

Understanding Consumer Churning Behaviors in Mobile Telecommunication Service Industry : Cross-national Comparison between Korea and China

Research-in-Progress

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Abstract

It is crucial for telecom operators to shift from a subsidy-centered to a service-centered marketing strategy. As the market reaches its saturation point, the effectiveness of customer acquisition through the traditional subsidy decreases and offering differentiated services for existing customer retention is critical. This study aims at finding out factors affecting consumer churning intention based on PPM (Push-Pull-Mooring) theory in order to exactly understand consumer behaviors in the mobile telecommunication service industry (MTSI). This study also analyzes the difference between Korea (saturation market) and China (growth market) in terms of the causality between the intention to switch and the affecting factors. The research findings will encourage telecom operators to establish the effective service strategy that corresponds to their level of market maturity.

Keywords: Consumer churning behavior, PPM theory, growth and saturation market, intention to switch, Mobile Telecommunication Service Industry

Introduction

The competitive environment in the mobile telecommunication service industry (MTSI) in Korea is rapidly changing. As a leading country in adopting a newest mobile technology and reaching the highest mobile phone saturation rate in the world (KISDI 2014), MTSI in Korea is experiencing an interesting phenomenon that leads major telecom firms into the very different competitive dimension from the early stage of mobile telecom industry. In the highly-saturated market, the MIC (ministry of information and communication) banning the subsidy offered by mobile telecom firms last year concludes that the subsidy wars in MTSI become a major cause of overpriced mobile phone fee and the deterioration of telecom operators' service quality. This move forces the industry into totally new competitive environment. MTSI' simplistic marketing tactics based on the maximized subsidy to new subscribers is no longer valid. Now it has become crucial for the telecom operators to shift from the original subsidy-centered to a service-centered marketing strategy in order to prevent their customer churning away to competitors (LGERI 2014).

For most countries before the saturation of domestic mobile telecom market, the subsidy-centered marketing tactics have been common practice for telecom companies in order to recruit new customers or to attract the competitor's customers, despite heavy cost involved. Many other leading countries show the similar pattern of government regulation and the counter-active reactions of telecom operators to Korea case. We believe that the understanding the difference in the reasons behind customer churning behaviors between two situations, before and after domestic market saturation, is so significant enough to provide the important practical implications for Telecom operators in both competitive environments: the still-evolving stage of unsaturated mobile market or the fully-saturated market.

Korea and China are critical markets in the world MTSI and are good cases for comparative research to observe the difference mentioned above. Despite the similarities such as early adoption of new mobile technology and the fast-growing domestic mobile market along with the similar regulatory policies and market structure, these two countries show the clear difference in terms of market saturation level and consumer churning behaviors (Kyung 2006). While Korean mobile industry has less new entry barrier with 100% market saturation, China's major telecom operator faces far less saturation level than Korea, along with the harder governmental regulation and less churning rate (Jin et al. 2012). Therefore, the comparative study on Korea and China can provide the outline on similarities and differences in consumer churning behaviors. The results of this study can help each country's telecom operators to establish an effective service strategy that corresponds to their market environment.

No previous studies have been conducted to see the difference between consumer churning behaviors before and after market saturation in a cross-national setting. Most previous studies focused only on the one-to-one relationship between consumers and a company such as 'customer loyalty', 'customer satisfaction' or 'continuous intention to use' (Keropyan et al. 2012; Ntale et al. 2013; Al-Refai et al. 2014; Nimako et al. 2015).

As a theoretical basis of our research model, we adopt the PPM (Push-Pull-Mooring) theory as Laws of Migration from anthropology discipline (Ravenstein 1885; Lewis 1982), identifying the factors to see why mobile telecom users change their telecom operators in terms of 'push effects (factors dissatisfied from current operator)', 'pull effects (attractive factors of competitors)' and 'mooring effects (factors not being allowed to switch)'. Based on the PPM theory, the antecedents from previous researches on mobile subscriber's switching were adopted and classified into the research model, such as consumer, product and situation characteristics, and also the involvement level (Kim et al. 2012).

Thus, the purposes of this study are as follows: First the study aims to understand the factors that affect mobile telecom users' churning intention in Korea and China. Second, the study analyzes the difference between two countries in terms of the causality between the intention to switch and the affecting antecedents.

The rest of this paper is organized as follows. First, the Korean and Chinese MTSI, consumer switching intention, other research variables considered in the research model, and studies relevant PPM theory are reviewed. Next, the research model and hypotheses are then introduced.

