	0.988	-.708	.330	0.769 (20.168)			
	OMS V_{16}	-0.934	0.948	-.397	.129	0.734 (15.006)			
	V_{17}	-0.865	0.966	-.558	.710	0.679 (17.290)	0.749	0.743	0.491
	V_{18}	-1.015	1.039	-.668	.292	0.673 (16.618)			
PC	V_{19}	3.740	0.835	-.335	-.040	0.672 (15.051)			
	V_{20}	3.648	0.929	-.549	.124	0.767 (16.259)	0.757	0.796	0.566
	V_{21}	3.621	0.959	-.599	.153	0.712 (15.583)			
PV	V_{22}	3.509	0.876	-.263	-.074	0.824 (24.926)			
	V_{23}	3.592	0.946	-.543	.087	0.840 (25.361)	0.823	0.848	0.652
	V_{24}	3.587	0.996	-.439	-.124	0.707 (20.509)			
SA	V_{25}	2.976	0.942	.125	-.010	0.908 (35.314)			
	V_{26}	3.163	0.935	.065	-.059	0.895 (35.182)	0.899	0.909	0.769
	V_{27}	2.692	0.979	.296	.079	0.796 (28.435)			
SWC	V_{28}	2.410	1.143	.420	-.586	0.655 (14.962)			
	V_{29}	3.064	1.093	-.159	-.568	0.684 (15.331)	0.760	0.767	0.526
	V_{30}	2.568	1.026	.269	-.369	0.825 (18.758)			
AA	V_{31}	3.380	0.916	-.131	.031	0.640 (12.028)	0.749	0.803	0.678
	V_{32}	3.236	0.958	.083	-.334	0.935 (13.900)			
BI	V_{33}	3.762	0.877	-.486	.402	0.900 (31.018)	0.904	0.920	0.851
	V_{34}	3.562	0.975	-.406	-.005	0.921 (31.660)			

[a] α=Cronbach's alpha; [b] CR=Composite Reliability; [c] AVE=Average Variance Extracted

The χ^2 of our measurement model is 1238.081 (*p*-value < 0.001), and its degree of freedom (*df*) is 495. Since the χ^2 is extremely sensitive to sample size, a

recommended method is to calculate the ratio of χ^2 and *df* to evaluate the goodness of model fit. According to our research results, the χ^2/df ratio is 2.501. And, as Jen and Hu (2003) suggest, a value of less than 3 is better. Other indices also indicate an acceptable fit in our measurement model: CFI=0.941, GFI=0.911, AGFI=0.893, NFI=0.905, and RMSEA=0.045. Furthermore, all indicators' factor loadings are statistically significant, and above the threshold of 0.5 (see Table 2). All these results provide evidence supporting the convergent validity of our measurement model, which indicates that all indicators effectively measure a specific construct and one construct only.

Moreover, to assess discriminant validity, we contrasted the average variance extracted (AVE) and the variance shared between the construct (Fornell and Lacker, 1981). This comparison can be incorporated into a correlation matrix (see Table 3), and the results suggest that our measurement model has adequate discriminant validity. Because the average variance extracted by each of the scales was greater than the share variance between the construct and all other constructs. Therefore, considering all these constructs, we can infer that our measurement model performs fairly well.

Table 3 Discriminant Validity

	SQ	PC	PV	SA	SWC	AA	BI
SQ	**0.932**						
PC	-0.504	**0.752**					
PV	0.566	-0.734	**0.808**				
SA	0.535	-0.559	0.751	**0.877**			
SWC	0.181	-0.157	0.304	0.417	**0.725**		
AA	-0.205	0.082	-0.274	-0.234	-0.055	**0.824**	
BI	0.530	-0.523	0.708	0.679	0.381	-0.398	**0.923**

The **bold** numbers on the diagonal are the square root of the AVE. Off-diagonal elements are correlations among constructs.

