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PERCEIVED VALUE OF MOBILE SERVICE USE  
AND ITS CONSEQUENCES

Helsinki 2008

Perceived value of mobile service use and its consequences

Key words: mobile, wireless, loyalty, value, hedonic, service, utilitarian, LBS, MMS

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Minna Pihlström (nee Pura)

## TABLE OF CONTENTS

1	INTRODUCTION .....	1
1.1.	Structure of the summary of the dissertation.....	2
1.2.	Introduction to mobile services .....	3
1.3.	Problem setting.....	7
1.3.1.	How to structure dimensions of customer perceived value of mobile services? .....	7
1.3.2.	How does context-related perceived value influence content-related perceived value?.....	9
1.3.3.	How does perceived value influence its consequences? .....	10
1.4.	Purpose of the study .....	12
1.4.1.	Subgoals of publications .....	12
1.5.	Research scope .....	13
1.5.1.	Papers .....	14
1.5.2.	Mobile services included .....	14
1.5.3.	Delimitations.....	15
1.6.	Positioning of the thesis .....	16
1.6.1.	Positioning perceived value in comparison with other constructs .....	18
1.6.1.1.	Value .....	18
1.6.1.2.	Satisfaction.....	19
1.6.1.3.	Service quality .....	20
1.6.1.4.	Values .....	21
1.6.1.5.	Motives and needs.....	21
1.6.1.6.	Utility .....	22
1.6.1.7.	Usefulness, relative advantage and technology acceptance...22	
2	LINKING PERCEIVED VALUE WITH LOYALTY .....	25
2.1.	Customer perceived value .....	27
2.1.1.	Hedonic and utilitarian value .....	30
2.1.2.	Six individual value dimensions .....	32
2.2.	Context-related customer perceived value .....	32
2.2.1.	Context of use .....	33
2.2.2.	Conditional value .....	36
2.2.3.	Epistemic value .....	38
2.3.	Content-related customer perceived value .....	39

2.3.1.	Emotional value .....	39
2.3.2.	Social value .....	39
2.3.3.	Convenience value .....	40
2.3.4.	Monetary value .....	41
2.4.	Consequences of value .....	42
2.4.1.	Customer loyalty .....	42
2.4.1.1.	Customer commitment.....	43
2.4.1.2.	Repurchase intentions .....	45
2.4.2.	Outcome variables.....	46
2.4.2.1.	Word-of-mouth behavior .....	47
2.4.2.2.	Willingness to pay more .....	48
2.5.	Comparing the influence of value between different mobile services .....	48
3	RESEARCH METHODOLOGY .....	51
3.1.	Methodological meta-considerations .....	51
3.2.	Mixed methods used.....	52
3.3.	The research process .....	53
3.3.1.	Criteria for selecting the respondents.....	55
3.3.2.	Language and constructs used to describe perceived value .....	56
3.3.2.1.	Language of the interviews .....	56
3.4.	Measurement development process.....	58
3.4.1.	Paper 1: abductive logic .....	61
3.4.1.1.	Critical incident interviewing technique (CIT).....	61
3.4.2.	Papers 2, 3 and 4: deductive logic of the surveys .....	63
4	SUMMARY AND CONTRIBUTION OF EACH PAPER.....	65
4.1.	Paper 1: Discovering user perceptions of mobile services.....	65
4.2.	Paper 2: Linking perceived value and loyalty in location-based mobile services .....	67
4.3.	Paper 3: Comparing the perceived value of information and entertainment services .....	69
4.4.	Paper 4: Committed to content provider or mobile channel? Determinants of continuous mobile multimedia service use.....	72
5	CONTRIBUTION .....	75
5.1.	Contribution to theory .....	75
5.2.	Contribution to methodology .....	76

5.3.	Discussion .....	77
5.3.1.	How to structure dimensions of customer perceived value of mobile services? .....	77
5.3.2.	How does context-related perceived value influence content-related perceived value? .....	79
5.3.3.	How does perceived value influence its consequences? .....	80
5.4.	Managerial implications .....	84
5.4.1.	Segmentation based on perceived value and use situations .....	84
5.4.2.	Enhancing commitment to one content provider organization .....	86
5.4.3.	Service development .....	90
5.4.4.	Summary of managerial implications .....	91
5.5.	A critical view of the study .....	93
5.5.1.	Limitations of the studies .....	93
5.5.2.	Applicability of the results to other markets .....	95
5.5.3.	Applicability of the results to other channels and devices .....	96
5.5.4.	Avenues for further research .....	99
	REFERENCES .....	104

## APPENDICES

Appendix 1	Definitions of abbreviations and technical terms used .....	131
Appendix 2	Contribution of the author in each paper .....	132
Appendix 3	Published papers .....	133

## TABLES

Table 1	Type of mobile service studied in each paper. ....	14
Table 2	Definitions of customer perceived value. ....	29
Table 3	Empirical methods used. ....	55
Table 4	The four steps of managing mobile content services .....	91

## FIGURES

Figure 1	Mobile handheld devices (mobile phone, communicator, PDA). .....	4
Figure 2	Quality, value and satisfaction in service environments .....	11
Figure 3	Publications and constructs studied.....	13
Figure 4	Streams of literature used. ....	16
Figure 5	Concepts employed in this thesis. ....	25
Figure 6	The direct relationships analyzed in the thesis. ....	26
Figure 7	The different stages of the research process.....	54
Figure 8	The mobile perceived value (MPVal) framework (paper 1, see p. 151). .....	66
Figure 9	Results of structural model (paper 2). ....	68
Figure 10	Results of entertainment services structural model (paper 3).....	70
Figure 11	Results of information services structural model (paper 3).....	70
Figure 12	Results of structural model (paper 4). ....	73
Figure 13	Groups of perceived value.....	79
Figure 14	Domain of mobile services.....	98

## LIST OF PAPERS INCLUDED IN THE THESIS

- 1) Pura, Minna and Gummerus, Johanna (2007), "Discovering Perceived Value of Mobile Services." Hanken Working Paper, Publication Series C Nr. 529 (This paper is an extended version of the AMA Winter Educators' Conference paper that *won the Best Paper Award for the Technology and Innovation Track.*)
- 2) Pura, Minna (2005), "Linking Perceived Value and Loyalty in Location-Based Mobile Services." *Managing Service Quality*, Vol. 15, No. 6, pp. 509-538. *The paper received a highly commended paper award of the journal.*
- 3) Pihlström, Minna and Brush, Gregory (2008), "Comparing the Perceived Value of Information and Entertainment Mobile Services." *Forthcoming in Psychology and Marketing* (Accepted for publication).
- 4) Pura, Minna (2007), "Committed to Content Provider or Mobile Channel? Determinants of Continuous Mobile Multimedia Service Use." *Forthcoming in the Journal of Information Technology, Theory, and Applications*, Wide Audience Information Systems Development Special Issue (Accepted for publication).

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## 1 INTRODUCTION

The consumer behavior shift from the Internet to a more contextually sensitive mobile environment can be characterized as a change from ‘sit and search’ to ‘roam and receive’. Customers expect convenient services that reach the customer in the right context, meet the consumers’ needs and mobile device capabilities (Mort and Drennan 2002). Personalized mobile services can be provided at the point of need (Barnes 2002). Thus, new technological capabilities permit delivery of content to be delivered through mobile handheld devices with increasing speed, and serve customers without spatial and temporal restrictions. For example, automatically customized mobile location-based information offers additional value that cannot be delivered through other service channels. Mobile service content has evolved rapidly from text-based content, such as mobile yellow pages, into multimedia solutions including e.g. games, route guidance, and mobile ticketing, which serve diverse customer needs (Steinbock 2005). As an example of the potential of service development, Hot Telecom, a global telecom research organization, projects that by 2010 worldwide revenues generated from mobile services will rise to reach almost US\$1.7 trillion (Hot telecom, 2006).

In today’s matured markets, mobile market growth is driven by services marketing innovation. The differences between maturing and evolving markets are fading, and even emerging markets like China, India and Latin America leapfrog directly to sophisticated mobile services. The focus of the mobile market has shifted from volume to value, and will be dominated by content-driven use of services in the future (Steinbock 2005):

“In the past, mobility was driven by technology change. With increasing penetration, the momentum is now on usage. Tomorrow, it will be on mobile content. Yet the frameworks we deploy to understand industry change originate from technologists, not marketers.” (Steinbock 2005, p. 1)

New technologies are only enablers that make it possible for the customers to choose the service channel through which they wish to interact with the service provider. Companies with a product- and technology-driven history face a challenge of managing relationships with customers who initiate and use the service via a mobile handheld device without personal contact with the service provider organization. Due to mobility, the roles of customer and provider have become reversed. The mobile channel offers an opportunity to manifest real loyalty, because it enables the customer to control what kind of content to receive, and when and where to receive it (Peppers and Rogers 2006). Mobile services offer real-time, on-demand access to content, which makes it more valuable to the customers (Kleijnen, de Ruyter, and Wetzels 2007).

Nevertheless, due to the lack of interpersonal relationships in self-service use situations, customers may be difficult to reach and keep. So far, a major barrier to attracting a critical mass of mobile service users has been the lack of compelling content (Gilbert and Han 2005). Therefore, direct links between the customer and provider may be optimally advanced by offering mobile content that the customers find valuable, are willing to pay for, use frequently and, hopefully, promote by spreading positive word-of-mouth to their peers:

“The provision of superior value and customer loyalty may serve to be the best entry barriers that a firm could erect to keep competition at bay in an age where the physical presence and high capital costs of traditional retailing no longer matter.” (Grewal, Iyer, Krishnan, and Sharma 2003, p. 398)

However, anticipating customer needs and developing mobile content services is not easy in a rapidly developing mobile market. People have difficulties in expressing their wishes about services that are new to them. Traditionally, mobile services have been targeted at innovators, people who are experts in the field or otherwise want to keep informed about new technologies and new ways of doing things. Nevertheless, customers’ needs and desires vary, and content appearing desirable to one segment may not attract others (Gilbert and Han 2005). In order to reach the mass of customer markets, services should be differentiated and targeted at the right customer segments that use mobile content for a concrete need and therefore perceive the service as valuable. Several researchers have suggested that in attempts to market new services, regular customers are the best sources for exploring what value the services may give to their users (Moore 1991). Therefore, studies are needed to increase understanding of regular customers’ needs in situations where mobile services are perceived valuable. Mobile services compete with other service channels and should also impart an added value as compared with other alternative channels.

Furthermore, the mobile services of today’s market are rather undifferentiated and similar services are offered by several providers. As a result, customers use several providers’ services simultaneously and are therefore not very committed to a brand or provider. Thus, providers are struggling with low profit margins and increased competition. In the quest for reaching the right customer segments, marketing communication has a central role in attracting those people who are most likely expected to stay regular users of the services in the future, and thereby increase revenue per user. Communicating the right value offerings to the right customers should result in a committed, loyal customer base that consistently adheres to the mobile services of a given service provider.

### **1.1. Structure of the summary of the dissertation**

The summary of the dissertation begins with first defining mobile services and briefly discussing related key terms. Secondly, the introductory section continues with identification of the gaps in previous research that this thesis aims to fill. The purpose of the study, the subgoal of each paper included in the thesis, the research scope, and mobile services analyzed are summarized in the section ‘Purpose of the Study’. The thesis is positioned in the services marketing field and its main contribution is to that field. However, theories in other related fields are also briefly discussed to position the study in relation to these fields. Chapter 2 is the core chapter of this thesis. Due to the abductive nature of the study, the theoretical constructs are discussed in relation to the empirical findings of this thesis in Chapter 2, the theory chapter. Here the key theoretical concepts and their relationships are summarized. In the following chapters more detailed information is provided on how the results were obtained. Chapter 3 presents the research process and empirical studies conducted, as well as the methods and analysis techniques used in each paper. Chapter 4 summarizes how the papers are

linked together and describes the contribution of each paper in detail. In Chapter 5 the contribution and implications of this thesis are further summarized separately for academic theory, methodology, and practical, managerial implications. The key findings are discussed and summarized in relation to the gaps identified in the section 'Discussion'. Next, limitations of the chosen research focus, methods and samples used, and the applicability of the results to other markets and devices are discussed. The thesis concludes with avenues for further research. The papers are included in full as appendices attachments at the end of this summary of the thesis.

## 1.2. Introduction to mobile services

This section provides a brief overview of what mobile services are. There is no conceptual agreement as yet on the term 'mobile service' and therefore this section helps to position this study in relation to other studies addressing mobile and wireless issues. The term 'mobile' may have different meanings e.g. in telecommunication, information systems, usability, media and services marketing fields. Here, 'mobile service' is used to describe the content services retrieved through a mobile device. In general, 'mobile' means "fully portable, real-time access to the same information, resources, and tools that, until recently, were available only from the desktop" (Shankar, O'Driscoll, and Reibstein 2003).

**Mobile handheld devices** are needed to access mobile services. In general, 'mobile device' refers to the cellular phone or other handheld device originally designed for communication, but as the technology has developed, the devices have been equipped with different applications and access to external services. This dissertation concentrates principally on services that have been available in the focal market since 2001, and therefore most of the services studied in this dissertation were accessible with mobile phone type devices with text-messaging capabilities. Some also required the capability to receive picture messages. With Java-enabled devices, customers can download small applications, such as games, to their devices on the move. These phones have been on the market since 2001. Mobile handheld devices can be divided into pagers, PDAs and phones, as well as communicators, which are also a type of phone (see Figure 1). Pagers are used widely in the North American market, but are rare today in Europe. GPS devices with positioning techniques can also be seen as mobile handheld devices. However, this dissertation focuses mainly on telephony-enabled devices, including any new technologies that may become available in the future<sup>1</sup>. Feldmann (2005) defines these types of technologies as mobile personal devices.

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<sup>1</sup> In this thesis, the author also includes handheld computers such as PDAs that do not have telephony capabilities, but are IP-enabled and can be used to access the Internet. However, portable devices that are not IP-enabled such as portable game consoles are excluded. Similarly laptops that are used via a mobile phone connection are not regarded as mobile devices, because the phone provides the access to the service.



**Figure 1 Mobile handheld devices (mobile phone, communicator, PDA).**

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**The services** studied in this dissertation consist of retrieved content in interaction between a customer and an organization. The mobile services discussed in this thesis are primarily **business-to-customer services**, and therefore the customers are mainly private persons, not organizations. However, customers can also use the services in a work environment, and the services can be paid for by the employer.

**Mobile services are in this study defined as:**

“Any kind of service that can be retrieved via a mobile device (cellular phone, personal digital assistant (PDA), or other handheld device) and that is delivered in interaction between an organization and a customer.”

Mobile Internet is in this dissertation primarily seen as a service channel, a gate through which a variety of mobile service content is delivered by content provider organizations. Services can be accessed by the customer who interacts with the service provider organizations through a mobile user interface with the help of text messages, via wireless application protocol (WAP) or mobile Internet pages. In the telecommunications field, mobile services are often used in a general meaning that includes also calling and text messaging, in addition to more sophisticated content-based services. However, this thesis concentrates on the content services, excluding interpersonal communication, such as calling and messaging, that do not involve interaction between an organization and customer. Thus, this study does not empirically study for example mobile e-mail, short messaging service (SMS) or multimedia messaging service (MMS) that are used in interaction between customers. Furthermore, mobile devices are becoming larger and equipped with different functions, and accessing external mobile content services with ever-increasing bandwidth. Even standard mobile phones include applications like a calculator, calendar, camera etc. However, these applications are not treated as services in this study, because they do not require interaction with the service provider. This study focuses on external services offered by service provider organizations that can be accessed with any type of mobile handheld device.

In the literature, the term ‘wireless service’ is also commonly used interchangeably with ‘mobile service’. However, wireless is not necessarily mobile. The definition of ‘mobile’ includes the notion of mobility and emphasizes the importance of communication-in-motion (Balasubramanian, Peterson, and Jarvenpaa 2002). In contrast, a wireless service can be, for example, an Internet service accessed via a wireless local area network (LAN) area limited to a certain location, such as an airport, a shopping centre or a hotel. Mobile service on the other hand is, in principle, entirely independent of the physical location, e.g. obtaining a stock quote over a mobile phone while walking on the street.

Feldmann (2005) summarizes the possible levels of mobility in the following three categories: 1) stationary wireless is a context in which information is transmitted wirelessly, but both device and customer are stationary. 2) Nomadic wireless means that the customer is stationary while using the service, e.g. near wireless hot spots, even though the device can be moved around. 3) Mobile transportable refers to conditions where the customer is not moving, but being moved in cars, subway and airplanes. However, the technology is attached to these means of transportation, for example car radio. 4) Mobile portable is carried along by a moving person, e.g. a Walkman or a mobile phone. In this dissertation, the focus is on the mobile portable category. Of course, the user can also be stationary while using the service, but since the services are delivered via mobile networks, they belong to the mobile portable category.

Next, some further key terms in the mobile field are defined.

**Service providers** can deliver the ordered mobile content directly to the customer or offer their services via mobile service portals hosted by telecommunication companies. In the telecommunications field, the service provider is often referred to as the telecom operator delivering the service to the end-customer, and the organization that develops and offers the mobile content is called a content provider. However, the mobile service focus is changing from telecom operators to content providers, whose core competence is focused on creating and delivering innovative mobile content. Thus, the organization providing the services can be any organization in any business field that uses the mobile channel to deliver services or interact with their customers. In this thesis, the empirical studies are conducted in different business fields offering services via multiple channels, mobile being one of the distribution channels. In addition, pure mobile content providers that offer solely mobile services like games, logos, ring tones etc. via a mobile portal are also studied.

**Mobile networks** have developed from the Global System for Mobile Communication (GSM) into 2G, 3G and 2.5G systems such as GPRS that are always on and that are charged by volume instead of time (see definitions of abbreviations p. 131). The Third Generation (3G) system has been characterized by the aim to develop a global standard (Kaasinen 2005). Nevertheless, there are at least two main technologies, the Universal Mobile Telecommunications System (UMTS) in Europe, and Code Division Multiple Access (CDMA) in the USA and Asia, that are mutually incompatible. This thesis was conducted in the Finnish mobile market and therefore the services are based on GSM standards, applied from 2nd to 4th generations of mobile technologies. However,

technology in this thesis is seen only as a facilitator, and the focus is on mobile content from a customer's perspective. In addition, the mobile services analyzed in this thesis were all available to customers irrespective of which telecom operator they used. The three biggest telecom network operators in the Finnish market are TeliaSonera, Elisa and DNA, and most of the available mobile services are supported by all of these complemented by some smaller telecom operator networks in the market.

**Payment of mobile services** can be made in several ways. Transaction-based invoicing methods are common in Europe. Content can be paid for after use if the user has a contract with the provider. In that case the content will be invoiced on a monthly phone bill (post-paid). In the focal market, 83 % of the services used are post-paid. Another alternative is to use prepaid cards or pay for a monthly contract that allows use without limits or a certain amount of free content. In addition, other new methods are being tested, such as a mobile wallet and chip cards of the mobile phone that also function as debit cards. On a global scale, prepaid contracts are more common, and therefore package deals and monthly subscriptions are also more common than in the market in question. Nevertheless, the results of this study are not limited to any specific payment method. On the contrary, the implications of this thesis encourage constructive analysis of different payment and contract options.

**Positioning techniques** add to the value of mobile services. One benefit of mobile services compared to other electronic or interpersonal services is that they can locate the position of the customer automatically and thus customize information according to the location. These techniques are also commonly referred to as location, geo-location or geo-positioning techniques. Techniques used for this purpose include the Global Positioning System (GPS). Assisted GPS is capable of defining the user location to an accuracy of 2 to 20 meters. However, this satellite-based technique may not function indoors or in city centers with high buildings. Another alternative positioning technique is called the cell-ID technique. It identifies the nearest location of the telecom operator's network tower. Thus, the accuracy of this technique is more robust, between 50 meters to kilometers in rural areas. Other alternatives include, for example, utilizing Enhanced Observational Time Difference (EOTD), Wireless Local Area Networks (WLAN), Bluetooth, infrared or Radio Frequency Identification (RFID) tags. These techniques are used primarily in limited, predefined areas such as shopping centers, exhibition areas, and airports (Kaasinen 2005). In this thesis, one location-based mobile service was studied. In that case, cell-ID information was used to customize the information according to the customer's location (Pura 2005). Tracking the customer's location requires permission from the customer. Cell-ID-based tracking has grown popular because of the fact that it is initiated by the customer and does not store the location information anywhere.

**A mobile channel** is defined in this thesis as a service distribution channel and a means of communication between the provider organization and the customer, using advanced telecommunications, and multimedia technologies through a mobile handheld device. The electronic channels add to the traditional media and enable customers to access content via several media or distribution channels (e.g. the Internet, mobile channel, digital television, magazines, brick-and-mortar stores).

### 1.3. Problem setting

Understanding what customers value in a given good or service has long been recognized as an essential element of any customer-oriented organization's strategy (Desarbo, Jedidi, and Sinha 2001). The importance of greater in-depth understanding of customer value and customers' active role in value creation has been acknowledged recently by several marketing researchers. The emphasis on a service-dominant logic has led marketing thought and practice to focus the efforts to better understand how customers view services relative to their needs and the use situation (Woodruff and Flint 2006).

Next, the description of the problem area and the aim of the study are presented. The presented gaps in the literature are organized into three sections: a) how to structure dimensions of customer perceived value of mobile services?; b) how does context-related perceived value influence content-related perceived value?; and c) how does perceived value influence its consequences? These research questions are not specific to any particular paper, but rather a summary of the key problem areas in the mobile field analyzed in this thesis.

#### 1.3.1. *How to structure dimensions of customer perceived value of mobile services?*

Services marketing research has long traditions in studying customer perceived value of services which has been proven to be a stable predictor of customer behavior. Traditionally, perceived value has been conceptualized as one- or two-dimensional, and the focus has mostly been on estimating the influence of overall perceived value on other constructs, such as loyalty. Overall perceived value has been measured with single-item or multi-item scales emphasizing especially price perceptions (Anderson and Srinivasan 2003; Chiou 2004; Dodds and Monroe 1991; Grace and Aron 2005; Grewal, Monroe, and Krishnan 1998; Jarvenpaa et al. 2003; Thaler 1985). One of the most cited definitions of perceived value states that perceived value is a trade-off between benefits and sacrifices (Zeithaml 1988). However, these traditional value research frameworks do not account for the heterogeneity of customers and services. By assuming that behavior of the majority of customers is driven by the same perceived value factors, segmenting customers by what they actually value is not possible (Desarbo et al. 2001). Customer perceived value of services varies between persons, between different types of services and between use situations. Multidimensional perceived value constructs are needed in order to capture the heterogeneity of perceived value of different services (Childers, Carr, Peck, and Carson 2001; Dubé, Cervellon, and Jingyuan 2003; Sweeney and Soutar 2001).

One reason why current value frameworks do not present multiple dimensions is that mobile service research has so far mostly focused on studying individual mobile services. Most of the studies have been conducted in the banking field, where most services are utilitarian in nature (Heinonen 2004; Kleijnen, Wetzels, and de Ruyter 2004; Laukkanen 2006). Experiential mobile services, such as games, have received less attention. More research has been encouraged to address aspects that facilitate comparison of mobile services (Okazaki 2005). This thesis empirically examines

different mobile services and analyzes possible differences in customer perceived value in them.

Furthermore, new theoretical frameworks to structure the different dimensions of perceived value are needed, because current marketing literature may not adequately explain how the mobile services provide value beyond traditional commerce (Watson, Pitt, Berthon, and Zinkhan 2002). Previous value and loyalty models have been empirically tested in the traditional interpersonal service and electronic service environment, which differs from the mobile content service setting. Mobile services should create value beyond the Internet services and enable customers to reach their goals more simply, instantly and economically compared to other available service channels (Shankar et al. 2003). Compared to personal services and Internet services, mobile services are ubiquitous. They can be used anywhere, anytime via mobile networks. They can also be more personalized and customized to the customers' location. Therefore, perceived value theories developed for brands, products and services in interpersonal service settings may be limited in capturing the true nature of perceived value of mobile content services and how it influences customer loyalty. Nevertheless, so far, there are no theories specific to mobile business (Scornavacca, Barnes and Huff 2005).

There is a need to rethink the concept of value creation itself to find out what customers actually appreciate (Desarbo et al. 2001), because customers themselves are active in value creation using rapidly evolving technological innovations, such as mobile services. The roles of customer and provider have been reversed due to mobility. Customers are increasingly using mobile devices to access various types of content services, when and where it best suits them. The market is changing into a customer-controlled world characterized by 'instantism'. People's attitudes can be described as: "I have the whole world in my pocket, I won't wait. What is a queue?" (Mannermaa 2007). Earlier generations have been comfortable using services via traditional channels, but the younger generation that grew up with mobile devices seems to have different expectations of instant service delivery without temporal and spatial restrictions, which mobile services can offer.

Moreover, mobile services may often serve as a complementary service channel when other channels (Internet, magazines, directories) are not available. In order to truly understand customers' value perceptions in the mobile field, studies should be situation-specific, thus anticipating the needs and motives to use the service in a certain use situation (Eriksson, Hyvönen, Raijas, and Tinnilä 2001). Furthermore, considering situation-specific factors increases the managerial value of the research (Miller and Ginter 1979) and may help positioning of mobile services in comparison with other electronic services.

The six perceived value dimensions (conditional, epistemic, emotional, social, convenience and monetary value) identified in this thesis incorporate the situational context of use, in the conditional value dimension, which is especially important in mobile services. In addition, the novelty value of the mobile content services is expected to be important in the rapidly evolving mobile content market. The roles of epistemic and conditional value have received only limited attention in earlier literature. Conditional and epistemic value dimensions, originally suggested by Sheth et al.

(1991a), have not been included in most previous empirical attempts to measure perceived value in the service field. Therefore, there is a need to create scales for measuring epistemic and conditional value, as well as conceptual developments that suggest and test how these value dimensions can be structured in comparison with the other value dimensions.

Sweeney and Soutar (2001) created a PERVAL scale for measuring perceived value and identified four value dimensions: emotional, social, price-related functional value (monetary value in this thesis), and performance-related functional value (convenience value in this thesis). Sweeney and Soutar's (2001) research excluded epistemic and conditional value, but they propose that conditional value may not be a same-order construct as social, emotional, and functional value, and encourage further testing of the role of conditional and epistemic value with regard to other perceived value constructs. Empirical research is needed to clarify how these two groups of perceived value differ from each other and how they are related to each other.

This thesis proposes a scale for measuring epistemic and conditional value empirically and advances perceived value literature by structuring value dimensions into a framework that has two levels of constructs. The two groups of perceived value are in this thesis named as the context-related perceived value (conditional and epistemic value) and the content-related perceived value (emotional, social, convenience and monetary value).

### ***1.3.2. How does context-related perceived value influence content-related perceived value?***

Although many of the traditional perceived value definitions indicate that value judgments are made in a specific use situation (Flint, Woodruff, and Gardial 2002; Rescher 1969; Woodruff 1997), there is a lack of research on how the context-specific use conditions, e.g. social setting, time constraints, uncertain weather conditions and network availability, actually influence value perceptions. Temporal and spatial context of service use has been explored in previous research (Heinonen 2004), but theories also need to take into account the mobilized situatedness of interaction in particular contexts and relations (Kakihara 2001). In addition to the customers' location, this is an integral part of the mobile service process (Anckar and D'Incau 2002; Nysveen, Pedersen, and Thorbjørnsen 2005b). Mobile contexts differ from the traditional context of use (Tamminen et al. 2004). In a mobile service context, the situation may change due to physical influences like network availability or temporal influences, such as lack of time (Mallat 2005). So far, everyday life situations that would take into consideration these aspects have received little attention in mobile service research (Hyvönen and Repo 2005).

The pre-use conditions have not received much attention in the literature and have not been tested empirically, although several researchers suggest that situational factors such as changes in amount of time available, mobility or other physical and temporal factors affect use of self-service technologies (Bobbit and Dabholkar 2001; Meuter, Ostrom, Roundtree, and Bitner 2000; Richard 2004; Roos 2002). Sweeney (2002) proposes further that unanticipated factors, occurring before the service experience, may

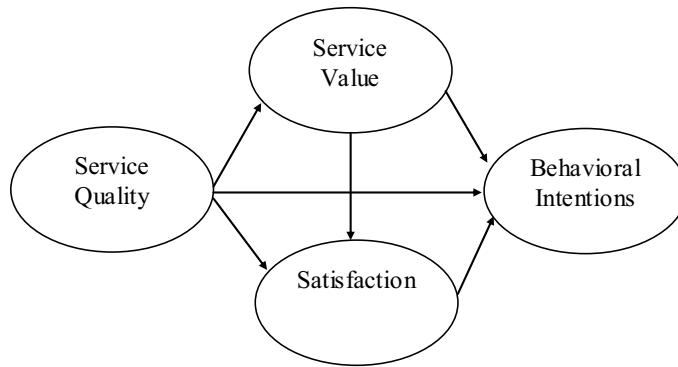
influence post-purchase perceived value. Hence, current perceived value theories give little indications of the type of context of use or kinds of circumstances in which mobile content services are perceived as valuable. To advance perceived value theories in general, empirical research is needed to test the interrelationships between the value dimensions. “We cannot understand value without understanding how the various types of value relate to each other” (Holbrook 1994, p. 25).

This thesis examines how context-related perceived value influences content-related perceived value. Situation-specific physical and temporal conditions of mobile service use are included in the conditional value construct. Psychological conditions, such as desire for novelty, are depicted by epistemic value. The antecedent role of conditional and epistemic value is proposed and tested empirically. Because relationships between value dimensions have not been analyzed empirically in the previous literature, this thesis adds to the previous value literature in general, not only to literature in the mobile service field.

### ***1.3.3. How does perceived value influence its consequences?***

Literature on services marketing has linked perceived value with repurchase intentions and customer satisfaction. It has been shown that perceived value directly influences repurchase intentions and satisfaction (Oh 1999), intentions to use mobile services (Kaasinen 2005), word-of-mouth (Hartline and Jones 1996) and willingness to buy (Sweeney, Soutar, and Johnson 1999). Chaudhuri and Ligas (2007) empirically tested the direct influence of perceived merchandise value on willingness to pay a higher price in the traditional food retailing field. Kaasinen (2005) and Kleijnen et al. (2007) are notable study examples of having analyzed linkages between value and loyalty variables in a mobile service setting. Furthermore, in services marketing, commitment has been found to be the most important driver of loyal customer behavior (Bloemer, Odekerken-Schröder, and Kestens 2003; Gundlach, Achrol, and Mentzer 1995; Harrison Walker 2001; Johnson, Gustafsson, and Andreassen 2001; Wetzels, de Ruyter, and van Birgelen 1998). Committed customers tend to be more tolerant of service failures (Mattila 2004) and spread positive word-of-mouth of their good service use experiences (Bloemer et al. 2003; Sweeney and Swait 2007).

Traditionally, for example the following constructs have been defined as antecedents of perceived value: perceived price, perceived service quality and perceptions (Bolton and Drew 1991; Desarbo et al. 2001; Oh 1999), functional service quality, technical service quality, product quality, relative price and risk (Sweeney et al. 1999; Sweeney, Soutar, and Johnson 1997), benefits and costs (Kleijnen et al. 2007). Typical research models in services marketing include perceived value as a one-dimensional construct within a broader framework that includes a behavioral measure such as repurchase intentions (see e.g. Cronin, Brady, and Hult 2000; Grace and Aron 2005; Oh 1999). One example of such a framework is provided in Figure 2 (Cronin et al. 2000).



**Figure 2 Quality, value and satisfaction in service environments (Cronin et al. 2000).**

However, research that would measure the direct influence of several value dimensions on repurchase intentions has remained scarce (Sweeney and Soutar 2001), but is necessary for comparing value of and willingness-to-pay between different services (Sweeney et al. 1997). In order to distinguish which perceived value dimensions are important drivers of purchase behavior or commit customers to use a given provider's services, the relationships between perceived value dimensions, commitment and repurchase intentions should be analyzed. Bloemer, de Ruyter and Wetzels (1999) underline the importance of analyzing the effect of multidimensional constructs on loyalty between different services.

Furthermore, the mobile channel as a complementary self-service option without any personal contact may challenge previous loyalty theories. Delivering valuable content via the mobile channel seems to be increasingly important in gaining a competitive edge by strengthening relationships with key customers. However, creating profitable content requires long-term customer relationships and understanding what influences the users' attitudinal commitment towards a mobile vendor and their repeat purchase intentions (Lin and Wang 2006). Previous literature does suggest that electronic channels have possibilities for committing customers to use the same service provider, but electronic self-services may possibly erode customer relationships because of the lack of personal relationships in self-service use situations.

Loyalty theories should recognize the role of self-service technologies and commitment to use a certain service channel (i.e. mobile service) in comparison with other alternative service channels. Commitment theories that stem from service marketing literature have not explicitly accounted for the influence of new technology or channel used on commitment and intentions to use services. In turn, theories used in information systems literature tend to focus on use of technology and ignore customer commitment to an organization. Therefore, there is a need to combine aspects from both of these fields in order to form a holistic view of how perceived value of mobile content services influences commitment and behavioral outcomes. The relationship between channel-specific commitment and commitment to service provider organizations has received limited attention in previous literature, although research has been encouraged to assess relationships between new factors that influence use of technology.

This thesis answers several researchers' calls for further research by estimating the direct influence of value dimensions on commitment, repurchase intentions, word-of-mouth and willingness-to-pay (Dubé et al. 2003; Lin, Sher, and Shih 2005). The direct relationships between content-related perceived value dimensions (emotional, social, convenience and monetary value) and their consequences (commitment, repurchase intentions, word-of-mouth and willingness-to-pay) are estimated. Moreover, one paper in this thesis differentiates between loyalty to the mobile channel as such and loyalty to a given service provider. So far, to the author's knowledge, both constructs have not been studied simultaneously.

In conclusion, this thesis answers these three calls for research and focuses on the perceived value of mobile content, and how perceived value influences its consequences. Here, mobile technology is seen as an enabler - a channel through which the service content is delivered and emphasis is given to the mobile content.

#### **1.4. Purpose of the study**

The purpose of the study is threefold. First, to explore customer perceived value of mobile content services to increase the understanding of what customers value in mobile services and how the perceived value dimensions can be structured. Secondly, to analyze the relationship between two groups of customer perceived value: context-related (epistemic and conditional value), and content-related perceived value (emotional, social, convenience and monetary value). Thirdly, to analyze how the individual perceived value dimensions affect its consequences; customers' commitment, intentions to repurchase and to spread positive word-of-mouth, and their willingness to pay for mobile content services.

The papers included in the thesis have different subgoals. The first paper explores customer perceived value, structuring and dividing the emerging six individual value dimensions into two groups, context- and content-related perceived value. Furthermore, it proposes relationships between context-related and content-related perceived value. The proposed relationships are tested in the third paper. However, the main focus of the thesis is on analyzing the relationships between perceived value and its consequences, which is done in the second, third, and fourth papers.

##### **1.4.1. Subgoals of publications**

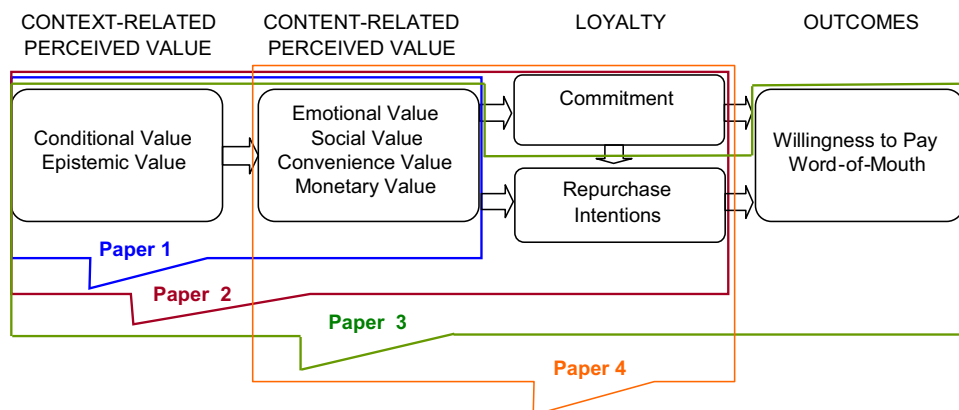
The subgoals of published papers were as follows:

- **Paper 1:** To analyze users' perceived value of different types of mobile services in concrete use situations.
- **Paper 2:** To analyze the direct effect of perceived value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) on attitudinal and behavioral components of loyalty: commitment and repurchase intentions to use location-based mobile services.