Theoretical Background

The Characteristics of Mobile Telecommunication Service Industry and the Change of Competitive Paradigm

New entrants have high barriers to enter mobile telecommunication service industry (MTSI). The government directly controls MTSI which is one of national key industries, and telecom operators have the huge financial burden because they have large fixed costs for initial network and must continue to invest in the service quality. For these reasons, MTSI has become oligopolistic market and telecom companies are getting enormous profits. Comparing with other industries, while MTSI has high fixed costs, it has low additional costs for new subscriber acquisition. Therefore, increasing the number of mobile subscribers is critical for telecom operators' profits, and in a market growth stage, they focused on using subsidies as marketing tool to reach the goal. As a subsidy reduces consumer's burden in mobile phone purchase, it take instant effect on attracting subscribers (LGERI 2014). On

the other hand, long-term subsidy marketing led telecom operators to neglect to improve service quality and consumers to replace their mobile phone frequently.

However, the competitive paradigm in MTSI is changing from subsidy-centered to service-centered marketing due to market saturation (LGERI 2014). This is because the effects of subsidies on customer acquisition decrease in 100% market saturation. In market saturation, customer retention is most important for companies. While subsidies only benefit the customers who want to replace their mobile service, differentiated services that include distinguishing characteristics in comparison with competitors' services give benefits to whole existing subscribers. Thus, differentiated services are more effective than subsidies for the customer retention.

As market matures, consumer value and preference diversifies and consumer behavior become complex (Kim, 2008). With such market maturity, it is general that companies change their marketing strategy (Berlin and Wellborn, 2008; Liu and Yang, 2009). Therefore, considering market situation, service development based on consumer behaviors is getting more important for telecom companies.

The Importance of Korea and China in the Mobile Telecommunication Service Industry

Korea and China are critical markets in the global mobile telecommunication service industry (MTSI). Korea is the leading country to serve as a test bed for the latest mobile technologies such as CDMA(code division multiple access), Wibro(wireless broadband internet), LTE(long term evolution). Korea is the most advanced country in MTSI: at the end of 2013, mobile penetration rate exceeded 100% of the population, and smartphone and LTE penetration rate was the highest in the world with 69% and 54% of it (IITP 2014). China is the largest market and different mobile services are consistently growing in MTSI (Qi et al. 2009). Chinese smartphone subscribers increased rapidly from 180 million in 2012 to 320 million in 2013 and will soar to 550 million by 2017. However, China still has the high potential for growth, as smartphone penetration rate was only 35% of the population in 2013. In addition, Chinese MTSI will grow faster by the launch of LTE service in 2014 (KB Finance Group 2014).

As shown in Table 1, Korea and China are similar in aspects of government regulation, market structure and marketing, but are clearly different in market maturity. Since the law to restrict subsidies was enforced last year in Korea, Service-centered marketing strategy has become more important for telecom operators rather than subsidies-all-strategy. Chinese market also asks telecom operators for taking part in service competition. As the permission for private investment has been under consideration, the service improvement for consumer comes into significant marketing tool. In the market life cycle, while the Korean market already reached saturation point, Chinese market still located in a growth stage.

Table 1. Comparison between the Korean and the Chinese MTSI

	Korean MTSI	Chinese MTSI
Common Characteristics	- There is strong regulation by government. - Regulation by government is a high entry barrier to new entrants. - Government controls company's marketing tactics such as subsidies.	
Primary Policies	2012.10 Amendment of "Number portability" 2014.06 Announce "Reduction Plan on Household's Telecommunication Expenditure" 2014.10 Implementation of "Law to restrict phone subsidies"	2014.07 Implementation of marketing cost cutting policy directed toward national telecom operators 2014.08 Approve "FDD/TDD LTE" trial service
Market Structure	Oligopolistic market	
Oligopolists	SKT, KT, LG U+	China Mobile, China Unicom, China Telecom

Primary Marketing	Subsidy-centered marketing (temporary subsidy, monthly installment, Monthly discounts)	Subsidy-centered marketing (monthly discounts)
Changing of Marketing Strategy	[Law to restrict phone subsidies] The shift from subsidy-centered to service-centric marketing strategy is becoming more important	[Permission for private investment under consideration] The service improvement toward consumer is becoming more important.
Market Maturity	Saturation stage	Growth stage

Therefore, the comparative study on Korean and Chinese MTSI can provide similarities and differences in consumer churning behaviors between the market growth and saturation. The results of this study can encourage each country’s telecom operators to establish an effective service strategy that corresponds to their market maturity. The Chinese telecom companies would also understand consumer behaviors to switch a telecom service in fully-saturated market from Korean’s case.

