

# FACTORS AFFECTING CONTINUOUS USAGE INTENTIONS OF CUSTOMERS IN MOBILE TELECOMMUNICATION SERVICES: THE MODERATING EFFECT OF THE SWITCHING EXPERIENCE

*Completed Research Paper*

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## **Abstract**

*Severe competition among firms is a hallmark of the Korean mobile telecommunications industry, largely because so many similar services are being provided in a saturated market. The switching behaviors of frequent mobile telecommunication services users have been a consequence of the aggressive marketing tactics of each of these mobile telecommunication firms, which make great efforts to lure away their competitor's customers. In this paper, we identify some factors that might affect the continuous usage intentions of customers that have used mobile telecommunication services, and empirically validate the relationships between the identified factors. In our analysis of the responses obtained from 344 customers, the multiple regression analysis results revealed that the customers' continuous usage intentions were affected by social alternative attractiveness, social bonds, structural bonds, and legal bonds. Furthermore, regarding the continuous usage intentions, switching experiences appear to positively moderate the effects of social bonds, and to negatively affect structural bonds.*

**Keywords:** Alternative Attractiveness, Bonds, Switching Barrier, Continuous Usage Intention

## Introduction

Recent turbulence in the business environment has compelled firms to search out new sources of competitive advantages. Firms who must cope with such environments have experienced major difficulties in securing sustainability management. Competition among firms in the Korean mobile telecommunication industry has been remarkably robust, owing to the presence of so many similar services in the saturated market. Thus, customers have become increasingly likely to switch their mobile telecommunication service provider when the customer feels that the service quality is low, and customers' decisions as to whether or not to maintain current relationships with their mobile telecommunication service provider are a matter of critical import to mobile providers (Thibaut and Kelley 1959).

The mobile communication service in Korea began with KMT (Korea Mobile Telecommunications Corp.), the predecessor of SK Telecom, which first provided an analog car-phone service in 1984. The size of the mobile telecommunications market in Korea grew at a rate of 100% per year from 1995 to 1999, and thus, as of 2009, forty-seven million users (this exceeds the population of the Republic of Korea, because it includes repeat and overlap in the customer base) have used mobile telecommunication services (KCC 2009b). Since mobile communication service firms must be permitted by the Korean government to participate in the mobile communications industry, only three companies (SK Telecom, KT, LG U+) currently provide mobile communication services in Korea.

According to the Korea Communication Commission (2009a), no significant differences could be detected among the three mobile communication providers in terms of the 3G quality criteria of mobile communication, which include voice telephony quality (success rate of access, drop call rate, voice error rate), wireless data quality (success rate of access, transmission complete rate, transmission speed), and video telephony quality (success rate of access, drop call rate, picture quality). Mobile communications service providers in Korea focus on strategies to retain their customers and to lure competitors' customers, as the mobile telecommunications market in Korea has reached a growth plateau. Thus, the mobile telecommunication service providers in Korea have developed a variety of legal relationships, including contract period systems. Meanwhile, they have also implemented a host of inducements to retain their customer base, including mobile equipment subsidies, in addition to their strategies to lure other companies' customers. These activities are largely responsible for the fierce competition that exists among mobile telecommunication service providing firms in Korea.

Statistics from the KCC (2010a) show that 3 million mobile telecommunication users changed their service provider in 2004 (the year mobile number portability was implemented); this number increases every year. The number of mobile number portability users reached 10 million users in 2009; that is to say, a full quarter of the Korean population has changed their provider. The number of mobile number portability users for each firm is shown below; there were 4.5 million users of SKT's mobile number portability, 3.8 million users of KT's mobile number portability, and 1.8 million users of LG U+'s mobile number portability. Frequent mobile telecommunication service users engaged in switching behaviors as the result of mobile telecommunication firms' aggressive marketing activities designed to lure customers away from competing firms; these marketing activities cost the mobile telecommunication firms seven billion dollars this year alone (KCC 2010b).

The size of the entire mobile communications in Korea has been estimated to be as high as thirty billion dollars in 2010 (KCC 2010b). Therefore, we must assess whether these marketing activities effectively lure away competitors' customers, and if so, how. In marketing strategy, an offensive and defensive strategy toward the target market may be followed simultaneously. The offensive strategy, in this case, involves the capture of market share and increasing market size, whereas the defensive strategy involves minimizing customer exits and switching behaviors. The principal objective of the defensive strategy is to minimize customer turnover (that is, maximize customer retention), considering certain cost constraints, by protecting products and markets from competitive inroads (Fornell and Wernerfelt 1987; 1988). In general, defensive strategy is more effective than offensive strategy (Fornell 1992).

Whether to maintain or to break off the relationship with the existing service provider can be determined via comparisons between the strength of the bond to the existing service provider and the level of attractiveness to the alternative service provider in the fiercely competitive mobile telecommunications market of Korea, in which other service providers constantly attempt to take their competitors' customers (Anderson and Narus 1990). Thus, for a mobile telecommunication firm, it is a matter of critical importance to understand the criteria of firm's resource allocation strategies in order to implement both customer retention and customer attraction strategies simultaneously,

thereby allowing for survival in the face of fierce competition. To accomplish this, we must first attempt to evaluate the factors that influence continuous usage intentions in the Korean mobile telecommunications industry.

However, recent studies have included several examinations of between-firm relationships based on their interaction and networking (Gadde and Mattsson 1987; Havila and Wilkinson 1997), their relationship with consumer and service marketing (Keaveney 1995; Roos 1999), and marketing channels (Heide and Weiss 1995; Hibbard et al. 2001; Jap and Ganesan 2000; Morgan and Hunt 1994; Ping 1993; 1994; 1996; 1997; 1999). Whereas relationship marketing has focused primarily on the transactions between firms, a relatively few studies regarding the transaction between firms and consumers have been conducted thus far (Dwyer et al. 1987; Morgan and Hunt 1994). Thus, the principal objective of this research is to identify and assess the principal factors that may affect customers' decisions to reuse or switch their existing mobile telecommunication service.

## **Theoretical Background**

### ***Standards of Exit or Continuous Use***

The decision as to whether customers continuously employ their existing mobile telecommunication service or change their service can be calculated by comparing cost and rewards deriving from switching activity based on the exchange theory (Homans 1961, Blau 1964). Homans (1961) previously asserted that performers should evaluate the values associated with giving and receiving from interactions. These include not only physical profits, but also psychic profits in the economics dimension.