- **Paper 3:** To examine if there are differences between information and entertainment service users in how their perceived value influences intentions to repurchase, intentions to spread positive word-of-mouth and willingness to pay a price premium.
- **Paper 4:** To analyze the relationships between perceived value, commitment to the mobile channel and to the service provider and repurchase intentions to use the mobile channel and the service provider.

### 1.5. Research scope

This doctoral thesis consists of four individual published papers. Three of them are published or accepted for publication in academic international journals, and one is published as a working paper. The papers address the relationships between the constructs: perceived value, loyalty, and outcome variables presented in Figure 3. The figure illustrates the scope of the studies, as described above.



**Figure 3 Publications and constructs studied.**

The first paper explores the multidimensional perceived value construct and divides value dimensions into two groups, namely context- and content-related perceived value, and proposes relationships between them. The second paper analyzes the relationships between all of the six value dimensions, commitment, and repurchase intentions. The third paper further incorporates willingness-to-pay and word-of-mouth behavior into the research model. Commitment was omitted from this paper for greater clarity, because the main focus of the paper was set on comparing information and entertainment service users' perceived value. The fourth paper was focused on analyzing especially commitment and repurchase intentions and how the content-related perceived value influences them.

The whole research was performed from a customers' perspective, examining service users' perceptions of different mobile services offered currently to end customers, as well as the users' self-reported behavioral intentions to use the services in the future,

intentions to engage in positive word-of-mouth behavior and willingness to pay more. The papers are listed next, with the author's individual contribution indicated for each of the papers. The exact framework of each study is presented later in the chapter that presents the contribution of each paper.

### 1.5.1. Papers

- 1) Discovering Perceived Value of Mobile Services (\*0.7), Hanken working paper (This paper is an extended version of an AMA Winter Educators' Conference paper that won the *Best Paper Award for the Technology and Innovation Track*.)
- 2) Linking Perceived Value and Loyalty in Location-Based Mobile Services (\*1) published in *Managing Service Quality* in 2005, received a *highly commended paper award of the journal*.
- 3) Comparing the Perceived Value of Information and Entertainment Mobile Services (\*0.6) Forthcoming in *Psychology and Marketing*.
- 4) Commitment to Content Provider or Mobile Channel, Determinants of Continuous Mobile Multimedia Service Use. (\*1) Forthcoming in *Journal of Information Technology, Theory, and Applications*.

\* Description of the author's contribution in coauthored papers

(1 = individual work, 0.5 = one co-author or half the contribution, 0.3 = two coauthors; other weight factors are %-based according to author's contribution compared to other coauthors' contribution – see Appendix 2)

### 1.5.2. Mobile services included

The thesis studied a wide variety of different types of mobile services, as indicated in Table 1.

**Table 1** Type of mobile service studied in each paper.

Paper	Type of mobile service	Examples of the analyzed mobile services
1	All types	Search services, logos, ring tones, timetables, mobile payment, news.
2	LBS information	Mobile yellow pages: Where is the nearest service location? (e.g. bank, cash teller, pub, gas station)
3	Mobile services offered by a mobile content provider (entertainment and information)	Logos, ring tones, Java games, horoscopes, jokes, dating services. Search services incl. address and phone number inquiry, weather reports, timetables.
4	MMS information	Information about available apartments incl. pictures and floor plans.

The first paper was exploratory and the interviews included all types of mobile services. When selecting services for the further empirical studies and contacting potential

service providers for co-operation, focus was on any companies that offer their end customers mobile content services that are optimized for mobile portable handheld devices. Mobile could be the main service channel or the mobile channel may support other service channels, such as Internet services (optimized for PC or laptop use) or traditional interpersonal services. Companies that offer the same type of services also via Internet or other channels were preferred in order to be able to assess why the mobile channel was preferred in certain situations.

In the end, different types of services, both information- and entertainment-based, were included in the study. In addition, location-based (LBS) services in which the location of a person or an object is used to shape or focus the application or service (Duri, Cole, Munson, and Christensen 2001) and that are expected to become one of the most popular mobile services in the future, were studied. Thus, the services studied in this thesis represent a wide variety of the mobile content services commonly used in Finland. According to market surveys, the most popular services used by Finns (excluding interpersonal e-mail, SMS and MMS communication) are: ring tones, logos, and personalized search services. Additional services used are e.g. mobile banking and payment, ordering tickets, weather reports, time tables, news, jokes, horoscopes, games, location-based services, chat and dating. (Hyvönen and Repo 2005; Tekes 2001).

### ***1.5.3. Delimitations***

This thesis is focused on the concept of customer perceived value. Customers are users of mobile services and therefore nonusers are excluded from the study. The author postulates that research into perceived value should use as subjects such customers that have personal experience from using the service, because perceived value is a result of a judgment that arises during or after service use, i.e. in-use or post-purchase value. In postpurchase situations, the customers can evaluate the service based also on the service use experience and the consequences of use.

Perceived value could also be conceptualized as expected value which is based on perceived price-quality ratio or other tangible elements of the service that can be evaluated before service use. In such a case, expectations may include expected service quality and price, as well as expectations and perceptions of ‘give components’ (what the customer gives, e.g. money, time or other sacrifices) and ‘get components’ (what the customer gets, e.g. benefits of using the product) (Sweeney 2002). Mobile service users who do not necessarily have personal experience of using the services in question or may only have used Internet services, typically form their perceptions solely on pre-consumption-based perceived value. Therefore, their expected value may differ from the perceived value users experience by using a mobile content service in a certain situation.

Especially in the mobile field, many studies have been conducted by targeting surveys at general populations that do not necessary have personal experience of using mobile services. Often, studies have been based on student samples or, for example, mobile phone owners, asking the respondents’ interest in adopting new services. However, such approaches may result in biased findings that do not reflect all the perceived value aspects experienced in a real service use situation. The author argues in favor of critical

estimation of theoretical models based on perceived value reported by nonusers. People have difficulties in expressing their needs, attitudes and estimating their intentions with regard to services that are new to them, if similar services may not have existed in the traditional market. A recent meta-analysis of research using student, professional and general technology user samples indicates that student samples cannot be used to substitute general population of technology users, because their behavior differs from general users (King and He 2006).

### 1.6. Positioning of the thesis

This thesis is positioned *in the services marketing field, studying mobile content services* from the customer's point of view. Figure 4 illustrates four essential components of studying mobile services, that is: (1) the *customers* who use, (2) the *mobile service content*, which is provided by (3) *mobile content provider organizations* with the help of (4) *mobile technology* (mobile devices and networks).

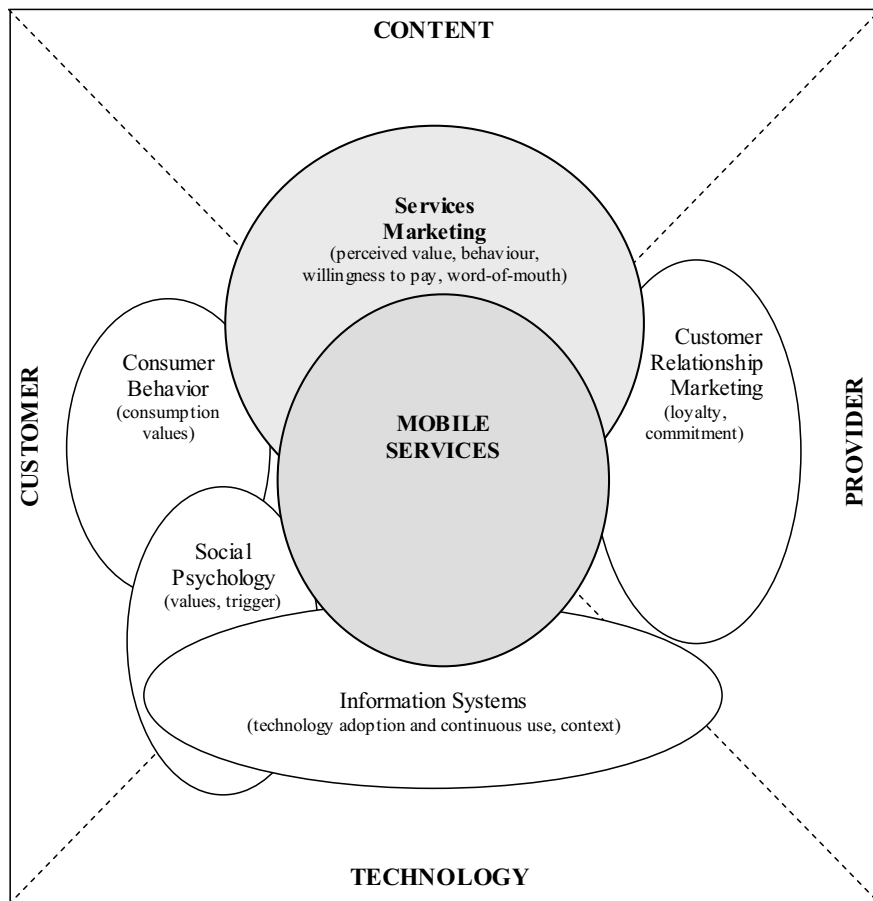


Figure 4 Streams of literature used.

All of these four components are important for the service use experience in a certain context. The circles in the figure represent different fields of literature and their influence on this thesis. Because the focus of this thesis is on content services, it draws upon and contributes mainly to the service marketing and management literature, and to literature on mobile services. Therefore, these circles are drawn largest/colored in the figure. Research into other fields, such as consumer behavior, social psychology, customer relationship marketing, and information systems, is used to support forming hypotheses that apply to mobile services. So far, service marketing and management literature offers little support for advancing theories to include technological aspects. Therefore, support was needed also from other fields.

The services marketing literature is customer-focused, and many of the theories that analyze customer behavior stem from social psychology or consumer behavior literature. In this thesis, the perceived value framework is based on Sheth et al.'s (1991a) framework of consumption values that builds on consumer behavior research and also combines aspects discussed in the social psychology field. Additionally, the social psychology literature aided in conceptualizing the interrelationships between value dimensions and situational influence on customer behavior. Aspects such as crowding and influence of time pressure have been researched in the retailing field by social psychologists as early as in the 1970s, but have received less attention in service research.

In contrast, services marketing and customer relationship marketing literature has long traditions in helping toward better understanding of relationships between the customers and service provider organizations. It is essential to apprehend how continuous use of mobile content services of one provider can be enhanced. For this purpose, loyalty and commitment theories from the customer relationship marketing field were incorporated in the research model. However, the rapidly changing mobile technology that makes mobile services possible adds a technological aspect to the service use experience, which is not well recognized in traditional service management literature. The information systems field has longer traditions in regard with the influence of technology on customers' attitudes and behavior. Therefore, some aspects in the thesis, such as the influence of mobile service context and factors influencing technology adoption and continuous use, arise from the information systems literature.

In the author's view, much of the theory available in electronic services and especially in mobile services is still very technology-oriented and that services marketing theories provide a better customer- and service-oriented background for explaining customer needs, attitudes and reasons behind the behavior. This thesis is focused on the services marketing literature and mobile research irrespective of the field where it is published.

Recent research within the 'Nordic School of Marketing Thought' (see e.g. Grönroos 1991 and Grönroos 2006) include several doctoral theses related to perceived value from a service marketing perspective. Examples of studies that have explored perceived value from different perspectives are Korkman's (2006) thesis on value through consumer practices, Heinonen's (2004) thesis on electronic services, and Leino's (2004) study in the business-to-business service field. These studies have increased our understanding of the nature of perceived value and customers' role in service creation. Similarly, understanding loyalty to interpersonal service has been increased by

developing conceptual models of loyalty. (Arantola 2000; Nordman 2004; Paavola 2006). Nevertheless, these studies focus mostly on the construct of perceived value or loyalty as such and not relationships between them, although they assume that value is an important driver of customer behavior.

Therefore, additional studies are needed to link perceived value with loyalty in the electronic self-service field. It has been noted by Kleijnen et al. (2007) that there is a need for a more in-depth understanding of value creation in the context of mobile services and for empirical studies of whether customer perceived value drives intentions to use mobile services. This thesis adds to previous research by further exploring perceived value in a mobile service context and, most importantly, by analyzing the relationships between perceived value and its behavioral consequences.

### ***1.6.1. Positioning perceived value in comparison with other constructs***

Next, some alternative constructs and theories that could have been used to study mobile service use are briefly discussed. The aim of this section is to clarify why perceived value and loyalty theories were used in this thesis and how perceived value differs from the following constructs often used in services marketing and consumer behavior literature: value, values, satisfaction, service quality, utility, needs, motives and usefulness. The chapter concludes with a discussion on how perceived value and technology acceptance literature are merging when the same constructs are applied in both research fields. The discussion also explains why the author chose to apply perceived value and loyalty theories commonly used in services marketing literature instead of using a research model based on technology acceptance.

#### *1.6.1.1. Value*

Value as a concept is employed across disciplines and paradigms covering such subjects as social psychology, social sciences, economics, management, marketing, accounting and finance. In the art, there are several streams of literature that have influenced the recent thinking on value. The three recent key perspectives on value in the marketing field include: 1) perceived value, 2) value of the customer to the firm, and 3) creating and delivering customer value (Payne and Holt 2001). This thesis is focused on the first research stream called perceived value, which is described in detail later in the second chapter, linking perceived value with loyalty.

The second main subject of value literature, customer's value to the company, is reflected by terms such as customer equity, customer assets, and shareholder value. Customer equity in this context refers to the monetary value of the customers to the company, also referred to as customer assets. The most valuable customers may be identified by estimating the customer lifetime value, for example. Value of an organization is in turn estimated by its monetary worth to its owners, the shareholder value.

The underlying assumption is therefore that the company benefits from retaining customers while simultaneously delivering superior value to them (see e.g. Blattberg

and Deighton 1996; Payne and Frow 2005). Thus, customer loyalty and the economic worth of customers to the company are closely related terms, because loyalty influences the profitability and length of customer relationships. In this thesis repurchase intentions were measured with survey data. Further research could explore the effects of perceived value on the real purchase behavior including e.g. recency, frequency and monetary value of customers' purchases, as well as the risk of customers switching to another service provider, and assess the profitability of different value- and loyalty-based customer segments. This would require combining real purchase data from telecom operators' databases with survey data. This type of use of database information in the mobile field is still scarce, because it requires access to telecom operators' databases and therefore involves privacy issues.

The third stream of value literature focuses on creating a competitive advantage compared to other service providers by creating and delivering superior customer value (Payne and Holt 2001). Value delivery could have been included to assess the usability, quality of mobile service delivery, as well as possible problem situations that need to be dealt with in order to serve customers well. However, service quality was excluded from this thesis, because aspects related to service quality, such as reliability of the technology, did not emerge in the initial interviews as valuable or as a reason for use. Neither was the possibly less-reliable mobile service delivery reported to influence future use of mobile services very much.<sup>2</sup> Service quality includes value inhibitors such as security and reliability of service delivery.

The quality of service delivery has traditionally been emphasized in satisfaction and service quality research. For example, the functional quality in Grönroos' (2000) service quality model indicates 'how' the service is delivered. The technical 'what' dimension in his quality model may also capture elements of value of the content itself. However, from the customers' perspective, service quality is often used as a synonym for reliable service delivery (Holbrook and Corfman 1985). 'Quality', at least in the electronic service context, focuses mostly on how reliably the service is delivered and whether it functions without problems, while 'value' indicates what the customer gains by using the service (Liljander, van Riel, and Pura 2002). The concepts of perceived quality and perceived value may be intertwined, because perceived value is often seen as a trade-off between quality and sacrifices (Monroe 1990; Ravald and Grönroos 1996). The differences between perceived value, satisfaction and service quality are next briefly described.

#### *1.6.1.2. Satisfaction*

Some dimensions of perceived value mentioned in this thesis have also been defined as dimensions of e-service satisfaction by other researchers. These themes may be interwoven in customers' minds and be difficult to distinguish as separate factors influencing behavior. For example, conducting interviews about customer satisfaction with self-service technologies has also resulted in value-adding aspects such as ease of use, saved time and saved money, which in this thesis are conceptualized as perceived value of mobile services (Meuter et al. 2000).

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<sup>2</sup> See for factors that were perceived valuable and resulted in service use in Pura and Gummerus (2007).

According to Meuter, Ostrom, Roundtree and Bitner's (2000) study, the major category for satisfying incidents is the relative advantage that customers perceive to gain from using self-service technologies, which supports conceptualizing these factors as perceived value or relative advantage influencing satisfaction. Satisfaction is influenced by both service quality and perceived value. Furthermore, all the following constructs, perceived value, perceived quality and customer satisfaction, influence customer loyalty (Cronin et al. 2000). This thesis is focused on how perceived value is linked to customer loyalty, because perceived value has been proven to be a more stable predictor of customer loyalty than satisfaction.

### *1.6.1.3. Service quality*

Perceived value and quality are related constructs and further research is needed to clarify how they are causally linked together (Holbrook and Corfman 1985). Zeithaml et al. (2000) postulate that in an Internet context, perceived e-service quality, price and value themes are frequently interwoven, perhaps due to the pervasiveness of price as a reason for shopping. Few researchers have incorporated perceived quality and expected performance of a product as a dimension of perceived value (Sweeney and Soutar 2001) or, alternatively, have used quality dimensions to conceptualize value (Heinonen 2004). The author defines perceived value as a separate construct from perceived quality, because this thesis is focused on perceived value drivers. It should be noted that despite some intertwining of the quality and value constructs, they have traditionally been kept separate in the service management literature (Zeithaml 1988).

Most researchers conceptualize perceived value to be able to influence customer behavior directly and quality to influence behavior through perceived value. Conceptualizing perceived value individually excluding quality aspects is supported e.g. by Holbrook and Corfman (1985) who state that perceived value of content such as perceived beauty, convenience and fun are captured by perceived value, but not by perceived quality, and that these constructs should be clearly distinguished from each other. Furthermore, Parasuraman, Zeithaml and Malhotra (2005) state that electronic service quality ignores experiential aspects such as fun or pleasure. The lack of recognition of perceived emotions in quality models has earlier been stated in traditional service contexts (Liljander and Strandvik 1995, 1997). In addition to the quality, the customers may evaluate also e.g. convenience or prestige when they assess the value (Zeithaml 1988).

In this thesis, the focus is on value drivers, i.e., 'what' the customer values in mobile content services including positive emotional aspects, which traditionally have not been included in e-service quality models. This thesis defines the positive factors that customers value in the service content (and in its self-service delivery process) as perceived value.

In general, perceived value has to some extent replaced service quality in recent service marketing research; this may perhaps be due to the fact that perceived value, which incorporates benefits and sacrifices compared to other alternatives, is essential for customers' purchase decisions and may explain behavior better than service quality alone. "Perceived service value seems to be a richer, more comprehensive measure of

customers' overall evaluation of a service than service quality.” (Bolton and Drew 1991, p. 383).

#### *1.6.1.4. Values*

In the literature the terms ‘values’ (plural) and ‘value’ (singular) are sometimes used interchangeably. Nevertheless, they have different meanings. Value refers to a preferential judgment, while values refer to criteria by which such judgments are made (Holbrook 1994). Values are general culturally bound values that guide human activities in general (Rokeach 1973). Values are beliefs concerning desirable goals or people’s behavior, which transcend distinct concrete situations or actions and guide our choices and evaluations (Schwartz 1997). Values guide human behavior independently of the product or service use situation, while value includes interaction with a particular product or service.

On the other hand, values also guide purchase behavior indirectly through an object. People are more motivated to attend to and process information when they find it relevant to their values (Hoyer and MacInnis 2007). Rescher (1969, p. 8) differentiates value from values by defining value as the outcome of an evaluation made by a single customer. It constitutes three overlapping dimensions, namely: the object that the customer evaluates, the locus of value in a certain context, and the underlying values that measure what is desirable for the customer.

#### *1.6.1.5. Motives and needs*

Additional constructs closely related to value and values are motives, needs and utility. There is a mutual dependency between needs and values: each of them can create the other. These concepts are quite often seen as overlapping and used as synonyms (Mikkola 2003). In social psychology, needs are considered psychological or biological in nature (von Wright 1989). Needs result in motivation when customers place a higher priority on some action (Hoyer and MacInnis 2007).

Motivation as a term is used in uses and gratification theories depicting customers’ motivations and concerns using new technology (Korgaonkar 1999). Traditionally, uses and gratification theories have explored what needs and values can be fulfilled by using a new medium (e.g. radio, TV, and the Internet) (Stafford, Stafford and Schkade 2004). The primary aim of advertising and promotional activities is to establish links between motives and products in the broad context of the relevant needs. The better the product or brand attributes meet the users’ motives, the greater the likelihood that the user will prefer that product or brand (Mahatoo 1989).

In the marketing literature, concepts such as motive, need and value have sometimes been used interchangeably, although services marketing literature commonly uses the concept ‘perceived value’ to depict the value that customers perceive to receive or experience by using a service (Bettman, Luce, and Payne 1998).

“A need is what customers value” (Flint, Woodruff, and Gardial 1997, p. 164).

“A need is an innate desire basic to human beings. When the need is activated, it becomes a motive” (Mahatoo 1989, p. 29).

A need may not necessarily result in purchase (Hoyer and MacInnis 2007). In contrast, perceived value is proven to be linked to purchase behavior (Bettman et al. 1998).

#### *1.6.1.6. Utility*

Economists refer to utility theory by arguing that consumer choice is motivated by maximizing utility within the constraints of price and income. Marketing literature also talks about utility of a product as part of the perceived value judgment, as customers assess the utility of the product by comparing what is received and what is given (Zeithaml 1988). However, the author postulates that choice behavior may be motivated not only by utility or utilitarian value, but also by hedonic aspects of the service use experience as such. Therefore, the utility construct is considered too narrow at least for mobile content service users, where mobile technology adds a hedonic aspect to the service content use experience. For example, Kaasinen (2005) concludes that the perceived value of mobile services can be categorized into utility, fun or communication.

#### *1.6.1.7. Usefulness, relative advantage and technology acceptance*

Research related to mobile services has so far been technology-oriented, and most of the academic literature in the mobile field can be found in research related to information systems. To date, this technology-related literature has primarily analyzed initial adoption of technology in organizations using, e.g., theories of Innovation Diffusion (Rogers 2003), the Technology Acceptance Model (Davis 1989), Technology Readiness (Davis, Bagozzi, and Warshaw 1989; Parasuraman and Colby 2001), and the Expectation-Confirmation Model (Bhattacharjee 2001). Among these, the Technology Acceptance Model seems to be the most widely used and has also been employed to study the adoption of services in marketing literature. It builds on the Theory of Reasoned Action (Ajzen and Fishbein 1980) and Theory of Planned Behavior (TPB) (Ajzen 1991).

Traditional Technology Acceptance Models (TAM) include variables such as usefulness and ease of use, which influence use of technology or systems directly or, alternatively, indirectly via the attitude towards use. However, researchers have widely acknowledged the limitations of the technology acceptance model and produced various extensions of the model in order to better predict purchase behavior. Components such as emotions, subjective norm, voluntariness, image, social influence, control, facilitating conditions, perceived enjoyment, perceived needs and perceived value have been added to the framework (Legris, Ingham, and Collette 2003; Nysveen et al. 2005b; Venkatesh and Davis 2000; Venkatesh, Morris, Davis, and Davis 2003).

Moreover, TAM has also been criticized for its inability to estimate continued use of information systems, because research results indicate that acceptance and continued use may be influenced by different factors (Karahanna, Straub, and Chervany 1999).

Bhattacharjee (2001) is one of the first to estimate the continuous use in the information systems field. His research model stems from Oliver's (1980) Expectation-Confirmation Model. Bhattacharjee's (2001) and Liao, Chen and Yen's (2007) research results revealed that usefulness and satisfaction are the dominant drivers of continuous use of information systems such as online banking and e-learning systems.

In marketing literature, usefulness is used to measure one aspect of perceived value. Usefulness has been identified as one of the key drivers of behavior and it has been measured with items that reflect convenience in this thesis. The other key part of the TAM, i.e., ease of use, has been found less important in recent research, not necessarily influencing adoption at all (Kleijnen et al. 2004). In effect, other new concepts, e.g., relative advantage and compatibility, which incorporates the attitude towards technology, have been found to overwhelmingly influence user acceptance compared to the traditional elements of TAM (Agarwal and Prasad 1999; Fitzgerald 2002; Plouffe, Vandenbosch, and Hulland 2001; Suoranta 2005).

Kaasinen (2005) highlights the importance of perceived value in mobile services, and in her analysis the usefulness concept of the traditional TAM model has been replaced by the perceived value construct. Similar extensions of the TAM model that are conducted in a mobile setting have recently been published by Norwegian and Finnish researchers (Koivumäki, Ristola, and Kesti 2006; Nysveen, Pedersen, and Thorbjørnsen 2005a; Nysveen et al. 2005b; Nysveen, Pedersen, Thorbjørnsen, and Berthon 2005c).

Hence, the recent extensions of technology acceptance models have included more and more constructs that have long been used in service marketing literature, such as perceived value and emotions. Further research has been encouraged to investigate the added value of mobile services in order to uncover additional variables that have a direct impact on intentions to use mobile services (Kleijnen et al. 2004; Okazaki 2005).

In line with the recent developments of adoption models, the author argues that perceived value literature offers a more stable foundation for attracting customers who possibly find the mobile content valuable, use it further, are willing to pay for it and market the content to their peers, as compared to technology acceptance models.<sup>3</sup> The services marketing perspective is gaining more and more interest even in technology-related fields, because the technology adoption literature does not necessarily provide the means to understand why customers adopt certain types of services and what factors affect the continuous use and willingness to pay for services. TAM models have been developed further by converging the Theory of Planned Behavior with the Expectation-Confirmation Theory based on Oliver's (1980) loyalty framework. Continuance models have developed information systems literature towards estimating factors that also have an effect on continuous use of information systems by adopting constructs from consumer behavior literature. Such models estimate expectations and experiences (confirmation of expectations) after initial trial use (Bhattacharjee 2001). Measures used are similar to service quality, satisfaction and repurchase intentions used in service and relationship marketing literature. Recent continuance models have estimated also antecedent effects of needs and values on Internet community use, such as

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<sup>3</sup> For a more thorough review of technology acceptance models and differences between them and the approach used in this thesis, see (Pura 2007, forthcoming).

entertainment value and social enhancement , and incorporated commitment towards the system to the model (Cheung and Lee 2007; Jin, Cheung, Lee, and Chen 2007). These types of model developments are a clear indication of benefits of converging theories and using constructs across different fields of research in technology-related research.

However, expectation-confirmation models measure intentions to use versus not use of technology or systems. They do not usually take into account the effects of the antecedent's of use on the consequences of use, such as willingness to pay. Willingness to pay and recommending services further are relevant for service providers' success especially in the business-to-customer service field, where a critical mass of customers is needed in order to make the services profitable. In this vein, it is necessary to use marketing knowledge to advance continuance models further and link its usefulness or perceived value constructs with loyalty outcome constructs, such as willingness to pay and word-of-mouth communication.

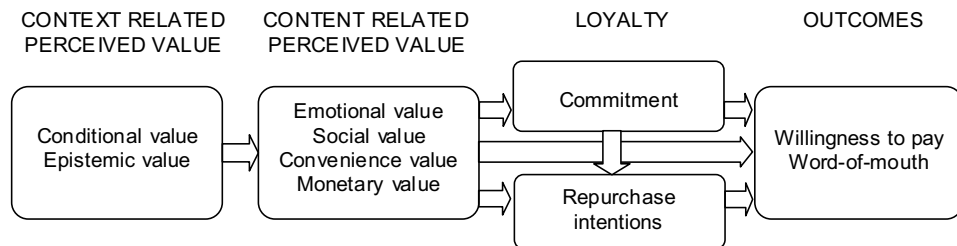
On this basis, the author feels that it is necessary to advance the theories used to analyze mobile services by answering the researchers' calls and suggesting a new research model that is based on the services marketing theories, rather than applying yet another extended TAM or TPB model. Nevertheless, the author agrees that similar results can be achieved irrespective of the theoretical framework used and, consequently, attempts to compare the findings of this thesis with recent results from TAM research models, to the extent that it is possible.

Next, the perceived value and loyalty constructs used in this thesis are defined. They stem mostly from the service and relationship marketing literature, but are discussed also in comparison with constructs used in social psychology and information systems.

## 2 LINKING PERCEIVED VALUE WITH LOYALTY

This chapter summarizes the conceptual framework and demonstrates how the studies conducted in this thesis add to past research. Herein, the key theoretical concepts are defined and their interrelationships are identified based on a literature review. The review is complemented with empirical results from the studies conducted for this thesis. First, the concepts used in this study are introduced as a framework. Secondly, each individual value, loyalty and outcome variable is defined and discussed. Thirdly, comparisons between different mobile service user groups conducted in this study are discussed in greater detail. More details on the empirical studies are provided in the summary of each paper in Chapter 4, as well as in the papers attached in full text as appendices.

This thesis links customer perceived value and its consequences. Perceived value is defined here as six individual value dimensions (conditional, epistemic, emotional, social, convenience and monetary value), which are grouped into content- and context-related perceived value. Consequences of perceived value include two loyalty constructs (commitment and repurchase intentions) and outcomes of loyalty (word-of-mouth intentions and willingness to pay). The key constructs are illustrated in the research model in Figure 5.

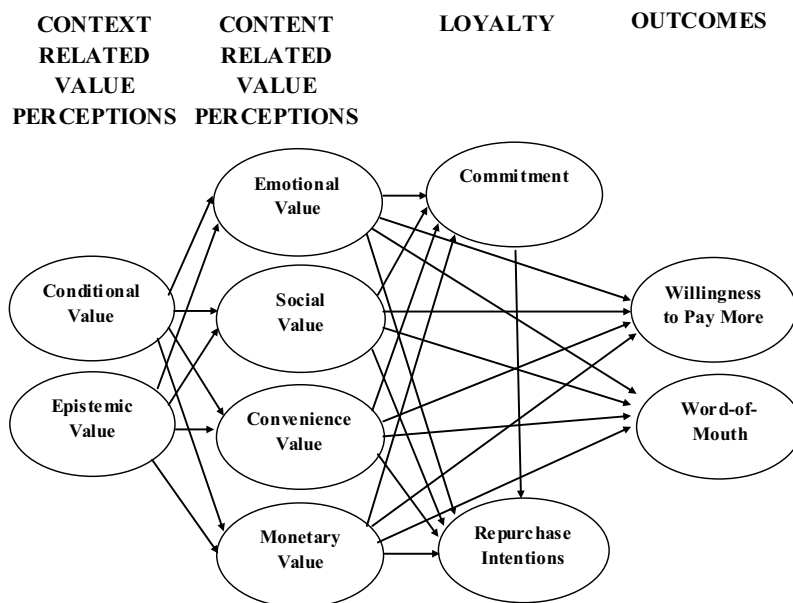


**Figure 5 Concepts employed in this thesis.**

The research model differs in some parts from the models used in previous literature on value and loyalty. Prior studies in marketing often use composite measures of value and of loyalty (Zeithaml 1988). However, heterogeneous value preferences for using different types of services can be identified solely with the help of more detailed measures of perceived value. Furthermore, identifying possible differential effects of value dimensions on different types of loyal behavior requires also more detailed measures of loyalty and outcomes of loyalty. In this thesis, these constructs are defined as separate constructs. In previous research, customer loyalty constructs have often included items that measure intentions to repurchase, word-of-mouth communications and willingness-to-pay behavior (e.g. Parasuraman, Berry, and Zeithaml 1991; Zeithaml, Berry, and Parasuraman 1996). However, support was found in the literature for the division of the typical loyalty construct into loyalty and outcome components. Calls for further research on loyalty were identified in recent publications encouraging multi-item scales and analysis of direct relationships between constructs (Bloemer et al. 1999; Dubé et al. 2003; Lin et al. 2005; Sweeney and Soutar 2001; Söderlund 2006).

In addition to supporting the existence of different value dimensions, the empirical data supported the division of value dimensions into two groups, context- and content-related perceived value. The conceptualization of context of use and influence of use situations was further aided by reviewing literature in the information systems field and social psychology field. Support for a conceptualization of conditional and epistemic value as different level constructs compared with emotional, social, convenience and monetary value was found in studies of the influence of the context and situations (Belk 1974). Further, it may be noted that conditional and epistemic value, as introduced by Sheth et al. (1991a), have received particularly little attention in past marketing research (Sweeney and Soutar 2001). In comparison to the original five same-order value dimensions introduced by Sheth et al. (1991a), this thesis suggests that they should be modeled on two different conceptual levels that include two context-related value dimensions and four content-related value dimensions.

The direct relationships analyzed in this thesis are illustrated in Figure 6. The papers included in the thesis report final, trimmed models, in most cases including only the significant relationships between constructs. During the model development process, several other alternative models were tested and insignificant relationships were omitted from the conceptual models. The research model presented in each paper includes parts of this research framework, and the conclusions presented in this summary are based on the results of the individual papers.



**Figure 6** The direct relationships analyzed in the thesis.

This chapter is organized according to the research model in Figure 6. The perceived value section starts with defining perceived value and describes briefly how the six individual value dimensions applied in this study differ from the common one-dimensional definitions of perceived value used in marketing literature. Secondly, the chapter continues by discussing the mobile service use context, the ubiquitous nature of

mobile services, and their typical use in time- and location-critical situations under certain conditions. Thirdly, content-related perceived value is reviewed. It is argued that emotional, social, convenience, and monetary value form the core of the content-related perceived value that customers experience by using mobile content services. Fourthly, the literature review continues with consequences of perceived value. Loyalty is defined as a two-dimensional construct consisting of customer commitment and repurchase intentions, in common with most studies in the field. Willingness to pay and word-of-mouth behavior are defined as outcome variables that are seen as consequences of loyalty. This also means that there are direct and potentially differential individual effects of the perceived value dimensions on each loyalty and outcome variable. The chapter concludes by summarizing how this thesis brings new insights and contributes to the perceived value and loyalty literature.

## **2.1. Customer perceived value**

Customer perceived value is the value that customers perceive to receive or experience by using a service, and it steers purchase behavior (Bettman et al. 1998). Customer perceived value is usually defined in services marketing literature as:

“The customer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (Zeithaml 1988, p. 14).

Traditionally, perceived value is based on customers’ experiences and seen as a trade-off between benefits and sacrifices (Flint et al. 2002; Grönroos 2000) or between quality and sacrifices (Monroe 1990; Raval and Grönroos 1996), which can be divided into monetary and psychological sacrifices (Dodds and Monroe 1991). The sacrifices have originally included primarily monetary sacrifices such as price and acquisition costs, but they have been extended to include also perceived non-monetary price and e.g. risk of poor performance (Liljander and Strandvik 1993; Monroe 1990). In recent research, the benefit and sacrifices components of value have also been applied and extended to include benefits and sacrifices of time- and location-related factors important in the electronic banking field (Heinonen 2006). Traditionally, overall perceived value has been measured with single-item or multi-item scales especially emphasizing price perceptions (Anderson and Srinivasan 2003; Chiou 2004; Dodds and Monroe 1991; Grace and Aron 2005; Grewal et al. 1998; Jarvenpaa et al. 2003; Thaler 1985).

According to the results of this thesis, value for money or customer sacrifices do not appear to dominate perceived value orientations in the mobile field to the same extent that they seem to in the consumer goods industry (cf. Sweeney and Soutar 2001). A study that was conducted early in the research process (Pura and Gummerus 2007) supported the view that monetary sacrifices appeared to play a minor role in customer perceptions of value of mobile content services. In addition, a follow-up quantitative study showed that monetary value, i.e., depicting good value for money, acceptable price level and value for money of mobile service in comparison with other service channels, was not as important as convenience and conditional value in explaining repurchase intentions of mobile location-based service use (Pura 2005). In addition, convenience and emotional value were found to be more important than monetary value for both information and entertainment mobile service user groups (Pihlström and Brush

2008, forthcoming). Value as utility as defined by Zeithaml (1988) excludes, for example, emotional value. Therefore, in a mobile service context, a broader value view is necessary.