Consumer Switching Intention

It is important for telecom companies to exactly understand consumer behaviors in order to provide differentiated services. The lack of understanding how consumers behave may result in decrease in marketing performance (Qi et al. 2009). The analysis of consumer switching intention is an appropriate method to investigate the overall mobile subscribers’ behavior pattern. Consumer’s decision-making to change a telecom operator is influenced by various factors: switching cost, customer characteristics, the lack of alternative and dissatisfaction (Bitner 1990; Givon 1984). Therefore, the study on consumer switching intention comprehensively examines the mobile subscriber’s behaviors at different dimensions including consumer, product and situational characteristics, and also the involvement level (Kim et al., 2012).

Switching intention is defined as customer’s intention to stop using a service or reduce the degree of usage because of service dissatisfaction (Carpenter and Lehmann 1985; Keaveney 1995). Switching intention has been mainly studied in marketing field, and it refers to user's switching behaviors among products or services. When services are different and competition is strong, customers have a wide range of service choices and they make a decision to switch the services easily (Blinn et al. 1991). For these reasons, the study on factors affecting consumer switching behaviors has been conducted in a variety of fields: management, banking, insurance, tourism, game (Zhang et al. 2007; Hendriks et al. 2010; Lehto et al. 2014; Park et al. 2014; Kaura et al. 2015).

Consumer switching intention is changed by market maturity. With the level of market maturity, telecom companies change their marketing tactics from new customer acquisition to existing customer retention, and consumers’ preference also is altered (Lee, 2010). Therefore, the factors affecting consumer switching intention may differ between the market growth and saturation stage.

Previous studies related to mobile telecommunication service focused on ‘customer loyalty’, ‘customer satisfaction’ and ‘continuous intention to use’ to build positive relationship between businesses and customers (Keropyan et al. 2012; Ntale et al. 2013; Al-Refai et al. 2014; Nimako et al. 2015). However, it is difficult to figure out the exact mobile subscriber’s behaviors, because the majority of previous studies centered only on the one-to-one relationship between consumers and a company. As a subsidy was the critical tool for new customer acquisition in MTSI, it was the most important antecedent in previous studies on consumer switching behaviors. Therefore, there has been the lack of identifying the real picture of MTSI where a service-oriented marketing is important.

PPM(Push-Pull-Mooring) Theory

Based on PPM (Push-Pull-Mooring) theory, this study intends to completely investigate a consumer intention to switch a telecom operator – considering both ‘current-in-use’ companies and their competitors. The PPM is one of the most widely used models in human migration research, and has been applied to the marketing research to analyze consumer switching behaviors to switch services. People migration and consumer switching behaviors have the clear similarity moving from one place(one produce or service) to another(another) (Hsieh et al. 2012). Therefore, the PPM is the very useful theory for understanding why consumers switch their services. As shown in Table 2, the PPM

extended also to the studies on consumer switching behaviors in different IT services. Thus, the PPM is the appropriate model for analyzing customer churning behaviors in the mobile telecommunication service industry (MTSI).

Table 2. Previous studies based on PPM theory in IT field

Research context	Research Topic	References
SNS	Retaining and attracting users in social networking services	Xu et al. 2014
SNS	The push, pull and mooring effects in virtual migration for social networking sites	Chang et al. 2013
Blog	Post-adoption switching behavior for online service substitutes	Hsieh et al. 2012
Mobile shopping	An empirical study of consumer switching behavior towards mobile shopping	Lai et al. 2012
Mobile phone	Pull-and-suck effects in Taiwan mobile phone subscribers switching intentions	Chung 2011
Online game	Exploring MMORPG switching through human migration theory	Hou 2011