Thibaut and Kelley (1959) proposed that profit was not an absolute, but rather a relative concept. When performers decide on something, they consider all alternatives as much as possible, and outcomes from the exchange relationship become a major standard of judgment for the decision to continue a relationship. They also suggested the comparison level, which can be regarded as a standard representing the quality of outcomes the service provider has come to anticipate from a given type of relationship, based on present and past experience with similar relationships, and knowledge of other service provider's similar relationships. By way of contrast, the comparison level for alternatives is a standard representing the average quality of outcomes available from the best alternative exchange relationship (Anderson and Narus 1984).

When customers elect to continue the relationship with their service provider, they evaluate sunk costs from the existing channel, as well as relationships with alternative channels. If no alternative that can provide better outcomes exists, customers will elect to maintain the existing relationship. However, if not, customers have sufficient motivation to break off the existing relationship and engage in a new alternative relationship.

Thus, the decision to maintain or change the existing channel can be influenced by both bond levels, which were the sum of cost and benefits deriving from the maintenance of the existing channel, and the anticipated profit level due to moving to the best alternative. Customers should maintain their relationship with the existing channel, if they feel that the level of the two bonds to the existing channel is greater than the attractiveness of the best alternative. On the other hand, customers may consider switching the existing partner, if the attractiveness of the best alternative is higher than the bonds of the existing channel.

### ***Alternative Attractiveness***

The alternative attractiveness is defined as the best expected alternative service level relative to the existing service provider (Ping 1993). Alternative attractiveness performs a function in the offsetting of bonds to the existing channel, and customers should attempt to break their relationship with the existing channel, in cases in which they recognized that the level of alternative attractiveness was higher than the level of bonds to the existing channel (Ping 1993). When the alternative attractiveness increases, customers frequently find problems in their relationship with the existing service provider and begin to complain aggressively about their problems (Hirschman 1970; Rusbult et al. 1982; Rusbult et al. 1988).

On the contrary, when the alternative attractiveness is insufficient from the perspective of the service providers, a relatively positive situation exists for the retention of their customers, even though their core services were below average. If the customers perceive attractive alternatives, including better service, geographic proximity, full range

of service affordability, and low cost or high economic contribution, they are generally likely to switch their existing service provider (Sharma and Patterson 2000).

When the customers' alternative attractiveness is low, the perceived profit or benefit deriving from the switching of one's existing service provider may be low. In this case, customers recognize the relatively high binding force of the existing provider. This empirical evidence has been detected in the area of relationships among individuals and the job market (Rusbult 1980; Farrell and Rusbult 1981) or relationships with channels (Ping 1993). This logic is quite reminiscent of resource dependence theory. Resource dependence theory is predicated on the notion that environments are a source of scarce resources, and organizations are dependent on these finite resources for survival. Thus, a lack of control over these resources creates uncertainty for firms that operate in that environment. Organizations must develop methods to exploit these resources, which are also being sought by other firms, in order to assure their own survival (Pfeffer and Salancik 1978). According to resource dependence theory, the high power of providers relative to the customers may prevent their customers from searching for alternative providers. At this moment, the level of customers' expected benefits from alternatives are similar to the alternative attractiveness (Jones et al. 2000).

The majority of previous studies have focused primarily on this alternative attractiveness as an important factor in maintaining the relationship, and measured it in one dimension, such as overall alternative attractiveness. However, Anderson and Narus (1990) have asserted that alternative attractiveness represents the result of the overall outcomes from the best alternative's transactional relationship, suggesting three dimensions of alternative attractiveness such as an economic dimension, a social dimension, and a technical dimension.

Economic alternative attractiveness is the expected scale of profit from the best alternatives, which has some aspects in common with the anticipated financial or economical elements from the best alternatives (Olsen and Ellram 1997), or the anticipated value deriving from the best alternatives (Sirohi et al. 1998). Thus, economic alternative attractiveness can be defined as the level of economic value from the best alternatives. If the customers perceive high economic alternative attractiveness, they may build a new relationship with the best alternatives rather than maintaining their existing service provider.

Social alternative attractiveness is associated with the anticipated fair business relationship from the transactional partner from the best alternatives (Ping 1993) and the perceived social reputation and image associated with the social culture (Olsen and Ellram 1997; Kim et al. 2004). If the customers perceive a high level of social attractiveness from the best alternative, a fraudulent act of the existing service provider might cause them to reconsider switching their service provider.

Technical alternative attractiveness can be described as the anticipated level of attractiveness associated with the product or service technology from the best alternatives (Ping 1993; Jones et al. 2000), or the anticipated attractiveness associated with the service range or level from the best alternatives (Sharma and Patterson 2000; Patterson and Smith 2003). This attractiveness can be regarded as the quality attractiveness based on the technology. Thus, when the customers perceive a high level of quality attractiveness in the best alternative, they may decide to move to the best alternatives, rather than maintaining the existing service provider.

Thus, alternative attractiveness can be classified into three categories: economic attractiveness associated with economic profit, social attractiveness associated with social reputation, relationship fairness and business image, and quality attractiveness associated with the service or product range or differentiation level. Table 1 shows the measurements of each line of research on alternative attractiveness.

<b>Table 1. Measurements of Alternative Attractiveness</b>			
Researchers	Economical alternative attractiveness	Social alternative attractiveness	Quality alternative attractiveness
Ping (1993)	benefit	fairness, business relationship	services
Olsen and Ellram (1997)	financial and economical factors	organizational, cultural, and strategic factors	performance & technological factors
Sirohi et al. (1998)	perceived value	-	
Sharma and Patterson (2000)	benefit, cost, location	-	services, full range of services

Jones et al. (2000)	-	-	products and services
Giller and Matear (2001)	-	-	quality
Patterson and Smith (2003)	-	-	equality, range of services, level of service
Kim et al. (2004)	-	reputation, image	overall service quality
Bansal et al. (2004)	benefit	fairness, business relationship	service
Yanamandram and White (2007)	-	-	equality of service, service differentiation

### **Bonds**

Bonds are psychological, emotional, economic, or physical attachments in a relationship that are fostered by association and interaction and serve to bind parties together under a relational exchange paradigm (McCall 1970; Turner 1970). Storbacka et al. (1994) previously suggested bonds as the factor that involuntarily induced loyalty, and defined bonds as a type of restriction in which customers were subordinate to the service provider for political, economical, social, and cultural reasons. For example, if an automaker limited his customers' guarantee to specific auto-repair centers, customers could not readily switch to another auto-repair center for the aforementioned reasons, and bonds performed a pivotal role in restricting customers' switching behavior (Liljander and Roos 2002). Even in cases in which customer satisfaction is extremely low, if customers maintain strong bonds with the service provider, the possibility of maintaining the relationship still increases (Gronhaug and Gilly 1991). Thus, bonds can be regarded as a type of negative concept (Bendapudi and Berry 1997; Liljander and Strandvik 1995).