The six-dimensional view applied in this thesis arises from the original five-dimensional conceptualization of consumption values by Sheth et al. (1991a). Sheth et al.'s (1991b) five value dimensions are well argued and have been tested in several industries. They give a wider view for goods and service differentiation purposes than the traditional one-dimensional perceived value models (Cronin et al. 2000), benefits vs. sacrifices models (Heinonen 2004; Zeithaml 1988) and hedonic vs. utilitarian value models (Hirschman and Holbrook 1982). Even though the theory of benefits and sacrifices introduced by Zeithaml (1988) can be used in most service contexts to assess the value of a service, the author suggests that broader conceptualizations are necessary in order to acknowledge the factors that influence use of services in the new electronic service environments. Hedonic use of services in a social context and communicating with peers for socializing purposes are gaining importance especially in interactive electronic services in web 2.0. environments that emphasize online collaboration and sharing among users, such as social networking in Facebook, online photo sharing with Flickr and IRC Gallery, or socializing virtually with the help of avatars in Second Life. These types of services may increasingly be accessed also through mobile handheld devices in the future. Most importantly, current mobile services such as friend finder, dating services, and mobile chat services, offer new hedonic and social service experiences and these possibilities should be taken into consideration also in perceived value theory development.

Furthermore, Sheth et al. (1991a) assert that although some choices may be influenced by only one value, most are influenced by two or more, and some by all value dimensions. Results from the empirical studies (Pura 2005; Pihlström and Brush 2008, forthcoming; Pura and Gummerus 2007) supported a multidimensional view and resulted in proposing six value dimensions of mobile services, including emotional, social, convenience, monetary, epistemic and conditional value. The six dimensions adopted for this study incorporate the situational context, which is especially important in mobile services. So far, these constructs have been conceptualized as individual value constructs only by Sheth et al. (1991a).

The author further postulates that the six dimensions of value applied in this thesis provide a diversified value perspective that differs to some extent from previous value definitions used in the marketing literature and summarized in Table 2.

For example, the definitions of Zeithaml (1988) and Woodruff (1997) are based on utility that allows the customer to achieve a goal. Utility excludes for example emotional value and social value. The author postulates that value definitions should include both utilitarian and hedonic purposes. The author agrees that overall perceived value is the customer's evaluation of service attributes, performances and consequences arising from use that is situation-specific, but emphasizes that the evaluation is based on multiple value dimensions. Therefore, the definitions of Sheth (1991a) and Holbrook (1994) are closest to the perceived value approach used in this thesis. The author agrees that value judgment is subjective (i.e., it varies between people), and relativistic (i.e., varies between services and depends on the choice situation, in which the customer

interacts with the service provider) (Holbrook 1994). Thus, common ground between the definitions of this thesis and others is that perceived value is always situation-specific (Flint et al. 2002; Rescher 1969; Sheth et al. 1991a; Woodruff 1997).

**Table 2 Definitions of customer perceived value.**

<b>Definitions of customer perceived value</b>
Customer perceived value is defined as the outcome of an evaluation made by a single customer, and it constitutes three overlapping dimensions, namely the object that the customer evaluates, the locus of value in a certain context, and the underlying values that measure what is desirable for the customer (Rescher 1969, p. 8).
Value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml 1988, p. 14).
Buyers' perceptions of value represent a tradeoff between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying the price (Monroe 1990, p. 46).
Consumer choice is a function of multiple consumption values. These are functional, social, emotional, epistemic and conditional value. The consumption values make differential contributions in any given choice situation. The consumption values are independent (Sheth et al. 1991a, p. 160).
Value is an interactive relativistic preference experience...characterizing a subject's experience of interacting with some object. The object may be any thing or event (Holbrook 1994, p. 27).
Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations (Woodruff 1997, p. 142).
A value judgment is the customer's assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific use situation (Flint et al. 2002, p. 171).

This thesis considers the value judgment to be based on benefits, and does not study the trade-off between benefits and sacrifices in contrast to Zeithaml (1988), Monroe (1990) and Flint (2002). This type of benefit-oriented value judgment is in line with the definitions of Sheth (1991a) and Rescher (1969). Rescher (1969) states that people engage in assessment of value “to determine the extent to which the benefits accruing from realization of some values are provided by the items at issue” (Rescher, 1969, pp. 61-62). However, this thesis does not study underlying values that measure what is desirable to the customer, but the author agrees that higher-order personal values influence perceived value through experiences and expectations, as defined by Rescher (1969). The object of evaluation in this thesis is the mobile content service, and the value judgment is always based on the use context.

By incorporating the benefit-oriented aspects of the above-mentioned definitions, emphasizing the use situation, and adding comparison with other alternatives, perceived value in the mobile content service context is here defined as:

“Customer’s assessment of the benefit of using a service based on perceptions and experiences of use that facilitate achieving the customer’s purposes in a specific use situation compared to other alternatives.”

This definition is similar to previous definitions in that the assessment is done in a specific use situation. The evaluation is based on an assessment of the benefits of using the mobile content service compared to other alternatives (e.g. Internet services used via non-portable devices or through fixed networks, traditional interpersonal services,

magazines, directories etc.), because mobile services may be used as a complementing channel to other service channels in situations where the other channels are not available.

The purpose of use does not have to be a utilitarian goal, but use can also be experiential without a certain goal in mind. This is important, because entertaining mobile services, such as games, are often used for hedonic reasons without any other goal than entertainment or fun experiences. This definition does not explicitly take into account sacrifices and the trade-off between benefits and sacrifices. However, psychological and monetary sacrifices are incorporated in the constructs of monetary and convenience value to be described in more detail later. Before presenting the individual value dimensions, it is necessary to briefly discuss how they relate to another, often used, conceptualization of value into hedonic and utilitarian value dimensions.

### ***2.1.1. Hedonic and utilitarian value***

A frequently used classification of consumption of products and services is differentiating between their intrinsic and extrinsic value (Babin, Darden, and Griffin 1994; Hirschman and Holbrook 1982; Holbrook 1994; Novak, Hoffman, and Duhachek 2003; Sweeney and Soutar 2001). Intrinsic means self-oriented, hedonic consumption mainly for fun, whereas extrinsic means other-oriented, utilitarian consumption that is more goal-oriented. Utilitarian value also includes the perceived usefulness aspect that has consistently been reported as a strong predictor of technology use intentions in the information systems research (Childers et al. 2001; Legris et al. 2003; Venkatesh and Davis 2000). Hedonic value exists in experiential, fun and enjoyable service use as such (Novak et al. 2003). Hedonic, experiential behavior has gained in importance in technological environments, where many individuals perceive the process of using a service more important than the result of the consumption (Novak et al. 2003).

This utilitarian versus hedonic classification is based on research stating that services can be classified based on the relative importance of the hedonic and utilitarian value they generate for customers (Babin et al. 1994; Chaudhuri and Holbrook 2002). Also the intrinsic vs. extrinsic framework was applied recently in a mobile banking context (Laukkanen 2006). This thesis recognizes both the utilitarian and hedonic value that different types of mobile services offer to customers.

Traditional scales for measuring utilitarian and hedonic shopping values divide attitudes or motives to either task-related and rational utilitarian value or playful and fun hedonic value (Babin et al. 1994; Bearden and Netemeyer 1999). Utilitarian value is usually indicated by terms such as valuable, beneficial, useful or wise. In a utilitarian mobile brokerage context, the following terms have recently been used to measure perceived value: effective, functional, practical, useful, efficient, productive, and good (Kleijnen et al. 2007). In turn, hedonic value often includes the terms: pleasant, nice, happy, delightful, funny, enjoyable, and amusing (Bearden and Netemeyer 1999; Spangenberg, Voss, and Crowley 1997).

Technology acceptance models have measured hedonic elements with an enjoyment variable and utilitarian element with a usefulness variable. (Childers et al. 2001; Chin

and Gopal 1995; Davis et al. 1989; Moore and Bensabat 1991; Pagani 2004). This two-dimensional view posits that people use certain mobile services for utilitarian reasons to achieve a goal and other mobile services for hedonic, emotional reasons. Work-related services are often defined as utilitarian, while other experiential services, such as games, are defined as hedonic.

One shortcoming of the utilitarian vs. hedonic dichotomy is that technology-based self-services are often perceived both as a means to achieve a goal effectively and as having a fun enjoyable self-service experience (Roto 2006). This applies especially to information-based services, but previous research shows that even mobile gaming can be used for both intrinsic and extrinsic reasons, depending on the customer segment (Gilbert and Han 2005).

The emotional experience in mobile service use is important irrespective of the type of mobile content used (Pihlström and Brush 2008, forthcoming). Therefore, a hedonic vs. utilitarian value framework is not necessarily capable of identifying significant differences in perceived value of different types of mobile services. This is important especially when analyzing different types of mobile content services, including also entertaining content that is used in more social contexts than mobile transactions or banking services, the field from which much of the mobile service research has so far emerged (Heinonen 2004; Kleijnen et al. 2004; Laukkanen 2006). A multidimensional view has been encouraged as better depicting the different dimensions of perceived value in specific services (Childers et al. 2001; Dubé et al. 2003; Sweeney and Soutar 2001). The findings of this thesis also encourage the use of multiple value dimensions, because of their differential effect on repurchase intentions and word-of-mouth intentions across information- and entertainment-based services (Pihlström and Brush 2008, forthcoming).

The framework created by Sheth, Newman and Gross (1991a) was used as a foundation for the six dimensions applied in the thesis, because their model contains both the utilitarian and hedonic aspects of consumption by including goal-oriented consumption in functional value as well as the emotional aspects of hedonic consumption. In addition, they incorporate social value that has received little attention in previous value research. They also take into account the conditions of use that other researchers have not included in their value frameworks. The five value dimensions identified by Sheth et al. (1991a) are functional, social, emotional, epistemic and conditional value, and they define the five value dimensions as being independent from each other.

In this thesis, the six value dimensions emerged from a qualitative study (Pura and Gummerus 2007), and modifications were made to Sheth et al's (1991a) dimensions in order to reflect perceived value dimensions that are important for mobile service users. Functional value was divided into convenience and monetary value and the four remaining value dimensions were named after Sheth et al's (1991a) dimensions. Next, the six individual value dimensions applied in the thesis are described in more detail.

### 2.1.2. *Six individual value dimensions*

In this thesis, context-related perceived value is defined as conditions that enhance both the need to use a service and content-related perceived value. Sweeney (2002) suggests that unanticipated factors before the service experience may influence post-purchase value perceptions. These unanticipated factors are included in the context-related value constructs of the thesis. In the thesis, context relates to the situation in terms of **where**, **when** and under which **circumstances** mobile services are used. The ‘where’, the location of the customer, is mobile, i.e., the customer may be moving from one place to another and services can be used anywhere. The ‘when’, the time of use, is also flexible, and mobile services are often used in time-critical situations when the customer is in a hurry and does not have time to search for alternative ways to use services.

The ‘circumstances’ of use may be physical or psychological. As examples of physical conditions, mobile services may be used under circumstances when other service channels are unavailable in unknown locations, or far away from service locations due to geographical distance. Psychological conditions are, for example, the customer’s mood or desire for novelty-seeking in trying new mobile services. These conditions are temporary in nature, as they arise in situations that change according to the time, location, networks and devices available, and to the mood of the customer. Therefore, in this thesis, context-related customer perceived value is a group of perceived value dimensions that reflect the temporary nature of conditional and epistemic value.

These individual value dimensions are defined in detail later in this chapter after describing how context of use and use situations have been defined in previous literature. Following the context-related perceived value, content-related perceived value dimensions are defined. Content-related value is based on use experience and is similar to in-use value, which generally means utility derived from using the product or service (Parasuraman and Grewal 2000). Content-related value includes emotional, social, convenience and monetary value. These value dimensions are based on more general, stable personal preferences for content services in comparison with the temporal nature of context-related perceived value.

## 2.2. **Context-related customer perceived value**

In perceived value literature, the use situation has traditionally been embedded in the definition of perceived value, but the effect of context or use situation on perceived value has not been explicitly measured. For example, Woodruff (1997) defines value as:

“Customer value is a customer’s perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer’s goals and purposes in use situations” (Woodruff 1997, p. 142).

The use situations vary, and previous literature gives some examples of how the context of use may be different, for example, during Christmas compared to normal shopping routines (Sheth et al. 1991a). Examples of context of use in a retail setting include

ambience of the shopping mall or restaurant, presence of other customers, and other tangible aspects of the surroundings where services are used (Bitner 1992; Lehtinen and Lehtinen 1991). Crowding, weather conditions, influence of other shoppers and personnel characteristics have also been incorporated in atmospheric variables (Turley and Milliman 2000).

These aspects have also been termed ‘situational influence’ in retail settings (Stoltman, Morgan, and Anglin 1999). In retailing, the situational influence has included stockout of preferred brands and reduced prices of competing products, which drive movement to another shopping area, or shifts to alternative products (Ha 1998). In self-service settings, the situational influence may include crowding, which motivates people to choose self-service options in order to minimize queuing (Dabholkar 1996).

In earlier marketing literature, the situational influence of the context does not specifically entail the mobility of the customer or how the conditions of use may change while the customer moves from one location to another. Heinonen’s (2006) conceptual e-service value framework includes time and location of service use, which are also important in mobile services.

However, in a mobile service use situation, there are also other changing elements that may influence service use and need to be taken into consideration. For example, Mallat et al. (2006) has found circumstantial conditions that influence mobile payment for tram tickets, such as no cash, expired travel card, needing a ticket fast or unexpectedly, or queues at the ticket counter. In this thesis, the situational influence also reflects the uncertain conditions that may change before and during the service use. Such conditions may be e.g. weather conditions, time pressure, presence of other customers or friends, access to mobile networks, availability of other alternative service channels, and crowding.

Next, context of use as defined in information systems literature and situational influence as defined in the social psychology literature are briefly discussed in order to introduce these aspects into service marketing. In this thesis, the influence of context of use and use situation is included in the context-related perceived value that includes conditional and epistemic value. Conditional value reflects changing temporal and spatial factors such as lack of time, geographical distance, no cash available and uncertain conditions. Epistemic value includes changing psychological factors, such as novelty-seeking. Conditional and epistemic value are both temporal in nature and enhance the value of the service in a certain situation (Pura and Gummerus 2007). These value dimensions are defined and discussed in more detail later in this chapter after the explanation of how context of use and situational influence are found to affect service use.

### ***2.2.1. Context of use***

In the information systems literature, the term ‘context’ is used to entail time, physical and psychological space, and the availability of technology and networks. According to Dey et al. (2001) context is:

“Any information that can be used to characterize the situation of entities (i.e., whether a person, place, or object) that are considered relevant to the interaction between a user and an application, including the user and the application themselves. Context is typically the location, identity, and state of people, groups, and computational and physical objects.” (Dey et al. 2001, p. 106).

The important aspects related to context-aware services are where you are, who you are with, and what resources are nearby (Dey 2001). It is difficult to incorporate context of use into a research model and to suggest how it influences perceived value; the context cannot be easily identified or measured, since it varies according to the situation, and the relevance of the service in a specific situation depends on the users’ task (Dey 2001). Although measuring the situational effect is challenging without established methods for assessing the importance and nature of situational effects, it is important to extend studies of customer behavior to include the situational influence, especially in theoretical models that assess attitudes, personality and loyalty (Belk 1975).

Furthermore, the context of mobile service use may be continuously changing in terms of the technical, physical and social context of use (Kaasinen 2005). For example, a customer may be traveling home from work while using a mobile service. The context of use changes as the customer walks on the street, enters the subway or arrives home. The technical context changes as the mobile network may not be functioning reliably, for example when in the subway or in an elevator, and the physical context changes as the customer may not be able to use the mobile device comfortably while moving from one location to another. The social context may change as the customer enters the crowded subway or meets friends. In addition, mobile service use patterns may differ according to the time of day. Roto (2006) extended the contextual factors to include temporal and task context. Temporal context refers to the available time for mobile service use, and task context means the role of the mobile service in achieving a higher-level goal that may include using several service channels.

Mobile context is usually measured as the location of the user and possibly also the time of use (e.g. work/free time/travel) (Verkasalo and Hämmäinen 2006). For example, service content can be customized automatically according to the customers’ location. Even the proximity of people and objects can be measured by identifying nearby Bluetooth devices. However, converting this data into a meaningful form is difficult. For marketing purposes, more specific information about the customers and the use context is often needed. Additional information may include more information on the circumstances under which the service may be used. In previous literature, such aspects have also been called situational factors, which are briefly described next.

**Use situation** is a construct closely connected to context. Situational factors were acknowledged while analyzing product and brand choices in retail settings as early as the 1960s and 1970s in the consumer behavior field (Belk 1974) and social psychology field (Rokeach 1973). Many situations arise at the time of purchase that could not be anticipated or predicted in advance. A phrase “it depends upon the situation” is a general acknowledgement of the setting in which customer behavior takes place. Belk (1974) is a major contributor to research on situational effects and defines the situation as:

“all those factors particular to a time and place of observation which do not follow from a knowledge of personal (intra-individual) and stimulus (choice alternative) attributes, and which have a demonstrable and systematic effect on current behavior.” (Belk 1974, p.156).

The influence of use situation on behavior is especially important in mobile service use situations, where the need to use services via the mobile device may occur spontaneously. However, situational influence has received limited attention from marketing researchers in the services marketing field. Some conceptual research models have been developed in the information systems field, including, for example, time and place of information system or mobile applications use (Dey 2001; Mallat et al. 2006; Verkasalo and Hämmäinen 2006), and the influence of ‘mobile setting’ on mobile content use. The mobile setting includes temporal, spatial and contextual elements, such as temperature, light level, weather conditions and presence of other customers (Lee and Benbasat 2004). Furthermore, for mobile content service customers, the use situation and its influence on service use have been conceptualized as including specific circumstantial conditions such as availability of other alternatives and time pressure (Pura and Gummerus 2007). These conditions were found to be significant in determining intentions to use mobile ticketing services and mediate the effects of usefulness and mobility (benefits of time- and place-independent service access) on use intentions (Mallat et al. 2006).

Recently, the influence of situational context on behavior has received increasing interest (Dey et al. 2001; Figge 2004; Gustafsson, Johnson, and Roos 2005; Kim, Kim, and Lee 2005; Lee and Jun 2005; van der Heijden, Ogertschmig, and van der Gaast 2005). Gustafsson, Johnson and Roos (2005) use the term ‘situational triggers’ and define them as something that alters customers’ evaluation of an offer based on changes in their lives or on some external factors affecting their lives. They identified no significant effect of situational triggers on churn behavior for customers who had switched to another telecom operator in the short run, but they did not study how these situational factors influence service use. In the field of psychology, triggers have been described as contextual cues, for example, the presence of others and the location, which trigger people to certain actions. In repeated situations, stable triggering cues may even result in habitual behavior, without an active decision to do so (Wood, Witt, and Tam 2005).

Belk (1974) has suggested that a combination of measures including circumstances, contexts or situations and personal product preferences would result in optimal predictions of customer behavior. This thesis analyzes context-related perceived value that measures conditional value reflecting conditions of use in certain situations (circumstances, context or situations). In this thesis, personal preferences are reflected by content-related perceived value that is measured by emotional, social, convenience and monetary value. These dimensions measure what customers perceive valuable in mobile services and results in a preference for a certain service in a certain use situation (Pura and Gummerus 2007).

The use situation is incorporated in Sheth et al’s (1991a) consumption values framework. Their framework is based on a thorough literature review in several fields and incorporates aspects from economics, sociology, consumption economics, clinical

psychology, marketing and consumer behavior, social psychology and experimental psychology into a consumption values framework. Sheth et al. (1991a) have incorporated situational characteristics, such as momentary conditions, physical and social surroundings, task definition, and time, into their value framework and named one value dimension to depict the changing conditions that influence choice behavior. In line with their reasoning, in this thesis, the construct ‘conditional value’ is used to reflect the context of use and the changing uncertain conditions that may trigger mobile service use. The conditional value dimension was modified to fit the mobile content service field by conducting a qualitative study with mobile service users (Pura and Gummerus 2007). Conditional value has been previously used in perceived value literature (Sweeney and Soutar 2001), and it fits well to describe the nature of conditions under which services may be used compared to other alternatives in certain situations (Pura and Gummerus 2007). Next, conditional and epistemic value are discussed in more detail. The chapter continues with a definition of the content-related value dimensions and a review of related research.

### **2.2.2. Conditional value**

Conditional value was introduced by Sheth et al. (1991a), and it stems from literature that examines situational contingencies, classifications of situational characteristics, antecedent states, physical surroundings, task definition, and temporal perspective, explored by e.g. Belk (1975). Conditional value is defined by Sheth et al. (1991a) as an extrinsic utility derived from its capacity to provide functional or social value in the context of a specific and transient set of circumstances or contingencies associated with the antecedent situation:

“When a choice is driven by conditional value, the outcome is contingent on antecedent circumstances that may cause the consumer to deviate from her or his typical or planned behavior.” (Sheth et al. 1991a, p. 69)

Conditional value is transient and has little worth to the consumer until faced with the specific set of circumstances that give rise to purchase behavior. Sheth et al. (1991a) give an illustrative example of a Christmas tree that offers considerable value in December as a symbol of the celebration of Christmas, but its display on other occasions would not denote similar value. Examples of situational contingencies include anticipated situations, such as “conditions predicted by the consumer to exist at the time of purchase”, and unexpected events, such as “antecedents and contiguous occurrences that unpredictably impinge at the time of purchase” (Sheth et al. 1991a, p. 71).

Holbrook (1994) postulates that conditional value depends on the context in which the value judgment occurs and exists only within a specific situation. In this thesis, the definition of conditional value was modified to fit the mobile content service field. The on-demand nature of mobile content services enables customers to order real-time information or entertainment content whenever and wherever they wish. In mobile service use situations, the customer interacts with the user interface of the mobile device

and possibly with other mobile service users if the service is used in a social setting. The surrounding environment might include, for example, mobile network coverage and availability of mobile handheld devices, weather conditions, crowding etc. Therefore, conditional value in this thesis is defined as:

“Value existing in a specific context derived from circumstances that characterize a situation related to the interaction between humans, mobile content, the self-service interface and the surrounding environment”.

The impact of contextual elements, such as time pressure on choice behavior, indicates that context-specific factors affect perceived value (Mallat 2005). In a traditional retail setting, crowding conditions and time constraints have been acknowledged as influencing purchase behavior (Stoltman et al. 1999). Meuter et al. (2000) also state that external environmental factors may add a sense of urgency, which intensifies the need to use self-service technologies in general. In a mobile service setting, an example of such a situation is that people prefer to use mobile payment for subway tickets, because there is a queue to the ticket sales and they do not have time to wait (Mallat 2005). Possible contextual elements that have an effect on behavior may emerge along new services and service use situations. In the present thesis, the conditional value dimension is divided into four subcategories depicting **time, location, access and uncertain conditions** (Pura and Gummerus 2007). These were identified to be the main groups of various conditions under which mobile services were used.

Factors related to location have also been identified in the earlier literature as independence of location, since mobile services are often used on the move. However, in this thesis, location describes primarily situations when the user is in an unfamiliar place. Meuter et al. (2000) also pointed out that self-service technologies enable users to obtain information on the road or other locales, wherever and whenever the customer wants to use services. An essential part of the value of mobile location-based information is receiving automatically customized information according to the customer’s location, which the customer does not have to know.

Mobile services that allow access to service content independent of time and location are often depicted in e-service literature as unlimited access compared to the traditional retail setting. Opening hours and location of the store have long been an essential part of the service offering even in the traditional service setting. In this thesis, ‘access’ also entails specific elements relevant in the mobile service context, i.e., that mobile services allow customers to access and pay for information and entertainment content when other alternative channels or payment methods are not available, especially while on the move. Examples of this include mobile payment for tickets, parking, and using vending machines in situations when credit card payment is not accepted and the customer is out of cash.

Time, location and access have to some extent been acknowledged in recent mobile and electronic self-service research (Heinonen 2004; Mallat et al. 2006). However, ‘uncertain conditions’ reflected by Pura and Gummerus (2007) are to the author’s knowledge unique to this thesis. Uncertain conditions entail situations where more information is needed to facilitate decision-making. These conditions refer to antecedents and contiguous occurrences that unpredictably affect purchase decisions at

the time of purchase (Sheth et al. 1991a) or in this case, also before the time of purchase. For example, uncertain weather conditions may enhance the value of a mobile on-demand, real-time, location-specific weather report. Mobile services are also useful for helping people to identify their location and help them to orient from one location to another either on public transport, by car, or on foot. In comparison with traditional maps and timetables, the orientation guidance can be customized according to the customer's location, time, and language (Pura and Gummerus 2007).

### **2.2.3. *Epistemic value***

Epistemic value relates to experienced curiosity, novelty, or knowledge gained by using new products, services or technology. According to earlier literature, the primary trigger for purchase may be curiosity about a new product, novelty- or variety-seeking (Hirschman 1980; Sheth et al. 1991a). Explorative, novelty-seeking behavior seems to trigger use of new websites (Richard 2005). However, customers who are motivated by epistemic value often return to their regular consumption patterns after satisfying their need for change (Sheth et al. 1991a).

In mobile content service use, novelty value gradually vanishes after trial, and the service may not be used in the long term if the primary motivation is curiosity or novelty-seeking (Pura and Gummerus 2007). Nevertheless, after the novelty effect vanishes, people may start to use mobile services in more mundane everyday life situations. Continuous service use seems to be primarily based on evaluations of the consequences of service use and driven by other value dimensions than epistemic value. Some previous research results indicate that novelty aspects may also negatively influence overall perceived value and indirectly behavioral intentions (Donthu and Garcia 1999; Duman and Mattila 2005).

Nevertheless, epistemic value seems to be important for mobile content service users. Mobile service life cycles are short, and content services are relatively new to customers. Novelty is generally seen as a positive aspect creating curiosity and interest in new products and services. In the psychology literature, novelty-seeking has also been referred to as experiential behavior, which in technological environments can be browsing the Internet without a specific goal in mind (Novak et al. 2003) or using mobile services in order to spend time and entertain oneself. In this thesis, the author identified positive antecedent effects of epistemic value on emotional and social value for all service user groups. Furthermore, these effects were stronger for information service users compared to entertainment service users (Pihlström and Brush 2008, forthcoming).

The findings of this thesis also indicate that epistemic value has a significant positive relationship with monetary value, but only in information services where the novelty effect may enhance perceptions of good value for money. The absence of an influence of epistemic value on the monetary value of entertainment services indicates that people who use entertainment mobile services mainly for their novelty value are not very concerned about price when services are used for the first time (Pihlström and Brush 2008, forthcoming).

### **2.3. Content-related customer perceived value**

Emotional, social, convenience and monetary value are defined as content-related customer perceived value dimensions, because they are based on a value judgment that has led to a preference for a certain mobile content service based on the value the user of the service will derive from using the mobile content. These dimensions are defined and described next. In addition, key findings from the empirical studies included in this thesis are summarized in each section.

#### **2.3.1. Emotional value**

Emotional value in mobile content services is gained particularly through aesthetic aspects of content services and having fun while using the service. Furthermore, mobile services often enable emotional communication, for example, through mobile chat services or ordering picture messages, logos and ring tones that can also be sent as gifts (Pura and Gummerus 2007). Therefore, emotional value is important especially in mobile entertainment services. According to earlier literature, emotional value is acquired when a product or service arouses feelings or affect (Sheth et al. 1991a). Aesthetic pleasure and associations with earlier experiences, as well as play or fun enjoyed for its own sake, generate emotional value (Holbrook 1994; Sheth et al. 1991a). Leung and Wei (2000) have reported enjoyment and fun-seeking as customers' motives for using mobile services.

Mobile technology use seems to be an emotional experience even in the mobile banking context, because customers perceive to receive both intrinsic and extrinsic value from mobile banking services (Laukkanen 2006). This thesis found indications of emotional value also gained by teasing others, which is regarded as a positive emotion from the sender's perspective, but may also become annoying for the recipient (Pura and Gummerus 2007). Hirschman (1980) suggests that feelings may be e.g. joy, but also mentions negative feelings like jealousy, fear or even rage. Nevertheless, the effect of emotional value is proposed to be mainly positive on repurchase intentions.

The results of this thesis indicate that the effect of emotional value is positive and it affects repurchase intentions of both information and entertainment services, although the influence of emotional value on repurchase intentions is stronger for entertainment service users (Pihlström and Brush 2008, forthcoming). Emotional value is also an important factor influencing commitment (Pura 2005).

#### **2.3.2. Social value**

In mobile service adoption research, social aspects have traditionally been conceptualized as social norms, i.e., pressure from others to use new technology (Kleijnen et al. 2004; Venkatesh et al. 2003), whereas social appreciation gained by mobile content use has not gained much attention. The social user experience as such has not been explicitly taken into consideration previously in literature, and further research is encouraged in order to provide a more complete understanding of intentions to use new technology (Celuch, Goodwin, and Taylor 2007). In earlier value literature,

social value associates users of the service with a social group and includes such aspects as social image, identification, social self-concept, expression of personality, and pursuit of social class membership (Bearden and Etzel 1982; Bhat, Burkhard, O'Donnell, and Wardlow 1998; Holbrook 1994; Keller 1993; Konana and Balasubramanian 2005; Sheth et al. 1991a; Sweeney and Soutar 2001).

In this thesis, social value also includes aspects of social respect and appreciation of others gained by using mobile services, because they were found to be important to mobile service users (Pura and Gummerus 2007). Similar aspects are discussed in, for example, gratification theories that also talk about fashion, status and sociability. Use of mobile services may be a way of expressing personality, status, and image in a public context (Leung and Wei 2000). Furthermore, mobile games are a good example of collective use of mobile services that allow the service users to gain social appreciation by becoming part of a crowd (Gilbert and Han 2005).

An aspect that has received limited attention in previous value literature is self-respect. In this study, it relates to embarrassing situations when mobile services enable people to maintain their self-respect. Maintaining self-respect requires avoidance of embarrassment. Avoiding embarrassing confrontations with service personnel has also been recognized as a switching barrier (Colgate, Thuy-Uyen Ton, Kwai-Choi Lee, and Farley 2007). Previous literature on embarrassment has focused mostly on purchase of sensitive products, such as impotence drugs, feminine hygiene products or contraceptives (Grace 2007). Grace (2007) postulates that embarrassment exists only in interpersonal service settings that include face-to-face interaction with a customer and personnel in the presence of others.

The results of this thesis show that self-service technologies are commonly used to avoid these embarrassing personal confrontations either with service personnel or other customers. Embarrassment is a result of a threat to an individual's projected self during interactions with others (Konana and Balasubramanian 2005). Seeking social self-respect can also be perceived as a value driver. Mobile payment services in particular have been identified as allowing customers to pay for services and avoid losing self-respect by not being able to pay for their purchases in certain circumstances (Laukkanen and Lauronen 2005). These circumstances may be, for example, lack of time, lack of cash or not owning a credit card. Mobile payment solutions are used especially when paying for small transactions such as parking, tram and subway tickets or when buying products from vending machines. In these types of services, part of the reason for using the mobile service is to avoid fines for traveling without a ticket or avoiding personal contact with the personnel (Pura and Gummerus 2007). Furthermore, the results of this thesis indicate that social value is an important positive influencer on willingness to pay for mobile services and word-of-mouth intentions, especially for entertainment service users (Pihlström and Brush 2008, forthcoming).

### **2.3.3. Convenience value**

The convenience construct has its roots in consumer research and was introduced to marketing literature in 1923 by Copeland, who divided retail stores roughly into convenience, shopping and specialty goods. Even then, convenience was meant to refer

to the immediate convenience of purchasing goods in locations convenient to customers, requiring minimum effort from the customer. Time-savings were seen as a key element of convenience (Yale and Venkatesh 1986), but the psychological comfort convenience brings has not received as much attention (Brown 1990). Today, mobile services allow convenient access to services wherever and whenever the customers wish to use services, and convenience has been reported as a major attractor for mobile technology use in addition to task fulfillment (Anckar and D'Incau 2002; Carroll, Howard, Peck, and Murphy 2002; Carroll, Howard, Vetere, Peck, and Murphy 2002; Mick and Fournier 1995).

Furthermore, mobile services often seem to relate to efficiency, i.e. they require less effort or time spent and thereby make life easier by streamlining activities, an important characteristic in an age when people have increasingly limited time resources (Hoffmeister and Oudghiri 2004). Convenience has also been found to be an important reason to use online shopping and mobile banking (Chiang and Dholakia 2003; Laukkanen and Lauronen 2005). Convenience is gained through speed and ease of use of mobile content services (Pura and Gummerus 2007). Mobile services are instant and people appreciate the rapid access to services compared to the alternatives. Self-services are often perceived superior to interpersonal service, because they save time and are easier to use and more effective than interpersonal service (Meuter et al. 2000).

In this thesis, convenience also entails that it is a handy option compared to other alternatives, because this aspect was frequently mentioned in the interviews with mobile service users (Pura and Gummerus 2007). Handiness has been previously measured by Yale and Venkatesh (1986), who defined it as a class of convenience which refers to effort-saving capability. In addition, they state that a single appliance may serve many functions, thus easing several different processes. This applies surprisingly well also in the mobile context, even though their definition was intended for conventional products and services.

In this thesis, convenience was found to be a dominating value dimension driving repurchase intentions of information-based mobile services (Pihlström and Brush 2008, forthcoming), also strongly affecting repurchase intentions of location-based services (Pura 2005). Conditional value was found to have a strong antecedent effect on convenience value (Pihlström and Brush 2008, forthcoming). These findings support Yale and Venkatesh (1986), who propose that convenience may be of greatest importance in severely time-constrained situations and varies among differing use situations. Mobile services are often used as an alternative service channel, because they offer convenient access to information and entertainment content in certain situations, where other service options may not be accessible as easily, conveniently and instantly (Pura and Gummerus 2007).

#### **2.3.4. *Monetary value***

In this thesis, judgment of the price-quality ratio that has often been the sole measure of perceived value (Anderson and Srinivasan 2003; Chiou 2004; Dodds and Monroe 1991; Grace and Aron 2005; Grewal et al. 1998; Jarvenpaa et al. 2003; Thaler 1985), is included in monetary value. The monetary value construct reflects good value for

money, acceptable price level and value for money of mobile service in comparison with other service channels. Fair price compared to alternatives has been acknowledged as a benefit of mobile services (Heinonen 2004) and as a source of satisfaction in all types of self-service technologies (Meuter et al. 2000). In this thesis, the author's conceptualization of 'monetary value' is in line with several e-service researchers' measures of price/value for money (Sweeney and Soutar 2001) and economic value (Mathwick, Malhotra, and Rigdon 2001).

Market research often cites the high price of mobile services as a barrier for mobile service adoption (Hyvönen and Repo 2005) and the relative price has been found to have a negative effect on value and willingness to pay (Sweeney et al. 1997). However, compared to other value dimensions in this thesis, monetary value had only a minor effect on repurchase intentions (Pura 2005; Pihlström and Brush 2008, forthcoming). Based on the results of this thesis, wherein studies were carried out on customers having experience on the use mobile services, the price paid for the content may not be as dominating as in traditional interpersonal services or retail environments. The reason may be that customers value mobile services especially in situations where other alternative service channels are unavailable.

## **2.4. Consequences of value**

Perceived value has been acknowledged as a stable construct to predict buying behavior (Cronin et al. 2000; Dodds and Monroe 1991; Hellier, Geursen, Carr, and Rickard 2003; Parasuraman and Grewal 2000; Sweeney et al. 1999). Furthermore, customers' value perceptions have been found to decrease their search intentions (de Ruyter and Bloemer 1999; Grewal et al. 2003; Hellier et al. 2003). The important role of perceived customer value in predicting purchase intentions has also been confirmed in an online environment. Accordingly, it is expected to be important in mobile services (Anderson and Srinivasan 2003; Chen and Dubinsky 2003). Further research has been encouraged to explore the effect of perceived value on other constructs (Sweeney and Soutar 2001).

Next, the consequences of value, including customer loyalty (commitment and repurchase intentions) and outcome variables (word-of-mouth and willingness-to-pay) are discussed. The chapter concludes with comparing the influence of value between information and entertainment services.

### **2.4.1. Customer loyalty**

In marketing research, customer loyalty has been traditionally defined as a behavior, as a mental state or as a combination of both (Paavola 2006). Earlier views on loyalty focused solely on repeat purchase behavior, but current definitions of customer loyalty include both the attitudinal and behavioral components (Morgan and Hunt 1994; Oliver 1999). Several researchers have confirmed that while commitment and behavioral intentions are related to loyalty, yet they are by definition distinct constructs (Beatty, Homer, and Kahle 1988; Pritchard, Havitz, and Howard 1999). This thesis defines customer loyalty also as including an attitudinal component (commitment) and a behavioral component (repurchase intentions).

