Journal of Child & Adolescent Behavior

Research Article **Open Access**

Customer Value of LINE Mobile Services: The Study of Adolescents in Three East Asian Cities

Yi-Sheng Wang*

Department of Marketing & Distribution Management, Oriental Institute of Technology, Taiwan

Abstract

Although previous studies on customer satisfaction and loyalty are quite extensive, few have focused on customer value in LINE mobile services (LMSs) and its effect on customers, and the belief transmission mechanism of customer value has been ignored or underestimated. This study used grounded theory to summarize the evidentiary bases and concepts for establishing a conceptual model for an underlying LMSs belief transmission mechanism on the basis of customer value. The results obtained offer three potential contributions: value-driven, situational dynamics, and beliefs transmission. The analysis demonstrated two plausible pathways in beliefs transmission: beliefs adaptation and augmentation, and beliefs adaptation manifested in satisfaction and social exchange. Beliefs augmentation manifested in word-of-mouth, interpersonal network, and demonstrative effects. The pathways associated with customer value modes were uncovered in this study. The findings concerning beliefs transmission mechanism expands literature on the origins of customer value.

Keywords: LINE mobile services; Customer value; Adolescent

Introduction

LINE mobile services (LMSs) are widely used smartphone-based social networking applications [1]. With increase in the availability, affordability, and prevalence of mobile phones over the last decade, LMSs have become a primary means of communication among adolescents [2] and an integral aspect of current youth culture [3].

LMSs have become a crucial aspect of adolescents' lives at every level. The convenience of real-time communication has facilitated the popularization of LMSs for both business and personal use [4], and an estimated 560 million people use LMSs at work [2]. This trend prompted Internet-based LMSs firms to launch mobile-based applications [1]. LMSs were first introduced with text-only chat capability, but almost all providers-Yahoo, America Online, ICQ, and MSN messengers-now allow users to exchange files from not only desktops but also mobile devices. LMSs are more than a communication tool because they enhance customer value [1,5,6].

Few studies have determined user behavior in the absence of LMSs. Although the importance of customer value has been recognized in marketing literature in the last decade [6-11], development and empirical validation of the customer value model in the LMSs context had not been addressed. Studies on customer satisfaction and loyalty are quite extensive [6,12-16] however, few have focused on customer value in LMSs and its effect on customers, and the belief transmission mechanism of customer value has been ignored or underestimated.

This study aims to (1) explore the components of customer value in LMSs users and (2) summarize the evidentiary bases and concepts for establishing a conceptual model for the underlying LMSs belief transmission mechanism on the basis of customer value. This conceptual model provides crucial knowledge on customer value and expands the integrity and scope of the customer value theory.

This paper addresses a relevant concern-understanding the nature and role of customer value in LMSs. The study is ambitious and based on a carefully conducted grounded theory on customer value. Many of its findings are potentially insightful. The remainder of this paper is divided in the following sections. Section 2 overviews the relevant literature on LMSs and customer value. Section 3 presents the study design and methodology. The results are provided in Section 4 and

discussed in Section 5. Section 6 discusses the conclusions, discussions, limitations, and scope for future research.

Literature Orientation

Line mobile services (LMSs)

Kato et al. [14] defined LMSs as a proprietary application for instant communications on electronic devices such as smartphones, tablet computers, and personal computers. LMSs users exchange texts, images, videos, and audio files, and engage in free VoIP conversations and video conferences. LMSs, designed in Korea and launched in Japan in 2011, reached a user base of 100 million subscribers within 18 months, and 200 million in the subsequent six months; it became Japan's largest social network in 2013 [2]. In October 2014, LMSs announced that it had 560 million subscribers worldwide and 170 million active user accounts [14]. LMSs were originally developed as a mobile application for Android and iOS smartphones and have since expanded to BlackBerry, Nokia Asha (Asia and Oceania), Windows Phone, Firefox OS, and iOS platforms. Versions for laptops and desktop computers using Microsoft Windows and Mac OS platforms are also available [2].

Ogara et al. [15] proposed a model that integrated channel expansion, social influence, social presence, and media richness theories to explain the influence of user experience, social media, and medium richness on social presence and user satisfaction with LMSs; 239 students from a U.S. state university participated in this study. The results suggested that user experience, social influence, and perceived richness are critical factors influencing social presence and user satisfaction. Ha

*Corresponding author: Yi-Sheng Wang, Department of Marketing and Distribution Management, Oriental Institute of Technology, 58, Sihchuan Road, Banciao Dist., New Taipei City, 22061, Taiwan, Tel: +886-2-7738-8000; E-mail: winsome5@ms39.hinet.net

et al. [1] investigated LMSs in Korea and identified gratifications prompting LMSs use by surveying 330 KakaoTalk and 311 Facebook users. The results highlighted the effect of hedonic, integrative, and mobile convenience on user attitude. Social interactive gratification significantly affected all other gratification-obtained variables, whereas mobile convenience significantly influenced all other gratifications. Deng et al. [12] examined the determinants of customer satisfaction and loyalty in China and reported that trust, perceived service quality, and perceived customer value-including functional and emotional values-contribute to customer satisfaction. Kato et al. [15] analyzed responses to a questionnaire survey in a Japanese university; the respondents were asked to rank emotions by the desired speed of response in LMSs. The results revealed individual differences in the relationship between the emotion conveyed and the desired speed of reply (e.g., a quick reply was desired when joy or remorse was conveyed).

Zhou et al. [16] examined LMSs users' loyalty from the perspective of network externalities and flow experience and found that network externalities and flow experience significantly affect perceived usefulness and satisfaction, which further determines user loyalty. Lee et al. [17] explored the determinants of college students' adoption of LMSs and demonstrated that the subjective norm of and attitude toward the service prompt individuals' actual adoption, whereas intrusiveness of the service is a distinctive barrier to the actual adoption behavior.

Customer value

Holbrook et al. [18] defined customer value as the interactive relativistic preference experiences. Previous relevant studies have adopted two main perspectives-instrumental (or utilitarian) and hedonic-for examining product use by customers [9,10,18]. The instrumental perspective emphasizes product performance [10], whereas the hedonic perspective focuses on the reasons for purchasing the product, whether the product has a hedonic and symbolic meaning for the customer, and the product's relationship with their lifestyle [8,10].

Scholars have differing interpretations and evaluations for customer value. Conventionally, means-end chain analysis is employed for consumption value determination (CVD). Customers' understanding of the product or service attributes is explored through interviews. Subsequently, through association and amplification, the possible consumption consequences resulting from the product attributes are identified. Finally, the consumption consequences are used to determine psychological consumption values [19]. Olive et al. [20] proposed the consumer value framework, which comprises the three major concepts of price, perceived quality, and perceived value. In this framework, excellence and sacrifice are the criteria for consumers' purchasing decisions. Sheth et al. [21] suggested that CVD influences consumers' choices when assessing various consumption values: (1) functional, (2) social, (3) emotional, (4) knowledge-related, and (5) situational. Bolton et al. [22] used a 5-point Likert scale to measure consumption values and focused on the payment currency, price ratio, and exchange value–related discussions. The values produced by this model were treated as the benefit of the sacrifice comparison concept. Funk, et al. [23] examined the mobile service purchasing behavior of users in Japan and determined that the consumption experience is overly simplified when customer value is explained using only payment currency and price ratio or exchange values. Furthermore, if the consumption experience is merely classified according to price, perceived quality, and value, the multilayer characteristics of customer value may be overlooked.