However, we do not consider bonds as solely negative, since bonds may afford the customers convenience--for example, providing a knowledge base about their product (like Dell), thereby creating an easy process for purchasing music files from a vast music database such as Apple's iTunes service, operating communities, and offering new services such as LG U+'s blog. Therefore, some bonds can be perceived as both positive and negative.

Generally, social bonds created by the community and associated with products and services, knowledge bonds created to promote the product or service convenience, and psychological bonds such as brand loyalty are all recognized as positive by customers. On the contrary, compulsory bonds--such as legal bonds--can be regarded as negative (Liljander and Strandvik 1995). Thus, we can predict that the customers' perceptions of bonds and the effect thereof will differ according to the forms of bonds.

In this context, Berry and Parasuraman (1991) attempted to divide bonds into three types: exit barrier such as financial bonds, social bonds, and structural bonds. They reported that the establishment of each bond strategy should restrain customers from exiting. Berry (1995) previously suggested the roles of three types of bonds in relationship marketing. Peltier and Westfall (2000) evaluated the relationships between the three types of bonds and overall satisfaction in health maintenance organizations.

Financial bonds provide a special low price to loyal customers or strengthen customer relations via other financial incentives (Berry 1995; Strauss and Frost 2001). As demonstrated in Table 2, Korean mobile telecommunication service-providing firms provide additional points to the customers by their fees. When the accumulated points reach a certain level, the customers may even employ their points to pay a charge. Further, these firms have provided ratable fare discounts to their best customers and have offered discount services relative to communication services, in addition to their mobile telecommunication services.

<b>Table 2. Examples of Bonds in Korea Mobile Telecommunication Service</b>	
Dimensions of Bonds	Examples
Financial bonds	<ul style="list-style-type: none"> <li>▪ accumulating points</li> <li>▪ discounts for long-term using</li> <li>▪ discounts for bundle services</li> </ul>
Social bonds	<ul style="list-style-type: none"> <li>▪ operating user communities</li> <li>▪ operating blog for users</li> <li>▪ operating membership</li> </ul>
Structural bonds	<ul style="list-style-type: none"> <li>▪ no compatibility of contents with their competitors such as mp3 files, games, data base, schedule and so on.</li> <li>▪ restriction on the use of membership and communities for exit users</li> <li>▪ service recommendation via pattern of customers</li> </ul>
Legal bonds	<ul style="list-style-type: none"> <li>▪ contract discount</li> <li>▪ contract through cellular phone subsidy</li> </ul>

Social bonds refer to personal linkages that pertain to service dimensions offering interactions between individuals (Beatty et al. 1996; Wilson 1995). Thus, social bonds push customers toward self-disclosure, listening, caring and helping improve mutual understanding, openness between relationship partners, and degree of closeness (Thorbjornsen et al. 2002; Hsieh et al. 2005). For example, the sharing of know-how regarding mobile telecommunication services promotes strong social bonds among customers in communities. Korean mobile telecommunication service-providing firms induce customers to participate in their on-line communities and blogs. However, the majority of power users joined communities that had been voluntarily created without any support from firms. Although mobile telecommunication service-providing firms did not invest in their communities, spontaneous customers and their bonds appear to function as a deterrent against switching to alternatives.

Structural bonds can be defined as knowledge and information related to the customization of products and industries, which require a very heavy price upon termination of the relationship (Hsieh et al. 2005). Expert knowledge and information reduces risks and results in competitive advantage generated through greater asymmetrical information in the structural bonds. For instance, customers who employ mobile telecommunication service possess their own schedules, lists of phone numbers, mp3 music files which are categorized based on their needs, and online game software in their phone. However, when customers elect to switch their mobile telecommunication service provider, in Korea, it has proven difficult to transfer these contents to a new provider. In terms of customers' schedules and phone number databases, music files, and purchased software, for example, phone platforms and file formats can all differ among mobile telecommunication service providers. If the customers wish to use their contents, they should exploit third-party utilities or exert greater efforts to reuse their contents. Thus, know-how, information, and knowledge created through long-term customer usage may be a sunk cost when a customer switches service providers. This would obviously constitute a barrier against moving to other mobile service provider companies in Korea.

In addition to the three kinds of bonds proposed by Berry and Parasuraman (1991), Korea mobile telecommunications service firms maintain relationships with customers via legal contracts, including handset subsidies and contract discounts. Cannon and Parreault (1999) have defined such bonds as contracts with concrete legal binding force that applies to both sides. They evaluated the effects of legal bonds on customer evaluations of suppliers. Thus, legal bonds go beyond the basic obligations and protections that regulate commercial exchange, whether or not the parties sign a formal document (Uniform Commercial Code 1978). The profit derived from legal bonds to the service or product provider can be found on both sides; one derives from maintaining the relationship via the legal system, and the other involves routinizing the transactional relationships by offering a plan for the future (Macneil 1980). Actually, mobile telecommunication service providers in Korea have frequently implemented contracts for long-term phone service usage. When their customers cancel the contract before the stipulated time period, they request a cancellation fee from their customers.

Financial bonds might be the weakest bond among the four dimensions of bonds, and from them can be derived the formal binding relationship between service providing firms and customers. Social bonds form comparatively strong binding relationships because customers express their needs and inconvenience regarding the specific service to their service provider or other customers in the communities (Berry 2000). Moreover, structural bonds induce inimitable relationships because customers produce product knowledge and information via continuous usage.

Although financial bonds, social bonds, and structural bonds are all voluntary binding forces, only legal bonds are a mandatory binding force strengthened by a contract.