The importance in differentiating between commitment and behavior is mainly in identifying the type of loyalty. People may buy goods or services from the service provider even if they do not feel committed at all. Hence, loyal behavior may be only habitual loyalty; behavior based on merely lack of choice or lack of effort (Anderson and Srinivasan 2003; Baldinger and Rubinson 1996; Baloglu 2002; Dick and Basu 1994; Gounaris and Stathakopoulos 2004; Liljander and Roos 2002; Roos, Gustafsson, and Edvardsson 2005). This type of habitual loyalty has been identified in several fields and may be common also in mobile service loyalty, where services are relatively new and there are few service providers to choose from.

In this thesis, a further aspect of customer loyalty is analyzed, namely customer loyalty to the mobile channel as such. Previously, Curran and Meuter (2005), among others, have postulated that service marketing literature should incorporate in loyalty research the effect of technology, where the interpersonal influence of service personnel is replaced with the self-service technology interface. Traditionally, behavioral intentions have been measured in marketing literature in relation to using the same brand or service provider again in the future. To the author's knowledge, previous research has not differentiated between the effect on commitment and intentions to use the channel and the provider.

The effect of the different channels on customer relationships is still an insufficiently researched area (Bolton, Lemon, and Verhoef 2004). Little is known about how use of the mobile channel influences commitment and intentions to use the same content provider. Reichheld and Scheffer (2000) argue that serving customers consistently over the same channel (Internet) will result in lock-in effects that may influence the length of the customer relationship with the service provider and may therefore promote continuous use of the same channel. Verhoef and Donkers (2005) also state that the acquisition channel is an important predictor of customer retention, the Internet performing better than direct mail for customer retention purposes. The mobile channel may perform even better for relationship-building purposes, because the mobile device is a personal gadget that allows instant access to services, as well as personalized communication with the content provider. The key findings related to commitment and repurchase intentions regarding the provider vs. mobile channel are summarized in the following sections.

#### *2.4.1.1. Customer commitment*

Commitment can result from either dedication (affective commitment) or constraints (calculative or continuance commitment) (Fullerton 2005; Gustafsson et al. 2005). Affective commitment is based on liking and identification and continuance commitment on dependence and switching costs (Fullerton 2003). Continuance commitment may also be described as switching barriers including time and effort involved in searching for new alternatives, financial and psychological switching costs, and fear of hurting the current service provider's feelings (Colgate et al. 2007). Bendapudi and Berry (1997) suggest that constraint-based relationship maintenance leads to merely staying in the relationship, whereas dedication-based relationship maintenance leads, at best, to affective commitment to and enhancement of the

relationship. Therefore, in the literature, attention is mostly given to affective commitment.

Mobile content is offered via telecom networks and therefore requires a contract with a telecom operator. Content can be paid for after use if the user has a contract with the provider. In that case the content will be invoiced on a monthly phone bill (post-paid). Another alternative is to use prepaid cards, or pay for a monthly contract that allows use without limits or a certain amount of content for free. The prepaid monthly contracts, which make it more difficult to change content provider, can be seen as indicators of calculative commitment. Calculative commitment leads to staying in the relationship but may not guarantee continuous use or use of only one provider. However, most mobile content services are offered to all telecom operators' network users regardless of what type of contract they have with their operator.

In this thesis, **commitment to content provider** refers to "a buyer's enduring desire to continue a relationship with a seller accompanied by his willingness to make efforts at maintaining it". This definition is in accordance with Odekerken-Schröder's (1999), Moorman, Zaltman and Despardé's (1992), and Morgan and Hunt's (1994) definitions of commitment. In the mobile service context this means that the user is attitudinally committed to using the same content provider on a continuous basis. **Commitment to the mobile channel**<sup>4</sup> is defined similarly as "a buyer's enduring desire and willingness to make efforts at using the mobile handheld device to access content services". This definition emphasizes the personal preference for using a mobile channel as such, even if alternative channels are available. To be consistent, the term 'commitment' is used in this summary of thesis in the meaning of commitment to content provider, in line with previous service marketing literature. When commitment to the mobile channel is discussed, it is mentioned explicitly as 'commitment to the mobile channel'.

Commitment is especially important in the mobile services, where purchase decisions are made in a certain situational context and people may not use the service frequently, but can still be considered loyal to one service provider if they are committed to use the same provider's service next time the need to use a mobile service arises. Furthermore, people may use mobile services also in situations where other service channels are available if they are attitudinally committed to using their mobile devices in general. This observation is not new as such, since many of the mobile services are targeted at people who are considered technology-ready, innovative, or who are expected to use new technologies frequently. Information systems and marketing literature does acknowledge personal factors that may influence readiness to use new technologies. Nevertheless, previous studies have not considered commitment to the mobile channel.

In technology acceptance models, attitude to behavior or technology used is defined as a narrower construct describing positive or negative feelings about the system, ignoring users' attitude towards the organization providing the content (see e.g. Chin and Gopal 1995; Curran and Meuter 2005). So far, commitment to use the same (mobile) channel to access services has received limited attention in previous literature. In Pura (2005),

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<sup>4</sup> The mobile channel is defined as a service distribution channel and a means of communication between the provider organization and the customer, using advanced telecommunications and multimedia technologies through a mobile handheld device (e.g. PDA, smart phone, mobile, or cellular phone).

commitment measures are mostly referred to the mobile channel; in addition, one provider-specific measure was included. A more traditional approach was used in Pihlström and Brush (2008, forthcoming), where repurchase intentions refer solely to intentions to use the same organization (content provider) again. In another paper by Pura (2007, forthcoming), the differential effect of commitment to the provider and to the mobile channel were analyzed further. The exploratory and confirmatory factor analysis confirmed that commitment to the mobile channel and to the service provider are distinct constructs (Pura 2007, forthcoming). The results of the structural model in Pura (2007, forthcoming) show that perceived value dimensions also have differential effects on commitment to the provider and on commitment to the channel and that cross-effects between channel and provider were not significant in that specific sample. The role of the channel is especially important in multi-channel environments where there are several alternative distribution channels.

#### *2.4.1.2. Repurchase intentions*

Intentions to repurchase have been used by several researchers as an indication of purchase behavior (e.g. Duman and Mattila 2005; Gremler and Gwinner 2000; Mathwick et al. 2001; Odin, Odin, and Valette-Florence 2001; Sweeney et al. 1999; Taylor and Baker 1994; van Riel, Lemmink, Streukens, and Liljander 2004). Real purchase data may be difficult to obtain and therefore self-reported intentions are often used instead. Repurchase intentions that estimate the continuous use of services are essential in mobile services, where continuous service contracts are scarce and use is mostly based on discrete transactions. Intentions for continuous use of both the mobile channel and the content offered by the same service provider are essential for increased average revenue per user.

In the papers included in this thesis, the terms ‘behavioral intentions’, ‘repurchase intentions’ and ‘intentions to use’ may be used interchangeably, due to revisions for published papers, but the measures used were similar in all empirical studies. The measures reflect intentions for continuous use of mobile services or continuous use of the same provider. For consistency, the term ‘repurchase intentions’ is used in this summary section.

The results reported in Pura (2007, forthcoming) show that repurchase intentions regarding using the mobile channel (technology) and repurchase intentions toward the same service provider (organization offering the service) are separate constructs and that value dimensions and commitment have differential effects on these constructs. Therefore, **repurchase intention of the content provider** is defined as: “the buyers’ intention to continue using the same content provider’s services in the future”. **Repurchase intention of the mobile channel** is defined as: “the buyers’ intention to continue using the services through the mobile channel in the future.” This is applicable only to services that are available through multiple channels. For example, content services such as logos and ring tones can also be ordered through the Internet, and weather reports can be accessed through TV, radio, newspapers and the Internet.

In comparison with intentions measured in other fields, this conceptualization is new. For example, TAM models only measure intentions towards the technology (or a

system). In addition, repurchase intentions in this study were measured as intentions for **continuous use** in the future. Some TAM models measure intentions merely as likelihood to adopt a system (see e.g. Chin and Gopal 1995; Curran and Meuter 2005). In continuance models intentions refer to continuous use of a system (Bhattacharjee 2001). The repurchase intention referring to content provider organization is a measure commonly used in services marketing literature.

The channel preferences and the influence of technology on repurchase intentions are under-explored issues in the services marketing field. Estimating repurchase intentions through the mobile channel is an initial attempt to explore the customers' channel preferences, regardless of the service provider. Cross-relationships between the channel and the provider-specific commitment and repurchase intentions constructs were tested in Pura (2007, forthcoming). However, although commitment to the provider influenced intentions to use the same provider again, it did not significantly influence the repurchase intentions through the mobile channel.

Likewise, the results show that commitment to the mobile channel influences repurchase intentions through the mobile channel in the future, but does not influence the intentions to use the same service provider again. Thus, no significant cross-relationships between the channel and the provider were identified in that sample.

These findings indicate that in the studied sample, commitment and intentions to use a mobile channel continuously do not positively influence commitment or intentions to use the same service provider. Furthermore, it was found that utilitarian value did positively influence commitment and intentions to use the mobile channel as such. However, utilitarian aspects had no influence on commitment and intention to use the provider. Hence, communicating utilitarian aspects seems to promote repurchase intentions of the mobile channel as such, while repurchase intentions of the same provider are driven by commitment to the provider, which is solely driven by hedonic value.

#### **2.4.2. Outcome variables**

Loyal customers are expected to be more likely to promote the services to others through positive word-of-mouth (WOM) and to pay premium prices (Gremler and Brown 1999; Zeithaml et al. 1996). While intentions to repurchase, WOM communications and willingness-to-pay (WTP) behavior have traditionally been measured as components of a multi-dimensional measure of behavioral intentions (Zeithaml et al. 1996) or part of cognitive or attitudinal loyalty (Jones 2007), following Bloemer, Odekerken-Schröder and Kestens (2003) and Sweeney and Swait (2007), the constructs have here been defined as separate factors. Zeithaml et al. (1996) measured WTP as part of their behavioral intentions construct, but research investigating the antecedents of WTP and WOM has remained scarce.

According to Söderlund and Rosengren (2007), 'the cocktail approach' that lumps together measurement items reflecting WOM and other intentions items, such as repurchase, does not encourage full assessment of the antecedents of WOM. Prior research suggests that loyalty, regardless of whether it is commitment or behavior, leads

to referrals, endorsements and positive WOM (Dick and Basu 1994). In particular, commitment as an antecedent of WOM has received attention in recent research (Brown, Barry, Dacin, and Gunst 2005; Fullerton 2005; Reynolds and Arnold 2000). Lam and Mizerski (2005) further postulate that motivations to engage in positive WOM behavior differ between people. Some do it for self-enhancement and others for achieving social status. This justifies the view that perceived value also influences WOM behavior. Word-of-mouth has been conceptualized by some researchers (Oh 1999) as an outcome of repurchase. This thesis also posits WOM and WTP as outcome variables. The direct and potentially differential individual effects of the perceived value dimensions on each outcome variable were tested in this thesis.

#### ***2.4.2.1. Word-of-mouth behavior***

In its broadest sense, “word-of-mouth communication includes any information about a target object (company / brand /service) transferred from one individual to another either in person or via some communication medium” (Brown et al. 2005, p.125). In this thesis, WOM intentions are defined as intentions to spread positive communication about a mobile content service that is transferred by one individual to another, either in person or via the mobile networks by calling, messaging or forwarding information. In the mobile environment, messages and files can easily be forwarded and shared. Mobile devices are ideal for WOM communication, also referred to as viral marketing in electronic contexts. Approximately six percent of all messages are forwarded and 20 percent shown to a friend (Van Camp 2005). Viral marketing in the mobile service context is also gaining in importance (Kleijnen, de Ruyter, and Andreassen 2005). This is likely to result in entertainment file sharing in the future, allowing users to download digital content, for example MP3 music, and forward it to friends (Maier 2005).

In previous service literature, WOM research entails mainly studies of consequences of WOM behavior analyzing how received positive or negative WOM influences customer behavior. However, antecedents of WOM that motivate people to spread positive WOM have received less attention (Berndtson 2007). This thesis is focused on positive WOM communication and estimates how perceived value influences WOM intentions, thereby focusing on the antecedents of WOM behavior. Typically, in service research WOM is conceptualized as a consequence of customer satisfaction, perceived service quality and perceived value (Söderlund and Rosengren 2007). This study is one of the first to estimate how individual value dimensions enhance sending positive WOM communication.

Söderlund and Rosengren (2007) postulate that emotions play an important role in receiving WOM communications. In a similar manner, the findings of this thesis suggest that social and emotional value play an important role in engaging mobile service users to spread positive WOM communication. The results of this thesis show that emotional and social value had a positive effect on WOM behavior for both entertainment- and information-based mobile services. In addition, convenience value positively influences WOM about entertainment-based services. The effect of social value was dominant compared to other value dimensions, especially for entertainment service users (Pihlström and Brush 2008, forthcoming). Services that are used for gaining social appreciation may be used as a means of expressing oneself to others.

Therefore, these services are talked about and promoted to friends and relatives. This indicates that entertainment services are especially suitable for marketing strategies that utilize social networks to promote positive WOM communication about a mobile service, in order to attract new users.

#### **2.4.2.2. *Willingness to pay more***

The overall perceived value has a positive effect on willingness to pay for goods and services (Monroe and Chapman 1987). Focus group results from Europe suggest that mobile entertainment service users generally express willingness to pay for the services, but choices are made within the budget for voice calls (MGAIN 2003). Previous research exploring the direct effects of perceived value dimensions on willingness to pay is scarce, but there are some indications that social contacts in service use situations may enhance willingness to pay (Bloemer et al. 2003). Willingness to pay a higher price has also been conceptualized as price sensitivity by e.g. Bloemer et al. (2003), who report that the more excitement and sense of belonging services create, the lower the price sensitivity of customers, (i.e. the more they are willing to pay).

In addition, Chaudhuri and Ligas (2007) state that customers may be willing to pay a higher price for value that they cannot otherwise easily obtain. This is especially true in mobile service contexts. Customers may be willing to pay a price premium for mobile services compared to other service channel alternatives, at least in situations where other service channels are not available, for example when at sea, at the summer cottage, or in a foreign city. The findings of this thesis showed that monetary, emotional and social value had a positive effect on willingness to pay for mobile services, while convenience value did not affect it significantly. Furthermore, the effect of social value on willingness to pay was stronger for entertainment service users (Pihlström and Brush 2008, forthcoming).

### **2.5. Comparing the influence of value between different mobile services**

Analyzing the direct effect of multidimensional constructs on loyalty is essential in order to be able to compare different services (Bloemer et al. 1999). This thesis compared information and entertainment service users in how their perceived value influenced behavioral outcomes (Pihlström and Brush 2008, forthcoming). The most important difference between entertainment and information service users' repurchase intentions was that entertainment service use is primarily influenced by emotional value, in contrast to information service users' behavior which is principally influenced by convenience value. However, continuous information service use is also significantly influenced by perceptions of emotional value. This result supports findings that emotional value has an essential role in technology-related service use situations (Novak et al. 2003). In addition, conditional value generally had a more significant effect for entertainment services users. Therefore, it would appear that mobile entertainment services are perceived valuable especially on the move, for example, on public transport as the need arises to pass time and entertain oneself.

Especially interesting was the finding of this thesis that epistemic value enhances the perceived value for money in mobile entertainment services, but not information services (Pihlström and Brush 2008, forthcoming), which means that entertainment service users are not that concerned about the price of mobile services when they try them out. In contrast, information service users could find the price-quality ratio more critical when they order services for the first time. This finding is in line with research results showing that the immediate consequences of use, such as price, are evaluated more thoroughly in information than in entertainment contexts (Sullivan Mort and Rose 2004).

Furthermore, this thesis analyzes differences in the direct effect of value dimensions on WOM and WTP, which has received limited attention in previous literature. The results of Pihlström and Brush's (2008, forthcoming) study show that social value had a stronger effect on WOM for entertainment service users, and emotional value a stronger effect for information service users. Thus, the emotional use experience appears to promote WOM better than the social appreciations gained by information service use. Conversely, similar value-based effects on WTP were found for both information and entertainment service groupings. The results indicated that perceptions of greater experienced monetary, emotional and social value have a positive and significant effect on WTP for both entertainment and information mobile services (Pihlström and Brush 2008, forthcoming). Overall, these findings indicate both an intersection and heterogeneity in the effects of the value dimensions on behavioral outcomes for information and entertainment mobile services.

Previous attempts toward comparing perceived value across different business fields and different types of services have been reported by a few researchers. For example, Sweeney and Soutar (2001) examined the effect of value on behavior, willingness to pay and WOM in two types of retail settings with stepwise regression, but did not explicitly compare the effects across these business fields. Furthermore, some attempts have been made to compare intentions to use different types of services. Van der Heijden (2004) studied differences in user acceptance of hedonic and utilitarian information systems. Another notable example of efforts to compare different service types is by Nysveen et al. (2005b), which is one of the few studies conducted in a mobile service setting. Nevertheless, both van der Heijden (2004) and Nysveen et al. (2005b) applied TAM, using measures such as ease of use, usefulness and enjoyment, in contrast to the value-oriented measures used in this thesis, as well as in Sweeney and Soutar's (2001) study.

Nysveen et al. (2005b) studied differences between goal directed services (text-messaging and payment) and experiential mobile services (gaming and contact services such as mobile and TV chat). Their findings indicate that the type of service, goal-directed or experiential, is a useful construct in explaining antecedent effects of service characteristics on intentions to use services. However, they did not find differential effects of usefulness on intentions to use services across these service types, in contrast to their expectations and previous literature (Nysveen et al. 2005b). The results of this thesis found differential value-based effects, possibly due to a wider range of different types of services included in the analysis. The findings of this thesis indicate that mobile services may be grouped into entertainment- and information-based services, because information service users' repurchase intentions are mostly influenced by convenience

value, while entertainment service users' intentions are dominated by emotional value (Pihlström and Brush 2008, forthcoming).

### 3 RESEARCH METHODOLOGY

In this chapter, the methodological meta-considerations about how the ontological and epistemological views have influenced the chosen research methods are first described. Second, the chosen sequential research process using mixed methods is described. Third, the research process section starts by describing the research paradigm and the measurement development process. It continues by first elaborating on the abductive<sup>5</sup> qualitative phase of the research process described in the first paper, and then describes the deductive stages used in the second, third and fourth papers. More detailed descriptions of the methods used, and reliability and validity of the measures can be found in the full text papers in the appendix 3.

#### 3.1. Methodological meta-considerations

The dominant paradigmatic position in consumer research has historically been some form of 'positivism' (Tadajewski 2006). Similarly, brand loyalty research has its origins in the logical empiricist paradigm that emphasizes objective reality measured by purchase behavior data (Arndt 1985). The other paradigmatic extreme in loyalty and value literature is more subjective and humanistic, allowing interpretation of the social world through personal experience. Researchers who follow the more subjective view of reality tend to choose qualitative techniques, which strive for in-depth understanding of phenomena. In similar vein, motivation research on value and loyalty that has for example resulted in psychographic segmentation of customers in marketing science usually follows an interpretive approach in the subjective world exploring 'why' and 'how' people do what they do (Tadajewski 2006).

However, my ontological world view is somewhere in between these extremes, combining ontological and epistemological views from both paradigms (Burrell, Morgan 1992). I think that observations are based on beliefs (Arbnor and Bjerke 1997) and data is interpreted based on theories (Boyd 1984; Peter and Olson 1983). I also recognize that no absolute truth can be found in social sciences, because perceptions are always dependent on the social interaction between the research object, researcher and in this case also the technology used to access the mobile service. Mobile technology adds an additional limitation to the extent that the reality can be observed, and to the extent that the reality or beliefs of it are true. The real physical environment can be extended because mobile services can be used anytime, anywhere, and the reality is experienced through portals where virtual and physical environments co-exist (Brey 2005).

I argue that different ways of conducting research complement each other (Tashakkori and Teddlie 1998). This thesis does test theory by estimating causal relationships, but not in the traditional positivist tradition that is considered value-free, time-free and context-independent (Mentzer and Kahn 1995; Denzin and Lincoln 2000). Instead, I

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<sup>5</sup> The abductive approach starts with real-life observations and continues with an attempt to find a matching framework and to extend the theory used prior to the observations based on the empirical findings (Dubois and Gadde 2002).

claim that beliefs and behavior are always context-dependent and value-laden. This is more in line with the relativist view asserting that knowledge is context-bound and that theories are used based on how useful they are in that context.

However, I also think that generalizations need to be made in order to make theory useful and managerially relevant. Generalization is a common aim of research predicting what a given segment of customers is most likely to do in any specific consumption situation. Nevertheless, previous research exploring situational influence has typically been interview-based and solely identifies certain patterns in behavior, not causal relationships (Tadajewski 2006). Therefore, this thesis has also been guided by epistemological principles common in post-positivistic research that measures attitudes and behavior, and estimates the plausibility, the 'truth value' of the findings, by analyzing causal relationships and their credibility (Patton 2002; Creswell 2003). Thus, in this thesis, perceived value of mobile services is first explored linked to a specific use context and service. Then, the causal relationships between context-related and content-related value dimensions and their direct influence on repurchase intentions and other behavioral outcome variables are verified.

In line with the Nordic School of Services Marketing view (see e.g. Grönroos 1991) emphasizing that service management is not limited to existing conceptualizations and norms, but new frameworks can be developed by using exploratory approaches, the author has applied mixed methods including both qualitative personal interviews and three individual quantitative surveys (Tashakkori and Teddlie 1998). These principles have guided the selection of the research topic, case studies and methods used in this thesis. Mixed methods are used increasingly for expanding understanding from one method to another, to converge or confirm findings from different data sources (Creswell 2003). The methods were chosen based on how they suited the research problem and the purpose of each study (Patton 2002).

### **3.2. Mixed methods used**

The rationale for using both qualitative and quantitative data was that a useful survey capturing customer perceived value in the mobile service context could best be developed only after an exploratory study with the end-users of services. The abductive approach starts with real-life observations and continues with an attempt to find a matching framework and to extend the theory used prior to the observations based on the empirical findings (Dubois and Gadde 2002; Kovács and Spens 2005). Exploratory, abductive research was needed in the beginning of the research process, in order to study what customers perceive valuable in mobile service, to create hypotheses and to support measurement item creation in the mobile service field, where research publications begun to emerge only after the research projects of this study were conducted.

This initial stage was abductive, because it explored unknown phenomena and linked the empirical findings to previous theories during the research process. The interviews resulted in preunderstanding of perceived value from the customers' perspective and helped to build measurement items for those value dimensions that did not have validated scales in previous literature. The qualitative study presented in the first paper,

Pura (2007)<sup>6</sup>, was used to build a new measurement instrument (Creswell 2003) and, later on, as an aid in building hypothesis and refining the research model. The first study allowed the respondents to reveal their inner motivations, what they value in mobile services and what influences their continuous use of services. The exploratory interviews were conducted using the critical incident technique, in which the context of the incident discussed is totally dependent on the respondent (Chell 2004). The users' voices were heard and their perceptions of what is important in mobile service use situations have been taken into account in the questionnaires used later on in the research process.

The quantitative parts followed the qualitative study, which was used to develop measurement items (Tashakkori and Teddlie 1998). The research process as a whole is characterized by a **sequential exploratory strategy**, because the parts were used in a sequential manner. The quantitative stages were used to validate the measures, test the proposed hypothesis, help to refine the conceptual models, and analyze the relationships between constructs used in this thesis. The use of a mix of methods adds to the reliability of measures and relevance of the research findings in the mobile service field.

As a whole, the dominant focus of the study is on the quantitative parts of the research presented in the second (Pura 2005), third (Pihlström and Brush 2008, forthcoming) and fourth paper (Pura 2007, forthcoming) exploring relationships between constructs and differences between user groups. These research stages were deductive in nature, because the hypotheses tested were largely based on previous value and loyalty literature. Some propositions were also created based on the findings of the first qualitative study and tested in the fourth paper (Pura 2007, forthcoming). Several possible models were tested during different stages of the study and creative thinking, testing and search for alternative theories from other fields were necessary to advance theory in the mobile field.

### 3.3. The research process

The whole research process including the initial personal interviews and three individual online surveys are described in Figure 7. The process started from the left and proceeded to the right, up the stages towards results and implications. The literature review was extended throughout the research process including literature about research methodology, value, consumption, and loyalty theories as well as about the influence of technology. The hypotheses and the measurement instrument development required extensive literature review in several fields in order to create valid measures in the mobile environment, where previous measures were not available. Support for item creation was sought from research method literature and customer perceived value and loyalty literature, primarily from measures tested in Internet service contexts. Technology oriented theories were reviewed later in detail for positioning and motivating the approach used in this thesis.

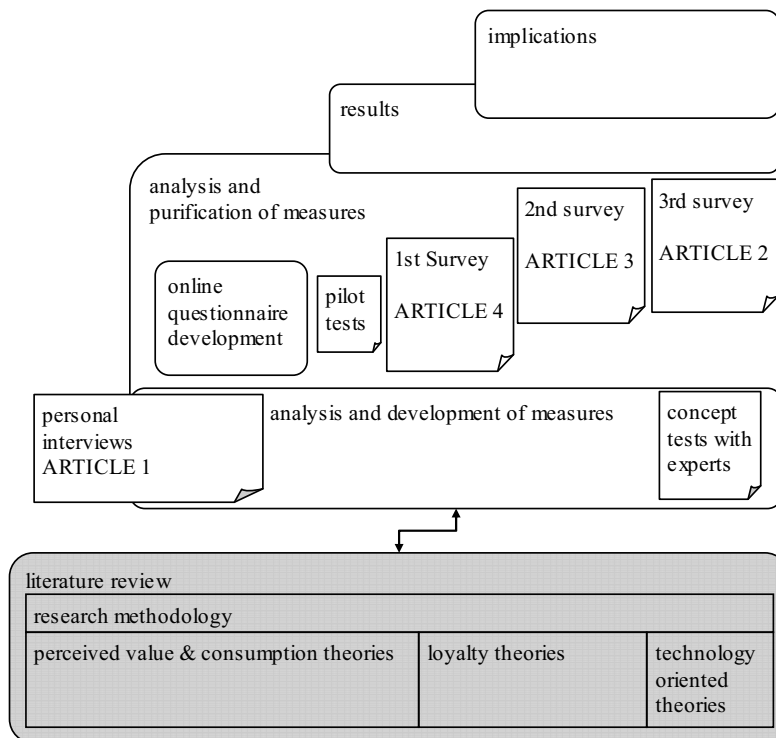
The research process started with a qualitative study that was used to explore customer perceived value of mobile services. The personal interviews are analyzed in the first

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<sup>6</sup> The qualitative study was conducted first, but published last of the four papers.

paper (Pura and Gummerus 2007). Then, based on the interview data, the second phase was to develop a measurement instrument. The created questionnaire items were subjected to concept tests with experts and the questionnaires were developed further after pilot tests with mobile service users. After that, a questionnaire was developed, produced online, tested and modified for three different target audiences and users of different types of mobile services.

The surveys were conducted in a sequential manner, each contributing to better validity of the measures. The items were purified in the process and some minor wording modifications were done to a few items for the second survey (published in the third article Pihlström and Brush 2008, forthcoming), and third survey (published in the second article Pura 2005) that did not perform well in the first survey (published in the fourth article Pura 2007, forthcoming). The measures used were in all surveys the same with the exception of a few items whose wording was revised slightly during the research process to better depict each individual service providers' services. The papers have been numbered in this thesis to describe the results of each study in the order they are presented in this thesis, which does not match with the chronological order of the conducted empirical studies or when each paper has been published.



**Figure 7** The different stages of the research process.

The research process continued by collecting data from users of various types of mobile services. The data was gathered with the help of three sequential surveys, and the results were analyzed and reported accordingly. Each study included several mobile services,

and therefore comparisons between different types of mobile services were possible. The same measures were used in studies 2, 3 and 4, but the research model was evolved during the research process and each paper analyzes the construct relationships from a slightly different perspective. Refined research models and the reviewer comments and requests on the papers have influenced how each paper has been finalized to an individual publishable entity. Since the hypotheses and research models were refined during the research process, the relationships tested are not the same in each paper.

The empirical methods used in the thesis are summarized in Table 3. Paper 1 used an abductive process and explored perceived value with the help of personal interviews. Papers 2, 3, and 4 are deductive in nature and were based on survey data collected with online surveys. The numbers of the respondents in each study are summarized in Table 3.

**Table 3 Empirical methods used.**

Paper	Empirical Methods Used	Respondents (response rate)	Approach
1	Exploratory personal interviews & Critical Incident Technique	31	Abductive
2	Online questionnaire (Fonecta; Where is the nearest?)	411 (22%)	Deductive
3	Online questionnaire (ZED; different types of services)	961 (n/a*)	Deductive
4	Online questionnaire (Huoneistokeskus; MMS service)	108 (n/a*)	Deductive

\* Invitation banner ad and link view and click data is not available.

Information about the respondent characteristics of the samples is provided in the individual papers. The first qualitative study reached a variety of mobile service users who had used different types of services, and consisted of both men and women between the ages of 15-59 years. The three survey research samples represented the user profile of the studied services well, according to the companies that co-operated in the research projects. The samples should also represent the mobile service users of the Finnish population relatively well, because the age, gender, and education levels of the samples seem similar to the characteristics of mobile service users in Finland according to market research data (Tekes 2001). In the market, use of specific mobile services varies somewhat between men and women, but in general men have been slightly more active users of mobile services. Mobile services are used by people of all ages (14-73 years old), although the majority of service users are aged 14-39 years (Tekes 2001). Entertainment services are more popular among younger users (Hyvönen and Repo 2005), which is also in line with the sample characteristics between entertainment and information service users of the third paper.

### **3.3.1. Criteria for selecting the respondents**

In this thesis all the empirical studies are targeted to mobile service users that have personally used the service in question recently. The prerequisite for respondent

recruitment and inclusion in the analysis was that they had experience in using mobile services. Respondents' personal experience of using the researched mobile services adds to the reliability of the results. Furthermore, services that are typically targeted to general users, not professional users were studied. According to respondents self-reported background information, they were not experts of new technology; many of the respondents rated their mobile service user experience as 'moderate'.

Researching mainstream customers' perceptions has been suggested to result in better results for marketing purposes than examining professional technology expert users' perceptions, because the general, mainstream customers tend to seek potential benefits in using the technology or a strong sense of practicality in using new solutions. The majority of users also may seek support for their purchase decisions mainly from service users in the same reference group as they are, not necessarily from the enthusiasts who may appreciate technology for its own sake (Moore 1991).

Technology experts are generally seen as early adopters that may use the services for different reasons than the general mainstream users, for example for testing them for professional purposes without a need for using the mobile content itself. "Early adopters are attracted by a revolution, but most people would want evolution" (Hoffmeister and Oudghiri 2004, p.15). Parasuraman and Colby (2001) also suggest that researchers should examine the low-technology-ready customers in order to learn how to design, support and talk about the technology.

### ***3.3.2. Language and constructs used to describe perceived value***

Before conducting the first interviews, the author considered alternative wordings in order to ensure that the studies measure perceived value as the respondents would describe it in their own language.

#### **3.3.2.1. Language of the interviews**

The personal interviews were conducted in the native language of the interviewees and the interviewers; whereby all but one interview were conducted in Finnish. One interview was conducted in Swedish, in which the interviewer is also fluent because she is bilingual. All the online surveys were conducted solely in Finnish (the mother tongue of 94 % of the population in the focal market). In the beginning of the research process, the translation of the concept of perceived value raised discussion. The author considered whether to use the term useful (*hyödyllinen*) or valuable (*arvokas*) during the interviews. Alternative wordings were considered and support was sought in the literature, and by interviewing academics and regular mobile service users. Next, the logic of how and why the author decided to use the term 'value' as a verb (*arvostaa*) instead of the noun 'value' commonly used in the academic literature is described. The verb value was used in the interview guide, during discussions, and consequently also during the concept tests, pilot tests and online questionnaire items for the following reasons.

The terms valuable and useful seem to have a utilitarian, goal-oriented connotation based on previous literature, because they have both been used to measure utilitarian value. The author postulates that if use is based on hedonic needs, it is depicted by other terms than useful. Hedonic value is better depicted with terms such as funny, enjoyable, amusing, and pleasant (Bearden and Netemeyer 1999; Spangenberg et al. 1997). In this line of reasoning, this would imply that the term valuable would best describe value of services that are useful and help reaching a goal effectively. However, people use mobile services also for other than goal oriented purposes and still perceive them valuable. Many of the services such as games offered today are purely entertainment oriented. Holbrook (1994) suggests that people may gain several types of value simultaneously from same service. Individuals can rationalize their use of enjoyable technology by stating: "I am voluntarily spending a lot of time on this and enjoying it, therefore it must be useful" (Agarwal and Karahanna 2000, p.676).

Consequently, the author was not sure if the Finnish-language term "useful" (hyödyllinen) would be used by regular mobile service users to depict also the enjoyment the service may create. In addition, the term valuable (arvokas) also has a connotation of high price, which the author did not want to emphasize in order not to exclude any mobile content services from the discussions. Moreover, if a service is highly priced, it does not necessarily mean that the perceived overall value of using the service is high.

On these grounds, the author started by exploring which term, valuable, useful or some other term would best depict perceived value in customers' own language, regardless of the nature of the service. The discussions with a few native Finnish speakers that had experience of mobile services revealed that academics chose the term 'valuable' (arvokas) to describe the overall perception of value gained by using the service. However, those who had no exposure to the English value literature terminology sometimes used the term 'useful' (hyödyllinen) also when talking about services mainly aimed at fulfilling purely hedonic needs. This may be due to the fact that in general discussions, people may rationalize their behavior by explaining the sought utilitarian benefits rather than stating service use for pure entertainment purposes.

Because it was not clear which terms would best capture the perceived value as an overall concept in a native language of the interviewees without biasing the discussion, the interviewers used instead *the verb 'value'*. Hence, the interviews were started with a general discussion engaged by a question: *What do you especially value (arvostat) in mobile services?* During these general discussions, the services that were considered totally 'useless' (hyödytön) as indicated by the respondents, were games and adult entertainment. However, the useful/useless dichotomy seemed to be independent from the perceived value. The following extract from an interview with a 30-year-old female illustrates that customers may perceive mobile services valuable based on the benefit sought. The benefit sought may be either utilitarian or hedonic or both. If service use is experiential and content is used for fun, the service may not be perceived useful and taken seriously, although it is perceived valuable.

*What do you especially value in mobile services?*

" Well...logos, ring tones and such."

*Why?*

“Those are the only ones that I personally...like, have any benefit from.”

*What kind of benefits do you gain?*

“Well, mainly fun, nothing that should be taken seriously, but it is nice to order them.”

This finding is in contradiction with some of the established measurement scales that measure value of the consumption benefits mainly in utilitarian terms. Therefore, to avoid this bias, the interviewers avoided using the terms useful or valuable while stating the questions. Instead, the respondents were encouraged to use their own language in elaborating on what they value in mobile services. Furthermore, the same logic was used in the wording of the questionnaire items. During concept tests and pilot tests, these questions seemed to work best for the Finnish-speaking sample. All the items used in the questionnaires were tested with concept tests involving academic experts and pilot tests involving mobile service users. Other terms than value did not raise considerations about the translation of the constructs used. The measurement development process as a whole is next described more in detail. The measurement items used in each paper are included in the attached published papers.

#### **3.4. Measurement development process**

Churchill's (1979) principles for developing measures of multiple-item marketing constructs were followed in this thesis. The process includes eight steps: 1) specifying the domain of construct, 2) generating sample of items, 3) collecting data, 4) purifying measures, 5) collecting data, 6) assessing reliability with new data, 7) assessing construct validity, and 8) developing norms. Similar principles have been used by several researchers (e.g. Sweeney and Soutar 2001; Tian, Bearden, and Hunter 2001; Wolfenbarger and Gilly 2003).

Preliminary understanding of perceived value of and loyalty to mobile services was created with personal interviews conducted in 2002 with end-users of different kinds of mobile services. The development of items was done using the following steps:

- 1) Specifying the domain of construct:
  - The constructs were defined based on previous literature and specified for the mobile service context according to the results of the personal interviews in study 1, which was conducted in 2002 (Pura and Gummerus 2007).
- 2) Generating sample of items
  - The questionnaire included items that were derived from the services marketing and loyalty literature, and new items developed through a qualitative study reported in Pura and Gummerus (2007). Items were modified from previous studies by selecting items that apply to mobile services and by

adapting the wording to fit the mobile service context<sup>7</sup>. Epistemic and conditional value measures had not been included in previous empirical value studies, and appropriate scales were not available. Sheth et al.'s (1991a,b) definition of epistemic value and Donthu and Garcia's (1999) wording of questions to measure innovativeness were used as references to develop epistemic value items. Each construct was assigned with 3-5 items.