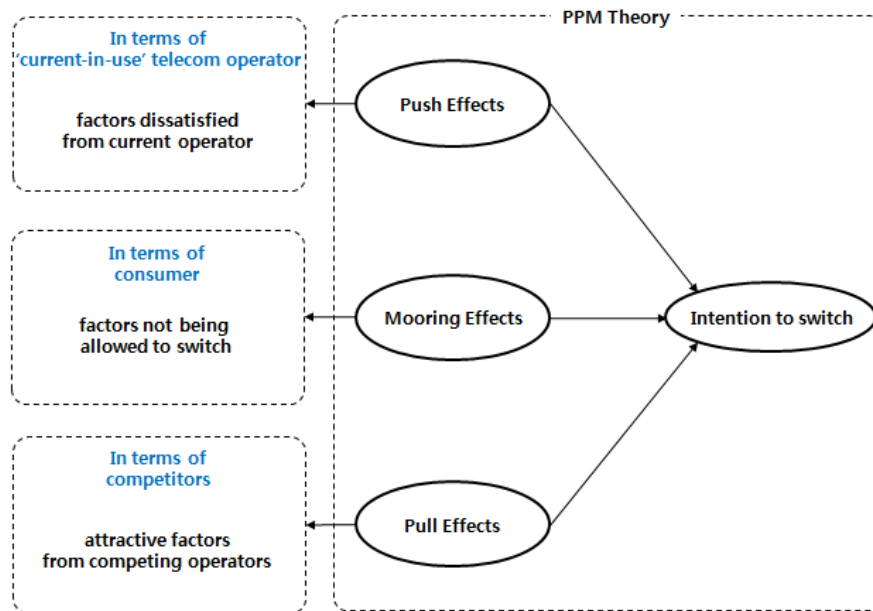


Figure 1. PPM framework

The PPM includes push effects, pull effects and mooring effects influencing consumer churning behaviors in three aspects (current-in-use telecom operator, consumer, competitors). First, Push effects are negative factors that motivate people to leave an origin (Stimson and Minnery 1998), and in MTSI, they are the factors that cause customers’ dissatisfaction from the current-in-use telecom operator. Second, Pull effects are positive factors attracting people to new place (Moon 1995). Therefore, they are the attractive factors of competitors drawing other mobile subscribers. Finally, Mooring effects are factors to keep people in same place despite the push and pull effects (Bansal 2005). Switching cost was tested as the mooring factor in many prior studies (Bansal et al. 2005; Chung 2011; Hsieh et al. 2012; Xu et al. 2014).

Research Model and Hypotheses

The research model based on PPM theory is presented in Figure 2. All push, pull and mooring effects are multi-dimensional constructs that include several subconstructs (Law et al. 1998; Petter et al. 2007; Hsieh et al. 2012). These first-order subconstructs serve as reflective dimensions for the second-order constructs (i.e., the three effects in the PPM), and they are also measured by reflective

dimensions (Bansal et al. 2005). We aggregate all sub-constructs of push, pull and mooring effects in Table 2 through literature review. First-order subconstructs in research model are drawn from Table 2.