## Research Model and Hypotheses

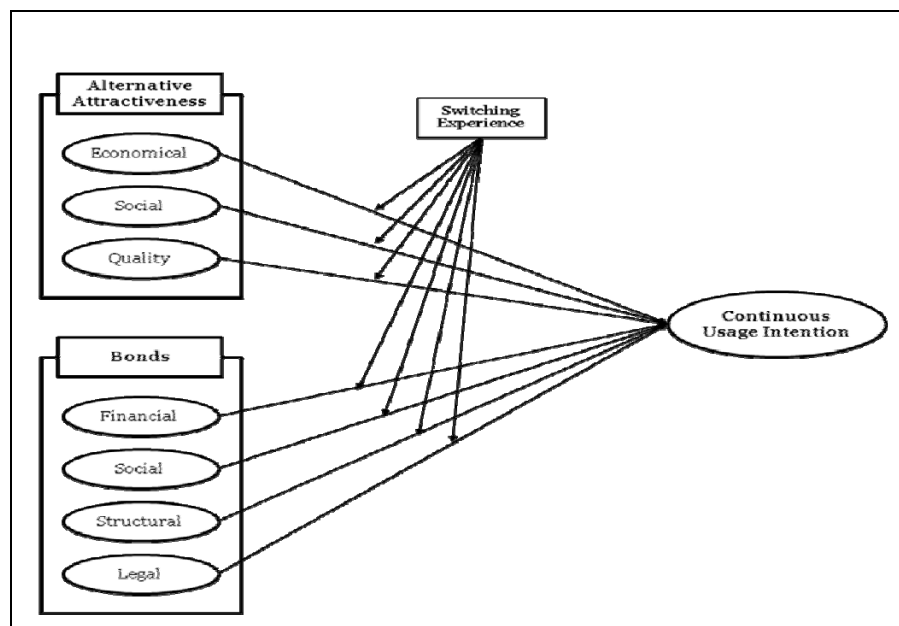
### Research Model

This study suggests a model that explains the effects of antecedents such as alternative attractiveness and bonds on continuous usage intentions, depending on the social exchange theory in the Korean mobile telecommunication industry.

Alternative attractiveness is the anticipated profit deriving from switching one's existing service provider (Ping 1993; Sharma and Patterson 2000; Rusbult 1980; Anderson and Narus 1990; Olsen and Ellaram 1997; Kim et al. 2004; Jones et al. 2000; Petterson and Smith 2003), and bonds represent the expected cost for switching the existing service provider (Berry and Parasuraman 1991; Berry 1995; Strauss and Frost 2001; Wilson 1995; Hsieh et al. 2005; Cannon and Parreault 1999, Lijander and Strandvik 1995). Thus, we regard alternative attractiveness as a negative factor for continuous usage intentions in mobile telecommunication services, whereas bonds are perceived as a positive factor in continuous usage intentions.

Additionally, alternative attractiveness can be classified into three categories: economical attractiveness, social attractiveness, and quality attractiveness. These factors can influence continuous usage intentions. Bonds can be classified into four types--financial bonds, social bonds, structural bonds, and legal bonds. Among the four types of bonds, the three types of bonds--financial bonds, social bonds, and structural bonds--are voluntary binding forces, which operate as positive factors affecting continuous usage intentions, whereas legal bonds are coercive binding forces strengthened by contracts, and function as negative factors influencing continuous usage intentions.

With these causal relationships among the factors that explain customers' continuous mobile telecommunication service usage intentions, we propose the research model shown in Fig. 1.



**Figure 1. Research Model**

### ***Alternative Attractiveness and Continuous Usage Intention***

Jones and Sasser (1995) previously argued that customers intend to change their existing service provider when they are dissatisfied with the existing service provider and also have many alternatives. Therefore, the absence of alternative attractiveness would be expected to be advantageous for the existing service providers (Ping 1993). Sharma and Patterson (2000) previously determined, through their in-depth interviews, that the existence of competitors increases the possibility that customers will quit their existing relationship. According to Frazier (1983), alternative attractiveness is associated closely with dependence, which means it is necessary to continue the existing relationship (Anderson and Narus 1990). Furthermore, Ping (1993) reported that alternative attractiveness affects the decision to change transaction partners. Thus, when outcomes from the existing partner are worse than the outcomes deriving from the alternatives, it would be difficult to continue the relationship with the existing partner. When the profit expected from the alternatives is larger than the profit from the existing partner, the possibility of changing the existing partner will be relatively high (Kumar et al. 1996). Consequently, these degrees of economical, social, and quality alternative attractiveness may affect customers' decisions as to whether or not they could maintain their existing service provider.

H1: Economical alternative attractiveness is negatively associated with the customer's continuous usage intention.

H2: Social alternative attractiveness is negatively associated with the customer's continuous usage intention.

H3: Quality alternative attractiveness is negatively associated with the customer's continuous usage intention.

### ***Bonds and Continuous Usage Intention***

Financial bonds derive from the benefits of low prices and financial incentives to loyal customers (Berry 1995; Strauss and Frost 2001). Social bonds refer to personal linkages that offer interactions between individuals (Beatty et al. 1996; Wilson 1995), and structural bonds can be defined as knowledge and information associated with the customization of products and industries, and require a very heavy price upon termination of the relationship (Hsieh et al. 2005). If customers receive financial benefits from the existing service provider, harbor good feelings toward the existing service provider, and obtain knowledge and information from their transactions with the existing service provider, then they will harbor favorable feelings toward their service provider. Hence, financial bonds, social bonds, and structural bonds, all of which are voluntary binding forces, may positively influence customers' continuous usage intentions in the mobile telecommunication industry.

H4: Financial bonds are positively associated with customers' continuous usage intentions.

H5: Social bonds are positively associated with customers' continuous usage intentions.

H6: Structural bonds are positively associated with customers' continuous usage intentions.

A contract might keep customers silent even when they are dissatisfied with their service provider. These bonds should be regarded as negative by customers (Bendapudi and Berry 1997; Lijander and Strandvik 1995). For example, phone users engaged in a two-year contract with their mobile telecommunications service provider would incur a cancellation charge fee if they canceled their contract. Thus, these users cannot readily change their service provider, even if they are dissatisfied with their service provider during the stipulated time. That is to say, legal bonds deprive customers of the freedom to switch their service provider. Legal bonds can be regarded as a negative factor that can ameliorate the continuous usage intentions in the Korean mobile telecommunications industry. Therefore, the following hypothesis can be proposed:

H7: Legal bonds are associated negatively with customers' continuous usage intentions.