Based on the results of CFA, the evidence supports H_1. The model fix indices indicate the acceptable fit in our measurement mode, but also suggest the appropriateness of our adoption of a hierarchical factor structure which served service quality as the high-order factor and the dimension as the second the second-order factor. Moreover, the AVE estimate for service quality is 0.868, meaning that 86.8% of the variance is captured by our passenger service quality construct. This result further shows the fitness to form service quality in a hierarchical factor structure. The factor loading estimations from the results showed that passengers perceived service quality reflected on IP (λ=0.752, t=13.513, p<0.001), TSE (λ=0.914, t=15.949, p<0.001), CS (λ=0.876, t=15.454, p<0.001), and OMS (λ=0.927, t=15.122, p<0.001). Hence, $H_{1a\sim1d}$ were supported.

4.2 Causal Structural Model

Having established confidence in our measurement model, we examined the four structural equation models by estimating path coefficients (see Figure 5-8), model fit

index, and R^2 value. Each model was tested on the whole sample, and the results of the model comparisons are shown in Table 4.

Table 4 Results of Model Comparisons

Fit/Path	The Research Model	The Satisfaction Model	The Value Model	The Switching Barrier Model
χ^2/df	1353.275/502	1395.327/503	1465.749/503	1824.327/506
CFI	0.932	0.929	0.923	0.895
GFI	0.902	0.901	0.896	0.879
NFI	0.897	0.893	0.888	0.861
AGFI	0.884	0.883	0.877	0.857
RMSEA	0.048	0.049	0.051	0.059
SQ→SA	0.163***	0.613**	0.570***	0.584***
PV→SA	0.658***	0.612***	--	--
SWC→SA	--	0.236***	--	--
AA→SA	--	-0.059**	--	--
SQ→PV	0.282***	0.263***	0.091**	0.315***
SA→PV	--	--	0.513***	--
PC→PV	-0.605***	-0.611***	-0.426***	-0.555***
SWC→PV	--	--	0.073***	--
AA→PV	--	--	-0.145**	--
SA→SWC	--	--	--	0.452***
PV→SWC	--	--	--	0.049
SA→AA	--	--	--	-0.133**
PV→AA	--	--	--	-0.236**
SA→BI	0.280***	0.713***	--	--
PV→BI	0.451***	--	0.767***	--
SWC→BI	0.146***	--	--	0.430***
AA→BI	-0.115***	--	--	-0.320***
R^2(BI)	0.566	0.509	0.564	0.318

*** denotes a significant value (p<0.001); ** denotes a significant value (p<0.01); * denotes a significant value (p<0.1)

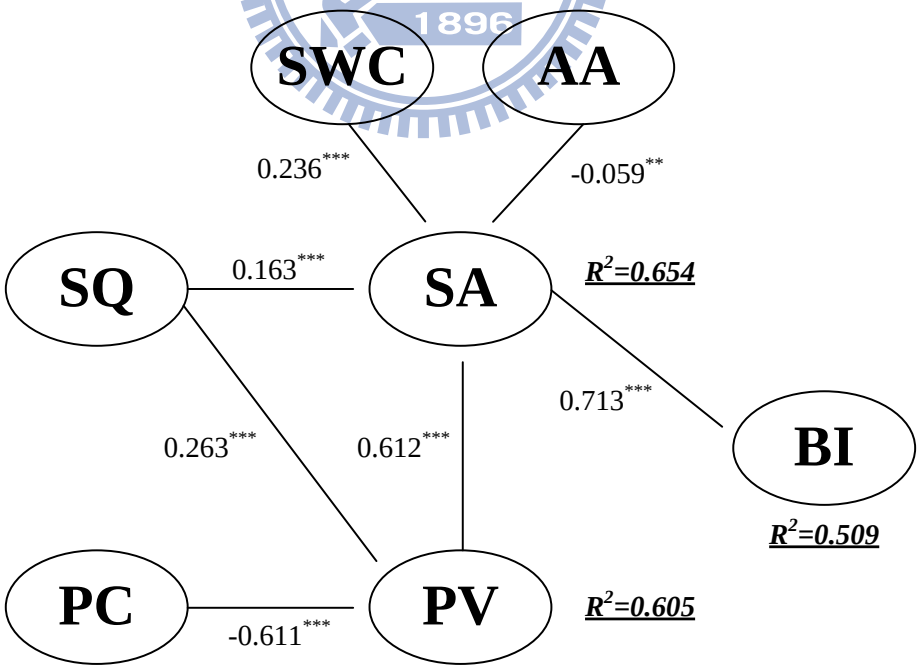
The path estimates showed that service quality had a positive impact on satisfaction in four models (H_2 supported), and results from the satisfaction model and the research model both indicated that satisfaction is a determinant of passenger behavioral intentions (H_3 supported). These results agreed with the "quality-satisfaction-behavioral intentions" paradigm. For the paths leading to