- Language check: The questionnaire was first done in English. Then, the questionnaire was modified to the native language of the respondents (Finnish). Two Finnish language experts checked the language and understandability of the questions and a few modifications were made to the items. The original items in Finnish were then translated back into English in order to ensure that the meaning of the questions was the same. Differences were corrected by doing some modifications both to the Finnish version and English version mainly in the perceived value section of the questionnaire.
- Ensuring construct validity by letting five academic researchers that are experts in the field group the items according to the construct they measure. Items that did not correspond to the construct they were expected to, were deleted<sup>8</sup>. As a result of this first concept test, a few constructs had less than 3 items. Therefore, 2 new value items, 3 commitment and 2 willingness-to-pay items were created based on the experts comment to replace those that were deleted<sup>9</sup>. A second concept test with 5 academic experts was conducted. 2 items that did not correspond to the construct that they were expected to, were deleted.
- Additional comments from academic experts were gathered at a research seminar at Hanken and about 10 Ph.D. students who filled in the test questionnaire online.
- As a result of the comments the questionnaire was modified to address a certain mobile service or services for each case study separately.
- Additional comments were also gathered from company representatives that co-operated in the research.

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<sup>7</sup> For example, an item commonly used to measure loyalty: "Do more business with XYZ in the next few years"(Zeithaml et al., 1996) was adapted to the mobile context as follows: "I will use more services offered by this service provider in the future".

<sup>8</sup> 17 value items, 4 loyalty, and 3 outcome variables were deleted from the questionnaire after the first concept test.

<sup>9</sup> For example the following item: "I value the information offered by this mobile service that allows me to anticipate conditions" was replaced with a new item: "I value the information this service offers, with the help of which I get what I need in a certain situation" and the item "I value the location specific information using this mobile service offers" was replaced with the item: "I value the customized information according to my location, that I get by using this location based mobile service", which both performed better as a measure of conditional value than the previous ones.

- 3) Collecting data
  - Collecting data, (Case 1: Huoneistokeskus).
- 4) Purifying measures
  - The reliability and validity of the scale were tested with the help of the collected data for Case 1. The scales were purified and some items that performed poorly were modified for the next study.
- 5) Collecting data
  - Additional data was gathered from different kinds of companies to give indications of how generalizable the results discovered were across different services (Case 2: Fonecta). In addition, several different types of mobile services were included in the surveys. In Case 2 different types of mobile-location information were included. In Case 3 a variety of information- and entertainment-based mobile content services were studied. In order to be able to compare differences between perceived value of different types of services, services were grouped into entertainment- and information-based mobile content services (in Case 3: Zed), and differences between two mobile service user groups were analyzed.
- 6) Assessing reliability with new data
  - The reliability and validity of the scales were assessed and results analyzed and scales were further purified for each analysis.
- 7) Assessing construct validity
  - Construct validity was assessed for each study separately. The items included in the surveys were the same in each study, but some items were dropped during the scale purification process. The best performing items varied a bit between the individual studies (for example for commitment) and therefore the exact items used to measure one construct may vary across the samples.
- 8) Developing norms
  - The relationships between the constructs were analyzed with LISREL 8.54 and PLS-Graph 03.00.
  - Hypotheses were accepted or rejected and alternative structural models were tested.
  - Norms were developed by comparing results of the individual surveys and giving theoretical and managerial implications in each of the published papers.

Next the logic of analysis used in each paper is described more in detail.

### **3.4.1. Paper 1: abductive logic**

Conceptualizing perceived value in mobile services started as an abductive process (Kovács and Spens 2005). In abductive research process data is collected simultaneously to theory building which results in a back and forth direction between theory and empirical study (Dubois and Gadde 2002). The abductive approach starts with real-life observations and continues with an attempt to find a matching framework and to extend the theory used prior to the observations based on the empirical findings. (Dubois and Gadde 2002; Kovács and Spens 2005) This approach enabled the researchers to expand their understanding of both theoretical and empirical phenomena (Dubois and Gadde 2002), and to create new categories describing and extending the meaning of the value concepts used in earlier literature. For example, the personal interviews with the critical incident technique conducted in 2002 identified under which conditions mobile services are used in certain situations and what customers value in mobile content services.

The emerged aspects were categorized and support for naming and grouping the resulting higher-order value dimensions were searched from previous value literature. The emerged categories and previous literature were compared with several previous value frameworks and consequently the six identified value dimensions were named similar to terms used in previous literature. Moreover, support for grouping the value dimensions into two different level constructs was sought in marketing, social psychology and consumer behavior literature. Prior research in a mobile environment is scarce. Therefore an abductive research process that allows the researcher to explore the meaning of the construct without a pre-defined theoretical framework was well suited for this thesis for increasing understanding of what customers value in mobile content services.

The themes emerged from the empirical data, and a classification scheme was created. Furthermore, the researcher moved back and forth between the empirical data and previous theories in order to categorize the emerged themes logically. This abductive phase resulted in a conceptual mobile perceived value framework presented in Pura and Gummerus (2007), which was applied in the further quantitative studies. The interviewees' wordings were also used to create measurement items for the subsequent empirical studies.

#### **3.4.1.1. Critical incident interviewing technique (CIT)**

The Critical Incident Technique employed produced rich data that describes the use situation, perceptions of services and to some extent the consequences of use in the customer's own language. The 31 interviews started by presenting a list of mobile services that were offered in the focal market at the time of the study and the respondents were asked to indicate which mobile services they had used. We continued with neutral discussions of why they use some services and don't use others. These steps are not analyzed in this thesis; they were conducted in attempt to get the interviewees in the right state of mind focusing their thoughts on mobile service use experiences and to prepare them for the critical incident part of the interview. Such introduction procedures are also recommended by Flanagan (1954), in order to conduct

critical incident studies successfully. After the warm-up discussion, we proceeded with the critical incident interview and after that the respondents filled in a short questionnaire of background variables.

For exploring the critical incidents in detail, the interviewees were asked to describe one situation where they perceived a mobile service to be especially valuable to them, and elaborate on why, what happened in that specific situation, and whether they are going to use the service again. Thus, the study focused solely on positive incidents, i.e., specific use situations in which the customer has perceived the mobile service as especially valuable<sup>10</sup>. This study applied the criteria of a CIT used in service research. An incident is labeled critical if the customer is able to recall the incident when asked about memorable situations interacting with the service provider (Roos 2002). The 31 interviews done for the first study resulted in 25 positive critical incidents related to concrete use situations.

The value attributes that were derived from the CIT interviews conducted in 2002 are reported in Pura and Gummerus (2007). In line with the abductive reasoning, called theory matching by Dubois and Gadde (2002), the researchers looked for value theories from different fields while categorizing the emerged value attributes and tried several possible solutions to categorize the data. The main theories considered were: utilitarian vs. hedonic value (Hirschman and Holbrook 1982), sacrifices and benefits (Zeithaml 1988), functional, symbolic, experiential benefits (Park, Jaworski, and MacInnis 1986) and consumption values (Sheth et al. 1991a). The final framework was constructed by categorizing the lower level attributes according to principles suggested in consumption value literature. Thus, the analysis of the first qualitative explorative study was a recurrent interplay between the empirical data and existing theories.

Data acquired with interviews using the critical incident technique were analyzed with content analysis using methods suggested in grounded theory: inductive categorization, comparisons for similarities and differences (Spiggle 1994) and analysis of causal conditions. Nvivo software was used as an aid in the analysis. The data of the first study were analyzed several times before finding a logical conceptual solution.

The qualitative research approach in the beginning of the process resulted in pre-understanding of what customers value in mobile services and resulted in creation of a measurement scale for epistemic and conditional value. The qualitative research concluded with proposed hypotheses that suggest relationships between the emerged constructs in the mobile service context. The interviews revealed that people tend to differentiate between their commitment to the mobile content provider and their commitment to the mobile channel, although previous literature has not conceptualized these as separate constructs. The hypotheses were tested in later phases of the research process with quantitative methods. These methods are described next.

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<sup>10</sup> See for more discussion of the CIT method in Contribution to the methodology chapter.

### ***3.4.2. Papers 2, 3 and 4: deductive logic of the surveys***

The research process continued with developing questionnaire items to measure perceived value, commitment, repurchase intentions, WOM and willingness-to-pay more in the mobile service field. This process was deductive in that previous literature was used as an aid in scale item development and the formulation of research hypotheses, and testing of hypotheses with SEM. Hypotheses were developed based on the first qualitative study as well as empirical results reported in the service marketing and technology acceptance literature. However, some of the hypotheses were propositions that did not have strong support in previous literature. An exploratory approach in testing alternative competing research models and omitting insignificant paths from the models later on in the process was necessary.

Although structural equation modeling requires strong theoretical grounds, testing competing models is recommended in order to find the optimal solution and best model fit. Due to the somewhat exploratory testing of relationships between the constructs in the research model, it can also be argued that the methods used in papers 2-4 are not purely deductive. However, rigorous quantitative techniques were applied in order to test the propositions and more grounded hypotheses in practice.

Structural equation modeling (SEM) is useful in testing theoretical models that contain several dependence relationships. It can examine a series of dependence relationships simultaneously. In doing so, it examines the structure of interrelationships similar to series of multiple regression equations. SEM's foundation lies in two multivariate techniques, factor analysis and multiple regression analysis that measure both the measurement model and the structural model. Therefore it is unique in using a combination of both interdependence and dependence based techniques. (Hair, Black, Babin, Anderson, and Tatham 2006) Software specially developed for SEM analysis include LISREL, AMOS and PLS, among others.

In this thesis, LISREL 8.54 and PLS-Graph 03.00 were used. LISREL employs covariance analysis and PLS employs partial least squares. The main difference between these techniques is the following. Covariance-based SEM in LISREL can use several methods, of which maximum likelihood (MLE) is the most common and default method. The aim of covariance-based techniques is to compare the observed and estimated covariance matrixes. Models that produce an estimated covariance matrix which is within sampling variation of the observed matrix, fit the data well and are generally thought of as good models (Hair et al. 2006).

In contrast, partial least square based SEM is designed to explain variance. It uses ordinary least squares (OLS) as its estimation technique and performs an iterative set of factor analyses combined with path analysis until the difference in the average  $R^2$  of the constructs becomes insignificant (Gefen, Straub, and Boudreau 2000). For this reason, PLS is also suitable for small sample sizes and does not require multivariate normal data (Chin 1998). It has also been suggested to be suitable for predictive applications and theory building, but can also be used for confirmatory analysis (Gefen et al. 2000). PLS is used increasingly in information systems and management literature (Chin and Todd 1995; Gefen et al. 2000) although LISREL is still more common in marketing literature.

The partial least squares (PLS) approach using PLS-Graph 3.0 was used to estimate the measurement and the structural parameters in the structural equation model in Pura (2007, forthcoming), because the sample size, 108 respondents, was too small for LISREL. LISREL is more sophisticated software and it also allows for comparing two or several groups with the multi-group function. Therefore, LISREL was used in the second Pura (2005) paper and third Pihlström and Brush (2008, forthcoming) paper.

In the second, third, and fourth papers, the data was first purified by using exploratory factor analysis in SPSS. In the second and third papers, the quality of the measurement model on unidimensionality, convergent validity, reliability and discriminant validity with the constructs was assessed using confirmatory factor analysis in LISREL 8.54. Furthermore, the hypothesized relationships between the constructs in the structural models were tested with the help of LISREL 8.54. In the third paper (Pihlström and Brush 2008, forthcoming), a multi-group structural equation modeling feature in LISREL 8.54 was used in order to compare the structural models of two user groups. In the fourth paper Pura (2007, forthcoming), PLS-Graph 03.00 was used to estimate the quality of the measurement model on reliability of the results. The bootstrapping method was used to validate the model by drawing 1000 subsamples (cf. Mooney 1996).

The quality of the measurement and structural models presented in the papers were acceptable according to guidelines given in the literature (see e.g. Chin 1998; Fornell and Larcker 1981). (See validity and reliability results in the attached papers).

## 4 SUMMARY AND CONTRIBUTION OF EACH PAPER

Next, the focus, method and contribution of the four papers are summarized. The summaries are followed by a discussion of the results and their theoretical and managerial implications.

### 4.1. Paper 1: Discovering user perceptions of mobile services

The first paper builds the foundation of the thesis by exploring customer perceived value in the mobile service field, where prior research was scarce. The purpose of this paper is to analyze what users perceive as valuable in different types of mobile services in everyday life situations. The Critical Incident Technique (CIT) was employed in an explorative way that discovered solely positive critical incidents which is considered helpful in discovering the underlying value perceptions. 31 personal interviews with mobile service users resulted in descriptions of 25 positive critical incidents when users perceived mobile services to be especially valuable to them, descriptions of reasons why and under which conditions they had used the service, and descriptions of consequences of service use in their own language.

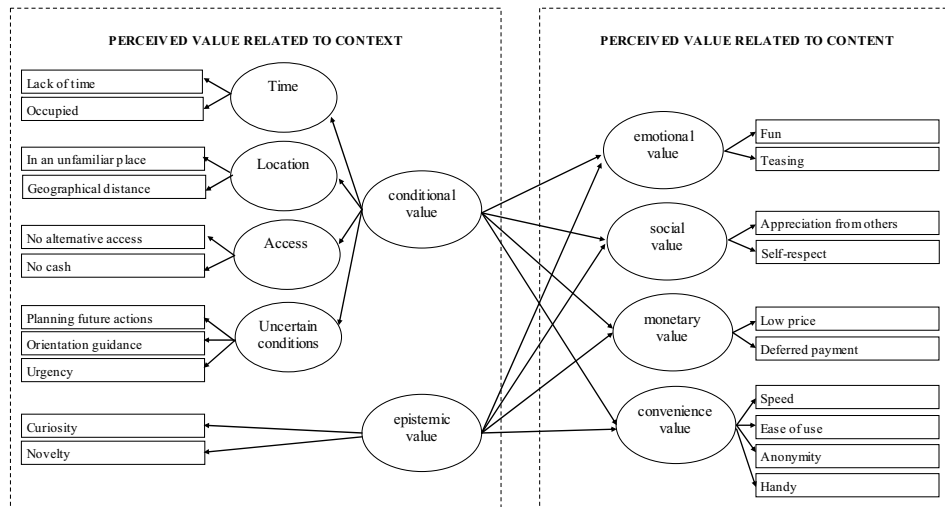
Existing value literature may not explain adequately how the ubiquitous mobile services provide value beyond traditional commerce (Watson et al. 2002). The findings reveal multiple subdimensions of perceived value, some of which have not been reported earlier in e-service contexts (e.g. self-respect, deferred payment, and anonymity). The results complement previous value theories and help further conceptualization of perceived value of electronic services by giving concrete meanings to the value dimensions in the mobile service field. The emerged subdimensions of value were structured into the following six value dimensions: conditional, epistemic, emotional, social, convenience and monetary value. These dimensions were further grouped into context- and content- related value perceptions.

Earlier research has encouraged new conceptualizations of epistemic and conditional value and empirical research testing how they may be related to the other value dimensions (Sweeney and Soutar 2001). The resulting conceptual framework is presented in Figure 8. This model differs from previous conceptualizations of value in three ways. Firstly, it includes six dimensions that are independent of each other. Secondly, it categorizes value dimensions into two different level value constructs; 1) context- and 2) content-related perceived value. Thirdly, the author proposes that the context-related perceived value (conditional and epistemic value) enhance the experienced content-related value (emotional, social, monetary and convenience value). The suggested antecedent role of epistemic and conditional value is tested further empirically in the third paper (Pihlström and Brush 2008, forthcoming).

In conclusion, based on the empirical findings, a perceived value framework of mobile services presented in Figure 8 is proposed, which helps to understand the multifaceted nature of perceived value from a customers' point of view. The framework recognizes context-related value enhancing elements that are mainly temporal in nature. The study also illustrates how important conditional factors are in influencing use of mobile

services in addition to customers' more permanent perceived value and preferences that are related to the mobile content itself. Taking into account situation-specific factors may help positioning of mobile services in relation to other electronic services and in relation to competitors' services.

One service can generate several dimensions of perceived value to the user, therefore the value of the mobile content service should be communicated linked to a relevant use situation. The situations described in this study may be used for marketing communication purposes to illustrate example situations where mobile services are extremely valuable to users (e.g. when in a hurry, occupied, in an unfamiliar place, lost, without any cash).



**Figure 8** The mobile perceived value (MPV) framework (paper 1, see p. 151).

The paper increases understanding of what customers find valuable in mobile content services in specific use situations. Proposing that the context-related perceived value influences content perceived value contributes to previous value literature. Although perceived value is traditionally seen as situation-dependent, previous literature has not explicitly acknowledged use conditions other than acquisition value (Monroe and Chapman 1987).

According to our findings, context-related conditional and epistemic value exists mainly temporarily, under certain conditions in which the value of a mobile content service is enhanced. For example, mobile weather report content is often ordered under uncertain weather conditions, while planning activities for the next hours or days. The mobile weather report can be automatically customized to the users' location or the location-specific report can be ordered for a specific location and time. Compared to e.g. a weather report on television or the Internet, the mobile content is always up-to-date and gives more customized information. This type of new mobile content also attracts people to test services just for curiosity reasons. Although it is difficult to anticipate situations in which people will use mobile content services, the results of this study should give some implications of under which conditions mobile content services are

preferred by users for other alternative ways of accessing the content. Furthermore, the findings of this study emphasize the need for a multidimensional value framework that recognizes factors influencing mobile service use in situations where they are typically used.

#### **4.2. Paper 2: Linking perceived value and loyalty in location-based mobile services**

The second paper examines how the six value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) influence directly both commitment and repurchase intentions. This paper focuses on location-based mobile services. An online survey was conducted for users of a mobile location-based directory service "Where is the nearest?" The analyzed sample consisted of 279 answers. The results were analyzed with structural equation modeling using LISREL.

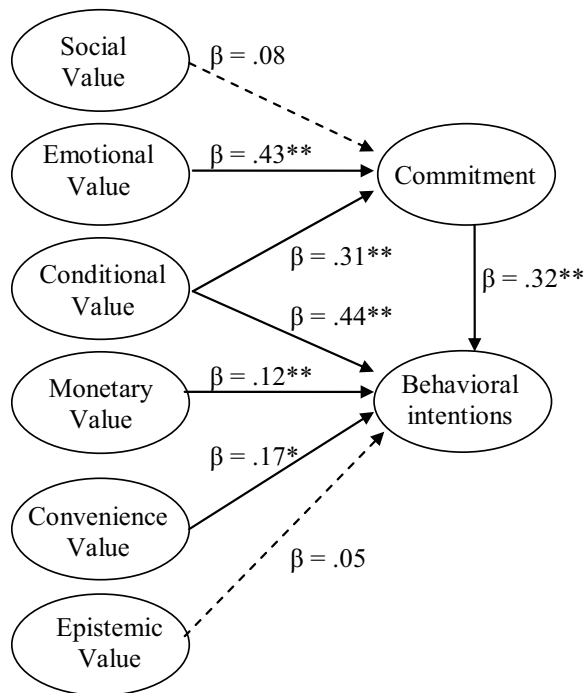
The results from the study show that the fundamental value of location-based mobile services lies in the conditional value of getting customized information based on the users' location. Mobile location-based services track the users' location automatically and can customize the service offerings accordingly. The results of this study show that both commitment and behavioral intentions to use location-based services are strongly influenced by conditional value, including the context in which the service is used. This is in contrast to industry reports that state convenience and enjoyment as the major drivers of using mobile location-based services (Ince 2005), which thereby underestimate the true value of location-based information. The dominant influence of conditional value on behavioral intentions in this study shows that customers value information which is customized according to the current location; this being a competitive advantage of the mobile service compared to other alternative service channels.

Furthermore, as expected, behavioral intentions were influenced by commitment, convenience and monetary value. A surprising finding was the dominating direct effect of conditional value and commitment compared to the minor effect of convenience and monetary value on behavioral intentions. These results show that enhancing commitment is essential for driving location-based service use. Commitment can be enhanced through communicating emotional value and conditional value. The influence of social and epistemic value on commitment and behavioral intentions was not significant in this study. The reason for the insignificant relationship between social value and commitment may be in the nature of the studied service that is mostly used alone.

The lack of influence of epistemic value on intentions in this study was seen as an indication that epistemic value only triggers service use for the first time and therefore should not be expected to have a direct positive influence on behavioral intentions in the long run. Nevertheless, the antecedent effect of conditional and epistemic value on intentions was not yet estimated in this paper, because the author followed strictly the value conceptualization of Sheth et al. (1991a) that defines all value dimensions as being on the same conceptual level. The findings of this study and the first paper

resulted in testing alternative research models in the third paper (Pihlström and Brush 2008, forthcoming).

From the results illustrated in Figure 9 one can also draw conclusions on how to increase awareness of location-based services in a way that communicates how location-based services create value for customers. The minor influence of monetary value compared to other value dimensions implies that value measures which emphasize price perceptions and value for money should be extended to include also other aspects that are more relevant for mobile content service users in possibly spontaneous service use situations. Thus, this paper contributes to value and loyalty literature by introducing relevant value dimensions in location-based mobile service use situations that influence behavioral intentions. Furthermore, the paper demonstrates the importance of emotional value in building commitment to the service provider, which in turn also affects behavior.



Notes:  $^{**} p < .01$  and  $^* p < .10$

**Figure 9 Results of structural model (paper 2).**

Furthermore, analyzing the direct influence of several value dimensions on commitment and repurchase intentions is essential for creating value-based marketing strategies for enhancing commitment and/or for enhancing loyal behavior. Normally, companies strive for both, i.e., to reach committed customers that purchase frequently. However,

increasing competition may force organizations to follow different strategies. For example, attracting competitors' non-committed customers to switch providers and thereby aim at increasing merely repurchase intentions. The paper contributes to service marketing literature by introducing a multidimensional perceived value model for assessing the direct influence of value both on commitment and repurchase intentions. Implications are given for differentiated marketing strategies according to perceived value and type of customer loyalty. Effective marketing strategies need to take into account the contextual use and emphasize either convenience or emotional value, or even both, depending on if the aim is to enhance commitment and/or behavior.

#### **4.3. Paper 3: Comparing the perceived value of information and entertainment services**

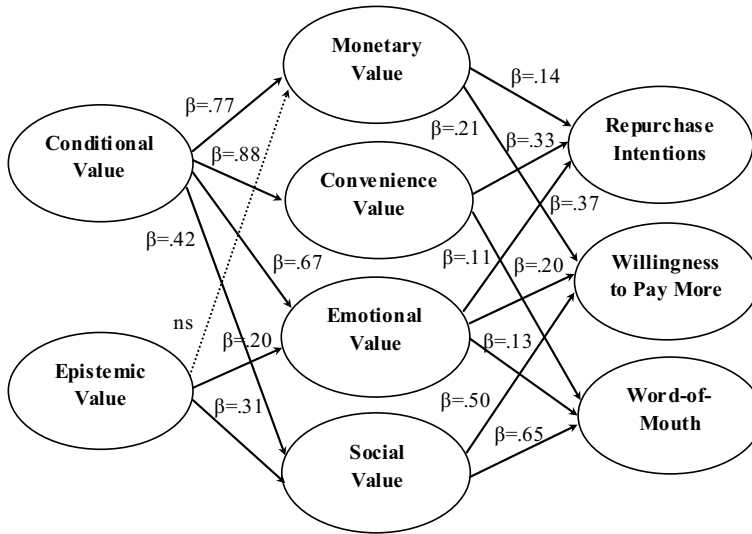
The third paper adds to the findings of the first and second papers by examining not only the direct influence of value dimensions on repurchase intentions but also on willingness to pay more for services via the mobile channel as well as on intentions to spread positive WOM communication. Furthermore, the antecedent role of epistemic and conditional value proposed in the working paper published later in 2007 is now analyzed empirically (Pura and Gummerus 2007).

Theories for differentiating, targeting and marketing various mobile content services are needed to attract customers to use the services and market them to their peers. Analyzing the direct relationships between multidimensional constructs is necessary for identifying differences across service categories (Bloemer et al. 1999). As a response to several calls for investigating the direct effect of value dimensions (Dubé et al. 2003; Lin et al. 2005), this paper examines if there are differences between information and entertainment mobile services users in how their customer perceived value influence 1) intentions to repurchase, 2) intentions to spread positive WOM, and 3) willingness-to-pay a price premium.

An online questionnaire was employed to collect data from users of various mobile services. The services used were grouped into information and entertainment based services in order to compare the influence of value dimensions between these two service user groups. The analyzed sample consisted of 402 entertainment service users and 177 information service users, in total 579 responses. The results of entertainment services and information services were compared by using a multigroup structural equation modeling approach with the help of LISREL.

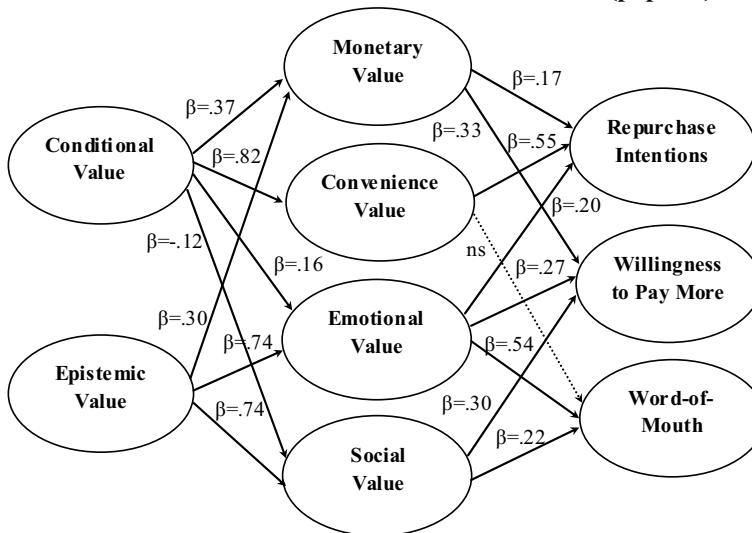
The study contributes to perceived value and loyalty by identifying differences between information and entertainment mobile service users' perceived value. The multidimensional value and loyalty constructs were found suitable for examining potential differences between services. Examining direct relationships between value and loyalty constructs and the antecedent effects of conditional and epistemic value increases understanding of the relationships between value dimensions and their influence on post-purchase behavior. Furthermore, the findings provide empirical evidence that intentions to repurchase, WOM and willingness-to-pay for different types of mobile services are determined by different value propositions. The results of

multigroup structural equation modeling are summarized separately for the entertainment sample in Figure 10 and for the information service sample in Figure 11.



Notes:  $p < .05$ , ns = non-significant. See significance levels in Table 4, p. 217

**Figure 10 Results of entertainment services structural model (paper 3).**



Notes:  $p < .05$ , ns = non significant. See significance levels in Table 4, p. 217.

**Figure 11 Results of information services structural model (paper 3).**

Entertainment service users' repurchase intentions were primarily influenced by emotional value in contrast to information service users' intentions, which were principally influenced by convenience value. However, emotional value influenced also

information service user's repurchase intentions, WOM and willingness-to-pay. Furthermore, emotional use experience seems also to promote well positive WOM behavior. Social value has a stronger influence on WOM behavior and willingness-to-pay for entertainment service users than for information service users. Conversely, similar emotional value effects on willingness-to-pay were identified for both entertainment and information services.

This paper has three main contributions to perceived value and loyalty literature. Firstly, the authors have shown that in a mobile service context, a multidimensional view of value is necessary. Value for money or customer sacrifices appear to not dominate perceived value orientations in the mobile field to the same extent that they seem to in the consumer goods industry (Sweeney and Soutar 2001). In contrast, convenience and emotional value seem to be more important than monetary value for both user groups. In addition, although previous literature has suggested that conditional and epistemic value are different level constructs than the other value dimensions, this study is one of the first to empirically test the antecedent role of epistemic and conditional value. We found empirical support for the role of epistemic and conditional value as antecedents that enhance emotional, social, monetary and convenience value derived from the use of mobile services.

Secondly, we linked perceived value to repurchase intentions by analyzing the direct influence of four value dimensions on three post-purchase intentions. The existence of differential value effects on repurchase intentions and WOM versus same effect on willingness-to-pay supports the use of multidimensional value and behavioral outcome constructs, and the importance of testing the direct effect of perceived value on behavioral outcomes across different services.

Thirdly, we identified differences in the influence of perceived value between entertainment and information services users that are in line with the Internet service literature, yet do not directly support the hedonic vs. utilitarian value dichotomy (Hartman, Soyeon, Barber, and Matthew 2006). Emotional value was in this study found to influence both entertainment and goal-directed information content use. This indicates that the emotional experience in mobile service use is important irrespective of the type of mobile content used. The importance of social value in this study supports also expansion of the utilitarian-hedonic value dichotomy to include a social dimension.

There was found to be heterogeneity in some value-behavioral intentions relationships, in others the effects were similar across the two groups. Through understanding differences in the perceived value of entertainment and information service users, a marketer can create targeted marketing strategies for dissimilar segments and plan marketing communications that address the critical motivations driving continuous use, WOM and willingness-to-pay. In conclusion, the findings support the use of multidimensional value and loyalty constructs to identify differences between service user groups, and argue for the use of differentiated value-based marketing strategies for entertainment and information service users.

#### 4.4. Paper 4: Committed to content provider or mobile channel? Determinants of continuous mobile multimedia service use

The fourth paper analyzes further the indications found in the interviews reported in Pura and Gummerus (2007) that people tend to differentiate between their commitment to the mobile content provider and their commitment to the mobile channel. Commitment to the mobile channel is expressed with preference for using a mobile device for accessing services, even if there are other service channels available (Internet, store, personal service etc.), and the mobile device having personal meaning for the user<sup>11</sup>. Even if people may be disloyal to their service provider they can still be committed to use their mobile as a preferred service channel in the future. Nevertheless, the role of the mobile channel as such was further examined first in this paper. Including both customers' preferences for the content provider and the channel used is necessary for exploring further how to increase continuous use and, thereby also revenue per user, in the mobile service market. Perceived value literature combined with commitment literature gave new insights into what affects continuous use of multimedia content and what the end-users of the mobile multimedia content perceive as valuable in them.

Data was gathered with an online questionnaire targeted to users of mobile multimedia service (MMS) content of a real estate agent. The analyzed sample consists of 108 respondents. Partial least Squares (PLS) was used to estimate the structural equation model. The aim of this paper was to analyze the relationships between perceived value of the service, and commitment and repurchase intentions to use both the mobile channel (technology as such) and the content provider (organization providing the service). The paper contributes to the services marketing field by exploring how value propositions influence commitment and intentions to use the mobile channel as did also Pura (2005). The role of the mobile channel as such is in this paper explored further and indications of dissimilar effects on the commitment to provider and to the mobile channel are identified. The role of the channel is important in multichannel environments where there are several alternative distribution channels.

This paper also fills a gap in the information system literature by analyzing attitudinal commitment to the service provider, which frequently used technology acceptance models (TAM) ignore. Technology acceptance models estimate feelings towards systems, software or technology, but ignore users' attitude towards the organization providing the content. This paper fills the gap by using commitment literature emphasizing the emotional attachment to the provider organization.

The results in Figure 12 confirm the findings reported in Pura (2005) by showing that building a loyal customer base<sup>12</sup> that prefers to use one content provider's services also in the future, requires that the users are committed to that specific content provider.

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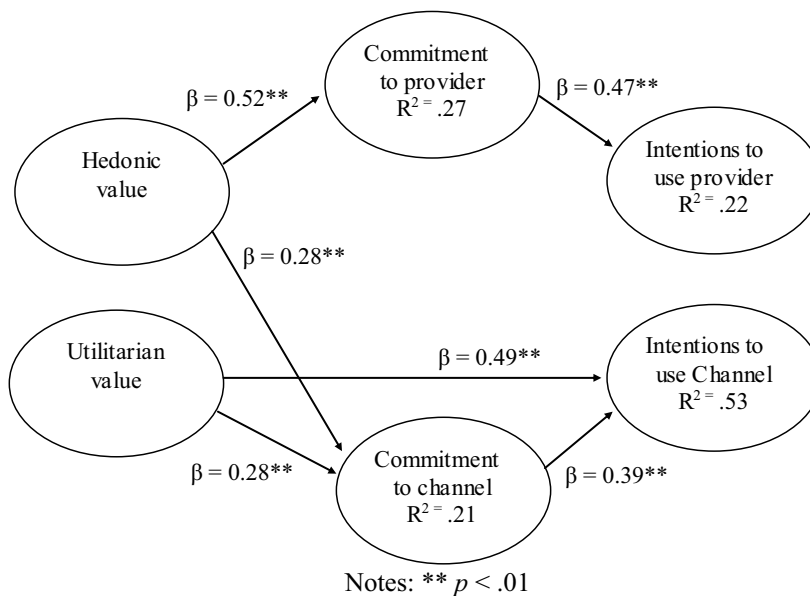
<sup>11</sup> In paper four the term user instead of customer was used, because user is widely used in IS literature and this paper is published in an IS journal.

<sup>12</sup> In the paper four a term 'wide audience end-users' is used because the paper is published in a wide audience end-user special issue. This term is used in information systems literature in order to highlight the difference between organizational system use and personal system use. Wide audience refers to end-users that are out of the reach of organization and may use the systems mainly for personal reasons, not for work related tasks. This dissertation focuses on BtoC services and thereby all the services analyzed are thus targeted mainly on wide audience end-users.

Intentions to use the same service provider again were found to be directly influenced by commitment to the provider, and indirectly by perceived emotional and social value of MMS content indicated as hedonic value in this study.

New findings were that commitment to channel and commitment to provider were found to be mediators between hedonic value of the content and intentions to use the channel and the provider. Moreover, the utilitarian value of the content (convenience value and monetary value), in information systems research also referred as ‘usefulness’ of the content, influenced intentions to use the mobile channel as such.

Thus, the results of this paper show that utilitarian value has a positive direct effect on channel commitment and on intentions to use it. This finding supports previous TAM results that emphasize the ‘usefulness’ of the technology in explaining behavior (see e.g. Curran and Meuter 2005). However, most importantly, commitment to provider was in this study solely influenced by the hedonic value (emotional and social aspects) of MMS use. In this vein, utilitarian value had no effect. This is an important finding, because it suggests that utilitarian aspects, such as ‘usefulness’ of the content, seem to have no significant influence on commitment or future use of the same provider. Thereby also indicating that TAM models that do not take into account the emotional and social aspects may not capture the aspects that are important in building a committed user base that will use one content provider’s services in the future.



**Figure 12 Results of structural model (paper 4).**

Thus, in order to build a committed user base and thereby increase average revenue per user, companies could aim at building higher commitment to the provider by increasing and emphasizing the hedonic elements of the mobile service use experience. Another alternative may be emphasizing the utilitarian value of the content in order to attract

new mobile service users. However, communicating utilitarian benefits may not result in a committed customer base, but rather, in a pool of customers that may use several content providers' services. Cross-effects between commitment to channel and provider, between intentions to use provider and channel, between commitment to channel and intentions to use the same provider, and between commitment to provider and intentions to use the mobile channel were also investigated. However, no significant cross-relationships between channel and provider constructs were found in this sample.

In conclusion, the paper provides evidence that commitment to and intentions to use the technology (mobile channel) and the organization (mobile content provider) are separate constructs that are influenced by different value perceptions. In order to identify the differing effects, analyzing both customers' preferences for the content provider and the channel used are encouraged in future research. Including both constructs is important for exploring further how to increase continuous use of mobile services. In addition, the value-based theories are expected to increase understanding of why customers perceive MMS content valuable. This information is necessary for service developers and marketers who communicate the value of the content to the potential users. Effective marketing strategies should primarily attract target audiences that will continue to use MMS after trial and are committed to use the same service provider also in the future.

## 5 CONTRIBUTION

The chapter starts by summarizing the main theoretical contribution of the thesis as a whole, and stating one methodological contribution of the thesis. Next, the findings are discussed. The chapter will conclude with a separate section for managerial implications, discussion of the limitations, and suggestions for further research.

### 5.1. Contribution to theory

The theoretical contribution of this thesis was also presented in the second chapter 'Linking perceived value with loyalty', where the findings were added to previous research. The theoretical contribution of this thesis can be summarized in four key aspects.