The customer value proposed by Holbrook et al. [7] is similar to

that by Zeithaml et al. [19]. Halbrook contended that customer value is interactive, relative, preferential, and experiential, and that it does not exist in the brand but rather in the consumption preferences. Through an exploratory study, Arnold et al. [24] developed six dimensions of hedonic shopping and noted that hedonism is the primary customer value. However, Wei et al. [25] examined motivations for mobile phone use and characterized the customer value of male users as utilitarian; that is, they use mobile phones for a specific purpose and not for pleasure. Woodruff et al. [11] proposed a customer value hierarchy model that comprised desire and attainment; this model has the following features: (1) customer value must be derived from the consumption of products or services, (2) the model compares acquisition and cost, and (3) the model recognizes the perception of different customer values at various consumption stages. Hee-Woong et al. [26] examined mobile phone service usage and determined that customer value is significantly influenced by peer groups rather than by subjective perceptions.

The aforementioned models can be used as a reference for large-scale investigations of customer value. However, theoretical gaps exist in the literature. First, although the importance of customer value has been recognized in the marketing literature of the previous decade, the development and empirical validation of customer value model in the LMSs context is yet to be addressed. Second, despite the numerous studies on the adoption of customer satisfaction and loyalty [6,12-16] few studies have focused on customer value in LMSs and its effect on a customer. Finally, the belief transmission mechanism of customer value has been ignored or underestimated. Therefore, this study used the grounded theory to develop a substantive theory that explains and examines customer value from a new perspective for obtaining deeper insights into the overall concept of customer value.

Research Context and Methodology

Research approach

The method of inquiry was a grounded theory [27,28]. Three cities in East Asia-Taipei, Tokyo, and Seoul-were chosen because of their high Internet penetration rates, high cell phone market share, and similar governmental policies in the active promotion of e-society and the information technology industry. Participants were recruited from the highest ranked telecommunication companies from these cities [2]: Chunghwa Telecom (Taipei), Nippon Telegraph and Telephone (NTT) DoCoMo (Tokyo), and Korea Telecom (Seoul). According to the most recent report by the Internet World Statistics [29], the number of Internet users in Taiwan has reached 18 million (penetration rate=80%). Japan has 94 million users (86.2%) and South Korea has more than 45 million Internet users (92.4%), much higher than the United Kingdom (46%) and the United States (44%). In addition, broadband connections in these high-digital regions are among the fastest in the world.

The subjects were willing participants recommended by Taipei, Tokyo, and Seoul telecom industries and selected through internal customer relationship management databases. We developed a close working relationship with telecom companies and rewarded them with free flash drives and online redemption cards for their participation. The service and customer ends were differentiated through theoretical sampling. For the service end, we selected regional presidents, senior vice presidents, executive vice presidents, heads of strategy departments, heads and members of research and development departments, commercial managers, senior representatives, and heads and members of product departments. For the customer end, we selected adolescents aged between 13 and 23 years; influenced by high-tech products, these adolescents are extremely active users of LMSs technology and

cyberspace and represent the largest group of LMSs users [2]. Table 1 presents the participant details.

Over a 16-month period, we interviewed 117 male and 112 female participants. The first participant type (service end) comprised 48 supervisors and the second participant type (customer end) comprised 181 youngsters, ranging from seventh grade students to university seniors. Semi-structured interviews, audio recordings, observations, and textual compilations were conducted.

Analysis approach

The collected data was analyzed using three-level coding, which was facilitated by a computer assisted qualitative data analysis software, namely NVivo 10. We collected and simultaneously analyzed the interview data by adhering to guidelines specified for methods of naturalistic inquiry and constant comparison techniques [28]. We coded each interview separately according to in vivo terms or phrases used by informants and which on the basis of the categorization and theme analysis techniques suggested by Strauss et al. [28]. The interview data were analyzed repeatedly to discern the similarities and differences among informants. We relied on constant comparison of multiple informants' data and detected conceptual patterns over time [27].

Findings: Components of a grounded process theory

In this section, we first explicate the three main dimensions that constitute the overall process model and a second layer of findings explicating the relationships among these dimensions, followed by the complete emergent model. The main contribution of the work is the generation of a grounded process model. Figure 1 presents the data structure, which includes first-order categories (those meaningful to the informants) and second-order themes (induced by the researchers) that were used to generate the aggregate dimensions.

On discerning that certain codes were similar, we collated them into first-order categories, employing the language used by the informants whenever possible. To achieve theoretical saturation [27], we continued coding interviews in this manner until we could not ascertain any more distinct or shared patterns among the informants. Concurrent with the development of the first-order categories, we discerned linkages among the categories that led to the development of second-order themes; the researcher-generated concepts were theoretically distinctive and formulated at an abstract level with an attempt to apply informant labels if those labels represented theoretical concepts. Subsequently, we assembled the second-order themes into aggregate dimensions, which enabled us to develop a grounded theoretical framework that linked the various data concepts. Figure 1 shows the aggregate dimension-customer value-divided into three components: value-driven, situational dynamics, and beliefs transmission.

Value-driven

Pohlman et al. [30] defined value-driven management as the ability of employees to consider the effect of their proposed actions or decisions on the value of the organization over time. O'Cass et al. [31] stated that value-driven management adopts the premise that innovation capability underpins a service firm's value creation ability, whereas the management style, employee behaviors, and marketing underpin its innovation capability.

We identified clear variation patterns in understanding and evaluating the role of value-driven management in LMSs. These value-driven approaches had two main themes: (1) innovation significance (innovation about the importance of value to the multimedia system and interaction of LMSs) and (2) motivation source (motivation about the effectiveness or quality of the service and/or appeal strategy; Figure 1), each of which is discussed herein. Appendix 1 details the second-order themes of value-

Firm	City and Country	Respondents	Coding	Age	Occupational	Number of participants
Chunghwa Telecom	Taipei, Taiwan	Supervisors of service end	S01-03	43-57	Regional president, Senior vice president and head of strategy department	3
			S04-06	38-56	Chief officer and R and D department members	3
			S07-14	38-50	Executive vice president of commercial operations and senior representatives	8
			S15-19	28-45	Head of product department and members	5
		Customer end	CI:01-17	13-15	Junior high school students in grades 7 to 9	17
			CII: 01-16	16-18	High school students in grades 1 to 3	16
			CIII: 01-29	19-23	University students in grades 1 to 4	29
NTT DoCoMo	Tokyo, Japan	Supervisors of service end	S20-21	47-53	Senior vice president, Executive vice president of strategy department	2
			S22-23	27-51	Managing director of R&D department, and members	2
			S24-26	32-48	Director of strategic marketing department and members	3
			S27-29	26-47	Head of consumer sales department and members	3
		Customer end	CI: 18-33	13-15	Junior high school students in grades 7 to 9	16
			CII: 17-35	16-18	High school students in grades 1 to 3	19
			CIII: 30-53	19-23	University students in grades 1 to 4	24
Korea Telecom	Seoul, Korea	Supervisors of service end	S30-32	48-56	Regional president, executive vice president and head of business development and Strategy	3
			S33-37	26-49	Head of innovation and development and members	5
			S38-44	37-43	Commercial manager and senior representatives	7
			S45-48	33-39	Head of product department and members	4
		Customer end	CI:34-49	13-15	Junior high school students in grades 7 to 9	16
			CII:36-52	16-18	High school students in grades 1 to 3	17
			CIII:54-80	19-23	University students in grades 1 to 4	27
					Total: 229	

Table 1: Participants data.