perceived value, the results across the four models supported the trade-off relationships among perceived value, service quality, and perceived costs. As we hypothesized, service quality had a positive effect on perceived value (H_4 supported), whereas perceived costs had a negative influence on perceived value (H_5 supported). Furthermore, the positive link between perceived value and satisfaction (H_6 supported) was consistently significant in the satisfaction model and the research model.

Regarding the impact of perceived value and switching barriers, the path estimates from the value model and the research model both suggested that perceived value had a positive effect on passengers behavioral intentions (H_7 supported). Moreover, the results across the four models consistently showed that switching costs had a positive impact on passengers behavioral intentions (H_8 supported), whereas alternative attractiveness exerted a negative influence on behavioral intentions (H_9 supported). Comprehensively, except for the statistically insignificant relationship between perceived value and switching costs in the switching barrier model, all other links are significant in the four models.

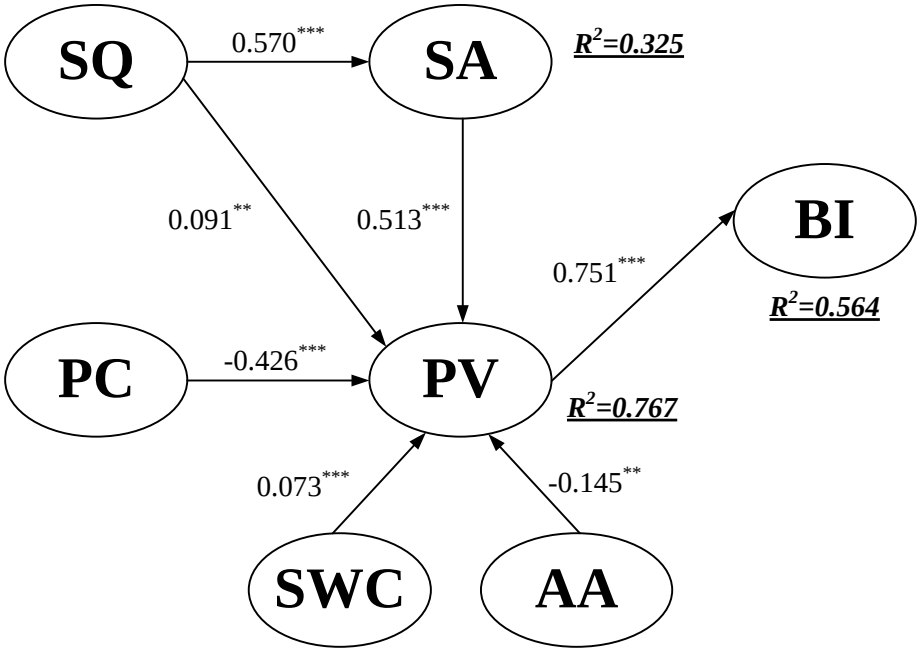
Although most of the relationships in the four models are significant, we compare their power of explanation by examining model fit indices, and R^2 value. The results show that theχ^2 value for the research model is 1353.275 with *df*=502. This is compared toχ^2 values for the competing models ranging from 1395.327 with *df*=503

(the satisfaction model) to 1824.327 with *df*=506 (the switching barrier model). Our research model yields a better χ^2 /df ratio. The research model also shows a better fit in terms of goodness-of-fit indices than the other three models, with CFI=0.932, GFI=0.902, NFI=0.897, AGFI=0.884, RMSEA=0.048. Moreover, the relative ability of our research model in explaining variation in passengers behavioral intentions was 0.566 (as measured by R^2 -value), accounting for a greater share of the data than the competing models, whose R^2 values ranged from 0.318 (the switching barrier model) to 0.564 (the value model). Consequently, we inferred that the research model yields a better fit to data and accounts for a greater share of the variance in behavioral intentions than the three competing models.