Firstly, the thesis identified what customers value in mobile content services and under which circumstances mobile services are used. The author created a perceived value framework that structures value attributes into six individual perceived value dimensions. The value dimensions include also social appreciation gained by service use, which has been ignored in most mobile service research so far. In contrast to traditional perceived value measures that emphasize value for money, this thesis showed that for mobile content users other value dimensions such as convenience and emotional value are more important than monetary value. Moreover, the thesis concludes that these value dimensions can be grouped into a utilitarian and hedonic value dimensions, but propose that the hedonic vs. utilitarian dichotomy should be extended to include also social value.

Secondly, the six individual value dimensions were grouped into two different level constructs; context- and content-related perceived value. This advances perceived value literature in general, by showing that conditional and epistemic value are antecedents of emotional, social, convenience and monetary value and enhance the content-related perceived value.

Thirdly, analyzing the direct relationships between six individual value dimensions and four individual behavioral variables resulted in heterogeneous value-based effects on commitment, repurchase intentions, and WOM, while no differences were found on the value-based effects on willingness-to-pay. Therefore, conceptualizing value and loyalty as multidimensional constructs and measuring the direct relationships between individual value and loyalty dimensions is recommended also in future research in order to capture the heterogeneity of perceived value of different types of services and differences in its influence on loyalty for different segments of service users.

Fourthly, differential value-based effects on the provider-specific (content provider organization) and mobile channel-specific (technology) commitment and repurchase intentions were found, which illustrates that services that are delivered through self-service technology include channel specific elements that should be taken into account in addition to commitment to the provider organization. The drivers of commitment to provider organization and drivers of commitment to the mobile channel are different

and therefore theories should consider both variables as individual constructs. Cross-relationships were explored in this thesis, but further research is needed to make conclusions of the effects of the channel used on loyalty to one content provider organization.

## **5.2. Contribution to methodology**

The critical incident technique was in this study used to explore what customers perceive valuable in mobile services. The critical incident technique has not been extensively used in such a manner previously. Previously, critical incident technique has been used in services marketing literature for example to explore service breakdowns (Edvardsson 1992), switching behavior (Edvardsson and Roos 2001; Keaveney 1995), service encounters (Bitner, Booms, and Tetreault 1990), relationship quality (Edvardsson and Strandvik 2000), affective reactions (Grace 2007), and satisfaction with self-service technologies (Meuter et al. 2000). It is considered well suited for discovering value-enhancing service components (Stauss 1993), as well as a useful method in exploring little-known phenomena, and valuable for identifying issues that have not been considered in previous literature (Bitner et al. 1990; Gremler 2004). Most importantly, the incident-based approach has been found to identify special and concrete customer needs that are not necessarily revealed by attribute-based methods (Stauss and Hentschel 1992).

Most of the critical incident studies in the service marketing field ask people to describe both extremely positive and negative incidents, or solely negative incidents (Edvardsson 1992). However, the technique was originally meant to be “a flexible set of principles which must be modified and adapted to meet the specific situation at hand” (Flanagan 1954, p. 9). Flanagan’s (1954) guidelines for using CIT start with deciding the purpose of the study and formulating the questions accordingly. His interview guides also include examples that probe only for positive incidents (for example incidents that were ‘very helpful’ in meeting production schedules). Moreover, further research has been encouraged to explore new creative ways of using the method (Gremler 2004). Positive incidents have been successfully used in the self-service technology field to describe e.g. satisfying incidents that reveal why self-service technologies are used. In contrast, negative incidents in self-services tend to focus on dissatisfaction due to technological failures (Meuter et al. 2000). Because the focus of this study is discovering positive perceived value, solely positive incidents were explored.

The results showed that studying positive situations with critical incident technique is suitable for exploring perceived value; since it takes into account a specific use situation and thereby gives rich descriptions of the event and consequences of service use. Compared to for example scenario-based research, critical incident technique allows the researcher to go deeper into the respondents’ personal reasons of use and conditions under which services are used in certain situations. Incident-based methods have to some extent been used in service development and usability research. However, the strength of the critical incident technique in comparison to general incident-based techniques lies in that it can link the discussed aspects to its consequences, e.g. perceived value can be linked to service use, switching behavior or other consequences like WOM behavior. A common problem in the product and service development field

is that new products and services that have been developed according to customers stated interests may still not become popular, because customers do not use them continuously after trial period. One reason for this may be that the stated interests have been general and not necessarily important enough to lead to purchase behavior. Critical incidents should help to identify specific use situations where mobile services are valuable to customers, and indicate conditions under which they may be used in those situations. In addition, the results may help to target new products and services to those users, who most likely will be in similar situations, would perceive those services valuable and be willing to pay for the content services. The author encourages further research to use this method for exploring solely positive incidents and encourages creative use of the method.

### **5.3. Discussion**

The key findings of this thesis are summarized and discussed next, organized according to the threefold purpose of the study.

#### ***5.3.1. How to structure dimensions of customer perceived value of mobile services?***

The six value dimensions were structured into a mobile perceived value framework. The six individual value dimensions were grouped into context-related (conditional and epistemic value) and content-related (monetary, convenience, emotional and social value) value dimensions. These value dimensions should be conceptualized in two different levels, because they are different in nature.

Context-related value perceptions may not have a significant direct effect on the behavioral and outcome variables. In contrast, they are antecedents of the content-related value perceptions, enhancing the value of the content under certain circumstances and thereby also influencing behavioral intentions indirectly.

Content-related value directly affects commitment, repurchase intentions, WOM and willingness to pay. The effect of monetary value on repurchase intentions was significant, but its influence on repurchase intentions is minor compared to other perceived value dimensions for all services examined in this thesis, which showed the need for applying multidimensional value dimensions in the mobile setting.

Furthermore, the hedonic and utilitarian value dichotomy was challenged by the fact that emotional value had a significant influence also on information content users' repurchase intentions. Nevertheless, the hedonic and utilitarian value dichotomy is useful at a high abstraction level, for example, for research purposes that compare perceived value of services in different business fields, or positioning mobile services with regard to other electronic services (Pura and Heinonen 2007, forthcoming). In services that include at least some social elements and experiential value, this thesis postulates that hedonic value measures should be extended to also include social value (Pihlström and Brush 2008, forthcoming; Pura and Gummerus 2007).

In this thesis, social value entails social appreciation and self-respect gained by mobile service use, which was found to be important in almost all types of services, including mobile tram ticket payment (Pura and Gummerus 2007). Because social appreciation and self-respect are distinctive elements of mobile service use and have potentially differential effects on behavioral outcomes like WOM and willingness-to-pay, social value should, according to the author, be acknowledged either as an individual value variable or as part of hedonic value.

In this thesis, social value was conceptualized as an independent construct, and all studies except one supported this conceptualization. In one of the studies, social value was perceived as an individual value dimension in exploratory factor analysis, but in confirmatory factor analysis with all value and loyalty items, social value loaded with emotional value (Pura 2007, forthcoming). The combined social and emotional value construct was in that paper named hedonic value.

Hedonic value has earlier been defined as enjoyment, a fun experience as such. Thus, the hedonic value concept is in this thesis extended from its original meaning to also include social value, which is defined as social appreciation people gain by using mobile services. In the same study, convenience and monetary value also loaded on the same factor in confirmatory factor analysis results and were named utilitarian value (Pura 2007, forthcoming). Conceptualizing monetary value and convenience value as utilitarian value is in line with Sweeney and Soutar (2001) who differentiate between emotional, social, price-related functional value (in this thesis: monetary value), and performance-related functional value (in this thesis: convenience). Burton and Easingwood (2006) and Konana and Balasubramanian (2005) also define convenience as utilitarian benefit.

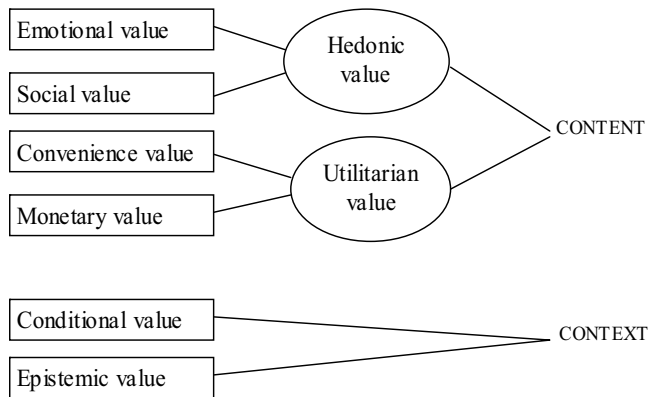
Support for conceptualizing social value as part of a hedonic construct was also found in previous literature. As Sheth et al. (1991a) postulate, social value incorporates social acceptance, recognition, and influence needs. The authors of the publication state that social value linked to choice behavior is similar to emotional value in that they both overlap with theories in social psychology that explain needs of belonging, fun, comfort and esteem needs. Furthermore, emotional and social value are both differentiated from the utilitarian needs that Sheth et al. (1991a) describe as functional value. Konana and Balasubramanian (2005) also link pursuit of social class membership and embarrassment avoidance with hedonic gains.

In this thesis, the combined measures of emotional and social value named as hedonic value had a significant effect on commitment to the service provider, but did not directly influence repurchase intentions (Pura 2007, forthcoming). These findings further illustrate that the hedonic vs. utilitarian value dichotomy is useful in exploring differential effects of perceived value on, for example, commitment and repurchase intentions, but could be extended to include other dimensions in order to explore differential effects of perceived value across different types of mobile services.

Keeping the analysis at a lower abstraction level gives useful implications for value-based marketing. Recognition of the importance of the different value dimension should enable marketers to develop sophisticated positioning strategies compared to competitors' services and to other mobile services of the same provider. This becomes

essential when the mobile content market becomes more mature and the types of services offered need to be differentiated better.

In all the empirical studies, six value dimensions were identified in exploratory factor analysis, although in Pura (2007, forthcoming) epistemic and conditional value were left out of the analysis for clarity reasons. Thus, based on conceptual reasoning and the findings of the studies, the structure in Figure 13 is suggested for consumer perceived value of mobile services. It is proposed that the six value dimensions can be categorized into fewer categories forming latent second-order dimensions.



**Figure 13** Groups of perceived value.

Here, hedonic and utilitarian value refer to customers' stable perceived value based on consumption of content. Context-related perceived value is temporal in nature. Even though conditional and epistemic value are based on a value judgment of using service content, they differ from content-related perceived value in that they are temporal in nature and may emerge and enhance value of the service under changing physical conditions such as weather conditions and network availability, or temporal conditions such as time pressure. The optimal number of perceived value dimensions and their importance for consumers' future behavior will likely depend on the type of services analyzed and consumers' purpose for using the services. Individual value dimensions can be grouped together into e.g. hedonic and utilitarian or context- and content-related value.

### 5.3.2. *How does context-related perceived value influence content-related perceived value?*

We found empirical evidence that epistemic and conditional value are antecedents of content related perceived value and thereby enhance emotional, social, monetary and convenience value derived from the use of mobile services. Conditional value was found to have a significant and positive relationship with all the content-related perceived value dimensions, that is, emotional, social, convenience and monetary value. By contrast, epistemic value influenced positively only emotional and social value

(Pihlström and Brush 2008, forthcoming). The context-related value perceptions reflect the physical and temporal (conditional value) and psychological (epistemic value) circumstantial conditions, which are temporal in nature. They illustrate the conditions under which mobile content services are perceived especially valuable, compared to other available service channels. Epistemic value entails curiosity and novelty seeking, which mainly enhances the hedonic service experience as such. Furthermore, in this thesis no significant direct effect of epistemic value on commitment or repurchase intentions was found (Pura 2005).

The role of epistemic value is controversial. Customers are attracted by novelty, and at least in the retailing industry, the novelty effect has been acknowledged as an important driver of purchase behavior. However, as this thesis shows, epistemic value does not have a positive direct impact on repurchase intentions. In contrast, one could postulate also a negative effect on repurchase behavior, i.e., if a customer has tried out a service once, there is no reason for using the same service again at least for the same reason. In this thesis the effect of epistemic value was not negative, but it could be argued that the desired level of novelty value depends on the situation. Epistemic value is derived from satisfying curiosity and therefore a psychological factor that drives trial use, but seldom results in continuous use of mobile content services.

Conditional value was in this thesis defined as “Value existing in a specific context derived from circumstances that characterize a situation related to the interaction between humans, mobile content, self-service interface and the surrounding environment”. Conditional value includes time (lack of time, occupied), location (in an unfamiliar place, geographical distance), access (no alternative access, no cash) and uncertain conditions (planning future actions, orientation guidance, urgency). The uncertain conditions are unique to this study and contribute to understanding better how mobile content can add value by location-specific and customized content. The importance of conditional value as an antecedent to content-related perceived value showed that mobile services may often be used under certain conditions, when other service channels cannot provide as timely, location-specific information or means of entertaining oneself.

### ***5.3.3. How does perceived value influence its consequences?***

Differential effects of value on commitment and repurchase intentions were identified. In general, commitment is mainly driven by emotional value, while repurchase intentions can be enhanced by communicating convenience value. In addition, commitment and repurchase intentions specific to the mobile channel (technology) are driven by utilitarian value. However, commitment to one content provider is solely influenced by hedonic value. Therefore, communicating utilitarian benefits (convenience, and monetary value) may not result in a committed customer base, but a pool of customers that prefer to use the mobile channel as such in the future, but are not committed to use a certain service provider. Commitment-building efforts require communication of hedonic elements of service use experience.

Furthermore, WOM can be enhanced by mainly emphasizing emotional and social value of mobile content services, while willingness-to-pay is in addition influenced by

monetary value. In this thesis, social value was found to be an important factor influencing especially WOM and willingness-to-pay for mobile service. It was also found to have a stronger influence on both these constructs for entertainment service users compared to information service users (Pihlström and Brush 2008, forthcoming). Typically, mobile services are used in social situations.

Furthermore, differences were identified in the influence of perceived value on its consequences between information and entertainment service users. Repurchase intentions of entertainment service users are driven mostly by emotional value and repurchase intentions of information service use are driven mostly by convenience value.

During the interviews (Pura and Gummerus 2007) and by reviewing the mean values<sup>13</sup> of commitment in each dataset analyzed for this thesis, indications were found that in mobile service business, customers are not very committed to the service providers at the time of the studies, even though on the average they indicate moderate intentions to use mobile services more in the future. The reason may be that the mobile service market is still in its infancy and the service offerings are not differentiated from competitors' offerings. In developing markets, services are usually developed at a rapid pace and the primary aim has been to increase the number of users.

At this stage of development of the market, many services are delivered via mobile service portals and the relationship between customer and provider is not easy to manage. Traditionally, a loyal customer base has been seen as a prerequisite for profitable services. However, in a rapidly changing mobile service market, service providers may have different strategies. Another strategy may be attracting a large base of vulnerable customers that may not be loyal to the service provider, but use content frequently. Mobile service portals allow customers to pick from several providers' services from one location, and differentiating one service from another is challenging. Providers that rely solely on portals for their distribution traditionally rely on the steady cash flow generated by frequent unique mobile content users. However, they are also very vulnerable to competitors' offerings that are present at the same mobile portal. A deficit of the portals is that content services are marketed under the portal brand and individual service providers may have difficulties in attracting the attention of potential users among several other content services. On the other hand, portals also provide easy access to content services that potential users may otherwise find difficult to find.

Mobile portals have made efforts to commit customers to use their services by building a portal brand, for example iMode, Zed, and Vodafone Live. However, mobile services have also been increasingly offered directly to customers by the content provider organizations, such as Foreca (weather reports), Fonecta (directory services), HKL (public transport timetables, routes, ticket payment), Finnair (mobile check-in for flights), Huoneistokeskus (information about apartments for sale), and Rovio (games).

As the mobile content service market matures, growth is sought by increasing the average revenue per user or average margin per user. This cannot be reached by the early market strategies that aimed at attracting a large pool of vulnerable customers to

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<sup>13</sup> See page 87.

try the services. With the saturation of content service markets, growth may be sought by building customer relationships by enhancing commitment and attracting customers that use the services frequently in the long run, are willing to pay for them, and spread positive WOM. It would be ideal to find, attract and keep those real loyal customers who are highly committed and would be willing to engage themselves in a relationship with a given service provider (Ravald and Grönroos 1996), irrespective of whether the commitment-building efforts are towards the content provider, corporate brand or a mobile portal.

According to Mulhern (1999), customer profitability is positively related to duration of the relationship, match between the benefits with the customers' needs, quantity and quality of marketing communications to the customer, and the degree of favorableness of customers' attitudes toward a company or a brand. Thus, customer perceived value and commitment to the provider are important influencers of the customer-lifetime value in addition to the length of relationship. The electronic environment is supposed to have a tremendous potential for creating customer loyalty, because of the possibility of provision of quality information and standardization of firm-customer interaction (Grewal et al. 2003). The customer can expect a standard quality of interaction with the self-service interface, which is not influenced by changes in the service personnel (Curran and Meuter 2005). Furthermore, the design and functionality of technology-based customer interfaces can encourage repurchase behavior of a firm's services in general and also result in a higher degree of loyalty to the service provider (Curran et al. 2003). Therefore, an increasing number of niche mobile services are developed that facilitate relationship management between the customer and the provider organization. This is especially important to companies that offer mobile content directly to their customers.

Organizations that offer services through multiple alternative service channels (for example interpersonal service, the Internet and mobile channels) face challenges in targeting the mobile services to such customers that value them, would be willing to spread positive word-of-mouth of the services and also be willing to pay for them. Offering new service channels that do not reach the critical mass of customers to become profitable in the long run becomes a burden for the provider. Competition may still force new players to enter the mobile content market in order to serve the current customers well. However, self-service technologies may also erode customer loyalty because of the lack of personal contact between customer and service provider. Considering both customers' preferences for the content provider and the channel used in the fourth paper (Pura 2007, forthcoming) was an attempt to discover if they are considered different from the customers' perspective, as suggested by the qualitative interviews in early stages of the research process.

Provider-specific commitment and repurchase intentions are essential for exploring how to increase continuous use of one provider's service and thereby revenue per user. Channel-specific results, on the other hand, showed that mobile service use is currently driven by users that prefer the mobile channel to use content services, but are not necessarily committed to certain provider's services. Intentions to continuous use of one content provider were in this thesis influenced directly by commitment to that content provider and indirectly by hedonic value, while intentions to continuous use of the mobile channel were influenced directly by commitment to the channel and by

utilitarian value (Pura 2007, forthcoming). However, no cross-effects were identified between the channel and provider. This would indicate that committed users of the mobile channel are not necessarily prone to use e.g. Internet services or other service channels of the same provider, but rather use the mobile channel to access services.

In a similar fashion, Curran, Meuter and Surprenant (2003) found that customers who are pleased with a particular self-service banking option will be more likely to use that option (ATM / Internet / mobile banking) also in the future. In contrast, those customers who prefer personal contact and have a good relationship with their bank personnel are less likely to use self-service options (Curran et al. 2003). These results indicate that organizations that offer services through several channels, including interpersonal service, Internet and mobile channels, need to consider carefully what type of core or supporting services they offer through each channel and at whom they target it.

Channel preferences as such were not studied in this thesis, but the author suggests that some content services are best suited for the mobile channel, such as location-based information, real-time information services, personalized content services and any type of content that is mainly used while on the move. The mobile channel can add to the total service offering by generating context-related value in uncertain or time- and location-critical situations, when other service channels are not available or would require too much effort and time to access. Other types of content, for example yellow pages or banking services, may be otherwise used via traditional channels such as the Internet or catalogues, but mobile services may still be preferred under certain conditions, for example when in a hurry, out of cash or in a foreign location. Therefore, they add to the total service experience that may include interaction with the service provider also through other channels (e.g. the Internet and interpersonal service). The situations where mobile services are perceived especially valuable may serve as an opportunity to attract mobile service users to use also other service channels in more mundane situations. In this effort, every channel adds to opportunities to serve the customer better and to build a continuous relationship between the provider and customer.

However, in services where the service channels do not support each other well, the mobile channel may remain as a sole service channel that is used in order to avoid contacts with the provider. Under such circumstances, it may be difficult to attract customers to use additional service channels of the same provider. Instead, the mobile channel may attract such customers who may not use the providers services normally at all. An example is the mobile tram ticket in Helsinki targeted to occasional users of public transport, who do not own a monthly ticket. Traveling without a ticket has been reported to be in decline, since people can pay for the ticket by text message. The service also eases the drivers' work and saves the environment, because the traditional single fare paper ticket use is becoming obsolete.

The findings of this thesis reveal an important aspect of mobile service use that marketing theories so far fail to acknowledge: the fact that customers can be committed users of mobile devices and access services frequently with it. More specifically, such customers are true loyal mobile device users committed to the mobile channel as such. However, these frequent mobile service users may not be equally committed to use the same service provider again. It seems that in today's undifferentiated mobile service

market, customers may not care or at times be aware of whose services they are using. This conclusion is based on the mean values of commitment and repurchase intentions. In addition, the first qualitative study conducted for this thesis, where people elaborated on mobile service use situations in significant detail, revealed that some had no recollection as to whose services they had been using. Service providers should analyze more in detail the nature of customer loyalty (true/spurious/vulnerable/no loyal) in order to apply successful value-based marketing strategies for the appropriate loyalty-based segments.

#### **5.4. Managerial implications**

The key implications of this thesis entail aspects that are useful for segmentation of users and use situations, enhancing commitment to one content provider with value and loyalty based marketing communication strategies. The results may also be useful for service development. Therefore, the results are expected to be most useful for marketers, planners and service content developers. Next, the implications are first discussed separately for segmentation, enhancing commitment, and marketing communication strategies. The section ends with a summary of managerial implications.

##### ***5.4.1. Segmentation based on perceived value and use situations***

The results of this thesis provide implications for value-based segmentation. The core of a value-based segmentation are use situations, stable personal characteristics and their interaction (Dickson 1982). Traditionally, segmentation is based on stable personal characteristics like values. Technology-readiness has also been used frequently to segment customers and many mobile services are targeted to innovators or technology-prone customers. Nevertheless, the author would like to encourage further research into going beyond the technology acceptance or adoption theories, and refocusing their attention from innovators to the regular customers who may use the services for different reasons than the early adopters, and may be more likely to use the services for their concrete benefits, not just for testing new technologies. Furthermore, the author postulates the importance of studying what current customers that have experience of using mobile services offered by a certain provider, value in the services. Companies can attract new customers by emphasizing the value aspects that are considered important by current customers and thereby promote self-selection of the product or brand based on similar value perceptions, benefits that the user gains by using the product or service (see e.g. Forsyth, Gupta, Haldar, Kaul, and Kettle 1999).

Positioning strategies suggested by market research companies, advertising agencies and media agencies often use a so-called 'macro' perspective that relies on standard survey research methodology on customers' personal values. Predetermined clusters or customer groups that share similar values are based for example on Rokeach's human values or Maslow's hierarchy of needs (physiological, safety, social, egoistic and self-actualization). Examples of this are e.g. VALS methodology of the Stanford Research Institute, RISC methodology of the Research Institute on Social Change, List of Values (LOV) (Kahle, Beatty, and Homer 1986; Mowen and Minor 1998), Rokeach Value Survey (RVS) (Rokeach 1973), and Schwartz's cultural values (Beatty et al. 1988).

These classifications enable positioning products or services to a group of people who share general human values, i.e. overall value orientation (Ng, Lee, and Soutar 2007). However, these universal types of human values, 'abstract, centrally-held higher-order goals' may fail in providing implications for marketers and designers of products and services on how the values relate to individual products and their purchase decisions (Boztepe 2003; Flint et al. 1997).

In this respect, the 'micro' perspective based on perceived value based segmentation is more useful for marketers, because it is conceptualized to include interaction between the customer and the product or service in the anticipated use situation. Value in comparison to values is less abstract, related to lower-order goals and benefits sought to facilitate higher-order goal achievement (Flint et al. 1997). Value also refers to a preferential judgment (Holbrook 1994).

This thesis is focused on the 'micro' perspective and studied perceived value. The results indicate that perceived value-based segmentation could group customers for example into two main groups, those who seek convenience and those who seek emotional value from mobile services. Such a categorization is in line with the most significant differences found in the influence of perceived value on repurchase intentions between information and entertainment service users (Pihlström and Brush 2008, forthcoming). Previous mobile service research has emphasized convenience as the main benefit of mobile services, thus underestimating the differences in expectations and motivations to use mobile services between customers and between services.

Another popular way of categorizing services is classifying products and services based on the nature of the product or service, e.g. to work-related utilitarian services or to experiential hedonic services or to person-interactive vs. machine-interactive services (Nysveen et al. 2005b). This thesis suggests a similar approach, but instead of categorizing services, value-based research also allows grouping customers based on the value they perceive in mobile services. This is important, because many mobile services offer a mixture of different value and different aspects may be valued by different customers even in one mobile service. Desarbo et al. (2001) encourages also forming segments of customers based on their heterogeneous value preferences and states that previous value theories, which measure solely the aggregate effect of overall perceived value, may yield misleading estimate of the impact of perceived value, because different customers give different weights to value drivers. For example, a busy business person may value mobile parking payment because it is quick and easy to use, and parking time can be extended from a remote location (conditional and convenience value). Others may value the same service primarily because it allows them to avoid the embarrassment (social value) of getting a parking ticket while out of cash (conditional value and monetary value because of deferred payment).

It may also be possible to develop a differentiated service image including aspects from several value dimensions. Nevertheless, positioning a service with multiple value perceptions may be difficult and a clear core value perception eases the task of differentiating a service from other services (Park et al. 1986). For example, differentiating between services that create mostly convenience or emotional value. Furthermore, since many service providers categorize their services into information and entertainment or infotainment services, combinations of value propositions are

necessary to differentiate the services from other services and competitor's offerings. Linking the perceived value to a specific use situation may also provide fruitful avenues to differentiation. For example, services targeted to tourists could be grouped together. In addition, services that help to avoid queuing at a service counter could be grouped together. Conversely, services that are normally used in stationary situations might form their own segment.

Situations of use could also be used as a basis for marketing purposes in three different ways. Firstly, the service content can be marketed explicitly to potential customers in a specific situation, for example real-time program information accessed via the mobile devices could be marketed at the entrance of festivals or concerts. Secondly, if the service is regional or tied to season, regional media may be used for marketing purposes, for example ski resort location-specific weather reports could be marketed in brochures and at the skiing resort. Thirdly, identifying people who most likely place themselves in similar usage situations helps to select the media and channels that reach these people (Dickson 1982). This approach may result in ideas how to target the services to those user segments that most likely end up in similar situations and would perceive the services especially valuable. For example, mobile parking payments could be hypothetically targeted to people who have received parking fines recently. Mobile tram tickets are currently marketed at tram stops. Similar approaches could be adopted for example for mobile weather reports, which could be marketed at guest harbors or golf courses.

In conclusion, customers should be able to find services easily from networks and from the surrounding environment where mobile services most likely are used. The environment could inform the user about the services available around him/her, give easy access to the customized content according to location of the customer. For example, situations where people are in a hurry and would like to avoid queuing seem to be situations where mobile payment services are perceived especially valuable (Pura and Gummerus 2007). Nevertheless, the frequency of occurrence of a specific situation that generates similar needs is important in deciding if several situations should be combined to become a sufficiently substantial segment (Dickson 1982). Furthermore, some content services may be used in multiple situations, although they may be designed for a particular situation. For example, mobile games may be normally used on the move when other entertaining media is unavailable. Nevertheless, mobile gaming may also be a viable alternative to other gaming solutions for example at home. Therefore, services could also be segmented according to the situation they are used in (i.e. when on the move or stationary).

#### ***5.4.2. Enhancing commitment to one content provider organization***

To survive the ever-increasing competition, mobile service providers should aim at differentiating their service offerings and targeting them to the right users that perceive them valuable and will continue to use them in the future. Identifying, targeting and keeping those customers who may be most likely to use one provider's services frequently is expected to result in profitable service delivery in the long run.

Baldinger and Rubinson's (1996) research on brand loyalty shows that attitudinal loyal customers are almost three times as likely to remain loyal compared to customers that are behaviorally loyal but have only a low attitude towards the brand. (In this thesis, attitudinal loyalty is measured as commitment and behavioral loyalty as repurchase intentions.) Therefore the combination of attitudinal and behavioral loyalty should be a good segmentation criteria for companies (Starr and Rubinson 1978). When attitudinal and behavioral loyalty are combined the customer segments can be divided to following groups three according to Dick and Basu (1994): 1) real loyals, who are strong in both attitude and behavior; 2) spurious loyals, who are attitudinally weaker than behaviorally; and 3) latent loyals, who are attitudinally stronger than their behavior suggests. Baldinger and Rubinson (1996) named the spurious loyals as vulnerables, and latent loyals as prospects. Purchase based on habit is referred to as "inertia" by Anderson and Srinivasan (2003) and Gounaris and Stathakopoulos (2004), "spurious loyalty" by Baloglu (2002) and Dick and Basu (1994), and "vulnerable customer segment" by Baldinger and Rubinson (1996) and Liljander and Roos (2002).

The term 'vulnerable' describes well the vulnerability of the vulnerables segment to competitors' offerings, and the term 'prospect' describes well the potential of the committed prospective customer segment. Therefore, these terms are used in the following discussion. The fourth, 'no loyal' category is excluded from the discussion, because no loyal customers do not use services nor are they committed and therefore out of the reach and interest of the service provider. 'No loyal' customers would in the mobile service market be those customers who do not own a mobile phone or are not interested in using the phone for other purposes than calling. Identifying the different levels of loyalty in a customer relationships helps to create strategies that support loyalty-enhancing actions.

Even though these loyalty segments were not explicitly analyzed in this thesis<sup>14</sup>, we used both attitudinal (commitment) and behavioral (repurchase intentions) measures, and the above-mentioned segments help to understand the possibilities for differentiated marketing strategies for different loyalty segments. On a 7 point Likert scale (1 = not at all likely/totally disagree and 7 = extremely likely/totally agree), the mean of the three datasets for the repurchase intentions towards the same service provider was 4.46 and towards the mobile channel 4.09. The mean of commitment towards the service provider was 3.14 and towards the mobile channel 3.61. These average results show that mobile service users are somewhat more behaviorally loyal than they are committed to the provider or mobile channel. Thus, an average mobile service user seems to be vulnerable to competitors' offerings and purchase mobile content services out of habit, convenience, or based on situational cues.

Companies can build different strategies for each segment in order to keep the '**real loyals**' as long as possible over time, building a clearer differentiated image and offers for 'vulnerables' as well as promoting 'prospects' to turn into 'real loyals'. Real loyals should be served well through all service channels, and ensuring that they are satisfied. For example, loyal movie-goers can be attracted to use self-services that allow booking and printing the tickets from a self-service counter and thereby avoid queuing in order

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<sup>14</sup> Because the Case companies did not allow publication of such comparative data of customer loyalty of their customer segments.

to get the reserved tickets from the counter. However, 'real loyals' may be scarce in the mobile market, where services are not yet really differentiated and often used based on situational cues.

In any case, companies should aim at having more 'prospects' than 'vulnerables' over time. '**Prospects**' are already committed to the provider or brand, but do not yet use the mobile content services of that provider. Committed 'prospects' may be transformed into 'real loyals' by offers and marketing campaigns. Reminding them at potential service use locations or situations may activate them into ordering services more often. This type of occasional mobile content service users may normally use other service channels, but perceive mobile services valuable in certain situations. 'Prospects' may be, for example, public transport users who normally have a season ticket, but may become potential users of mobile ticket payment when they have forgotten to extend their season ticket or are traveling outside of their normal daily route. Mobile tram ticket payment is especially targeted to such occasional users and presents a good example of a service targeted to a segment that finds the service valuable under certain conditions (Pura and Gummerus 2007).

For this customer segment, a good strategy would be to enhance mostly repurchase intentions. The results of this thesis indicated that repurchase intentions are influenced by convenience, monetary and conditional value (Pura 2005), and that intentions to use the mobile channel as such are mostly influenced by utilitarian value (Pura 2007, forthcoming). Liljander, Gillberg, Gummerus and van Riel's (2006) results about self-service technologies in the airline industry indicate that associating technology with convenience, freedom and control drives positive attitudes towards using mobile, Internet and kiosk check-in services. These results all indicate that communicating convenience and monetary value of the mobile content service may be successful in attracting this already committed customer segment. Established brands with a committed customer base could focus their marketing efforts on attracting committed customers to try mobile services that complement other service channels. In addition, focusing on enhancing frequent use of the mobile channel may be a good strategy for a small service provider that is ready for price competition and that delivers services via mobile portals, and therefore has few prospects of differentiating services or building commitment to one provider.

In contrast to 'prospects', '**vulnerables**' are highly volatile and susceptible to competitor's offers even though they might account for a large part of the companies revenues (Baloglu 2002). Liljander and Roos (2002) and Zins (2001) also postulate that the lack of competition may result in behavioral commitment even if customers perceive little benefits in a continuing relationship with the service provider. This type of habitual loyalty is seen as a result of lack of consumer choice, lack of effort or purchase based on merely situational cues.

In the current undifferentiated mobile service market, many customers do not perceive a difference in competitors' service offerings (Pura and Gummerus 2007). If a customer learns to use one provider's service, they may also use it continuously out of habit, without consciously considering other alternative providers. These 'vulnerables' should, according to Baldinger and Rubinson (1996), be kept and possibly transformed into real loyal customers by enhancing their commitment to the provider organization. The

companies' aim should be on transforming customers into true loyal customers that are both committed to the service provider organization and purchase frequently.

Transforming the 'vulnerables' into less responsive to competitors' offerings requires enhancing commitment to one provider. In this respect, the hedonic, fun aspects of explorative mobile service use are important. Information-based utilitarian services may offer less potential for offering fun, emotional use experiences than hedonic experiential entertainment services. However, even information-based services seem to create emotional value to their users (Pura 2005; Pihlström and Brush 2008, forthcoming). According to the results of Pura (2005), solely emotional value and conditional value have a significant effect on commitment. Similarly, according to the results of Pura (2007, forthcoming) solely hedonic value influences commitment to the content provider. Therefore, hedonic, emotional aspects should be emphasized in attempts to build commitment to one content provider organization, regardless of the type of service.

However, in the long run, situation-specific service differentiation may be a more fruitful way of differentiation than communicating all mobile services as fun and enjoyable. The author suggests that traditional differentiation, positioning and brand building efforts are necessary for successful commitment-building efforts (Pura 2003). In addition to the concrete information of how to use mobile services in specific situations, it is essential to differentiate the services and build commitment to the content providers. However, connecting emotionally with the customers is not easy.

For example, the Marketing Science Institute has recently (Feb. 2007) invited academic papers on how customers are connected to and influence each others' perceptions and buying behavior while brands seem to be in the crosshairs. Established brands experience challenges in connecting and communicating directly to customers, because customers themselves are active and in control of with whom, where, when and through which channel they interact with the service provider. Service provider organizations should connect with their customers in a meaningful way that enables the customers to be active in cultivating the relationship with the provider.

The results of this thesis also showed lack of influence of monetary and convenience value (Pura 2005), and utilitarian value (Pura 2007, forthcoming) on commitment to use the same service provider. These results indicate that communicating convenient use of mobile content services and emphasizing the good value for money of mobile services compared to other alternative channels may be a fruitful strategy for attracting customers that may order services frequently or out of habit, irrespective of who provides them, but cannot be successful in building a committed customer base. Therefore, building commitment to the mobile service portal is another option that can be achieved by differentiating the portal brand image from the other providers.

Nevertheless, services should also be differentiated and grouped logically according to the value customers perceive in them within the mobile service portal. For example, services that create social value by enabling social interaction with others (such as dating, chat, and logos sent as cards to friends) could be grouped together. Emotional value is most likely generated by fun games, jokes, horoscopes etc. In contrast, convenience is typically sought in information services such as search services and

timetables, but can also be generated by any service that helps to avoid queuing. Monetary value is mostly generated from mobile payment services.

Furthermore, continuous mobile service use requires that customers perceive stable value in using those services. This is acknowledged by for example Sheth et al.(1991a) who postulate that if technological products are purchased for novelty reasons, they won't be used extensively after trial. But, if there is a specific need for using the product, it will be also used in the future. The results of reported in Pihlström and Brush (2008, forthcoming) indicates that the novelty effect may not create value for the customer in the long run, but mainly enhances the hedonic service experience as such. In this sense, epistemic value is relevant for establishing an emotional connection with the trial users, but the content should also offer emotional/social/convenience or monetary value to its user.