Figure 1: Data structure
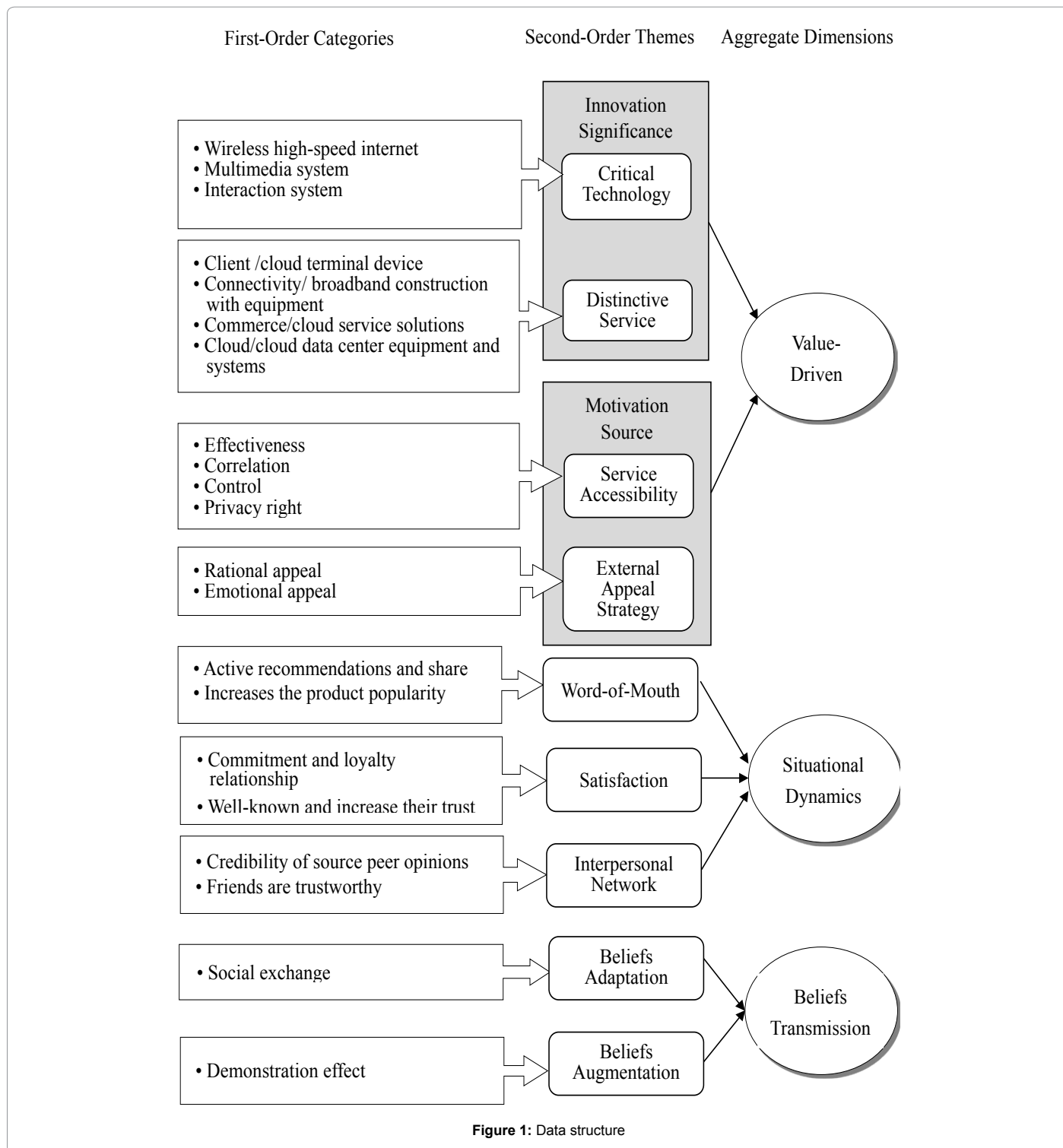
driven. These data were derived from in-depth interviews of the respondents and raw data were derived from the field. The data were processed using NVivo 10 and subsequently transformed into a line-by-line analysis. We then summarized the formation of first-order data or open coding Glaser et al. [27] and second-order themes or axis coding. Through the constant back and forth between the data analyses, we generated the final-form aggregate dimensions or theoretical coding [28].

Because grounded theory analysis involves bottom-up inductive rules, we built our theory using the bottom field data [27,28]. Thus, Appendix 1 shows three components (value-driven, situational dynamics, and beliefs transmission) originating from second-order themes, which were obtained by analyzing the first-order categories. The first-order categories were obtained from a line-by-line analysis of the bottom field data. Each analysis and link, and their mutual

relationship, formed a link to the next ring, and the links formed a closely linked chain.

Innovation significance

Innovation is defined as a new idea, device, or process [32] and can be considered the application of exceptional solutions that meet new requirements, inarticulate needs, or existing market needs [31]. This element of innovation significance subsumes two second-order subthemes: (1) criticality technology and (2) distinctive service.

Criticality technology

Criticality technology reflects the degree of importance that a given LMSs user ascribes to a particular technology domain (i.e., interaction technology, multimedia systems, wireless high-speed Internet, or customer service) regarding its effects on the success of the user's enterprise. O'Cass et al. [31] defined criticality technology as the practical application of knowledge in a particular area and its capability. Pohlman et al. [30] stated that criticality technology is humanity's ability of combining resources for producing desired products to solve problems, fulfill needs, or satisfy wants.

Attaining technological effectiveness is considered by some to be critical for success [14], whereas some value technology but give more importance to attaining operational cost efficiency and process control [15]. The head of innovation, who emphasized the importance of technological effectiveness, quoted:

The interactive LMSs systems enable the remote receipt of cloud services through a network connection. This category of cloud computing is considered the concept of Software as a Service (SaaS). *Informant: Head of innovation, S33.*

Distinctive service

Distinctive service, as a facet of innovation significance, represents executives' innovation in LMSs' ability to maintain or protect a unique competitive advantage within a given domain. O'Cass et al. [31] defined distinctive service as the consistent delivery of a high value/price experience. We discovered notable variations in the perceived bases of distinctiveness. For example, executives of some firms viewed operational capabilities as key strengths:

In addition to the core competencies, the integration of the 4C architecture industry chain is necessary, namely, client–cloud terminal devices, connectivity–broadband integration with equipment, commerce–cloud service solutions, and cloud–cloud data center equipment and systems. *Informants: Regional president, S01.*

Relevant studies have shown that the development of LMSs in Taipei, Tokyo, and Seoul adopted the following steps: (1) begin with core competencies; for example, first provide popular network services, including wireless high-speed Internet, interaction systems, and multimedia systems; (2) for all procedures, strictly adopt network thinking rather than telecommunications thinking; and (3) integrate the 4C architecture industry chain, that is, use of client–cloud terminal devices, connectivity–broadband integration with equipment, commerce–cloud service solutions, and cloud–cloud data center equipment and systems, for providing innovative customer services.

Motivation source

Motivation source is a theoretical construct used for explaining behavior: people's actions, desires, and needs [24]. Alternatively, motivation source can be defined as the reason for a person's direction to behavior or to repeat a behavior [25]. A motive is what prompts the person to act in a certain way or at least develop an inclination for a specific behavior [21].

Motivation source represents LMSs about the usefulness and trustworthiness of the origins and locations of useful motivation source. Two distinct subthemes were developed concerning managerial LMSs about the motivation of various sources from which useful value could originate: (1) service accessibility; (2) external appeal strategy.