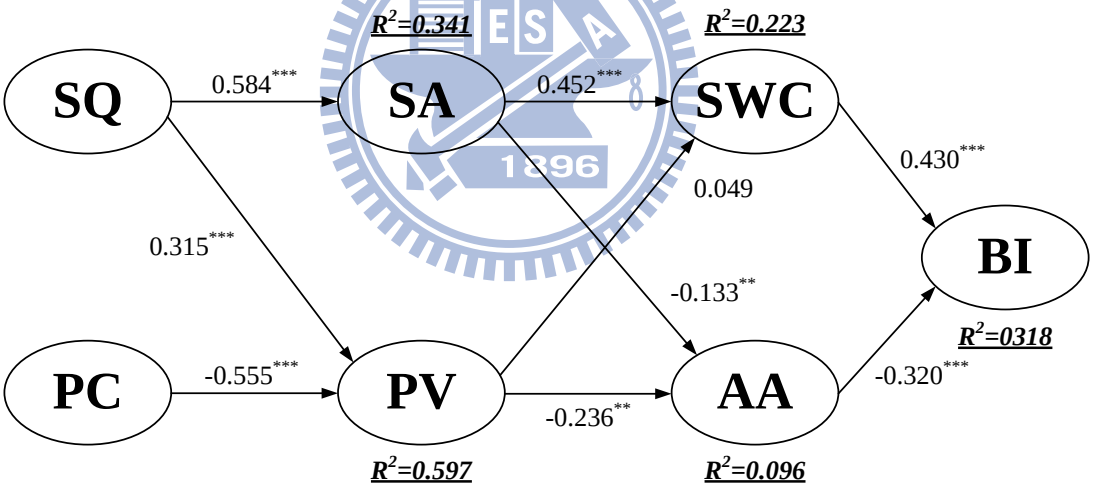
*** denotes a significant value (p<0.001); ** denotes a significant value (p<0.05)

Figure 5 Result of the Satisfaction Model



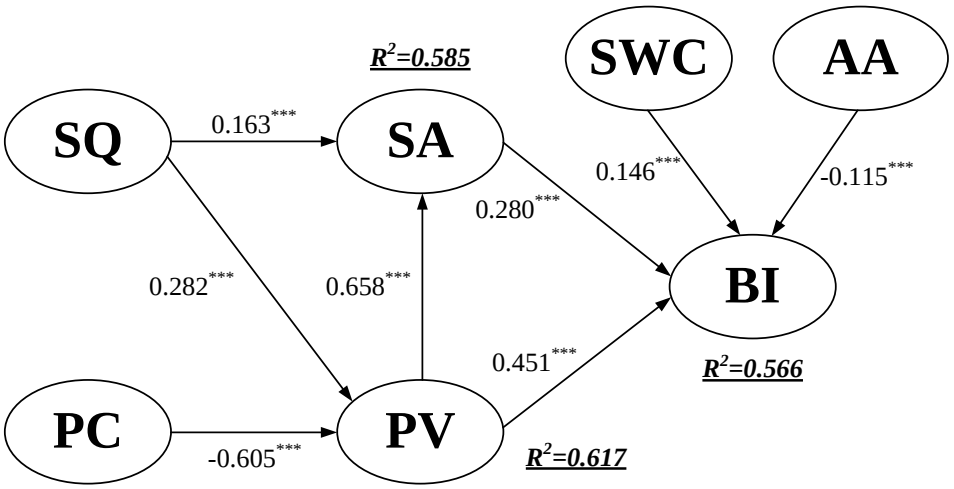
*** denotes a significant value (p<0.001); ** denotes a significant value (p<0.05)