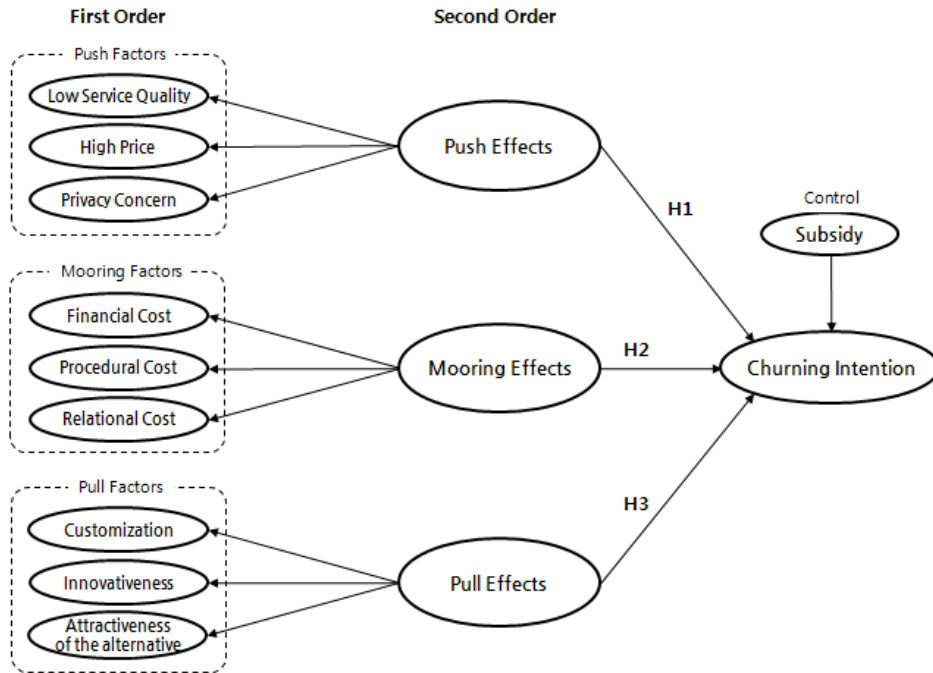


Figure 2. Research Model

Push effects

Push factors are “the factors that motivate people to leave an origin” (Stimson and Minnery 1998) and “factors at the origin that are assumed to have a negative influence on the quality indicators of life” (Moon 1995). There is a conceptual correspondence between push factors and factors to switch mobile telecommunication service. Many previous studies considered factors causing dissatisfaction as push factors (Zengyan et al. 2009; Xu et al. 2014). Quality is common in migration research (Boyle et al. 1998), and is identified as factor affecting the repurchase of offline service (Zeithaml et al. 1996; Bansal et al. 2005). The significant impact of technical and information quality in dissatisfaction have been empirically confirmed in information system studies (Xu et al. 2014). Economic variables are critical in migration models (Bogue 1969). It is appropriate to consider pricing issues in the models of mobile subscribers' churning intention. Bansal et al. (2005) conformed that high price perception is a significant antecedent of switching intention. Due to the recent data breach of telecom operators, mobile consumer’s privacy concern is rising, and the negative relationship between privacy concern and user’s behaviors has been identified in many online service studies (Malhotra et al. 2004; KORZAAN and BOSWELL 2008). Therefore, we establish the following hypothesis:

H1: Push effects (Low quality, High price, Privacy concern) will be positively related to churning intention.

Table 3. Literature Review on first-order subconstructs of the three effects in the PPM

Reference / context	Push factors	Mooring factors	Pull factors
Nimako and Ntim 2013 / mobile telecommunication services	Price	Attitude toward switching	Competitor offer attractiveness
	Perceived Network Quality	Peer influence	Competitor Reputation
	Customer Service	Mobile Number Portability facilitator	
	Inconvenience	Religiosity	
	Perceived Service quality	Commitment to service provider	
	Overall Satisfaction/dissatisfaction	General curiosity	
	Perceived value	Switching cost	
	Reputation quality		
	Anger incidence		
	Network Coverage		

Bansal et al. 2005 / Hair shop	Low Quality	Unfavorable Attitude Towards Switching	Alternative Attractiveness
	Low Satisfaction	Unfavorable Subjective Norms	
	Low Value	High Switching costs	
	Low Trust	Infrequent Prior Switching Behavior	
	Low Commitment	Low Variety Seeking	
	High Price Perceptions		
Xu et al. 2014 / SNS	Dissatisfaction with Technical Quality	Setup Cost	Attraction from the Alternative Site
	Dissatisfaction with Information Quality	Continuity Cost	
	Dissatisfaction with Entertainment Value		
	Dissatisfaction with Socialization Support		
Hou et al. 2011 / Online game	Low Enjoyment	Low Switching Cost	Attractiveness of the alternative
	Low Service Satisfaction	Weak Social Relationship	
	Perception of Sufficient Participants	High Need for Variety	
		Successful Prior Switching Experience	
Ye and Potter 2011 / Browser	Satisfaction	Subjective Norm	Relative Advantage
		Perceived Switching Costs	Perceived Relative Ease of Use
		Habit	Perceived Relative Security
Lui 2005 / Mobile Service	Satisfaction	Perceived Switching Cost	Attractiveness of the Alternative
	Perceived Price Equity	Perceived Service Value	
		Ambiguity	
Fu 2011 / IT professional's career commitment	Career Satisfaction	Professional Self-Efficacy	Availability of Career Alternatives
	Threat of Professional Obsolescence	Career Investment	
Chiu et al. 2011 / consumers' cross-channel free- riding	Internet experience	Within-firm Lock-in	Attractiveness of the Competitors' Offline Retail Store
	Vicarious experience	Switching costs	Perceived service quality of competitors' offline store
		Perceived multichannel integration	Perceived risk of purchasing online
Lai et al. 2012 / mobile shopping	Inconvenience	High Switching costs	Peer Influence
		Low Trust	Alternative Attractiveness
		Low Security and Privacy	
Hsieh et al. 2012 / SNS	Weak Connection	Switching Cost	Enjoyment
	Writing Anxiety	Past Experience	Relative Usefulness
Zhang et al. 2012 / Blog	Dissatisfaction with service stability	Sunk costs	Attractiveness in functionality
	Dissatisfaction with money charge	Descriptive norms	Attractiveness in ease of use
	Dissatisfaction with privacy issue	Subjective norms	Attractiveness in readership
	Dissatisfaction with functionality	Learning	Attractiveness in interface design
	Dissatisfaction with readership	Bored	Attractiveness in service stability
	Dissatisfaction with blogging culture		Attractiveness in storage capacity
	Dissatisfaction with storage capacity		
	Dissatisfaction with ease of use		