### ***Moderating Effect of Switching Experience***

Prior experience or information regarding products/services is an important factor for purchasing activities (Bettman and Park 1980; Johnson and Russo 1984; Rao and Monroe 1988; Sujaan 1985). Customers should take advantage of new products or service options and acquire information regarding products or services promptly via prior purchasing and use experiences (Alba and Hutchinson 1987). Burnham et al. (2003) previously suggested that these prior experiences can be regarded as domain expertise, and prior experience is associated with customers' continuous usage intentions with the existing service provider. Park et al. (2010) asserted previously that the level of customers' satisfaction can differ according to the existence of switching experience, and this satisfaction positively influences continuous usage intentions.

When customers have switching experience, they are generally likely to find attractiveness to the alternatives, performing goal-oriented activities (Hoffman and Novak 1996). Generally speaking, economic alternative attractiveness, social alternative attractiveness, quality alternative attractiveness, financial bonds, and social bonds are all related to customers' values, and these factors are also associated with goal-oriented tendencies. Therefore, we may anticipate that the effects of these factors on continuous usage intentions will be stronger in customers with switching experiences than in customers with no switching experience in the mobile communications service industry. However, sunk costs such as structural bonds and any penalties such as legal bonds may be sensitive to customers with no switching experience. Thus, we predict that the effects of structural bonds and legal bonds on continuous usage intentions will be more profound in customers with switching experience than in customers with no switching experience in the mobile communications service industry.

H8a: The effect of economical alternative attractiveness on continuous usage intentions is stronger in customers with switching experience than in customers with no switching experience.

H8b: The effect of social alternative attractiveness on continuous usage intentions is stronger in customers with switching experience than in customers with no switching experience.

H8c: The effect of quality alternative attractiveness on continuous usage intentions is stronger in customers with switching experience than in customers with no switching experience.

H8d: The effect of financial bonds on continuous usage intentions is stronger in customers with switching experience than in customers with no switching experience.

H8e: The effect of social bonds on continuous usage intentions is stronger in customers with switching experience than in customers with no switching experience.

H8f: The effect of structural bonds on continuous usage intentions is stronger in customers with no switching experience than in customers with switching experience.

H8g: The effect of legal bonds on continuous usage intentions is stronger in customers with no switching experience than in customers with switching experience.

### **Research Design and Variables**

The instruments used in this study were developed on the basis of the relevant literature. The variables were measured on a seven-point Likert scale (1=strongly disagree, 7=strongly agree). Alternative attractiveness is defined as the level of perception of customers who recognize the relative attractiveness of the best alternative service provider rather than the existing service provider (Ping 1993). We classify alternative attractiveness into three dimensions on the basis of the relevant literature: economical alternative attractiveness, social alternative attractiveness, and quality alternative attractiveness.

Economical alternative attractiveness is defined as the economic value level anticipated from the best alternative service provider, whereas social alternative attractiveness is defined as the social image level anticipated from the best alternative service provider---this includes fairness and social status. Additionally, quality alternative attractiveness is defined as the expected quality level of services or products from the best alternative service provider. Each dimension of alternative attractiveness was measured on the basis of the previous studies, such as the work of as Ping (1993), Anderson and Narus (1984), Olsen and Ellram (1997), Kim et al. (2004), and Bansal et al. (2004).

Bonds are psychological, emotional, economic, or physical attachments in a relationship that are fostered by association and interaction and serve to bind parties together under relational exchanges (McCall 1970; Turner 1970). We classified bonds into three dimensions--financial bonds, structural bonds, social bonds, and legal bonds--based on the studies of Berry (1995) and Cannon and Parreault (1999). Financial bonds provide special low prices to loyal customers or strengthen customer relations via other financial incentives (Berry 1995; Strauss and Frost 2001), social bonds are personal linkages pertaining to service dimensions that offer interactions between individuals (Beatty et al. 1996; Wilson 1995), structural bonds are knowledge and information related to the customization of products and industries, which may disappear upon termination of the relationship (Hsieh et al. 2005), and legal bonds are contracts that constitute a concrete legal binding force between both sides (Cannon and Parreault 1999).

Continuous usage intention is defined as the likelihood that a customer will stay with their existing service provider (Oliver 1997; McDougall and Levesque 2000). Switching experience, the moderating variable, was measured on a dummy scale: existence or non-existence. The measures of the study variables are provided in Appendix Table A1.

## **Analysis of Research Results**

### ***Data Collection and Sample***

In an attempt to evaluate the effects of alternative attractiveness and bonds on the continuous use intentions of customers for the existing service provider in the mobile telecommunications service industry, we evaluated the proposed model via an internet survey. The subject of this investigation was a group of customers who used a mobile telecommunications service in Korea. We installed a web-based questionnaire system within the cibi.or.kr site in March 2009. We mailed the survey to all members that had employed internet communities, an invitation to participate in our web-based survey over a two-week period. In an attempt to prevent double participations in the survey, we checked and confirmed each respondent's IP address and e-mail address.

A total of 359 users participated in the web survey. However, we excluded 15 cases owing to a lack of consistency, using reversed items in the answers of the respondents. Thus, 344 cases were employed for the analysis. However, 53.2% of the respondents were male, and 60.8% were younger than 30. Further, 71.2% had switching experience with moving to another mobile telecommunications service. Additionally, 50.3% of the respondents used SK Telecom, 33.4% were KT customers, and the other 16.3% were LG U+ customers; these results are very similar to the real market share in the Korean mobile telecommunication industry. Detailed descriptive statistics of the respondents' characteristics are provided in Table 3.

**Table 3. Sample Characteristics**

Classification		Frequency	Percentage
Sex	Male	183	53.2
	Female	161	46.8
Age	Less than 20	63	18.3
	20 to 29	209	60.8
	30 to 39	63	18.3
	40 or more	9	2.6
Switching Experience	None	99	28.8
	1 or more	245	71.2
Service provider	KT	115	33.4
	LG U+	56	16.3
	SKT	173	50.3
Total	-	344	100

### ***Analyses of Research Variables***

Each variable was measured using multiple items. We conducted an exploratory factor analysis to evaluate their unidimensionality. In order to assess the construct validity of the instruments, a principal-component factor analysis with Varimax rotation was conducted. Furthermore, the majority of the factor loadings for the items appeared to be above 0.5 (see the Appendix, Table A2). Thus, the items corresponded well to each singular factor, evidencing a high degree of convergent validity. As the factor loadings for a variable (or factor) were higher than the factor loadings for the other variables, the instrument's discriminant validity was shown to be clear (Hair et al. 1998). As is shown in Table A2 of the Appendix, eight factors were extracted as anticipated, which explained 75.07% of the total variance, with eigen values in excess of 1.000.