Service accessibility

Service accessibility refers to the design of products, devices, services, or environments for customers with potential [33]. This study is based on the assumption that the primary mission of the LMSs is to enable adolescents to select or reject all its services by using simple and clear processes, and to adjust various options such as the time and frequency of call acceptance. In addition, adolescents want the ability to easily control and decide whether to continue using the services. Thus, user scenarios may change at any time. Junior high school and university students, who emphasized on not wanting too much information, quoted:

Regarding the countless daily messages and variety of information content, we want only information that relates to us. *Informants: Junior high school student, CI: 18.*

The ability to control the type and number of messages received. *Informants: University student, CIII: 58.*

From our interviews, we discovered that controlling the following factors can moderately improve adolescents acceptance rates and increase the value-add: (1) Effectiveness: adolescents do not want too much information. (2) Correlation: regarding the innumerable daily messages and the variety of information content, adolescents only want information that relates to them. (3) Control: the ability to control the type and number of messages received. (4) Privacy rights: only messages that are approved can be received. A university student quoted:

Only messages that are approved can be received. *Informants: University student, CIII: 28.*

LMSs sends numerous useless messages every day. In addition, why do they know my LINE ID number? *Informants: University student, CIII: 21.*

Therefore, for all service encounters, the factors that affect adolescents' appraisals of LMSs must be considered. User scenarios, such as location, environment, and actual information must be considered; adolescents data and frequency of use must be compared; and the information necessary for service encounters to effectively convey customer value should be provided.

External appeal strategy

External appeal strategy refers to the firms featuring a common goal when creating advertisements for magazines, newspapers, television, or radio to convince consumers to purchase a specific product or service [33]. This study refers to beliefs regarding whether LMSs from external sources can be easily acquired.

During the preliminary stages of development, NTT DoCoMo appealed to customers by its offer of high quality and economic prices. *Informants: SVP, S20.*

Chunghwa and Korea Telecom introduced slogans with emotional appeals during the early development stage. *Informants: EVP, S07; Regional president, S30.*

According to the aspect of LMSs marketing and advertising demands, rational and emotional appeals yield differing results under current industrial development conditions. The LMSs advertisement strategies of Chunghwa Telecom, NTT DoCoMo, and Korea Telecom have transitioned from rational to emotional appeals.

Situational dynamics

Situational dynamics is defined as the process and product of actors' interpretive activities toward a given situation [34], which is constructed, maintained, and altered interactively [23]. We chose "situational dynamics" as the label for this dimension because our informants consistently referred to "interactive" or "atmosphere" in LMSs. These situational dynamics had three main themes: (1) word-of-mouth (situations regarding the importance of dynamics to the multimedia system and interaction of LMSs); (2) satisfaction (situations regarding the effectiveness or quality of the service); and (3) interpersonal network (situations regarding the recommendations from interpersonal networks that are more convincing to a customer). Figure 1 includes the data structure for this dimension. Appendix 1 contains additional first-order informant data that led to the development of these second-order themes and the situational dynamics aggregate dimension. We discuss each of these elements of the situations dynamic in the following subsections.

Word-of-mouth

Word-of-mouth communication involves the passing of information between a noncommercial communicator (i.e., someone who is not rewarded) and a receiver concerning a brand, product, or service [22]. Word-of-mouth is among the most influential factors because it is typically provided by family members, friends, and classmates [14]. Such information is considered extremely reliable by adolescents. High school students and the head of production quoted:

My family members and classmates all consider LMSs to be extremely trendy and cool! *Informants: high school student, CII: 51.*

Word-of-mouth can drive active recommendations among the adolescents. *Informants: Head of product, S45.*

LMSs do not rely on extensive marketing methods; instead, they are recommended by users because of their innovation quality. Thus, word-of-mouth can prompt active recommendations among the adolescents. This subsequently creates a trend and increases the product popularity.

Satisfaction

Customer satisfaction, a term frequently used in marketing, is a measure of the products and services that meet or surpass customer expectations. Satisfaction is defined as the number (or percentage) of customers whose reported experience with a firm, its products, or its services exceeds the specified satisfaction goals [15]. With LMSs' high-tech features, adolescents can engage in complex dialogues and manage emotional intelligence (EQ). A university student quoted:

I have no complaints with this LMSs; it is awesome! Perfect! *Informants: University student, CIII: 20.*

I can open numerous windows and ignore the not-so-cute George, chat with cute Simon, pretend to be busy to avoid boring John, and throw a tantrum at David, the nice guy, simultaneously. *Informants: University student, CIII: 47.*

Although these human interaction strategies have been used for generations, technology enables these interactions to occur simultaneously; adolescents' high satisfaction with LMSs can stimulate consumption.

Interpersonal network

Interpersonal network is defined as information-carrying connections between people [33]. It is responsible for the majority of the embeddedness and structure of social networks in society and the transmission of information through these networks [34]. Grounded data indicates that recommendations from interpersonal networks are more convincing for junior high and senior high students.

Recommended by my buddy's personal experiences. *Informants: Junior high school student, CI: 18.*

Friends are more trustworthy than experts. *Informants: High school student, CII: 45.*

Thus, interpersonal networks have the characteristic of credibility of peer opinions.

Beliefs transmission

Beliefs are defined as assumptions and convictions considered true by an individual or a group, in terms of concepts, events, people, and things [33]. We chose "beliefs transmission" as the label for this dimension because our informants consistently referred to "values" or "trend" in everyday LMSs, thereby facilitating the development of unique insights and abilities that are considered as unique customer value in LMSs.

These beliefs transmissions had two main themes: (1) beliefs adaptation (beliefs about the importance of transmission to social exchange in LMSs); and (2) beliefs augmentation (beliefs about the demonstration effect). Figure 1 includes the data structure for the beliefs dimension. Appendix 1 contains additional first-order informant data that led to the development of these second-order themes and the beliefs transmission aggregate dimension.

Beliefs adaptation

Bell et al. [35] defined beliefs adaptation as the convictions that we generally consider true, usually without actual proof or evidence. Beliefs adaptation basically constitutes assumptions that we draw about the world, and our values stem from those beliefs. Our beliefs adaptation consist of facilities that we deem essential and include concepts such as equality, honesty, education, effort, perseverance, loyalty, faithfulness, and environmental conservation [33]. Beliefs adaptation about the importance of value is the social exchange of LMSs.

Social exchange

Social exchange is defined as social behavior resulting from an exchange process, which aims to maximize benefits and minimize costs. According to this theory, people weigh the potential benefits and risks of social relationships. When the risks outweigh the rewards, people terminate or abandon that relationship [36]. This is evident from the quotes of high school and university students:

LINE provided immediate benefits and discounted prices for inviting friends! *Informants: University student, CIII: 25.*

Interviews demonstrated that this social exchange is widespread and is a crucial value adaptation to the social situation of adolescents.

Beliefs augmentation

Beliefs augmentation is defined as strengthening of our beliefs and

values through experience or evidence [35]. Zhou et al. [16] debated the role of the advent of the Internet and smartphones in generating a wealth of data and enhancing the decision-making capabilities of social networks through means that were never conceivable before. Beliefs augmentation about the importance of value is a demonstrative effect of LMSs.

Demonstrative effect

Demonstrative effect is defined as customer mobility and purchasing power growth; customers increasingly encounter new products that they can afford [33] this is known as the demonstrative effect. The results of field interviews indicate that this enables more people to use LMSs and is evident from the quotes of junior, high school, and university students:

I must use one because it is the epitome of coolness. *Informants: Junior high school student, CI: 22.*

I have not used an iPod to listen to music or watch videos for some time. Furthermore, my desire to purchase a handheld game console has dissipated. I no longer need my pocket recorder and camera. The functions of all these devices are satisfied by LMSs. *Informants: University student, CIII: 45.*

Instant gratification is critical because everything is fleeting. *Informants: High school student, CII: 08.*

Interviews demonstrated that the use of LMSs is a type of beliefs augmentation. When more adolescents use LMSs, this behavior increases. High school students and university students believe that instant gratification is crucial because everything is fleeting; thus, a person feels left behind if they miss an opportunity. In other words, using LMSs has a demonstrative effect.