Pull effects

Pull factors are "positive factors drawing prospective migrants to the destination" (Moon 1995) and "attributes of distant places that make them appealing" (Dorigo and Tobler 1993). Thus, attractive factors at the destination pull the migrant. In terms of service, pull factors are the attractiveness of competitors. Previous studies related to IT services tested the causal path from alternative attractiveness to consumer switching intention (Jones et al. 2000; Bansal et al. 2005; Zengyan 2009; Xu et al. 2014). Customization that provides differentiated services corresponded to the need of customers becomes more and more important for telecom companies. Prior studies confirmed the positive impact of customization on customer's trust and satisfaction (Coulter and Coulter 2002; Komiak and Benbasat 2007; Coelho and Henseler 2012). Innovativeness is a key driver of growth in the mobile services industry. Malhotra and Malhotra (2013) tested the significant relationship between innovativeness and switch intention in mobile service. Therefore, the following hypothesis can be established:

H3: Pull effects (Customization, Innovativeness, Attractiveness of the alternative) will be positively related to churning intention.

Mooring effects

Mooring effects are factors to keep people in same place despite the push and pull effects (Bansal 2005). This is due to situational or contextual constraints (Lee 1996). Switching cost was tested as mooring factor and its negative impact on switching intention was identified in many previous studies (Bansal et al. 2005; Chung 2011; Hsieh et al. 2012; Xu et al. 2014). Burnham et al. (2003) presented 'financial cost', 'procedural cost' and 'relational cost' as the subconstructs of switching cost. Accordingly, the following hypothesis can be established:

H2: Mooring effects (Financial cost, Procedural cost, Relational cost) will be negatively related to churning intention.

Cross-national difference

Understanding national effects in IT use and management has been recognized as the critical consideration for multi-national corporations (Nelson et al. 1992), because consumer behaviors and companies' marketing tactics are changed by the different level of market maturity of countries. In the market growth stage, while many competitors enter a market, consumers have high expectation of new products and services and adopt them rapidly. Companies also implement aggressive marketing strategies with much investment to achieve more profits. On the other hand, in the market saturation stage, companies focus on defensive marketing strategies, because existing customer retention is more effective in cost than new customer acquisition. The change of companies' marketing affects consumers' behaviors (Anderson and Tushman 1990; Audretsch and Feldman 1996; Cohen and Klepper 1996; Kim et al. 2003; Lee 2010). Previous cross-national studies verified that market structural factors and economic factors had the significant relationship with consumers' behaviors and there was the difference in factor effects between countries (Harris et al. 2003; Mao et al. 2005; Dai and Palvia 2009). Therefore, the following hypothesis can be established:

H4-1: Push effects (Low quality, High price, Privacy concern) will differ between Korea and China.

H4-2: Mooring effects (Financial cost, Procedural cost, Relational cost) will differ between Korea and China.

H4-3: Pull effects (Customization, Innovativeness, Attractiveness of the alternative) will differ between Korea and China.

Control variable

This study aims to investigate factors affecting consumer churning intention in mobile telecommunication service industry that service-centered marketing is steadily important. Therefore, in order to test the only factors related to services, a subsidy that was the key factor in consumer churning behaviors is set as control variable in research model.

Research Methodology

Data Collection and Analysis

The unit of analysis in this study is mobile subscriber in Korea and China. We plan to collect data through self-administrated survey by a survey research firm. For statistical analysis, descriptive statistics analysis, exploratory factor analysis, and common method variance test are to be conducted through SPSS. And confirmatory factor analysis, path analysis, and multi-group(Korean and Chinese) analysis are to be performed through the structural equation model (SEM) package.

Expected Contribution

In this research-in-progress paper, we have suggested the research model to compare between groups (Korean and Chinese mobile subscribers) and predict factors affecting consumer churning intention. When the following survey is well executed as explained above, this study is expected to determine push effects(low quality, high price, privacy concern), pull effects(customization, innovativeness, Attractiveness of the alternative), and mooring effects(financial cost, procedural cost, relational cost). With considering the difference of market maturity between countries, this study will also analyze the difference between two countries in terms of the causal relations among variables. This comparative study on Korea and China will provide the similarities and differences in consumer behaviors between the growth and saturation of MTSI. The results of this study will help each country's telecom operators to establish an effective service strategy that corresponds to their business situations.

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