Figure 6 Result of the Value Model



*** denotes a significant value (p<0.001); ** denotes a significant value (p<0.05)

Figure 7 Result of the Switching Barrier Model



*** denotes a significant value (p<0.001); ** denotes a significant value (p<0.05)

Figure 8 Result of the Research Model

4.3 Research Model Description

In order to further affirm our theory, specific discussion of the hypotheses' results will be restricted to the research model (See Figure 8). Path coefficients from the results showed that perceived value had a greater effect (γ=0.658, t=14.705, P<0.001) on satisfaction than service quality (γ=0.163, t=3.993, P<0.001). The R^2 of satisfaction was 0.585, indicating that the independent variables (service quality and perceived value) accounted for 58.5% of the variance in satisfaction. As for the determinants of perceived value, the path estimation suggested perceived costs (γ=-0.605, t=-11.643, P<0.001) had a stronger effect on perceived value than service quality (γ=0.282, t=6.882, P<0.001). Thus, we inferred that passengers were more concerned about the cost aspects, such as monetary price and time, than the benefit aspects when evaluating the value of a transportation service. The R^2 of perceived value was 0.617, indicating that service quality and perceived costs accounted for 61.7% of the variance in perceived value. Furthermore, in terms of predictors of passengers behavioral intentions, the results from our research model indicated that perceived value (γ=0.451, t=8.200, P<0.001) had the greatest influence on passengers behavioral intentions than satisfaction (γ=0.280, t=5.411, P<0.001), the switching cost component of switching barriers (γ=0.146, t=4.455, P<0.001), and alternative attractiveness component (γ=-0.115, t=-4.131, P<0.001). These findings showed that switching barriers could

discourage customer disloyalty, but perceived value was more useful in encouraging favorable passenger behavioral intentions. The R^2 of behavioral intentions was 0.566, indicating that satisfaction, perceived value, switching cost and alternative attractiveness accounted for 56.6% of the variance in passengers behavioral intentions.

Table 5 provides the information about the direct effects and indirect effects on behavioral intention. The perceived value has the greatest total effect (0.635) on passenger behavioral intention, while the alternative attractiveness has the smallest total effect (-0.115) on passenger behavioral intention.

Table 5 Direct and Indirect Effects on the Behavioral Intention

	Direct Effect	Indirect Effect	Total Effect
PC→BI			**-0.384**
PC→PV→BI		-0.273	
PC→PV→SA→BI		-0.111	
SQ→BI			**0.225**
SQ→PV→BI		0.127	
SQ→PV→SA→BI		0.052	
SQ→SA→BI		0.046	
PV→BI	0.451		**0.635**
PV→SA→BI		0.184	
SA→BI	0.280		**0.280**
SWC→BI	0.146		**0.146**
AA→BI	-0.115		**-0.115**

5. CONCLUSIONS

5.1 Managerial Implications

For a better understanding of passenger behavioral intentions, we established an integrated framework from attitudinal perspectives in marketing literature. Our research model incorporated the “service quality-satisfaction-behavioral intentions” paradigm, the perceived value theory and the switching barriers theory. Specifically, we clarify the relationships amongst service quality, perceived costs, satisfaction, perceived value, switching costs, and alternative attractiveness. And no other studies have done in this way in our present knowledge. The findings support our position and justify the effort to improve service quality, costs, satisfaction, value, and switching barriers collectively as a means of improving passenger service perception. Moreover, the results presented in the previous sections suggest that our research model fits well and outperforms the competing models in explaining the data collected. From a managerial viewpoint, our model suggests that any marketing or management program try to improve only one these variables is an incomplete strategy if the effects of the others are not considered.