Emergent Customer Value Model of Linkages among Value-Driven, Situational Dynamics, and Beliefs Transmission

A grounded theory must specify not only constituent concepts but also linkages or relationships among those concepts to describe or explain a phenomenon [27,28]. By assimilating the dimensions and themes displayed in Figure 1 (the data structure) and the findings, a skeletal process framework that suggests the dynamic quality of the relationships among the emergent concepts becomes apparent. Figure 2 outlines these major concepts and their relationships. It suggests that value-driven relates to subsequent situational dynamics and beliefs transmission behaviors in customers. To comprehensively explore these relationships, we present additional findings that demonstrate how specific elements of the model are linked.

In summary, two main elements of value-driven were germane-values of innovation significance and motivation sources. Innovation significance comprised two subthemes, that is, innovation deemed to be critical and/or distinctive constituted critical technology in LMSs. Motivation sources comprised two subthemes: beliefs regarding the service accessibility of a value, and its worth from external appeal strategy. Differential emphases on these subthemes tend to be associated with word-of-mouth, satisfaction, interpersonal network, and their effect on customers (either through beliefs adaptation or augmentation). Because beliefs transmission is the primary topic of interest, in this section, we trace the pathways to either beliefs adaptation or augmentation by using linkages with elements of value-driven (innovation significance and motivation source) and situational dynamics.

Beliefs adaptation pathway

Figure 3 shows the typical pathway for customers displaying beliefs adaptation as their dominant mode of beliefs transmission.
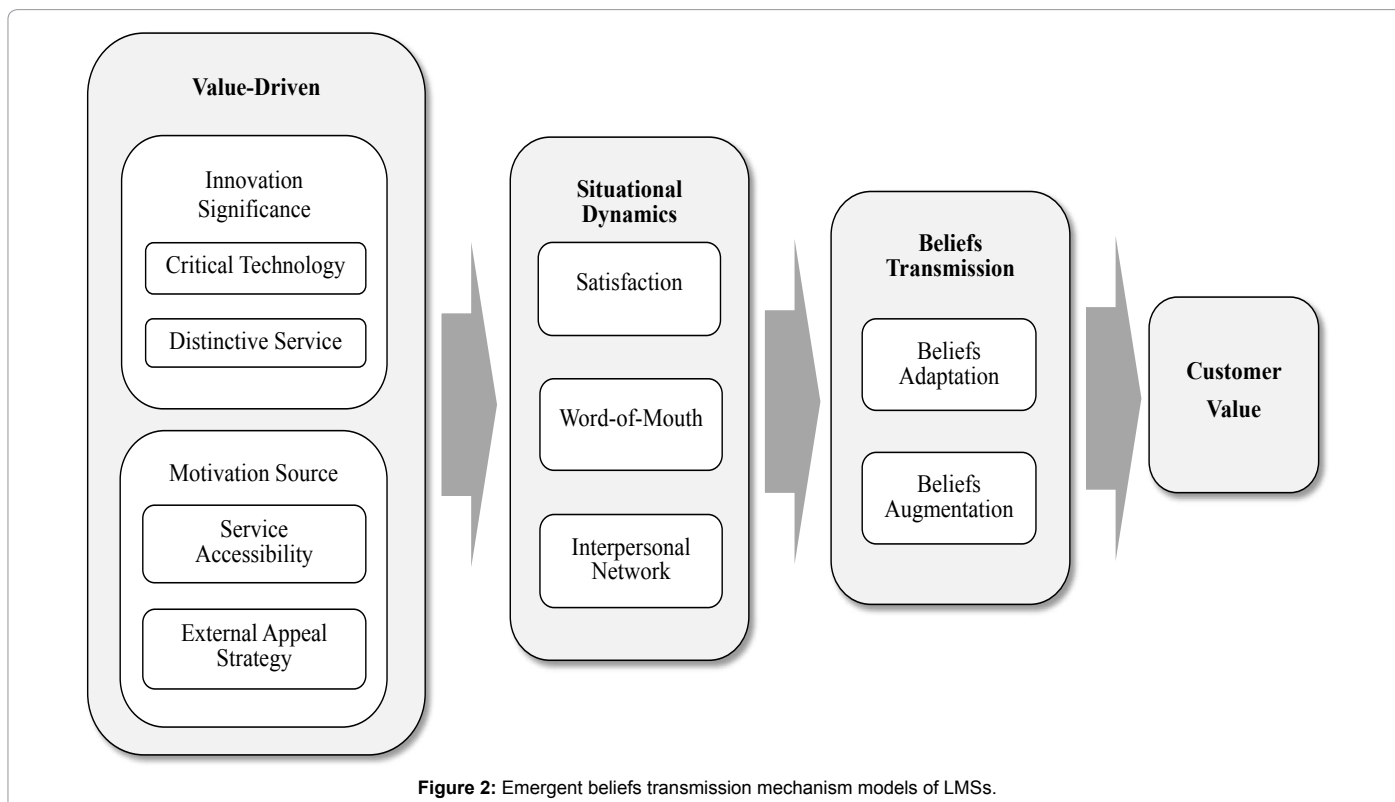

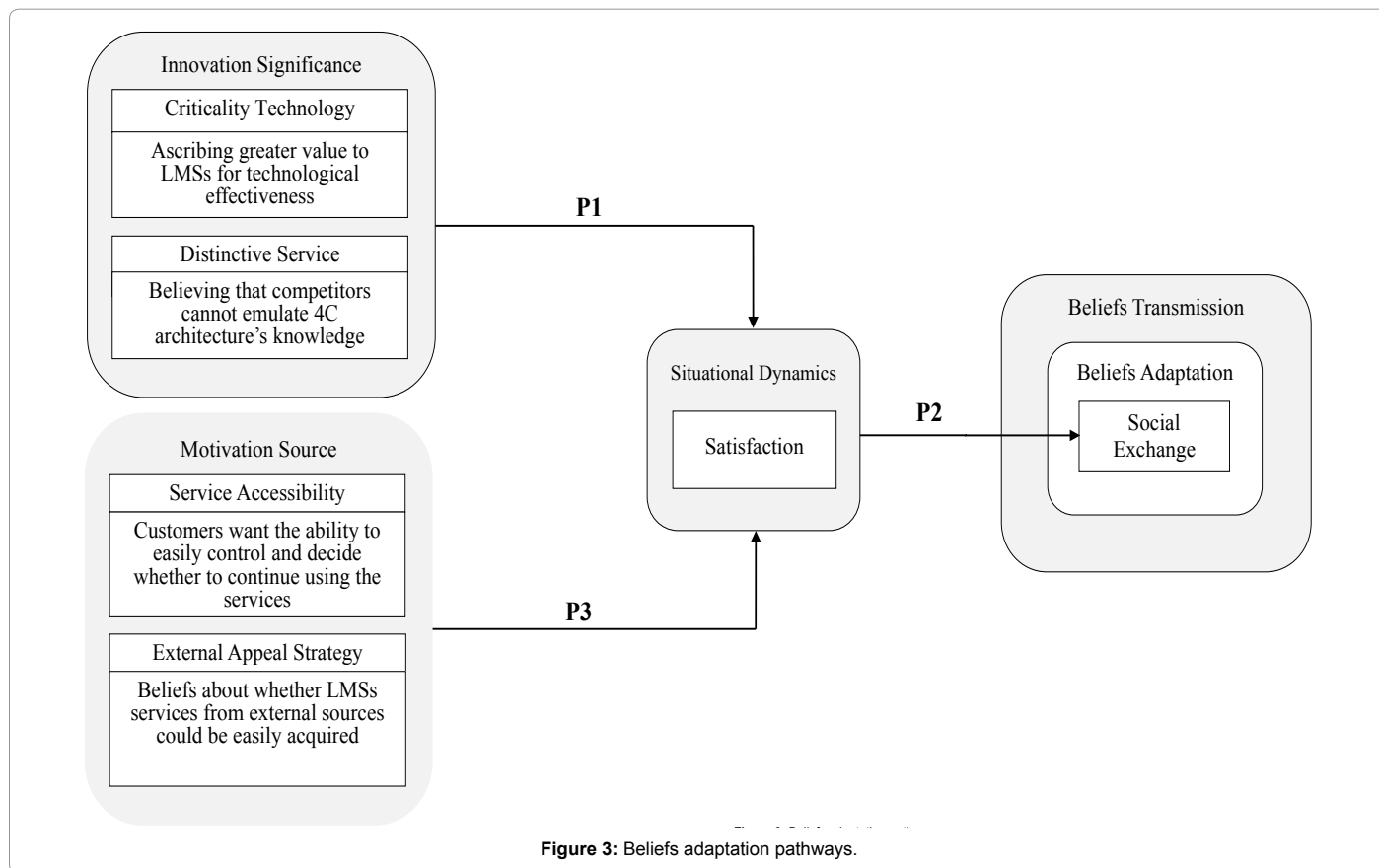**Figure 2:** Emergent beliefs transmission mechanism models of LMSs.