### ***5.4.3. Service development***

This thesis is focused on content services and the customer commitment to the content provider organization. Nevertheless, the implications are also relevant for mobile device developers to some extent. Incident-based methods could be used more for exploring service use situations and the conditions under which new products and services may be used. A common problem in the product and service development field is that new products and services that have been developed according to customers' stated interests may still not become popular, or that customers do not use them continuously after a trial period. Therefore, linking the products and services to specific use situations may help to identify the most potential ideas and to target new products and services to those users who most likely will be in similar situations and would perceive those services valuable and would also be willing to pay for the content services. Offering valuable content via mobile devices that transcends the other options such as fixed Internet services is essential. New devices should support ways of delivering content under conditions where mobile services are preferred to other alternatives. These might be e.g. when in a hurry, occupied, in an unfamiliar place, in a geographically distant place, having no alternative access or no cash, planning for future actions, situations of urgency or need for orientation guidance on the move. Easy access to simple content services in uncertain conditions may be more relevant to the users than new advanced features of the device itself.

However, many users seem to be devoted to using their mobile devices, regardless of who provides the content services. Devices and networks should ensure the effective and reliable service delivery. Most importantly, attention should also be paid to social and emotional aspects of mobile content use and the appeal of the device to its target group. Since hedonic aspects proved to be quite important for continuous use of content services in this study, these aspects may also be more important to the users, compared to the functionality and variety of device features, than expected.

#### 5.4.4. Summary of managerial implications

The general managerial conclusion of this thesis is that differentiated value-based marketing of different types of mobile services is essential for attracting loyal users and adding revenue per user in the content-driven mobile service market. Therefore, the managerial implications are summarized into the following four steps: 1) Create compelling mobile content services, 2) Customer segmentation, 3) Communicate effectively, and 4) Commit your customers. The list provided in Table 4 provides practical guidelines for marketers, planners and service content developers on how to manage mobile content services from a service marketing perspective:

**Table 4 The four steps of managing mobile content services**

STEP	DECISION	ACTION
<b>Compelling content</b>	<p>What do current 'regular' customers with experience of using specific mobile services value in them?</p> <p>What type of content is most likely to be used continuously?</p> <p>Is the use experience enjoyable?</p>	<ul style="list-style-type: none"> <li>• Use incident-based techniques to explore potential mobile service use situations and the conditions under which they are preferred to other channels.</li> <li>• Link the context-related factors with behavioral intentions and willingness to pay instead of just estimating potential use with scenario-based methods, or surveys.</li> <li>• Pay attention to the hedonic elements of the service use experience in addition to functionality and usability.</li> </ul>
<b>Customer segmentation</b>	<p>How can the customer segments be grouped?</p>	<ul style="list-style-type: none"> <li>• Segment customers based on situations and value dimensions that current users find relevant in your mobile services. 1) those who value convenience of mobile services and 2) those who seek primarily entertainment.</li> <li>• More detailed profiles of customers are also encouraged including a mix of perceived value dimensions in a typical service use situation, because different customers may give different weights to different value drivers.</li> <li>• Situation-based segmentation helps to differentiate services and target potential users and group services together that are used on the move, in e.g. uncertain situations and in time and location-critical situations vs. stationary in non time and location-critical situations.</li> </ul>

<b>Communicate effectively</b>	<p>How do your services differ from the services offered through other channels?</p> <p>How do your services differ from the competitors' mobile services?</p> <p>How can your content be grouped logically from the users point of view?</p> <p>In what type of situations are your services typically used?</p> <p>How to activate users to recommend services and educate new users?</p>	<ul style="list-style-type: none"> <li>• Differentiate your mobile services from other service channels by linking perceived value of the content with context-related value in specific use situations.</li> <li>• Differentiate your brand image from the competitors' image. Communicate an appropriate mix of perceived value of the content with attributes that describe emotional, social, convenience and monetary value.</li> <li>• Group and differentiate your mobile services based on the value they may offer to their users: For example, information and entertainment services.</li> <li>• Situation-based marketing communication can be utilized where information can be placed into a location where people most likely need mobile, real-time information.</li> <li>• Promote positive word-of-mouth communication by emphasizing emotional and social value. Viral campaigns work especially for entertainment services.</li> <li>• Promote willingness to pay by communicating monetary, emotional, and social value.</li> </ul>
<b>Commit customers</b>	<p>What type of customers do you have currently &amp; What is your ideal portfolio of customers?</p> <ol style="list-style-type: none"> <li>1. Keep 'the real loyals'</li> <li>2. Promote current committed 'prospect' customers to use mobile services more frequently</li> <li>3. Keep the best 'vulnerables' and turn them into 'real loyals' by enhancing commitment to one provider</li> </ol> <p>Does this portfolio of customer loyalty segments create revenue as planned?</p>	<ul style="list-style-type: none"> <li>• Identify 1) the key 'real loyal' customers, that most likely will be committed to use the same provider also in the future, 2) the 'prospects', and 3) the 'vulnerables'.</li> </ul> <ol style="list-style-type: none"> <li>1. Serve well through current and new channels.</li> <li>2. Communicate the utilitarian value (convenience and monetary value) of using services. Marketing campaigns and offers reminding of services on site where they may be used may be useful to increase average revenue per user.</li> <li>3. Build a differentiated brand image. Communicate primarily emotional value of the content and conditional value in mobile service use contexts. Emotional, and fun aspects are especially relevant for entertaining experiential services, but enhance also commitment of information service users.</li> </ol> <ul style="list-style-type: none"> <li>• Track service use and follow commitment and intentions to continuous mobile service use of the selected customer segments. Update marketing strategy if necessary.</li> </ul>

## 5.5. A critical view of the study

### 5.5.1. *Limitations of the studies*

This study has three types of limitations: Limitations related to 1) concepts used, 2) methods, measures, and sample size of the empirical studies, and 3) generalizability of the results to different types of mobile services in different markets, because the study was conducted in one market (Finland).

The first limitation is related to the conceptualization of perceived value. The studies included in this thesis concentrated on the ‘benefits’, and did not explicitly study sacrifices. This thesis is focused solely on the perceived value drivers that have a positive effect on repurchase intentions. Technology failures cause dissatisfaction and may diminish the value users perceive in the mobile content. If problems occur, technology failures are seen as hygiene factors that may cause dissatisfaction and diminish the value of the content that was not received as expected (Meuter et al. 2000).

The second type of limitation is related to the methods and measures used. Because established measures of perceived value in mobile service settings were not available, the thesis may have emphasized factors that were especially important for the users of those mobile services that were included in this thesis. Perceived value constructs used in the quantitative studies were based on the qualitative study that explored perceived value of mobile content services. It should be noted that CIT gives special attention to most critical and memorable situations (Stauss 1993), and therefore more mundane service use situations, where the use situation plays a minor role, are not revealed. Due to the chosen method, conditional value may have received extra attention. However, such conditions were found to significantly influence content-related perceived value in the quantitative studies (Pura 2005; Pihlström and Brush 2008, forthcoming).

Furthermore, this study focused on positive ‘value drivers’ and therefore excluded negative incidents in line with Flanagan’s (1954) original guidelines of using CIT creatively according to the purpose of the study. CIT recording solely positive incidents worked well for finding out the underlying value perceptions of services in certain situations. However, a possible limitation of excluding the negative incidents from the study is that overall perceived value of a service may become biased because positive and negative incidents may reveal different factors, or different weights may be placed on positive versus negative incidents. In previous research, positive incidents have revealed why self-service technologies are used, while negative incidents tend to report dissatisfaction due to technology failures (Meuter et al. 2000). Therefore, it seems justified to focus on the positive incidents that are successful in revealing why services are used. Dissatisfaction with service delivery problems or poor usability may best be revealed with negative critical incidents, but they are more closely linked with service quality and dissatisfaction issues that were not discussed in this thesis. Another limitation is that the criticality of critical incidents may vary between customers (Edvardsson and Strandvik 2000). Hence, the influence of the conditional and epistemic factors may be stronger for some customers than others.

The samples also had limitations. It was not easy to find experienced mobile service users, which resulted in relatively small samples analyzed in this thesis. The exploratory results were limited to a small number of interviewees, and further sub-dimensions of value dimensions might have been found with more interviews discussing use of several different types of mobile services. However, the same context- and content-related value aspects started to emerge during the interviews regardless of the service used, and no new dimensions seemed to emerge. Therefore, 31 personal interviews were considered sufficient for the exploratory part of this thesis. It is not unusual to have small samples in CIT studies and qualitative studies exploring value perceptions (Björlin Liden and Skålen 2003; Dabholkar and Overby 2005; Heinonen 2004, 2006; Laukkanen and Lauronen 2005; Roos 2002; Thompson and Haytko 1997).

The fourth paper also had a small sample (108 respondents), which resulted in limitations as to the analysis method that could be applied. PLS is suitable for small samples and does not require multivariate normal data (Chin 1998). In other empirical studies, the samples were bigger, and LISREL was used to analyze the data. Although there is considerable debate in the literature over what constitutes a sufficient minimum sample size to give confident parameters in structural models with latent variables (e.g. Anderson and Gerbing 1984; Ding et al. 1995; Hoelter 1983; Hu et al. 1992), Ding, Velicer and Harlow (1995) have indicated numerous studies (such as Anderson and Gerbing 1984) that were in agreement that 100 to 150 subjects is the minimum satisfactory sample size when estimating structural equation models. Furthermore, the only sample that could be divided into two groups for comparison purposes was the sample of the third paper. Therefore, for example non-response bias was estimated only for this empirical study. However, no significant differences were found in either sample for several demographics, including age, education, income and recency of mobile service use ( $p > .10$  in all cases). These findings indicate that non-response bias should not be a major problem in that study.

In addition, missing values limited the use of data in structural equation modeling. In each of the three quantitative studies, the Expectation-Maximization (EM) approach, recommended as a strategy to deal with missing values (e.g. Arbuckle 1996; Schafer 1997), was used to impute remaining missing values and to allow complete case analysis with SEM. To examine the validity of this approach, the EM method was tested on the surveys with full data. No significant differences were found between the means and standard deviations of the original and imputed values.

Moreover, sampling and self-selection problems may have been caused by the online survey (Miller 2001). The use of an online survey may have biased the samples by attracting mobile service users who are also active users of the Internet through a PC or laptop. Because the companies that co-operated in the three empirical surveys did not have information of who their mobile service users are, the invitations were posted by banner advertisements on the providers' Internet service pages, stating that the invitation was intended solely for customers who have experience of using the provider's mobile services. In the second paper, invitations were also sent by e-mail to registered users of the provider's Internet services. In addition, in the fourth paper, invitations were also posted directly to the users of mobile services as a text link at the end of the ordered mobile MMS content message. The invitation approach used may have biased the results to a certain extent. However, the experience of using some of the

providers' services was controlled for, and respondents with no personal experience of the specific services were omitted from the analysis.

Moreover, using perceived value and behavioral measures in the same survey may have caused common method bias (Podsakoff and Organ 1986). Behavior was measured as self-reported intentions to use services, and it may therefore be overestimated. Real purchase data was not available in this thesis. However, according to tests conducted for the third paper, the findings indicate that common method variance (CMV) bias is not an issue in this thesis. Following Lindell and Whitney (2001), zero-order correlations and partial correlations using the marker variable as a control were examined to investigate whether the results can be accounted for by CMV. In this study, the control variable was respondents' general knowledge of using mobile services compared to an expert. In the entertainment sample, all of the statistically significant zero-order correlations remained significant after controlling for CMV. In the information sample, only 6/300 (2%) of the item correlations were significantly affected, and in all cases these effects were marginal.

The third limitation concerns the generalizability of the results to different types of mobile services in different markets. The results of this thesis cannot be generalized to apply to all mobile services. The results allow us to draw conclusions of the services analyzed in this thesis, but more research is required to make generalizations to all types of mobile services in comparison with other service channels and for comparisons between individual mobile services in different cultural milieus.

### ***5.5.2. Applicability of the results to other markets***

Infrastructure and penetration rates of mobile devices in a certain market should not make a difference to the applicability of the results of this thesis, because even emerging markets such as China, India and Latin America adopt directly sophisticated mobile services (Steinbock 2005). On the one hand, the results may differ in markets where the cultural milieu and the personal values differ from the values dominant in the Finnish market studied in this thesis. Traditionally, markets have been positioned on a World Values Map based on such values as dominance of self-expression vs. survival values and grouped roughly into Protestant Europe, English-speaking countries, and Confucian East Asian nations such as Japan, China, Taiwan and South Korea. On the other hand, it has also been suggested that new technologies accelerate cultural change and that cultural differences may no longer be as apparent in the mobile society, as millions of new mobile users in rapidly developing countries such as China, India and Indonesia use mobiles for self-expression and shift countries on the World Values Map (Donner 2005). The Ericsson Consumer and Enterprise Lab focus group research conducted in different parts of the world (in Brazil, China, Japan, France, Germany, Great Britain, Italy, Spain, Sweden, and USA) since 1994 have reported similar findings across the world about what people value in mobile services. For example, location-based services were reported to be used when on the move, if there was no alternative access, out of curiosity, because they are fun, exciting, useful, convenient, and save time (Kävlemark and Löfqvist 2005). Their findings are in line with perceived value dimensions reported in this thesis. Therefore, the perceived context and content-related

value dimensions of this thesis are considered generic and should be applicable also in other cultural milieus.

Nevertheless, the weight of the individual dimensions may vary between markets, because cross-cultural research results suggest that the average means of content-based value dimensions differ between markets. For example, social value may be more important in relation to other value dimensions in cultures that are less individualistic than the European market studied in this thesis. The following examples illustrate some other possible differences between markets: Korean and Hong Kong mobile service users value the hedonic, social, and emotional aspects of mobile Internet and are likely to use more mobile entertainment and communication services than Japanese users. In contrast, the Japanese are more likely to perceive functional or monetary value in using mobile Internet and prefer using utilitarian services such as e-mail, news, and sports (Lee, Kim, Lee and Kim 2002; Kim, Lee, Lee and Choi 2004). Furthermore, comparison between attitudes towards mobile services between the UK and Hong Kong suggests that hedonic services are considered more appealing in Hong Kong than in the UK (Harris, Rettie and Kwan 2005). However, differences in preference for using services and differences between the influence of value dimensions on satisfaction were also found between younger and older mobile user groups. Thus, people may value different aspects of one mobile service across different cultures and across different user segments (Lee et al. 2002). In conclusion, the relative influence of individual value dimensions on repurchase intentions, willingness to pay and word-of-mouth may vary between different markets, cultures, and demographic and sociographic factors. Therefore, future research should be market-specific and allow comparison of the weight of value dimensions on behavioral outcomes for different user segments in different markets.

### ***5.5.3. Applicability of the results to other channels and devices***

This thesis confines itself to studying content services that can be accessed with the mobile portable devices, via mobile networks. In the rapidly developing mobile market, one may question whether the results are applicable to other kinds of devices that have access to the Internet, such as laptops, tablets and new emerging hybrid handheld devices. After all, mobile devices are converging with other technological devices that all have access to the Internet and are also used on the move. Wireless local area networks are being developed that function reliably also in moving vehicles, enabling customers to access the Internet with their laptops even while sitting in a bus (Sipilä, Naalisvaara, and Karjalainen 2007).

In the future, mobile services will increasingly be available locally or contextually, providing users with content services that optimally suit their current context of use. In comparison with, for example, open wireless networks or hot spots, mobile networks are perceived as more secure, private and able to provide customized information to their user. Kaasinen (2005) estimates that mobile users could in the future be provided with disposable applications that customers can easily download and take into use when needed. When these are no longer needed, they will simply be thrown away. She further postulates that small dedicated information appliances that are specially designed for a certain purpose, and include all the necessary software and hardware ready to use may

be developed. In line with this kind of technological development, the context-specific content is the king and the device used to access it seems secondary.

The empirical studies conducted in this thesis were all accessed via a mobile phone or handheld mobile device in an era when mobile Internet-enabled phones were not yet widely used in the focal market. Nevertheless, this thesis is focused on the perceptions of content from the customers' point of view, which is similar irrespective of the way it is accessed (through mobile Internet portals, WAP pages or by ordering it directly from the provider with a text message). Therefore, the author is confident that the results should also be applicable to mobile Internet services and to more advanced forms of services, including moving pictures and voice that the new mobile technologies make possible, irrespective of the device used.

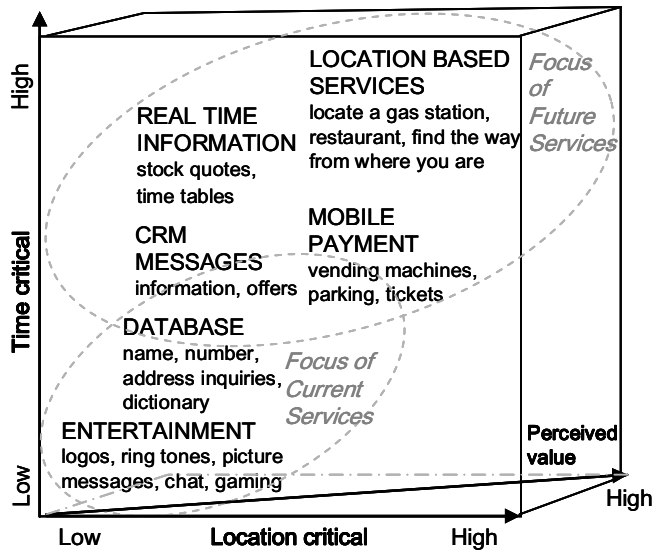
However, caution should be exercised when using the created measurement items in other than mobile service research. The subcategories of conditional value were specific to mobile services and therefore conditional value may be reflected by other factors in traditional or electronic services than in mobile services. Fixed networks such as LANs may not be able to deliver service content under the same ubiquitous conditions as the mobile networks, because they may not function everywhere in the same way as the mobile networks reach the customer. Therefore, e.g. no alternative access subcategory is expected to be specific to mobile services. However, self-service technologies in general may be used under any conditions where the customer is in a hurry, occupied, in an unfamiliar place, in a geographically far away location, has no cash, wants to plan future actions, needs orientation guidance or information urgently. Finally, aspects related to time, location, access and uncertain conditions may also be relevant in electronic services in general. Nevertheless, compared to other optional channels, such as the Internet, brick-and-mortar stores, catalogues etc., mobile services add additional value in time- and place-critical, uncertain situations (Balasubramanian et al. 2002; Mennecke and Strader 2003). Therefore, the most fruitful domain of mobile services is a highly time-critical and highly location-critical service that is perceived highly valuable by the customer. The competitive advantage of the mobile channel compared to other channels is highlighted in services that offer these kinds of solutions. Some existing mobile services are presented in Figure 14 in order to illustrate the special context-specific nature of mobile services as well as the future focus of mobile service content. The following three aspects are depicted as the three axes in Figure 14 describing the current and future domain of mobile services:

- 1) Location: the relative location of the user when the service is being used.
- 2) Time: the relative immediacy of the needed service and the task being completed.
- 3) Perceived value: how valuable the customers perceive the mobile service to be.

The three axes in Figure 14 were adapted from Mennecke and Strader (2003)<sup>15</sup>. They are illustrated with examples of concrete mobile services.

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<sup>15</sup> Their 'utility axis' is in this study called 'perceived value'. Furthermore, Mennecke and Strader (2003) talk about 'urgency' and 'location relevance'. Instead, the terms 'time-critical' and 'location-critical' are used in this thesis.



**Figure 14** Domain of mobile services.

Until recently, popular mobile services were still mainly positioned within the circle at the lower left side of the figure, focusing on services that are not well differentiated from electronic Internet-based services such as gaming, chat and dictionaries. However, the future focus of mobile services will most likely be within the circle in the upper right hand corner that emphasizes the special nature of mobile services compared to other service alternatives. These services are mostly used in time- and place-critical situations, and may be customized according to time and location. Therefore, they may also be perceived more valuable by the customers. Customers may lack motivation to use new mobile services, unless they create new choices where mobility really matters and thereby will affect peoples' lives positively (Jarvenpaa, Lang, Takeda, and Tuunainen 2003). Mobile payment services are also an example of services that bring new value to the customers compared to other service channels. Accordingly, the main success factors for mobile services, for example in Japan, have been: targeting the right kind of customers, providing the right kind of content, making the services easily available and easy micro-payment-based charging (Kaasinen 2005). iMode's strengths in Japan also lie in meeting customer needs in a simple and usable way, simplifying the mobile user experience and thereby providing a relative advantage compared to PC-based Internet use (Barnes and Huff 2003). Therefore, the author suggests caution in generalizing the context-related results to PC-based use of wireless Internet, because it may not be as convenient and simple for the end user as using a service that is customized for a handheld device and can therefore easily be accessed in uncertain, time- and place-critical situations.

In contrast, the findings about the influence of more stable content-related perceived value on repurchase intentions, commitment, WOM and willingness-to-pay are generic

in nature and these relationships may also exist in the fixed networks. For example, commitment is highly likely to be driven chiefly by emotional value for all types of services. Repurchase intentions may be dominated by convenience and monetary value in any kind of electronic self-service setting, where the value of the self-service is compared to alternative service channels. Furthermore, social value experienced in any service enhances the propensity to spread positive WOM. Monetary value may also be linked to willingness to pay more irrespective of the type of service used. The identified four content-related latent value dimensions (emotional, social, convenience and monetary value) have been reported in traditional service settings and are expected to be generalizable also for other e-service and interpersonal service contexts. Sheth, Newman and Gross (1991b) at least claim that their five value categories may be applied to any consumer choice situation of interest, with the limitation that it involves individual, systematic and voluntary decision-making. The author agrees that these generic dimensions worked surprisingly well also in the mobile context, even though Sheth et al.'s (1991a) categories were developed in traditional interpersonal consumer product settings.

Most importantly, some of the identified aspects seem to be unique to mobile service use (for example, deferred payment and anonymity) and can be used to differentiate mobile services from traditional interpersonal services. Mobile payment is suitable especially for micropayments such as ticketing, and allows customers to pay for products or tickets even if credit cards are not accepted, for example on public transport. Deferred payment is especially relevant for people who do not own a credit card. Furthermore, mobile services can be used anonymously, so that the users' intentions are not revealed. For example, checking who just called you, sending anonymous mobile service messages, searching potential dating partners' phone numbers or addresses, finding out the current location of your partner, or even who owns the car that is blocking the traffic. These are just a few examples of currently available text-based mobile services that are used creatively for different purposes, and could be marketed to potential users based on the convenience value afforded by anonymous use of mobile services.

Next, the key areas for further research motivated by the research results of this thesis are listed.

#### ***5.5.4. Avenues for further research***

The findings of this thesis open several avenues for further research into both mobile services and advancing loyalty, value and technology acceptance models in general. In the following, six key avenues for further research are summarized. Firstly, the author encourages more empirical research into different mobile services, secondly, into direct relationships between constructs used in this study, and thirdly, into cross-effects between channel- and provider-specific constructs. Fourthly, linking perceived value measures to financial customer lifetime value measures is encouraged. Fifthly, the author outlines how TAM models could be extended further for studying self-service technologies from customers' perspective. The section concludes with postulating that cross-disciplinary research is necessary to advance mobile content development in the future.

Firstly, this thesis studied different types of mobile services, but since empirical studies of mobile content services are still scarce, more research is needed to study different types of social, entertaining and utilitarian mobile services. The social use of mobile services would be a particularly interesting area for research. Services like mobile dating, multiplayer gaming, tracking friends' locations etc. may provide unique value propositions that have not been available through traditional interpersonal or Internet services. Moreover, this thesis was conducted in a relatively mature mobile market, Finland. As mobile services are becoming more popular and content provider organizations are offering the same services in multiple international markets, empirical research should be easier to conduct also simultaneously in several markets. Further research could be conducted simultaneously in different cultural settings in order to determine whether the weight of the influence of the value dimensions on commitment, behavior, word-of-mouth and willingness to pay varies in different cultural settings. Comparisons are especially encouraged between European, American and Asian markets.

In addition to comparative quantitative techniques, a critical incident technique could be used more to study perceived value. Potential customers need concrete descriptions of how mobile services can ease their everyday life in order to use them (Kaasinen 2005). Positive critical incidents are well suited for exploring such situations and result in concrete descriptions of perceived value dimensions that are linked to purchase behavior under certain circumstances. Because CIT is a less culturally bound technique than surveys, for example, it is also well suited for application in different markets (Gremler 2004).

Secondly, the direct relationships between perceived value dimensions, loyalty and outcome variables could be explored further. For example, the direct relationships between commitment and willingness to pay and word-of-mouth should be tested. Commitment is an important antecedent of repurchase intentions, and earlier research indicates that it is also an antecedent of WOM (Bloemer et al. 2003; Sweeney and Swait 2007). However, antecedents of willingness to pay are an under-researched area that could be explored further. The effect of commitment on willingness to pay and word-of-mouth intentions were not tested in Pihlström and Brush (2008, forthcoming), but is expected to be positive.

Moreover, the conditions under which self-service technologies are used in comparison with other alternative service channels should be explored further. Situational influence is increasingly important in all service contexts, because customers are getting more control over which service channels to use depending on the situation. In this thesis, conditional and epistemic value were proposed to be mainly related to context and therefore to trigger service use, and enhance the perceived value related to the other four value categories. Pihlström and Brush (2008, forthcoming) tested empirically the effect of conditional and epistemic value as antecedents to monetary, convenience, emotional and social value. This conceptualization could be tested further also in traditional interpersonal service settings and e-service contexts to advance perceived value research in general.

Triggers that influence customer behavior have received attention in recent service marketing research, but most empirical studies have focused on switching behavior

(Gustafsson et al. 2005; Roos and Gustafsson 2007). More attention could be given to what conditional factors drive purchase decisions in certain situations, in the short and long term. It would also be important to explore whether these circumstantial physical, temporal or psychological conditions can change purchase behavior in the long term. For example, does using a mobile content service under time pressure influence purchase habits so that the customer prefers to use the mobile service to other alternative service channels also in less time-critical situations in the future?

Thirdly, cross-effects between channel and provider, as well as channel preferences, could be investigated further. Convergence of the media and communication channels may offer new opportunities for offering services that use several channels (e.g. Internet, mobile, and interpersonal service). This thesis explored the preference for using the mobile channel to access content services, but channel preferences were not explicitly studied. If the same content is available through several different channels, it would be useful to carry out further investigations into which channel is preferred for accessing a specific type of content. This would require including several channel options within one study. However, analyzing customers' channel preferences may be difficult, because customers prefer to conduct certain tasks with a mobile device or a PC, and may wish for interpersonal service to do other tasks.

More research is encouraged to test the cross-effects between the mobile channel and the provider-specific constructs, to find out how the channel used affects the relationship with the provider. Does the mobile channel lock in customers to do further business with the provider organization? Or is the mobile channel merely attracting vulnerable customers who are prone to switch providers? The findings of this thesis suggest that it depends on the level of coordination between different channels and possibly also on the field of business. Further research is therefore encouraged to explore this topic in more depth and including different business fields.

Fourthly, customers are becoming a valued asset and there is a growing interest in the business literature in combining the marketing and finance perspective in order to provide customer-centric measures for the shareholders. Central concepts used in this research area include customer assets, customer equity and customer profitability (Gupta and Lehmann 2003, Gupta et al. 2004, Berger et al. 2002, Blattberg and Deighton 1996, Hogan et al. 2002, Storbacka, Strandvik & Grönroos 1994, Reinartz & Kumar 2000, 2003). Thus, the economic value of customers to the service provider is an interesting, currently relevant topic that requires further research. If historical real usage data and customer return rates are available, more sophisticated measures could be used to estimate the real use and anticipated lifetime value of customers. Unfortunately, these measures are rarely available for the content providers in this field. Therefore, it is common to use self-reported intentions to use the technology or service measures to predict service use in both marketing and IS fields, as was also the case in this thesis.

However, further research could link perceived value and commitment measures to real purchase data, and analyze further how, for example, how frequency, recency and money spent for services varies between value- and loyalty-based customer segments. This would increase understanding of how to increase average revenue per user. Especially in the mobile service setting, where customers do not seem to be specifically loyal to the provider organizations, it would be important to estimate the potential

lifetime of a customer and the risk of the customer switching to use other providers' services.

The core of most customer lifetime value models is that they estimate how much revenue a firm gains from the relationship with an individual customer and the cost of maintaining the relationship (Berger & Nasr, 1998). This information is of vital importance to a company that is managing its customer relationships. Customer lifetime value measures are useful in making strategic as well as tactical decisions about which customers to target in the long run and about the focus of marketing activities (Jain and Singh 2002; Mulhern 1999). These decisions should be made on customer segment level. In addition, the heterogeneity in different customer segments should be taken into account while estimating the future value of the customer segments (Fader 2005).

Moreover, these profitability-oriented measures could be combined with 'soft' measures used in this thesis, such as perceived value. Analyzing the relationships between perceived value and customer equity would increase understanding of what the most profitable customers value in the mobile content services. This would give indications for value-based marketing communication that would encourage self-selection of profitable customers who perceive similar value in the services. Additionally, it would be worthwhile to investigate the existence of differences in the costs of mobile services and usage patterns to better predict price sensitivity and revenue streams for different types of mobile services.

Fifthly, based on the results of this thesis, technology acceptance models could be extended further to include perceived value of the content as well as commitment to the provider. As suggested in Pura and Gummerus (2007), the main perceived value dimensions that drive behavior are monetary, convenience, emotional, and social value. They may be divided into subcategories such as gained social appreciation, self-respect, emotional use experience, value for money, ease and speed of use.

Another avenue for advancing technology acceptance models is testing moderating effects of additional, new variables. Technology acceptance models have been used for testing the moderating role of demographic variables such as age, gender, education, self-efficacy or experience of using systems (Mathieson, Peacock, and Chin 2001). A similar approach could be used also to test if experience of service use is a moderator between epistemic value and attitude towards using self-service technologies or between epistemic value and commitment to provider. Hence, the question of whether the experience of using a mobile service moderates the relationship between novelty value and intentions to use the service in the future could be tested empirically.

The results of this thesis postulate that if the technology or service is used for the first time, customers perceive novelty value in the service and will use it. But if the user already has experience of using the service, novelty value does not attract the users any more. Therefore, the strength of the moderating effect of epistemic value may differ between user groups. Epistemic value could also have a negative impact on service use.

In a similar manner, further research could study if there are differences in value perceptions and commitment of the 'heavy users' who use mobile services frequently and 'occasional mobile service users'. Frequency of use was measured in this thesis, but

differences were tested merely between those who had just tried the mobile service and those who had longer experience of using them. No significant differences were identified between these user groups in this thesis, nor were results of experience of use reported here. However, earlier research suggests that occasional users and frequent users may have different needs for using self-service technologies (King and He 2006), and therefore their behavior (cf. Garbarino and Johnson 1999), commitment to the provider, as well as the value they perceive in the services, may vary.

Finally, cross-disciplinary research including perspectives from marketing, information systems, technology and design is necessary to advance mobile content development in the future. Research on mobile services has been driven by technologists. However, marketing insights are needed to support development of the market towards offering customer-oriented compelling content (Steinbock 2005). In the future, the focus should be on cross-disciplinary research that increases understanding of what customers value in mobile services, how the valuable content can be delivered effectively using latest technology, networks, design and user-friendly interfaces.

For increasing average revenue per user, it is also essential to develop measures for estimating how the marketing resources can be targeted effectively to promote continuous use of the services, and to promote commitment to a specific service provider. One of the key inhibitors of growth has been inadequate understanding of how to market the service content to potential users. In this respect, perceived value theories and loyalty theories presented in thesis are useful. However, the content offered should also deliver the value promised to potential users.

Perceived value is subject to changes and external influences from other stakeholders. This is relevant in the mobile service field, where handset manufacturers, service providers, network operators and other stakeholders need to collaborate in order to create value for the customer. Multiple stakeholders may find the results of this thesis interesting, and hopefully it will lead to further research that would encourage enhancing collaboration and technology standards to support development of compelling, customer-oriented mobile content that is easily accessible for the customers through mobile networks. Customer relationship research has talked about relationship value of long-term relationships that estimate the benefits and sacrifices in a relationship during a longer period of time for creating mutual value for both the customer and the provider, including also suppliers and competitors (Gummesson 1995; Raval and Grönroos 1996). Longitudinal research could also analyze additional aspects of how mobile content services may be used to activate customers themselves to cocreate value with the service provider and other stakeholders.

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## **APPENDIX 1 DEFINITIONS OF ABBREVIATIONS AND TECHNICAL TERMS USED**

**AMPU** Average Margin Per User

**ARPU** Average Revenue Per User

**Bluetooth** a communication protocol for short-range local communication

**Geocaching** is an outdoor sport that involves the use of a Global Positioning System (GPS) receiver to find a “geocache” or “cache” placed anywhere in the world. A typical cache is a small, waterproof container containing a logbook and a treasure. Geocaching is a unique take on a traditional Easter egg hunt in that it uses two recent technologies, the GPS and the Internet.

**CDMA** Code Division Multiple Access (3G mobile network protocol)

**CRM** Customer Relationship Management

**EOTD** Enhanced Observational Time Difference

**GPS** Global Positioning System

**GPRS** General Packet Radio Service (2.5G mobile network)

**GSM** Global System for Mobile Communication (2G mobile network)

**IP** Internet Protocol

**IS** Information Systems

**IT** Information Technology

**LAN** Local Area Network

**LBS** Location-Based Services

**MMS** Multimedia Messaging Service

**PDA** Personal Digital Assistant

**PLS** Partial Least Squares

**RFID** Radio Frequency Identification

**SEM** Structural Equation Modeling

**SL** Second Life is an Internet-based virtual world launched in 2003, developed by Linden Research, Inc.

**SMS** Short Messaging Service

**TAM** Technology Acceptance Model

**TPB** Theory of Planned Behavior

**UMTS** Universal Mobile Telecommunications System (3G mobile network)

**WAP** Wireless Application Protocol

**Web 2.0** A term introduced in 2004 to characterize design patterns in a constellation of new generation Web applications which may provide an infrastructure for more dynamic user participation, social interaction and collaboration, such as social networking sites, wikis, communication tools, and folksonomies, that emphasize online collaboration and sharing among users

**WLAN** Wireless Local Area Network

**WOM** Word-of-Mouth communication

**WTP** Willingness To Pay

**Wide Audience End-Users** persons using the services

**2G** second-generation mobile phone technology (digital cellular)

**3G** third-generation mobile phone technology (multimedia cellular)

**4G** fourth-generation mobile phone technology (broadband cellular)

## APPENDIX 2 CONTRIBUTION OF THE AUTHOR IN EACH PAPER

Paper No	Paper Title and Publication Year	Author's contribution to the paper	Papers Contribution to the Dissertation
1 ***	Pura Minna, Gummerus Johanna "Discovering Perceived Value of Mobile Services". <i>Published as Hanken working paper 07.</i>	Pura: 70 % conducted interviews, coding and analyzing the data, introduction, theory, analysis and conclusions, revisions of the paper Gummerus 30 % conducted interviews, preliminary literature review, participated in coding of the data and in revisions of the paper	Developed a framework for assessing perceived value of mobile services with the help of a critical incident study. Presents a framework including the relevant value dimensions in a mobile context: conditional value, epistemic value, emotional and social value, monetary value and convenience value. It also proposes that these can be grouped into two separate categories: context-related (conditional and epistemic value) and content-related (emotional, social, monetary and convenience value).
2 *	Pura, Minna "Linking Perceived Value and Loyalty in Location-Based Mobile" <i>Published in Managing Service Quality in 2005, received a highly commended award 2006.</i>	Individual work 100 %	Analyzes the direct effect of monetary, convenience, social and emotional value on commitment and repurchase intentions to use mobile location-based services. The paper introduces new context relevant concepts and develops a multidimensional perceived value and loyalty model. Results give practical implications how to increase awareness of location-based services in a way that gives a realistic picture of how location-based services create value for customers.
3 **	Philström Minna, Brush Gregory: "Comparing the Perceived Value of Information and Entertainment Mobile Services". <i>Forthcoming in Psychology and Marketing</i>	Pura :60 % planned and conducted the survey, factor analysis and scale purification, preliminary analysis with the information and entertainment samples, theoretical background and hypotheses, analysis, discussion and implication chapters, revisions of the article. Brush: 40 % conducted multi-group SEM analysis, wrote the results chapter, copyedited text and participated in revising the article	The paper is one of the first to measure the direct influence of emotional, social, convenience, and monetary value on repurchase intentions, willingness to pay and WOM. It also analyzes differences in the influence of perceived value between entertainment and information mobile service users.
4 *	Pura Minna, "Commitment to Content Provider or Mobile Channel, Determinants of Continuous Mobile Multimedia Service Use" <i>Forthcoming in Journal of Information Technology, Theory, and Applications</i>	Individual work Pura: 100 %	Differentiates between commitment to 1) technology (the channel) and 2) the organization (mobile service provider). The influence of hedonic and utilitarian value on commitment and on intentions to use differs between the channel and the mobile service provider, which indicates that future research should acknowledge the selection of service channel in addition to selection of service provider.