The internal consistency reliability of the variables was evaluated by computing Cronbach's alphas. The Cronbach's alpha values of the variables ranged from 0.728 to 0.928, but in all cases over 0.700 (Nunnally 1978). Both the reliability and validity of the variables are, therefore, acceptable.

### ***Study Results***

The effects of alternative attractiveness and bonds on continuous usage intentions in the mobile telecommunication service industry were evaluated via multiple regression analysis. Correlations among the research variables are provided in Table A3 of the Appendix. The Pearson correlations were calculated for the variables, and measured by the interval or ratio scales. Potential multicollinearity among the antecedents was evaluated prior to the multiple regression analysis, as some of the variables were correlated significantly with others. Although several variables exhibited significant correlations, their tolerance values ranged between 0.521 and 0.979, thus demonstrating that multicollinearity is not a likely threat to the parameter estimates (Hair et al. 1998). After checking some basic assumptions for the regression analysis, we elected to conduct multiple regression analysis and moderated regression analysis to evaluate the given hypotheses.

Table 4 shows the results of multiple regression analysis. Our results demonstrate that the regression models were significant at  $p < 0.001$  ( $F = 32.280$ ), and that the predictors of each model explain 40.2% of the total variance.

Hypotheses 1 to 3 evaluate the relationships between economical alternative attractiveness and continuous usage

Table 4. The Results of Multiple Regression Analyses						
Model	$R^2$	adj. $R^2$	F	$\beta$	Tolerance	Results
<b>Continuous Usage Intention (CUI)</b>						
CUI=EAA+SAA+QAA+FB+SB+StB+LB+errors	0.402	0.390	32.280***			
EAA (Economical Alternative Attraction)				0.039	0.802	H-1 Not accepted
SAA (Social Alternative Attraction)				-0.175**	0.521	<b>H-2 Accepted</b>
QAA (Quality Alternative Attraction)				-0.073	0.571	H-3 Not accepted
FB (Financial Bonds)				0.080	0.745	H-4 Not accepted
SB (Social Bonds)				0.360***	0.638	<b>H-5 Accepted</b>
StB (Structural Bonds)				0.203***	0.734	<b>H-6 Accepted</b>
LB (Legal Bonds)				-0.120**	0.979	<b>H-7 Accepted</b>

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

intentions, between social alternative attractiveness and continuous usage intentions, and between quality alternative attractiveness and continuous usage intentions. Social alternative attractiveness was found to negatively affect continuous usage intention to a significant degree ( $\beta = -0.175$ ,  $p < 0.01$ ). Therefore, our findings support Hypothesis 2. We interpret this to indicate a negative relationship existing between social alternative attractiveness and continuous usage intentions.

Hypotheses 4 to 7 assesses four relationships: namely, between financial, social, structural, and legal bonds, and continuous usage intentions. Social bonds and structural bonds were found to significantly influence continuous usage intentions ( $\beta = 0.360$ ,  $p < 0.001$ ;  $\beta = 0.203$ ,  $p < 0.001$ ). Therefore, our findings support Hypotheses 5 and 6, indicating the existence of positive relationships between social bonds/structural bonds and continuous usage intentions. Additionally, legal bonds negatively affected continuous usage intentions to a significant degree, of 0.01 ( $\beta = -0.120$ ). Thus, a negative relationship appears to exist between legal bonds and continuous usage intentions, thereby supporting Hypothesis 7.

In order to determine whether the effects of the factors that affect continuous usage intentions can differ as the result of previous switching experience, we conducted moderated regression analysis via the residual centering method, which utilizes residuals from the regression of the cross-product term on its two original component variables (Lance 1988). The results of the moderating effect tests are provided in the Appendix, Table A4. When prior switching experience was used as the moderator and the dimensions of bonds/alternative attractiveness were employed as the dependent variable, the addition of the interaction terms with the antecedents to the regression equation resulted in a significant increase in the  $R^2$  value (F change=2.095,  $p < 0.05$ ). In particular, structural bonds and social bonds exerted different effects on continuous usage intentions, which was attributed to the existence of switching experience ( $\beta = 0.417$ ,  $p < 0.05$ ;  $\beta = -0.563$ ,  $p < 0.01$ ). Hence, the results support Hypotheses 8e and 8f.

## Discussion and Implications

This study evaluated the principal factors influencing continuous usage intentions based on the social exchange theory in the mobile telecommunications industry. The study results demonstrated that only social alternative attractiveness significantly affected continuous usage intentions among the three dimensions of alternative attractiveness. Most customers appear to recognize charge, point, and fare discounts from Korean mobile telecommunication service-providing firms as economically attractive. However, as the economic benefit is quite similar among several mobile telecommunication service-providing firms, it may prove difficult for customers to distinguish the differences in the benefits of alternatives in the Korean mobile telecommunication industry. Furthermore, based on the statistics from KCC (2009a), there have been no significant differences between the three mobile communication providers in terms of the 3G quality criteria of mobile communications, including voice telephony quality, wireless data quality, and video telephony quality. Therefore, quality alternative attractiveness may be an insignificant factor affecting continuous usage intentions.

On the other hand, social alternative attractiveness has been associated with the perceived social reputation and image associated with social culture (Olsen and Ellram 1997; Kim et al. 2004). Although fierce competition has resulted in a profound similarity among mobile telecommunication services, levels of social attractiveness are not so easily equalized. Social alternative attractiveness forms over a long period via the implementation of consistent customer policies and corporate image due to social contribution. Thus, when customers recognize the best alternatives as socially attractive, the continuous usage intentions of customers of existing mobile telecommunication service providers will tend to be relatively low.

Financial bonds were found to be insignificant in affecting continuous usage intentions. However, structural bonds and social bonds increased continuous usage intentions, whereas legal bonds reduced continuous usage intentions in the mobile telecommunication industry. Financial bonds refer to the provision of special low prices to loyal customers or the strengthening of customer relations via other financial incentives (Berry 1995; Strauss and Frost 2001). However, owing to the fierce competition inherent to the mobile telecommunications service industry, customers may not perceive any gap in financial benefits between service providers. We interpret our findings to mean that financial bonds were not associated with continuous usage intentions.