Our causal model also includes the indirect effects which could help to realize the cognitive process of how passenger behavioral intentions are formed. For example,

literature in transportation research has found the link between service quality and passenger behavioral intentions. According to our theoretical model, we further show that service quality affects behavioral intentions through two paths: SQ→SA→BI and SQ→PV→BI. Therefore, transportation managers who want to get favorable behavioral intentions by providing better service should make sure that the service can increase passengers' satisfaction (i.e., raising the positive emotion) and represent the valuable of the coach service. These indirect paths may indicate that passengers' decision-making is a comprehensive and complex process. Constructing passenger behavioral intentions model in this way may approach actual decision-making procedure, and press our research model close to the real-world recommendations.

In our model, we conduct a hierarchical approach to assess passenger service quality, while previous studies have typically used a single-item or average score for each dimension to measure overall service quality. By assessing service quality in the traditional way, practitioners can't capture the extent of common variance or the extent to which the basic dimensions represent overall service quality. Because it is possible that passengers could focus on certain aspects of the service in their mind while responding to these questions. Therefore, overall service quality may not be correctly reflected by these measures. And the hierarchical framework may come closer to catch these overall evaluations, because it extracts the underlying commonality among

dimensions which reflect the passengers' overall assessment of service quality. Furthermore, using the hierarchical framework at different levels can be served as a diagnostic tool that allows practitioners to determine service areas that are weak and in need of attention. Transportation service quality analysis can be assessed at the overall level (using the full scale in an additive fashion), as well as at the factor level (adding items within a given dimension). This would permit transportation managers to identify problems within their services, and concentrate resources on improving particular aspects of transportation service quality. As the results from our study show that TSE and OMS were found to be relatively more important than IP and CS for improving service quality. From a managerial viewpoint, if given a budget constraint to transportation managers, the improvement of offering passengers a comfortable facility and ensuring the promised service is performed accurately should be done precedence over the other two for improve service quality. However, regarding to increasing the behavioral intention, increasing the perceived value will be the clever way.

According to our results, perceived value is the most important predictor of passenger behavioral intentions, and perceived value is affected mainly by perceived costs. Therefore, the coach companies may induce desirable passenger behavioral intentions (e.g. repurchase intention and recommendation intentions) by decreasing the

perceived costs. Although transportation literature had offered the similar suggestion, but our study further confirm that perceived coats affect passenger behavioral intentions through perceived value (PC→PV→BI). From a managerial viewpoint, transportation managers who want to get favorable behavioral intentions by reducing costs should make sure that it can increase passengers' perceived value of their services.

Moreover, managers can reduce perceived cost from monetary and non-monetary aspects. In regard to cut monetary prices, practitioners should first lower the price for the coach services which are less valuable to passengers such as weekday or non-peak hours. Companies might not cut the prices of holiday or weekend which passengers perceived the transportation service is valuable in these days. In terms of non-monetary prices, practitioners attempt to either shorten waiting for service (by operations management), or change the consumers' waiting experience (by perceptions management). For example, company terminals could be better located near major public transport hubs, or offer information on near public transport services to save passenger time to arrive at the station. Furthermore, in order to reduce passengers' perceptions of waiting time, practitioners could fill the time by providing entertainment facilities in waiting rooms such as magazines, video game and electric

massage chair. By filling time, the passenger's mental or physical activity is increase so that less attention is paid to wait itself.

With regard to switching barriers, we find that passengers are indeed more likely to stay with current coach companies when the trouble of switching providers increases, e.g., when switching costs increase and/or the attractiveness of alternatives decreases. Therefore, the optimal strategy for coach companies is to both provide value-added service to customers and to increase switching costs. For example, in order to reduce alternative attractiveness, companies could develop differential or customized services that cannot be made available through other firms. Coach companies can also adopt some marketing strategies to impose higher switching costs – such as loyalty programs, which passengers may lose some benefits when they switch to other coach companies. Bucket pricing strategies can also be adopted to encourage passengers to pay a larger amount in advance for more services which, in turn, impose higher switching costs. It is worthwhile to note that such efforts to lock in passengers can be short-term orientated and should only be used in addition to providing passengers with higher satisfaction through better perceived values.