Figure 3: Beliefs adaptation pathways.

Linkages among innovation significance, situations dynamic, and beliefs adaptation

For some, ascribing greater importance to criticality technology enabled them to develop a richer understanding of customers' needs. The following testimonial displays this relationship between criticality technology and situational dynamics:

I went climbing last year and was lost for three days; by relying on LMSs GPS, I had a narrow escape. *Informants: University student, CIII: 49.*

Innovation always comes from the market. They are on the verge of leaping from touchscreen technology toward motion control that allows users to operate phones through the air. *Informants: high school student, CII: 37.*

To create situational dynamics that is based on satisfaction by using distinctive services, such as adolescents conducting complex dialogues and managing EQ. High school students reported that the LMSs is extremely distinctive and satisfying. The following testimonial demonstrates this relationship between distinctive services and situational dynamics:

If one word could be used to describe the powerful LMSs, it would be 'omnipotent'. *Informants: High school student, CII: 37.*

Innovation and technology are always connected to firm strategies and market services. *Informants: Head of innovation and development, S33.*

Technology always comes from humans. *Informants: University student, CIII: 09.*

We discovered that adolescents who considered criticality technology and distinctive services for technological effectiveness as the primary domain for their adolescents tended to emphasize on beliefs adaptation for developing beliefs transmission. Consequently, adolescents' sustainable satisfaction is dependent on the creation of criticality technology and distinctive services. Therefore, we propose the following proposition:

Proposition 1: Adolescents' sustainable satisfaction is dependent on the creation of criticality technology and distinctive services.

Moreover, grounded data indicated that a higher degree of satisfaction represents a higher degree of social exchange. The following testimonial highlights this relationship between satisfaction and social exchange (beliefs adaptation):

I found that when conversing with John on LMS, our conversation was fluent and endless. LMS is really amazing. *Informants: Junior high school student, CI: 7.*

I can converse with many people simultaneously fluently and endlessly. *Informants: high school student, CII: 32.*

LMSs replaced the powerful functions of the iPod and hand-held game consoles. *Informants: University student, CIII: 77.*

LINE provided an option of inviting friends and immediately provided price discount! *Informants: University student, CIII: 25.*

Consequently, a higher degree of satisfaction indicates a higher degree of social exchange, which in turn indicates a greater beliefs adaptation. Therefore, we propose the following proposition:

Proposition 2: A higher degree of satisfaction indicates a higher degree of social exchange.

Relationship between motivation source and situational dynamics

The relational analyses of our data suggested that beliefs regarding the motivation source were related to adolescent satisfaction and how adolescent practically attempted to create beliefs transmission. Adolescents who believed that useful service accessibility was easy to access were able to easily control and engage in beliefs adaptation as a method of creating beliefs transmission. The following testimonial highlights this relationship between service accessibility and situational dynamics:

I can do three things on my LMSs simultaneously: text my friends, download music, and upload video clips. *Informants: High school student, CII: 02.*

Beliefs regarding whether LMSs can be easily acquired from external sources to create situations concerning customer satisfaction through external sources. The following testimonial highlights this relationship between an external appeal strategy and situational dynamics:

This filmography of LMSs communicated genuine emotions and heartfelt life philosophy. *Informants: High school student, CII: 50.*

LMS undoubtedly has an extremely strong emotional effect on us. *Informants: University student, CIII: 33.*

Situational dynamics concerning satisfaction through service accessibility and external appeal strategies was created; consequently, adolescents' sustainable satisfaction is dependent on the creation of service accessibility and external appeal strategy. Therefore, we propose the following proposition:

Proposition 3: Adolescents' sustainable satisfaction is dependent on the creation of service accessibility and external appeal strategy.

Beliefs augmentation pathway: We identified a second key pathway that adolescents used to develop beliefs transmission by using beliefs augmentation. Figure 4 shows this prototypical pathway.

Relation among innovation significance, situational dynamics, and beliefs augmentation

LMSs for technological effectiveness ascribe greater importance to family members, friends, and classmates. We determined that adolescents trust word-of-mouth and interpersonal network sources. The following testimonial demonstrates this relationship between criticality technology and situational dynamics:

My family members and friends consider LMSs to be extremely trendy and cool! *Informants: Junior high school student, CI: 02.*

To create a situation regarding word-of-mouth and interpersonal network through distinctive services, such as that reported by high school students, they are recommended by users because of their distinctive quality. The following testimonial displays this relationship between distinctive service and situations dynamic:

We are recommended by users because of their distinctive quality. *Informants: University student, CIII: 07.*
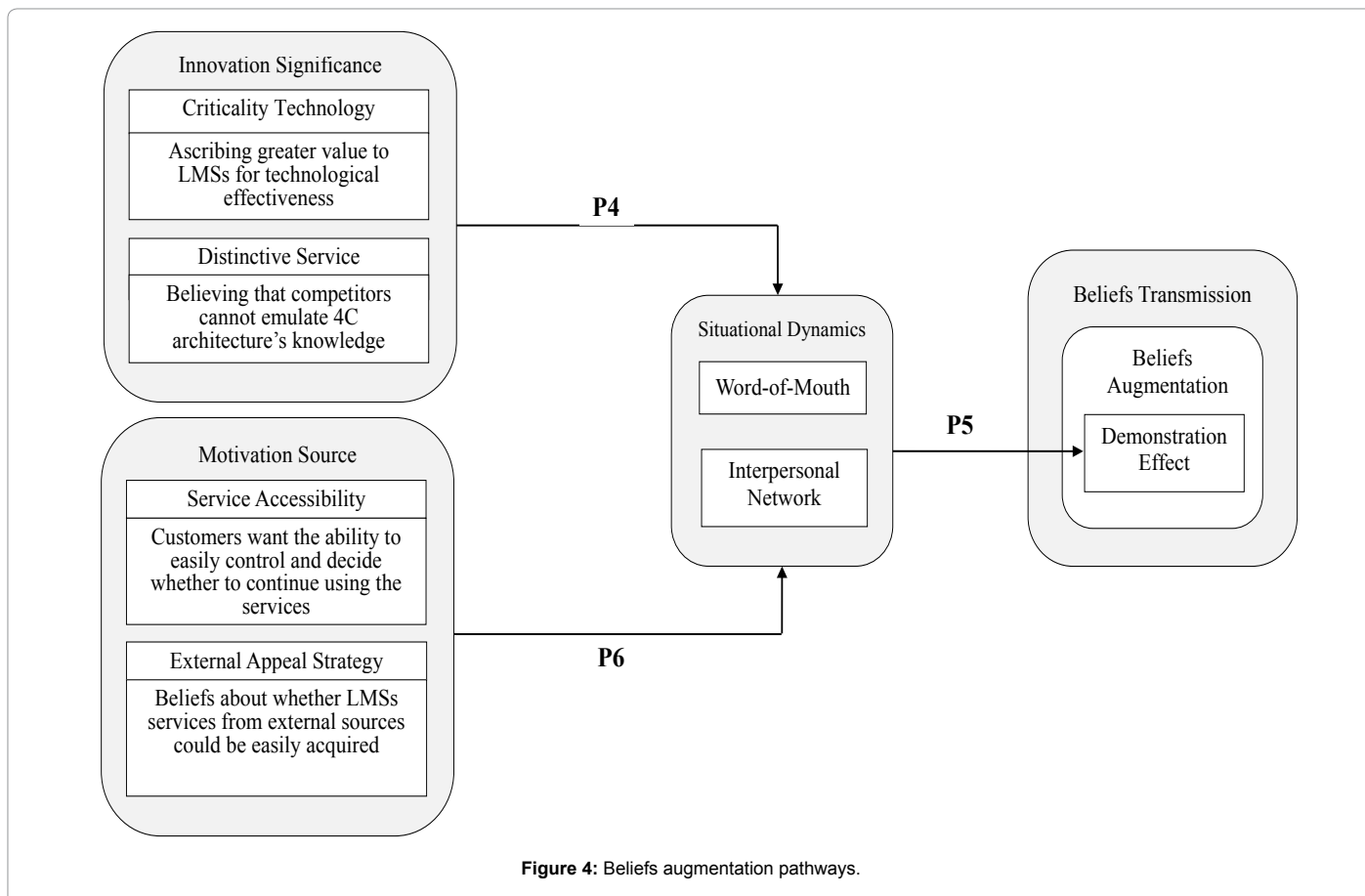

Figure 4: Beliefs augmentation pathways.

A situation was created demonstrating word-of-mouth and interpersonal network by using criticality technology and distinctive service; consequently, adolescents' sustainable word-of-mouth information and interpersonal network are dependent on the creation of criticality technology and distinctive value. Therefore, we propose the following proposition:

Proposition 4: Adolescents' sustainable word-of-mouth information and interpersonal network are dependent on the creation of criticality technology and distinctive value.

Moreover, grounded data indicated that higher degrees of word-of-mouth and interpersonal network indicate a higher demonstration effect. The following testimonial demonstrates this relationship between situational dynamics and demonstration effects (beliefs augmentation):

LMSs replaced the powerful functions of the iPod, hand-held game consoles, recording pens, and cameras. If you have not used LMSs, you are falling behind! *Informants: Junior high school student, CI: 49.*

Word-of-mouth can prompt active recommendations among adolescents. *Informants: Head of product, S45.*

LMSs creates a trend and increases product popularity. *Informants: University student, CIII: 80.*

Use of LMSs is a type of imitation. *Informants: High school student, CII: 35.*

When more people use LMSs, this imitative behavior increases. *Informants: University student, CIII: 72.*

By using LINE, not only can you share photos and movies with friends but also easily transmit voice messages, telephone numbers, and location information. *Informants: University student, CIII: 6.*

Therefore, we propose the following proposition:

Proposition 5: Higher degrees of word-of-mouth and interpersonal network indicates a higher demonstration effect.

Relationship between motivation source and situational dynamics

LMSs for service accessibility and situational dynamics ascribes greater importance to peers and classmates. We determined that adolescents enjoy the praise from peers. The following testimonial highlights this relationship between service accessibility and situational dynamics:

My friends praised this LMSs quite highly. *Informants: high school student, CII: 16.*

It is cool to own a popular LMSs. You receive compliments. *Informants: Junior high school student, CI: 34.*

I can do three things on my LMSs simultaneously: text my friends, download music, and upload video clips. *Informants: High school student, CII: 02.*

To create a situation concerning rational and emotional appeal on the basis of an external appeal strategy, such as junior high school and university students' perspective, LMSs advertising is used for creating a trend and increasing product popularity. The following testimonial highlights this relationship between an external appeal strategy and situational dynamics:

NTT DoCoMo appealed to adolescents by offering high quality and economic prices. They adopted the slogan "buy right, not expensive" to promote affordable phones with LMSs. *Informants: Junior high school student, CI: 01.*

Emotional appeals are an effective advertising strategy, and their effects are difficult to exceed using the rational appeal strategies. *University student, CIII: 31.*

A word-of-mouth and interpersonal network situation was created through service accessibility and external appeal strategy; consequently, adolescents' sustainable word-of-mouth and interpersonal network is dependent on the creation of service accessibility and external appeal strategy. Therefore, we propose the following proposition:

Proposition 6: Adolescents' sustainable word-of-mouth and interpersonal network is dependent on the creation of service accessibility and external appeal strategy.

Conclusion

Exceptional evidence exists in relevant literature that customer value and satisfaction are consequential in LMSs strategic context [1,12,14,15]. Empirical evidence of managerial beliefs transmission mechanism of adolescents is less. This study identified and explicated beliefs transmission mechanism and practices that have strongly been treated as implicit in conceptualizing relationships among value-driven approaches, situational dynamics, and beliefs transmissions.

This study mainly contributed to beliefs transmission mechanism frameworks of LMSs that not only demonstrate that adolescents differ in their driving values but also the differences relating to techniques in which innovation significance and motivation source are acquired through different situations and how they are practically used for creating distinctive beliefs transmission. When developing the grounded model, several new concepts with theoretical implications emerged-in particular, the notion of value-driven and that of beliefs adaptation and beliefs augmentation as being relevant modes of beliefs transmission. In particular, the notion of situational dynamics emerged as a critical catalyst in the relationships between value-driven and beliefs transmission. Overall, the grounded, emergent model depicted in Figure 2 and the explication of the relationships in the model depicted in Figures 3 and 4 present a processual view of how structured managerial knowledge is linked to subsequent customer value and behavioral activities that constitute microprocesses underlying competencies.

Our findings support the assertion that adolescents beliefs transmission do not act merely as filters but act as active guides for situational dynamics search and actions that underpin customer value [8,11,18]. Overall, these findings concerning adolescents beliefs transmission mechanism expand research on the origins of customer value.

Our findings offer three potential contributions to literature on value-driven approach, situational dynamics, and beliefs transmission. First, Holbrook et al. [18] argued that "customer value" influences "field of vision," by identifying relevant features of value-driven; these findings enrich the set of antecedents that can be investigated in the future to better explain the drivers of value-driven. Second, the emergence of the notion of situational dynamics expands the understanding of the situational dynamics concept (the tendency to actively pursue new and different dynamic pathways) in satisfaction, word-of-mouth, and interpersonal network. The conventional focus on customer value seems to have concealed a path that acknowledges situational dynamics as a promising means for developing generalizable knowledge. Third,

by using beliefs transmission to understand and conceptualize how customers meaningfully apply, adapt, and enhance knowledge in their practices, some informative insight into the foundations of customer value was obtained. Our analysis revealed two plausible pathways of beliefs transmission: beliefs adaptation and beliefs augmentation. Beliefs adaptation manifested in satisfaction and social exchange, and beliefs augmentation manifested in word-of-mouth, interpersonal network, and demonstrative effects.