Additionally, because structural bonds consist of knowledge and information related to the customization of products, which requires a very heavy price upon termination of the relationship (Hsieh et al. 2005), and social bonds allow customers to tend toward self-disclosure, listening, caring, and helping to improve mutual understanding, openness between relationship partners, and degree of closeness, these social bonds and structural bonds exert positive effects on continuous usage intentions.

On the contrary, as legal bonds go beyond the basic obligations and protections that regulate commercial exchange whether or not the parties sign a formal document, their customers may tend to perceive a strong binding force to their service provider during the stipulated time period. Legal bonds might elicit resistance from customers during the stipulated time. Although legal bonds clearly contribute to the short term business strategies of service providers, they may prove injurious to the long-term business strategy to lure their customers.

Therefore, we interpret our results to mean that legal bonds undermine customer's satisfaction with mobile telecommunication services, and increase the possibility of customer intentions to switch providers due to of compulsory restrictions such as contract discounts. This result indicates that mobile telecommunication service-providing firms should focus on financial bonds, social bonds, and structural bonds for the voluntary continuous usage intentions of Korean customers.

The results of moderating regression analysis demonstrate that the customers with prior switching experience are more sensitive to social bonds, and customers with no switching experience are more sensitive to structural bonds. According to the finding that clients with switching experience are more sensitive to social bonds when gauging their levels of continuous usage intentions, service-providing firms should strengthen communities, membership systems, and the sense of closeness with these customers. As customers with no prior switching experience are generally more likely to be sensitive to structural bonds in deciding whether or not to increase their continuous usage intentions, we recommend that mobile telecommunication service providers subdivide their services to enhance customer loyalty. This may enhance the level of structural bonds for customers with no switching experience.

## **Conclusions and Limitations**

In Korea, as the mobile telecommunications service market matures, it is becoming increasingly difficult to secure new customers. In the context of this sort of business environment, this study empirically investigated the key factors that affect the relationship between customers and service-providing firms with the concepts of bonds and alternative attractiveness.

One of the major findings of this study is that customers' continuous usage intentions are determined by social bonds, structural bonds, and legal bonds among the four dimensions of the bonds. This result supports the conclusions of some previous studies in which bonds were implicated as a major factor that determines the degree to which the relationships are maintained. Thus, mobile telecommunication service-providing firms in Korea must consider the customer's bonds in order to maintain their customer base. Second, social alternative attractiveness is the most important factor that can be improved by a service-providing firm in an effort to lure away the competitors' customers. This finding implies that the firms that are ready to lure away competitors' customers should invest their

resources in strengthening social attractiveness. Third, legal bonds were found to be an important factor for customers' continuous usage intention, and their effect was negative. Thus, legal bonds may prove efficient in maintaining relationships with customers, but firms should stress customer satisfaction more profoundly. Taking the long view, legal bonds may not prove effective. Finally, bonds appear to be more relevant to continuous usage intentions than is alternative attractiveness. Hence, mobile telecommunication service providers must focus on the maintenance of their customer base, rather than luring their competitors' customers.

Another interesting finding is that switching experience is also a crucial factor for continuous usage intentions in the context of the Korean mobile telecommunication service industry. That is, social bonds are perceived as important by customers of mobile telecommunication services with switching experiences, whereas structural bonds were a key variable in enhancing the continuous usage intentions of customers with no switching experience. This implies that service providing firms must more effectively design their customer segmentation, and construct an effective business strategy, using the variable of the existence of customers' switching experience.

Despite the implications of this study, the study design was limited in several regards. First, we need to more clearly give a theoretical sophistication to this context, which can shed light on the state-of-the art in theory. Specially, the result of the moderating effects needs to be interpreted in the theoretical view. Second, since we conducted a web-based survey, the sample was restricted to those who could use a computer. Thus, it will eventually be necessary to conduct a more comprehensive study. Third, the cross-sectional data collation was limited to our findings: For example, alternative attraction and bonds generally accumulate over time. Therefore, future research, in the form of a longitude study, is clearly necessary. Finally, with the advent of smart phones, such as the iPhone and Android Phone, the mobile telecommunication industry has been facing sudden changes. Therefore, the development of relevant models reflecting the innovation and changes in the mobile telecommunication service is important.

## APPENDICES

**Table A1: Measures**

Variables	Measures	Research
Alternative Attractiveness - Quality	The alternative mobile telecommunication service provider would be better than the current service provider in voice quality. The alternative mobile telecommunication service provider would be better than the current service provider in optional service quality. The alternative mobile telecommunication service provider would be more stable than the current service provider in voice quality. In overall quality, the alternative mobile telecommunication service provider would be better than the current service provider.	Ping (1993); Olsen and Ellram (1997); Bansal et al. (2004)
Alternative Attractiveness - Economical	Overall, the alternative mobile telecommunication service provider would be cheaper than the current service provider. The alternative mobile telecommunication service provider would be cheaper than the current service provider in optional services. The alternative mobile telecommunication service provider would be more various than the current service provider in discount services. Overall, the alternative mobile telecommunication service provider would be better profitable than the current service provider.	Ping (1993); Olsen and Ellram (1997); Sharma and Patterson (2000); Kim et al. (2004); Yanamandram and White (2007)
Alternative Attractiveness - Social	I prefer the corporate image of the alternative mobile telecommunication service provider rather than the current service provider's. The brand awareness of alternative mobile telecommunication service provider is higher than the current service provider's. The alternative mobile telecommunication service provider would be more faire than the current service provider. The alternative mobile telecommunication service provider would be better than the current service provider in customer relationships. The reputation of alternative mobile telecommunication service provider is higher than the current service provider's.	Ping (1993); Olsen and Ellram (1997); Kim et al. (2004); Bansal et al. (2004)
Financial Bonds	I can receive membership presents when I join the loyalty program. This mobile telecommunication service provider offers discounts to encourage future purchasing. This mobile telecommunication service provider discounts for loyal customers. This mobile telecommunication service provider provides cumulative points program.	Hsieh et al. (2005); Berry (1995)
Legal Bonds	I have specific, well-detailed agreements with this mobile telecommunication service provider. I have formal agreements that detail the obligations of both parties. I have detailed contractual agreements with this mobile telecommunication service provider.	Cannon and Perreault (1999)
Social Bonds	This mobile telecommunication service provider is concerned with my needs in their counter such as website or communities. This mobile telecommunication service provider keeps in touch with me. This mobile telecommunication service provider collects my opinions about services in their counter such as website or communities. I receive special treatment after I become a member.	Hsieh et al. (2005); Berry (1995)
Structural bonds	I can order customized services or products from this mobile telecommunication service provider. This mobile telecommunication service provider provides complete knowledge about the goods/services. This mobile telecommunication service provider integrates products or services from other sources to solve my problem.	Hsieh et al. (2005); Berry (1995)
Continuous Usage Intention	I will use this mobile communication service continuously. I do not consider any alternative mobile communication service. I intend to recommend this mobile communication service to other firms.	Oliver(1997); McDougall and Levesque (2000)