5.2 Limitation and Suggestions for Future Research

This study constructs a passenger behavioral intentions model that contains the "service quality-satisfaction-behavioral intentions" paradigm and the perceived value theory with the switching barriers theory. Differing from the most transportation studies, our research starts with the attitudinal perspective and explores passengers' cognitive process that forms their behavioral intentions. Therefore, we collect passengers' stated preference to examine our proposed model. Formulating our model in this way could us to gain supplemental understanding of passenger behavior (Zins, 2001), and this is also a common methodology in marketing, psychology, and sociology research. However, transportation researchers indicate that there are some disadvantages to only use the stated preference data. A better avenue for future research in transportation comes in the use of a combination of stated preference and revealed preference data (Hess et al. 2007). This can be able to enrich our knowledge about passenger behavior.

This study only examines the research model in the coach service. A replication of the proposed model to other transportation industry can gather more information on passenger behavioral intentions. Researchers could apply the proposed model to other transportation service, including airline services or train services, to achieve increased understanding of passenger behavioral intentions. Moreover, basing on our study, the

research results are only capable of explaining passenger behavioral intentions in the coach service. Thus, our empirical work suggests that the data can't reject our research model, and can't prove that our model is the best model. Any application from our empirical results must be cautions, because it is suitable for the coach service. Future research could compare our model with alternative models from different theories to generalize the best model.

Furthermore, we used a five-point Likert-type response format to measure all the items in this study, and the maximum-likelihood (ML) parameter estimation was used to assess our research model. Since this type of format is served as ordinal or discrete, the matrix of polychoric correlations should be analyzed with the weighted least square (WLS) method for parameter estimations (Bollen, 1989; Jöreskog and Sörbom, 1996). However, it requires a sample size measured in 1,000 to 5,000 (West et al., 1995) or greater than 10 times the number of estimated parameters (Raykov and Marcoulids, 2000), otherwise the WLS estimator performs poorly and the results generally cannot be trusted. Therefore, researchers suggested that it is probably better to use ML, if the sample size is not sufficiently large (Jöreskog and Sörbom, 1996). This can justify in using of ML to estimate our research model. However, future studies are either represent measurements on an interval/continuous scale or collect a sample size over thousands.

According to our results, perceived value plays an important role in predicting satisfaction and passenger behavioral intentions. Thus, further clarification and refinement of perceived value are needed for understanding the influence of perceived value on passenger behavioral intentions. While previous research indicated that perceived value is composed of service quality and perceived costs, equity theory indicates that customers are concerned about whether the sacrifice is fair, right, and/or deserved. Hence, future research could investigate the different properties of perceived value. For example, passengers might evaluate the fairness of pricing or waiting times to obtain a service. Furthermore, passengers might also assess whether they are paying for tangible service equipment or convenience of service, which may have potentially different evaluations on values. Future research could also explore the effect of different perceived values on passengers' intentions.

Research suggests that the nature of switching barriers provides no intrinsic benefits and creates feelings of entrapment through high membership and application fees (Jones et al., 2000; Ranaweer and Prabhu, 2003). These "negative" barriers may possibly do more harm than good in the long run. For example, passengers may remain with the present coach service provider but may not provide positive word-of-mouth references. Hence, future research studies could emphasize some "positive" barriers, such as interpersonal relationships, which provide intrinsic benefits. Moreover, studies

could further compare the effects of “negative” and “positive” barriers on passengers’ behavioral intentions.

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Appendix 1 QUESTIONNAIRE

您好：

這份問卷目的為調查旅客對搭乘客運公司服務品質之期望與實際知覺感受，以作為研擬提升國道客運服務品質計畫之依據，感謝您的協助。

敬祝　旅途愉快！

國立交通大學運輸科技與管理學系 敬上

一、個人基本資料

1. 性別：□男　□女

2. 年齡：□19 歲以下　□20-29 歲　□30-39 歲　□40-49 歲　□50-59 歲　□60 歲以上

3. 平均一季於本路線搭乘國道客運的次數：□0~1 次　□2~4 次　□5 次以上

4. 本次旅行的目的：□商務洽公　□旅遊　□返鄉　□探親或訪友　□其他 _____

二、旅客期望服務與本次知覺服務

說明：請就您心目中提供國道客運服務**應該具備之期望服務水準、重要度**，與您此次**實際搭乘的知覺感受**，圈選您的評分。5 分最高、4 分次之，依此類推，1 分最低。