Management scholars have for long assumed that customer value is a critical resource in modern day markets [7,8,11,19,37]. The pathways associated with the customer value modes uncovered in this study provide an empirical basis for improving theoretical precision concerning the links among situations and beliefs, beliefs acquisition, and beliefs use that can be viewed as presaging learning or as foreshadowing differing purposes to which customer value can be applied (thus improving existing values through exploitation or creating new values through exploration). For these reasons, beliefs adaptation and augmentation are not merely alternative labels for related concepts but are more elemental processes that lead to valuable outcomes, such as learning and innovation.

Limitations and Future Research

First, this study only employed adolescents as research subjects; thus, the LMSs use in other age groups can be explored. We recommend that future studies further segment the participants into groups, such as generation X and the tweens, because LMSs customer value for them may differ from those of the adolescents. Second, although the qualitative method can be grounded for a complete understanding of a situation and context, it is substantially limited by the inability to conduct large-scale investigations entailing numerous participants. We recommend that future studies extend investigations to the entire LMSs industry for obtaining a greater understanding of the industry's customer value.

Furthermore, future researchers can adopt a macro perspective to discuss the social and cultural effect and the commercialization of LMSs customer value by considering the development of LMSs technology. They can also adopt a micro perspective to explore people's use of these LMSs devices for controlling and adjusting the rules and models for personal interaction. Future studies can benefit by applying insights from studies on creativity [32,34,38] improvisation [39,40], and managerial resourcefulness [41,42] in studies on situational dynamics and knowledge use practice to provide a detailed understanding of the microprocesses underlying the development of customer value.

References

1. Ha YW, Kim J, Libaque-Saenz CF, Chang Y, Park MC (2015) Use and gratifications of mobile SNSs: Facebook and KakaoTalk in Korea. Telematics and Informatics 32: 425-438.

2. IEK (2016) Industrial Economics and Knowledge Center, China Released Its 12th Five-Year Plan on the Communication Industry.

3. Dorothy S, Wood RM (2012) "To text or not to text? The importance of text messaging among college-aged youth." Computers in Human Behavior 28: 744-756.

4. O'Sullivan S (2006) Instant messaging vs. instant compromise. Network Security 7: 4-6.

5. Mintz J, Branch C, March C, Lerman S (2012) Key factors mediating the use of a mobile technology tool designed to develop social and life skills in children with autistic spectrum disorders. Computers & Education 58: 53-62.

6. Tsao WY (2014) Enhancing competitive advantages: The contribution of mediator and moderator on stickiness in the LINE. Journal of Retailing and Consumer Services 21: 933-941.

7. Holbrook MB (1999) Consumer Value: A Framework for Analysis and Research. Routledge, New York.

8. Jackson TW (2007) Customer value exchange. Journal of Financial Services Marketing 11: 314-332.

9. Mano H, Oliver RL (1993) Assessing the dimensionality and structure of the consumption experience: evaluation, feeling, and satisfaction. Journal of Consumer Research 20: 451-466.

10. Ming M, Zehui L, Jinyuan C (2008) Phase-type distribution of customer relationship with markovian response and marketing expenditure decision on the customer lifetime value. European Journal of Operational Research 187: 313-326.

11. Woodruff RB (1997) Customer value: the next source for competitive advantage. Journal of the Academy of Marketing Science 25: 139-154.

12. Deng Z, Lu Y, Wei KK, Zhang J (2010) Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. International Journal of Information Management 30: 289-300.

13. Fassnacht DB, Ali K, Silva C, Gonçalves S, Machado PPP (2015) Use of text messaging services to promote health behaviors in children. J Nutr Educ Behav 47: 75-80.

14. Kato Y, Kato S (2015) Reply speed to mobile text messages among Japanese college students: When a quick reply is preferred and a late reply is acceptable. Computers in Human Behavior 44: 209-219.

15. Ogara SO, Koh CE, Prybutok VR (2014) Investigating factors affecting social presence and user satisfaction with Mobile Instant Messaging. Computers in Human Behavior 36: 453-459.

16. Zhou T, Lu Y (2011) Examining mobile instant messaging user loyalty from the perspectives of network externalities and flow experience. Computers in Human Behavior 27: 883-889.

17. Lee D, Chung JY, Kim H (2013) Text me when it becomes dangerous: Exploring the determinants of college students' adoption of mobile-based text alerts short message service. Computers in Human Behavior 29: 563-569.

18. Holbrook MB (2006) Consumption experience, customer value, and subjective personal introspection: an illustrative photographic essay. Journal of Business Research 59: 714-725.

19. Zeithaml VA (1988) Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. Journal of Marketing 52: 2-22.

20. Oliver RL (1999) Whence consumer loyalty. Journal of Marketing 63: 33-44.

21. Sheth JN, Newman BI, Gross BL (1991) Why we buy: A theory of consumption values. Journal of Business Research 22: 159-170.

22. Bolton RN, Drew JH (1991) A multistage model of customers' of service quality and value. Journal of Consumer Research 17: 375-384.

23. Funk JL (2007) The future of mobile shopping: the interaction between lead users and technological trajectories in the Japanese market. Technological Forecasting & Social Change 74: 341-356.

24. Arnold MJ, Reynolds KE (2003) Hedonic shopping motivations. Journal of Retailing 70: 77-95.

25. Wei R (2008) Motivations for using the mobile phone for mass communications and entertainment. Telematics and Informatics 25: 36-46.

26. Hee-Woong K, Chuan CH, Sumeet G (2007) Value-based adoption of mobile internet: an empirical investigation. Decision Support Systems 43: 111-126.

27. Glaser BG, Strauss AL (1967) The Discovery of Grounded Theory: Strategies for Qualitative Research. New York: Aldine.

28. Strauss A, Corbin J (1990) Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Sage Publications.

29. (2016) Internet Usage in Asia.

30. Pohlman RA, Gardiner GS (2000) Value-Driven Management, How to Create and Maximize Value Over Time for Organizational Success. New York: AMACOM.

31. O'Cass A, Sok P (2013) Exploring innovation driven-value creation in B2B service firms: The roles of the manager, employees, and customers in value creation. Journal of Business Research 66: 1074-1084.

32. Madjar N, Greenberg E, Chen Z (2011) Factors for radical creativity, incremental creativity, and routine, noncreative performance. J Appl Psychol 96: 730-743.

33. Engel JF, Blackwell RD, Miniard PW (1990) Consumer Behavior (6th edn). Chicago Dryden Press.

34. Amabile T (1996) Creativity in context. Boulder, CO: Westview.

35. Bell V, Halligan PW, Ellis HD (2006) A Cognitive Neuroscience of Belief. Oxford: Oxford University Press.

36. Homans G (1961) Social Behavior: Its Elementary Forms. New York: Harcourt Brace Jovanovich.

37. Clelia M, Laura C, Felice A (2007) Consumer behavior in the Italian mobile telecommunication market. Telecommunications Policy 31: 632-647.

38. Drazin R, Glynn MA, Kazanjian RK (1999) Multilevel theorizing about creativity in organizations: A sensemaking perspective. Academy of Management Review 24: 286-307.

39. Miner AS, Bassoff P, Moorman C (2001) Organizational improvisation and learning: A Field study. Administrative Science Quarterly 46: 304-337.

40. Weick KE (1998) Improvisation as a mindset for organizational analysis. Organization Science 9: 543-555.

41. Ganz M (2000) Resources and resourcefulness: Strategic capacity in the unionization of California agriculture, 1959-1966. American Journal of Sociology 105: 1003-1062.

42. Kanungo RN, Misra S (1992) Managerial resourcefulness: A reconceptualization of management skills. Human Relations 45: 1311-1332.