Table A2: Factor Analysis Results for Independent Variables										
		Component								Cronbach's Alpha
		1	2	3	4	5	6	7	8	
Quality Alternative Attractiveness	QAA1	<u>.871</u>	.281	.009	.054	-.086	.033	.019	-.033	.928
	QAA3	<u>.869</u>	.266	.030	.108	-.064	-.002	.029	-.007	
	QAA4	<u>.853</u>	.275	-.009	.146	-.065	-.021	.075	-.040	
	QAA2	<u>.796</u>	.259	-.079	.250	-.057	-.037	.047	-.025	
Social Alternative Attractiveness	SAA3	.230	<u>.845</u>	.006	.158	-.098	-.103	.075	-.053	.911
	SAA2	.325	<u>.804</u>	-.069	.111	-.104	-.012	.023	-.081	
	SAA1	.362	<u>.794</u>	-.046	.179	-.104	-.019	.026	-.018	
	SAA4	.359	<u>.730</u>	-.099	.207	-.143	-.086	.054	-.029	
Social Bonds	SoB4	.113	-.098	<u>.770</u>	.078	.038	.137	-.152	.201	.814
	SoB2	-.098	-.002	<u>.743</u>	.038	.310	.208	.012	.127	
	SoB1	-.051	-.033	<u>.702</u>	-.060	.362	.122	.013	.143	
	SoB3	-.018	-.012	<u>.691</u>	-.037	.174	.239	.089	.113	
Economical Alternative Attractiveness	EAA2	.204	.189	.112	<u>.843</u>	-.020	-.047	.023	-.075	.816
	EAA3	.154	.292	.077	<u>.838</u>	-.050	-.027	.038	-.073	
	EAA4	.207	.330	-.020	<u>.761</u>	-.019	.020	.068	-.010	
	EAA1	-.003	-.144	-.130	<u>.661</u>	.068	.068	-.052	.269	
Continuous Usage Intention	CUI2	-.031	-.060	.273	-.037	<u>.798</u>	.223	-.150	.117	.855
	CUI1	-.119	-.119	.203	-.014	<u>.795</u>	.071	-.005	.126	
	CUI3	-.135	-.238	.242	.053	<u>.760</u>	.200	-.109	.077	
Structural Bonds	KnB2	.019	-.039	.236	-.009	.092	<u>.897</u>	.012	.058	.837
	KnB1	-.092	-.088	.229	.071	.084	<u>.826</u>	.007	.131	
	KnB3	.065	-.048	.160	-.059	.359	<u>.713</u>	.027	.112	
Legal Bonds	StB1	.033	.060	.019	.032	-.060	.026	<u>.914</u>	-.015	.826
	StB2	.070	.057	-.019	.032	-.055	.048	<u>.891</u>	-.019	
	StB3	.025	.011	-.020	-.006	-.055	-.030	<u>.751</u>	.009	
Financial Bonds	EB1	-.053	-.005	.200	.037	.064	.194	.031	<u>.846</u>	.728
	EB2	.013	-.036	.088	-.022	.316	.049	-.078	<u>.747</u>	
	EB3	-.058	-.118	.404	.064	-.034	.048	.030	<u>.637</u>	
Eigen Value		7.159	4.753	2.278	1.904	1.434	1.281	1.171	1.037	
% of Variance Explained		25.566	16.976	8.137	6.799	5.123	4.576	4.183	3.705	
Cumulative %		25.566	42.542	50.680	57.478	62.601	67.177	71.360	75.065	



**Table A3: Correlations between Variables**

Variables	1	2	3	4	5	6	7
1. Continuous Usage Intention							
2. Economical Alternative Attractiveness	-.055						
3. Social Alternative Attractiveness	-.324**	.409***					
4. Quality Alternative Attractiveness	-.227**	.361**	.644***				
5. Structural Bonds	.361**	.047	-.165**	-.092			
6. Social Bonds	.537***	.020	-.155**	-.066	.481***		
7. Financial Bonds	.438***	.000	-.165**	-.052	.327**	.495***	
8. Legal Bonds	-.164**	.060	.128*	.114*	-.032	-.045	.014

p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

**Table A4: Moderated Regression Analysis Results by Switching Experience**

Table A4: Moderated Regression Analysis Results by Switching Experience										
		Regression Model Suitability					Coefficient			
		R	R <sup>2</sup>	F-statistic changes		F (p)	Independent Variables	β	t	Results
				ΔR <sup>2</sup>	ΔF (p)					
Dependent Variable = Continuous Usage Intention	Model 1	0.651	0.423	0.423	30.759 (0.000)	30.759 (0.000)	EAA SAA QAA FB SB StB LB SE	0.035 -0.169** -0.057 0.067 0.355*** 0.199*** -0.101* -0.151***	0.758 -2.934 -1.026 1.386 6.841 4.116 -2.384 -3.525	
	Model 2	0.669	0.448	0.025	2.095 (0.044)	17.758 (0.000)	EAA SAA QAA FB SB StB LB SE EAA × SE SAA × SE QAA × SE FB × SE SB × SE StB × SE LB × SE	0.010** -0.169 -0.089 0.074 0.196* 0.457*** -0.142* -0.195 0.116 -0.051 0.080 -0.036 0.417* -0.563** 0.093	0.111 -1.748 -0.922 0.868 2.055 4.972 -1.761 -0.820 0.574 -0.289 0.441 -0.221 2.147 -3.417 0.835	H-8a Not accepted H-8b Not accepted H-8c Not accepted H-8d Not accepted <b>H-8e Accepted</b> <b>H-8f Accepted</b> H-8g Not accepted

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001.

(Note)

EAA: Economical Alternative Attraction

SAA: Social Alternative Attraction

QAA: Quality Alternative Attraction

SE: Switching Experience

FB: Financial Bonds

SB: Social Bonds

StB: Structural Bonds

LB: Legal Bonds

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