	對公司的期望					**您的實際感受**				
1. 駕駛員會注意旅客上下車時的安全	5	4	3	2	1	5	4	3	2	1
2. 駕駛員與我溝通時親切有禮	5	4	3	2	1	5	4	3	2	1
3. 駕駛員駕駛車輛平穩，技術良好	5	4	3	2	1	5	4	3	2	1
4. 駕駛員沒有不當的駕駛行為	5	4	3	2	1	5	4	3	2	1
5. 公司以安全的車輛提供服務	5	4	3	2	1	5	4	3	2	1
6. 車輛內部清潔乾淨	5	4	3	2	1	5	4	3	2	1
7. 車內噪音不會太吵	5	4	3	2	1	5	4	3	2	1
8. 車內設備使用方便，符合我的需要	5	4	3	2	1	5	4	3	2	1
9. 車內空調舒適	5	4	3	2	1	5	4	3	2	1
10. 候車站設施規劃良好	5	4	3	2	1	5	4	3	2	1
11. 公司提供便利的購票與取票管道	5	4	3	2	1	5	4	3	2	1
12. 站位位置良好並有便利的接駁交通工具	5	4	3	2	1	5	4	3	2	1
13. 車站內站牌資訊標示清楚正確	5	4	3	2	1	5	4	3	2	1

	對公司的期望					您的實際感受				
14. 當日之路線或班次變動時提前在車上公告，讓乘客知道	5	4	3	2	1	5	4	3	2	1
15. 營運路線或班次變動時迅速更新站牌內容	5	4	3	2	1	5	4	3	2	1
16. 公司有良好的形象與安全紀錄	5	4	3	2	1	5	4	3	2	1
17. 公司提供的符合顧客需要的班次、班距和營運時間	5	4	3	2	1	5	4	3	2	1
18. 公司能準時依照班表或班距發車	5	4	3	2	1	5	4	3	2	1

三、旅客態度與行為

說明：請針對題目的敘述，圈選您的**同意程度**。5 分為非常同意、4 分為同意、3 分為普通、2 分為不同意、1 分為非常不同意。

	高	(同意程度)			低
1. 搭乘本班次所花的費用是可以接受的	5	4	3	2	1
2. 抵達候車站所花費的時間是可以接受的	5	4	3	2	1
3. 花在車上的旅行時間是可以接受的	5	4	3	2	1
4. 本班次所提供的服務是有價值的	5	4	3	2	1
5. 在此價格下，本班次提供的服務水準是可以接受的	5	4	3	2	1
6. 認為搭乘本客運，比搭乘其他客運或交通工具（如鐵路、航空、小客車）值得	5	4	3	2	1
7. 搭乘本班次讓我覺得有趣	5	4	3	2	1
8. 搭乘本班次讓我覺得愉快	5	4	3	2	1
9. 搭乘本班次讓我覺得驚喜	5	4	3	2	1
10. 對我來說，要獲得其他客運或交通工具（如鐵路、航空、小客車）的服務資訊是很困難的	5	4	3	2	1
11. 對我來說，要改搭乘其他客運或交通工具的時間成本與金錢代價很高	5	4	3	2	1
12. 對我來說，要改搭乘其他客運或交通工具的風險很高	5	4	3	2	1
13. 我非常樂於搭乘其他客運或交通工具完成本旅次	5	4	3	2	1
14. 與本客運比較，有其他客運或交通工具可讓我獲得更滿意的服務	5	4	3	2	1
15. 下次若有需要，我願意再次搭乘本客運公司之車輛	5	4	3	2	1
16. 我願意推薦其他人搭乘本客運公司之車輛	5	4	3	2	1

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A. 期刊論文

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B. 研討會論文

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