According to the Hanken's guidelines: \* At least one individually written article in journal with referee system. \*\* Joint publications, that will comprise in total a minimum of two articles published in journals with referee system. \*\*\* The rest of the articles can be published in university's or institution's publication series or other series. Minimum total amount of articles should represent the work for three individually written articles.

**APPENDIX 3 PUBLISHED PAPERS****PAPER 1:**

Pura, M., Gummerus J. (2007), "Discovering Perceived Value of Mobile Services", HANKEN Working Papers, Series C, No. 529.

**PAPER 2:**

Pura, M. (2005), "Linking perceived value and loyalty in location-based mobile Services", *Managing Service Quality*, Vol. 15, No. 6, pp. 509-538.

**PAPER 3:**

Pihlström, M., Brush, G. (2008), "Comparing the Perceived Value of Information and Entertainment Mobile Services", *Psychology and Marketing*, accepted for publication, forthcoming.

**PAPER 4**

Pura, M. (2007), "Committed to Content Provider or Mobile Channel?, Determinants of Continuous Mobile Multimedia Service Use", *Journal of Information Technology, Theory, and Applications*, accepted for publication, forthcoming.



# DISCOVERING PERCEIVED VALUE OF MOBILE SERVICES

Minna Pura & Johanna Gummerus

## PAPER 1

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# DISCOVERING PERCEIVED VALUE OF MOBILE SERVICES

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## ABSTRACT

Customer perceived value has been recognized as one of the driving factors behind a company's success, since it increases customers' willingness to buy and decreases their search intentions for alternative offerings. In order to discover customers' value perceptions of different mobile services in everyday life situations, we employ the Critical Incident Technique (CIT). The findings reveal multiple value perceptions of mobile services, some of which have not been reported earlier in e-service contexts (e.g. self-respect, time to pay, anonymity). The identified value perceptions are grouped into context-related and content-related value perceptions. Furthermore, we propose that the context-related value perceptions (conditional and epistemic value) trigger mobile service use and enhance the experienced content-related value (emotional, social, monetary and convenience value). Based on the findings, we create a mobile perceived value (MPVal) framework that is applicable in the mobile service use context and recognizes situational value-enhancing elements. The results of the study provide insights for further research and theory development in the mobile field. The findings may help companies to understand better how mobile services create value for customers in different situations, to position their services relative to competitors' services, and to communicate the appropriate value propositions to potential customers.

Keywords: Customer Perceived Value, Mobile Service, Wireless, Context, Content, User

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## 1 INTRODUCTION

Designing services that create value for customers is demanding especially in technology-related mobile service markets, where product and service lifecycles are short and customer needs are hard to anticipate. Attempts to initiate mobile content service innovations include engaging the potential customers in service development (Alahuhta, Abrahamsson, Mutanen, and Törrö 2006) and asking what type of services customers are interested in (Anckar and D'Incau 2002; Raijas and Tinnilä 2001). However, such methods have fallen short, since customers have difficulties in expressing future needs. Instead, perceived value theories give a solid background on why products and services are used and may therefore give more useful implications for designing and marketing mobile content services.

Nevertheless, it has been suggested that in order to truly understand customers' needs and desires, studies should be situation-specific, anticipating needs and motives to use the service in a certain context (Eriksson, Hyvönen, Raijas, and Tinnilä 2001). Time-space conditions of service use have been acknowledged in previous literature, but theories would also need to take into account the mobilized situatedness of interaction in particular contexts and relations (Kakihara 2001). The situation may change due to external or internal influences like network availability or lack of time. In addition to the customers' location, this is an integral part of the mobile service process (Anckar and D'Incau 2002; Nysveen, Pedersen, and Thorbjørnsen 2005). So far, everyday life situations that would take into consideration these aspects have received little attention in mobile service research (Hyvönen and Repo 2005). This study fills this research gap. It creates a perceived value framework that is applicable in the mobile service use context, recognizing the situational elements influencing service use.

The study employs the Critical Incident Technique in order to gather rich data about value perceptions of mobile services in concrete use situations. A qualitative, abductive research process is employed, as it is well suited to understanding customer perceived value in a new, mobile environment, where prior research is scarce. The abductive approach starts with real-life observations and continues with an attempt to find a matching framework and to extend the theory used prior to the observations based on the empirical findings (Dubois and Gadde 2002; Kovács and Spens 2005).

Mobile services are here content services that are accessed via a mobile handheld device (PDA, mobile, cellular or smart phone, GPS etc.) and are delivered in interaction between an organization and a customer. Thus, mobile services in this paper do not include interpersonal mobile communication. Current business-to-customer mobile services include e.g. logos, ring tones, games, chat, news, search services, route guidance, and mobile ticket payment.

The purpose of this paper is to analyze users' value perceptions of different types of mobile services in concrete use situations. This approach adds to current value literature in several ways. Existing value literature may not explain adequately how the ubiquitous mobile services provide value beyond traditional commerce (Watson, Pitt,

Berthon, and Zinkhan 2002). Furthermore, different types of mobile services may be used for different reasons in different situations. A multidimensional view has been encouraged to better depict the different dimensions of perceived value in specific services (Childers, Carr, Peck, and Carson 2001; Dubé, Cervellon, and Jingyuan 2003; Sweeney and Soutar 2001). A broad view can reveal potential differences for brand positioning strategies that one-dimensional attitude measures do not capture (Voss, Spangenberg, and Grohmann 2003). Therefore, the theories applied in the mobile field should capture the multifaceted nature of perceived value including the use context and its influence on the value of the different types of mobile content services. This paper proposes a mobile perceived value framework that helps to understand how mobile services create value for customers in different situations from a customer's point of view. The results of the study provide insights for further research and theory development in the mobile field by categorizing value dimensions into context- and content-related value perceptions and by giving concrete meanings to the value dimensions in the mobile service field. The findings may help companies to position their services in relation to other electronic services and relative to competitors' services. The examples also give indications for marketers on how to communicate the value propositions to potential customers.

The paper is structured in the following way. First, prior perceived value literature is briefly reviewed. Second, the chosen interviewing technique and logic of analysis is discussed. Third, the observations from the empirical research are presented, describing the emerging value perceptions of mobile services. Fourth, the observations are categorized into a framework and discussed in relation to previous literature. Fifth, implications and suggestions for further research are presented.

## **2 CUSTOMER PERCEIVED VALUE**

Customer perceived value takes into account what customers want and believe they get by using the service. The most central definitions in marketing and management literature are illustrated in Table I.

A common aspect in the definitions of perceived value presented in Table I is that: value is perceived by the customer based on his/her experiences with or knowledge of an object, which usually results in an evaluation of the desirability of the object or outcome. The definition applies also in the mobile field, because the customer interacts with the service provider in a given context and evaluates the service based on previous experiences. The evaluation results in a preference, i.e. an assessment of the mobile service compared to other alternatives.

**Table I** Definitions of customer perceived value

<b>Definitions of customer perceived value</b>
Customer perceived value is defined as the outcome of an evaluation made by a single customer, and it constitutes three overlapping dimensions, namely the object that the customer evaluates, the context, and the underlying values that measure what is desirable for the customer (Rescher 1969).
Value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml 1988, p. 14).
Buyers' perceptions of value represent a tradeoff between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying the price (Monroe 1990, p. 46).
Consumer choice is a function of multiple consumption values. These are functional, social, emotional, epistemic and conditional value. The consumption values make differential contributions in any given choice situation. The consumption values are independent (Sheth et al. 1991a, p. 160).
Value is an interactive relativistic preference experience...characterizing a subject's experience of interacting with some object. The object may be any thing or event (Holbrook 1994, p. 27).
Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations (Woodruff 1997, p. 142).
A value judgment is the customer's assessment of the value that has been created for them by a supplier given the trade-offs between all relevant benefits and sacrifices in a specific use situation (Flint et al. 2002, p. 171).

Earlier research shows that perceived value can be represented by a hierarchical structure that preserves the attribute-specific information and classifies it at a higher level (Dubé et al. 2003). A multidimensional view has been encouraged to better depict the different dimensions of perceived value in specific services (Childers et al. 2001; Dubé et al. 2003; Sweeney and Soutar 2001). Nevertheless, in previous literature, researchers have mostly relied on simpler conceptualizations of perceived value. For example, overall perceived value is often measured with single item or multi-item scales emphasizing especially price perceptions (Anderson and Srinivasan 2003; Chiou 2004; Dodds and Monroe 1991; Grewal, Monroe, and Krishnan 1998; Järvenpää, Lang, Takeda, and Tuunainen 2003; Thaler 1985). Another frequently used definition of perceived value in marketing literature includes sacrifices vs. benefits introduced by Zeithaml (1988) (Flint, Woodruff, and Gardial 2002; Grönroos 2000; Monroe 1990). This view has also been applied and extended to include benefits and sacrifices of time- and location-related factors in the mobile banking field (Heinonen 2004, 2006). Another frequently used method of classifying consumption of products and services is differentiating between intrinsic and extrinsic value (Babin, Darden, and Griffin 1994; Hirschman and Holbrook 1982; Holbrook 1994; Novak, Hoffman, and Duhachek 2003; Sweeney and Soutar 2001). Intrinsic means self-oriented, hedonic consumption mainly for fun, whereas extrinsic means other-oriented, utilitarian consumption that is more goal-oriented. This framework was also applied recently in a mobile banking context (Laukkanen 2006). However, a broader framework is needed to capture the multifaceted nature of value in different situations. This is important especially while analyzing different types of mobile content services, including also entertaining content that is used in more social contexts than mobile transactions or banking services.

Theories also exist that use several categories, such as Park et al. (1986) and Sheth et al. (1991a). Park et al. (1986) differentiate between functional, symbolic and experiential benefits in a branding context. Functional benefits motivate the search for products that solve consumption-related problems. Symbolic benefits reflect desires for products that fulfil internally generated needs associated with self-image or role. Experiential benefits are described as desires for sensory pleasure, variety and cognitive stimulation. These types of categorizations are helpful for marketers, as they are expected to facilitate targeting the services to the right customer segments. However, the data of this study could not directly be categorized in these three dimensions.

In comparison with the previously mentioned conceptualizations of value, the categorization of Sheth, Newmann and Gross (1991a) fits the data in this study best. Their framework includes functional, emotional, social, epistemic and conditional value. Functional value relates to monetary benefits or superiority compared with alternatives. Emotional value is acquired when a product/service arouses feelings or affect, whereas social value often derives from the use of visible goods or services that are commonly shared with others. Epistemic value relates to experienced curiosity, novelty or knowledge gained by using a new product or service. Conditional value is temporary in nature and arises when situational factors moderate the perceived value-outcome process (Sheth et al. 1991a). Many of the descriptions of the interviewees included aspects that were related to conditions under which mobile content is used, that fitted well with the definition of conditional value of Sheth et al. (1991a). Furthermore, the mobile content market is changing rapidly and new services are launched frequently, therefore the novelty effect seems to be important for content users in the mobile field. Epistemic (novelty value) has received limited attention in previous literature after it was introduced by Sheth et al (1991a). Nevertheless, Soutar and Sweeney (2003) postulate that epistemic (novelty-seeking) value may be important in fields where novelty or surprise is important.

However, even this multidimensional view has limitations regarding the context of use, which should be extended in order to be applicable in mobile services. In the mobile environment, the context entails time and location, but also several other changing conditions from other users' influence to network availability (Järvenpää and Lang 2005; Toivonen, Kolari, and Laakko 2003). The importance of context has been acknowledged in previous research (Chen and Dubinsky 2003; Flint et al. 2002; Heinonen 2004, 2006; Mallat, Rossi, Tuunainen, and Öörni 2006), and further research has been encouraged to increase understanding of the consequences of various situational variables (Dabholkar and Bagozzi 2002), but so far no systematic theories exist on the relationship between various value dimensions. We consider context in a broad sense as including changing conditions in the users' environment and in the individual circumstances. Most importantly, it is essential to understand better how contextual factors actually affect, enhance or create customer perceived value. Sweeney and Soutar (2001) acknowledge the importance of empirically studying the relationships between value dimensions, and have called for more research in the area. This study makes preliminary attempts in suggesting how context-related value influences content-related value dimensions.

### 3 METHOD

In order to examine what customers value in mobile services, personal face-to-face interviews were conducted with mobile service users. The interviews were conducted by the authors. The Critical Incident Technique (CIT) employed produced rich data that describes the use situation, perceptions of services and to some extent the consequences of use in the customer's own language. The interviewees were asked to describe one situation where they perceived a mobile service to be especially valuable to them, and elaborate on why, what happened in that specific situation, and whether they are going to use the service again. In line with the purpose of this study, we focus solely on the positive incidents i.e. specific use situations in which the customer has perceived the mobile service as especially valuable.

Most of the critical incident studies in the service marketing field ask people to reflect both extremely positive and negative incidents. However, the technique was originally meant to be "a flexible set of principles which must be modified and adapted to meet the specific situation at hand" (Flanagan 1954, p. 9). Flanagan's (1954) guidelines for using CIT start with deciding the purpose of the study and formulating the questions accordingly. His interview guides also include examples that probe only for positive incidents (for example incidents that were 'very helpful' in meeting production schedules). Moreover, further research has been encouraged to explore new creative ways of using the method (Gremler 2004). Positive incidents have been successfully used in the self-service technology field to describe e.g. satisfying incidents that reveal why self-service technologies are used. In contrast, negative incidents in self-services tend to focus on dissatisfaction due to technological failures (Meuter, Ostrom, Roundtree, and Bitner 2000). Because the focus of this study is discovering positive value perceptions, we focus solely on the positive incidents.

This study applied the criteria of criticality used in service research. An incident is labeled critical if the customer is able to recall the incident when asked about memorable situations interacting with the service provider (Edvardsson and Strandvik 2000; Roos 2002). CIT has been frequently used in quality management and relationship studies (Edvardsson and Roos 2001). It is considered well suited for discovering value-enhancing service components (Stauss 1993), as well as a useful method in exploring little-known phenomena, and valuable for identifying issues that have not been considered in previous literature (Bitner, Booms, and Tetreault 1990; Gremler 2004). Most importantly, the incident-based approach has been found to identify special and concrete customer needs that are not necessarily revealed by attribute-based methods (Stauss and Hentschel 1992).

#### 3.1. Choice of respondents

The prerequisite for respondent recruitment was that they had experience in using mobile services. We interviewed people with different backgrounds, different ages and different needs to capture a multifaceted view of perceived value from the perspective of users of different mobile services. The interviews resulted in 25 hours of taped material which was transcribed.

### 3.2. Data

In total, 31 persons were interviewed. The respondents were evenly distributed in terms of age and gender. 16 females and 15 males were interviewed. The age of the respondents varied between 15 and 59 years. The mean age was 31 years. The respondents all used mobile services regularly, but were not experts in the mobile field. They had used mainly phone number and address inquiries, logos, ring tones, timetables, weather reports, route guidance, mobile payments for tickets, parking and vending machines, and ordered movie tickets and news. The interviews resulted in 25 positive critical incidents related to concrete use situations.

### 3.3. Interpretive procedures and logic of analysis

The research analysis process followed an abductive reasoning approach, going back and forth between empirical findings, theory, and analysis in order to explain the nature of customer perceived value in a mobile environment. This approach enabled the researchers to expand their understanding of both theoretical and empirical phenomena (Dubois and Gadde 2002), and to create new categories describing and extending the meaning of the value concepts used in earlier literature.

The research process started by creating meanings from data. NVivo, a software program for text analysis, was used as an aid. First, emerging concepts that were identified were coded into free nodes describing the different aspects of perceived value in mobile service use situations. This phase can be called inductive categorization (Spiggle 1994). Second, comparisons for similarities and differences were made systematically by tabulating all the quotes for each label and changing the coding, if differences were found within one label (Spiggle 1994). The coding made by one author was checked by another, and the differences were resolved together.

Next, the transcripts were reanalyzed to further develop thematic categories by abstracting the concepts into higher-order conceptual categories (Spiggle 1994). Thus, similar nodes were grouped to form dimensions and a classification scheme was developed. The classification scheme and categories representing the quotes extracted from the interviews were also reviewed by an external coding judge. This resulted in minor modifications of the description of the categories. The main purpose of the resulting categories was to simplify the data material, and to serve as a basis for further analysis. The categories at the lowest level of abstraction represent the concrete reasons to use mobile services, and thereby form the lowest level categories of the value framework.

Then, rival explanations were sought on how the data could be organized (Patton 1990). During the comparisons between empirical findings and theory, several rival consumption value frameworks, e.g. utilitarian vs. hedonic consumption (Hirschman and Holbrook 1982), sacrifices vs. benefits (Zeithaml 1988), and functional, symbolic and experiential benefits (Park et al. 1986), were reviewed. However, during category development, it became clear that the empirical data lent itself to categorization according to the consumption values (functional, emotional, social, epistemic and

conditional value) of Sheth et al (1991a), because it provided the best fit between the data and the analysis.

Consequently, the value dimensions of the mobile value framework (conditional, epistemic, emotional, social, monetary and convenience value) were based loosely on the Sheth et al. (1991a) categorization. The dimensions were applicable to and indicated by the data with the following modifications: Firstly, Sheth et al's (1991a) functional value was in this study replaced by monetary value and convenience, which is in line with Sweeney and Soutar (2001), who suggest that functional value has sub-dimensions that should be measured separately. Secondly, it became evident that the value dimensions were interrelated (see Holbrook 1994; Sweeney and Soutar 2001 for similar views) rather than independent, as originally suggested by Sheth et al. (1991a). Especially in technological environments, where achieving a utilitarian goal can include an enjoyable service experience, connected value dimensions seem highly logical. Therefore, we suggest that value dimensions are interrelated. People can perceive several value dimensions as relevant when using one specific service, and the perceived value can vary across people. Because one service can evoke several value perceptions, several nodes could have been extracted from one service use situation in some cases. If several overlapping value related issues were identified, the aspect that was interpreted as most significant in that specific service use situation was assigned to a node.

## **4 ANALYSIS AND FINDINGS**

The study shows that mobile services provide a wide variety of perceived value summarized in the MPVal framework illustrated in Figure 1. Next, the findings are discussed in an iterative manner, presenting the emerged value attributes and value dimensions in the light of previous literature going back and forth between the empirical findings and previous theory. The attributes are illustrated with quotes extracted from the interviews (with coding indicating the age and gender of the respondent: F=female, M=male). The example quotes presented are selected from the critical positive situations based on how descriptive they are. When several respondents provided similar descriptions, we selected quotes from respondents who had not previously been quoted in this study.

### **4.1. Conditional value**

Conditional value derives from specific situational needs. It is partially derived from the personal nature of mobile phones that may be carried along at all times and enable instant access to services. For example, access to a service via a mobile phone is perceived valuable in situations where other media are unavailable. The impact of contextual elements, such as time pressure on choice behavior, indicates that context-specific factors affect value perceptions (Mallat 2005). The conditional value dimension has subcategories of value depicting time, location, access and uncertain conditions.

#### **4.1.1. Time**

The time attribute is twofold, including aspects of either lack of time, or situations when persons are occupied and need to do several tasks simultaneously. In a hurry, people see time as a scarce resource and seem to use mobile services when instant access or information is crucial. Instant need was also recently acknowledged as a situational factor by Mallat (2005).

*4.1.1 a) Lack of time:* “I was in a terrible hurry, I had to rely on public transport or walk, it was raining...and I had to get from one city to another...”[paying for transport with mobile phone] (45 M)

Mobile services also offer a possibility of multitasking and ordering things with the mobile device while occupied.

*4.1.1.b) Occupied:* "Because you can send the text message to book movie tickets during the workday...because it is not very nice to make such bookings by phone...you can easily send it and nobody notices when you do it... It was quickly done and is a convenient way to book tickets" (29 F)

#### **4.1.2. Location**

The location attribute describes situations when the user is in an unfamiliar place or is lost. An essential part of the value of the location information is the automatically customized information according to the customer's location, which the customer does not have to identify/know. This type of customized precise location-specific information is not available through other media. In emergency situations in particular, mobile services offer a feeling of security while being able to locate oneself, others or service locations.

*4.1.2.a) In an unfamiliar place:* : “ I was walking and couldn't find the place I was looking for, and I sent that message and ... got the address back from the service.” (25 F)

Furthermore, mobile services enable people to use services without moving anywhere from their current location, e.g. reserving and buying tickets and searching for information. This is especially relevant if the service location is geographically far away.

*4.1.2. b) Geographical distance:* “I tried an electronic concert ticket, it is extremely handy. You don't have to leave [your current location]; you get it right there [a ticket to your phone]. You don't have to go and buy the ticket and pick it up. Since I live almost 200 km away in the countryside... it guarantees that I do not really have to go anywhere.” (50 M)

### 4.1.3. Access

Access refers to the benefits of mobile services that can be used wherever and whenever the need arises, e.g. abroad, at the summer cottage, at sea, and at festivals when no other media are available.

*4.1.3. a) No alternative access:* "...if you don't want to be at the [rock]festival area all the time, you don't get any information, there are no other media available where you would get the information, so that [the rock festival mobile news service] is good. You get information if some band is delayed and such. (20 M)

The mobile phone is also often used as a payment method when no cash is available, e.g. while paying for parking, tram or subway tickets, or buying products from vending machines.

*4.1.3 b) No cash:* "I was in a situation where I was out of cash on a tram...It's possible to pay [for the tram ticket] even if you don't have money or you have big notes only." (29 F)

Some respondents described themselves as 'card persons' who never carry cash (especially coins), and for those people the mobile payment offers an opportunity to pay for small transactions when card payment is not accepted.

### 4.1.4. Uncertain conditions

Uncertain conditions entail situations where more information is needed to facilitate decision-making. Planning future actions requires often location-specific information referring to conditions e.g. in a certain town, municipality, sea area or ski resort, or time-specific information. Among other things, the respondents mentioned examples of location-specific information, such as information or forecasts of weather including ice, snow, wind and pollen conditions. For example, planning the time or destination of a short holiday in uncertain weather conditions is demanding, and a real-time, location-specific wind or snow conditions report may help to plan where and when to go.

*4.1.4.a) Planning future actions:* "We were sailing and were located near a small island at sea, when the wind was rising. We had to order the weather report instantly to know which way the wind was turning, so that we knew which direction to take." (28 F)

Orientation guidance helps people to get from one location to another either on public transport, by car or on foot. For example, route information is often sought in situations when there is a need to know the quickest way of getting from one location to another and how to get there. This type of guidance is often based on static information like maps or timetables.

*4.1.4.b) Orientation guidance:* "When I wanted to know if I have to refuel now or if I can do it later on, the service gave me the locations of three nearest gas stations and it even told what chains the stations represented and where to get

bonus points...It was good. The information was specified according to my location." (27 M)

Furthermore, an urgent need for real-time information may arise regarding e.g. bus stop-specific timetables, flight delays, stock rates or bank account balance. In uncertain conditions this real-time, up-to-date information can be crucial for making decisions.

*4.1.4.c) Urgency:* "I found the timetable for the bus stop near my friend in the middle of nowhere, when I was in a hurry." (28 F)

Meuter et al. (2000) also state that external environmental factors may add a sense of urgency, which intensifies the need to use self-service technologies in general.

## **4.2. Epistemic value**

Epistemic value relates to experienced curiosity, novelty or gained knowledge by using new products, services or technology. According to earlier literature, the primary trigger for purchase may be curiosity about a new product, novelty or variety seeking (Hirschman 1980; Sheth et al. 1991a). A respondent who bought a soft drink from a vending machine using mobile payment remembered the experience as positive and fun. At that time, it was something new and exciting that she wanted to try to test how it functions.

*4.2. a) Curiosity and novelty:* "It was something new, something exciting, first of all I wanted to test if it functions and when it did, I was like wow, this is fun, the first time was great fun. All my colleagues giggled at the vending machine." [paying for a soft drink using SMS] (25 F)

## **4.3. Emotional value**

Emotional value is gained particularly through emotional communication. Therefore, emotional value has gained importance especially in entertainment services, e.g. mobile chat, picture messaging, ring tones and gaming. The situations described in the interviews revealed aesthetic aspects and having fun while using the service.

*4.3. a) Fun:* " Once I had an argument with my friend and I sent her a funny picture message with a teddy bear and text like I am so sorry, please forgive me. Usually you get a phone call back like it's all right. It is fun." (16 F)

According to earlier literature, emotional value is acquired when a product/service arouses feelings or affect (Sheth et al. 1991a). Aesthetic pleasure and associations with earlier experiences, as well as play or fun enjoyed for its own sake, generate emotional value (Holbrook 1994; Sheth et al. 1991a). Especially in the mobile contexts, Leung and Wei (2000) have reported enjoyment and fun-seeking as customers' motives for using services. Mobile technology use seems to be an emotional experience even in the mobile banking context (Laukkanen 2006). Hirschman (1980) further suggests that feelings may be e.g. joy, but also mentions negative feelings like jealousy, fear or even rage. The present study found indications of emotional value also gained by teasing

others, which is regarded as a positive emotion from the sender's perspective, but may also become annoying for the recipient.

4.3. b) *Teasing*: " Teasing!...I ordered a ring tone for another person. We wanted to play a joke on our father, changed his ring tone." (29 F)

There are some mobile services specifically designed to meet the need for teasing or playing a joke on friends and family, e.g. sending anonymous prank messages. In general the services are used for pleasing friends or oneself.

#### 4.4. Social value

In earlier literature, social value associates users of the service with a social group and includes such aspects as social image, identification, social self-concept, expression of personality and pursuit of social class membership (Bearden and Etzel 1982; Bhat, Burkhard, O'Donnell, and Wardlow 1998; Holbrook 1994; Keller 1993; Konana and Balasubramanian 2005; Sheth et al. 1991a; Sweeney and Soutar 2001). Our results indicate similar aspects of social respect and appreciation of others gained by using mobile services.

4.4. a) *Appreciation from others*: "I didn't want my friend to know that I forgot her address again and to be told that I have a terribly bad memory. I got the required information by mobile phone." (25 F)

Gratification theories also talk about fashion, status and sociability that relate to similar aspects as social value. This indicates that the use of mobile services may be a way of expressing personality, status, and image in a public context (Leung and Wei 2000). In contrast, self-respect in this study relates to embarrassing situations when mobile services enable people to maintain self-respect.

4.4. b) *Self-respect*: "I felt like a good citizen when I was able to pay for the ticket [by mobile phone.] (45 M)

Recently, similar findings have been reported by Laukkanen and Lauronen (2005) in a mobile banking context. They report that mobile banking enables people to avoid feelings of shame and embarrassing situations of not being able to pay for products or services. Embarrassment avoidance has recently also been identified in an online investing environment, where it has been found to be a stronger motivation among online investors than among those who make investment transactions using personal communication. Maintaining self-respect requires avoidance of embarrassment. Embarrassment is a result of a threat to an individual's projected self during interactions with others (Konana and Balasubramanian 2005).

#### 4.5. Monetary value

This study indicates that mobile service prices may be perceived positively, since mobile services are often priced lower than similar services in alternative channels and

therefore they are perceived as cheap. Thus, the price perceptions are relative to traditional ways of acquiring the information or making transactions.

*4.5. a) Low price:* “It is like cheaper [the mobile ticket] than if you buy it on a tram [the paper tram ticket]. The price is the same as in the self-service ticket machines.” (20 M)

Kleijnen et al. (2004) suggest that in mobile services the cost is of minor importance compared to the content. In contrast, market research results often cite the high price of mobile services as a barrier for mobile service adoption (Hyvönen and Repo 2005). However, an important factor not explicitly mentioned in value literature, but found in this study, is deferred payment. Since services ordered through the mobile channel are mostly invoiced monthly on the phone bill, customers also reported gaining extra time to pay as valuable.

*4.5. b) Deferred payment:* “Sometimes when I haven’t had any money and you can just order the subway ticket by mobile phone. It’s convenient, because you get some time to pay at the same time. It’s debited on your phone bill, it’s quite good if you’re broke.”(20 M)

Similar results have recently been pointed out by Mallat (2005) who quotes mobile phone users reporting that mobile payment would be advantageous when out of cash, because the bill can be paid later. This may be especially relevant for users who do not own a credit card or are not eligible for one because they are under age.

#### **4.6. Convenience value**

Convenience has been reported as a major attractor for mobile technology use in addition to task fulfillment (Anckar and D’Incau 2002; Carroll, Howard, Peck, and Murphy 2002; Carroll, Howard, Vetere, Peck, and Murphy 2002; Mick and Fournier 1995). Furthermore, mobile services often seem to relate to efficiency, i.e. they require less effort or time spent and thereby make life easier by streamlining activities, an important characteristic in an age when people have increasingly limited time resources (Hoffmeister and Oudghiri 2004). Convenience has also been found to be an important reason to use online shopping and mobile banking (Chiang and Dholakia 2003; Laukkanen and Lauronen 2005). This study shows that convenience entails a wide range of aspects.

Convenience is gained through speed and ease of use. Mobile services are instant and people appreciate the rapid access to services compared to the alternatives.

*4.6. a) Speed:* “...Things need to be dealt with urgently and then it is worth its weight in gold to get it right away” [the phone number from mobile yellow pages] (29 F)

According to our findings, the ease of use concept was further extended to mean that mobile services make life easier in general. Mobile services give easy access to

services. Mobile users do not seem to like to plan actions much in advance, and mobile services give flexible access anytime and anywhere a need arises.

4.6. b) *Ease of use*: “When you need money urgently and are out late, it is easy to transfer money from one account to another.” [with mobile banking] (26 M)

A further aspect that was unique to this study was the need to stay anonymous while using the services. Mobile services can be used anonymously, when one does not want to disturb others or just wants to get some information anonymously, without being identified. People seem to use services very innovatively for personal reasons, e.g. searching numbers and addresses of possible dating partners they are interested in, or finding out who phoned them. In this respect, convenience can also mean the value generated from the fact that one’s intentions will not be revealed to anyone.

4.6. c) *Anonymity*: "When someone has called you...it always bothers you if you don't know who tried to call. It is nice to get the name. For example I searched for a man’s phone number...if you know someone and want to contact him...you don't need to ask anyone and won't get found out in any way." (26 F)

Moreover, a common phrase used by interviewees was “mobile services are handy” meaning that it is a convenient way of using services, since the use of mobile services does not require personal contact or going to a service location. Spangenberg, Voss and Crowley (1997) and Voss, Spangenberg and Grohmann (2003) have previously used the scale handy/not handy to depict a utilitarian dimension of attitude.

4.6. d) *Handy*: "Reserving a movie ticket, you get the reservation number delivered to your mobile phone, it has been handy." (28 F)

Next, the categories presented above are linked to form a broader perceived value context, and they are discussed in conjunction with the MPVAL framework.

## 5 MOBILE PERCEIVED VALUE (MPVAL) FRAMEWORK

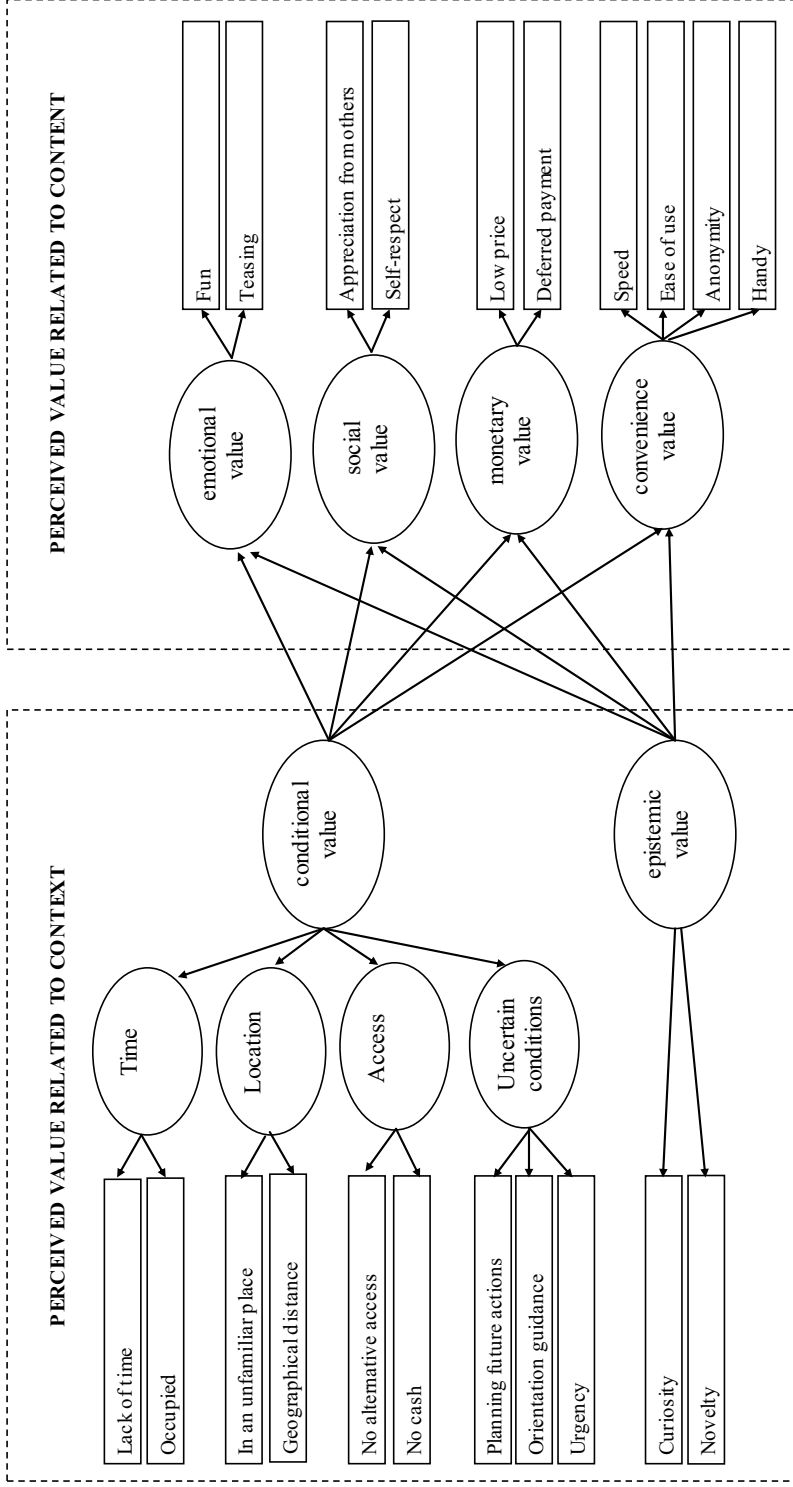
The mobile perceived value framework answers the call for research to study how technologies change business, and to determine whether existing theories will explain the new phenomena adequately or whether new theories will be needed (Watson et al. 2002). The results of this study indicate that Sheth et al.’s (1991a) generic consumption values also apply surprisingly well in the mobile service context, even though the scale was originally developed for analyzing decisions to use vs. not use traditional products as well as brand choices, (e.g. cigarettes, drugs, toothpaste, aspirin, automobiles) (Sheth, Newman, and Gross 1991b). Other existing frameworks fail to acknowledge the conditional and epistemic factors, which seem important in the mobile field. Nevertheless, modifications both to the definitions of Sheth et al.’s (1991a) value dimensions and the framework itself were needed in order to apply the framework to mobile services. Below, we will present the resulting framework for mobile service value perceptions.

Rayport and Sviokla (1994) postulate that the traditional marketplace has transformed into a market space, where value propositions are disaggregated into content- and context-related factors. Following their thoughts on how the electronic environment will revolutionize business, we have grouped the identified value perceptions into 1) context- and 2) content-related value perceptions. Especially in the mobile field, context-related value perceptions (conditional and epistemic value) play a central role in explaining the conditions under which mobile services may be chosen over other alternative ways of accessing the content (e.g. via TV, radio, magazines, Internet)

The content-related value perceptions (emotional, social, convenience and monetary value) represent stable value-in-use perceptions that describe why users consider the mobile content valuable to them. Generally, in-use value means utility derived from using the product or service (Parasuraman and Grewal 2000). The four content-related value-in-use dimensions are proposed to result from service use experiences and to form the basis for further purchase decisions.

Figure 1 describes the MPVal framework of this study and illustrates how the value dimensions discussed in this study are related to each other. Conditional and epistemic value are separated from the other perceived value dimensions. They relate to the context in which the customer is just before or during the actual service use, and are proposed to trigger service use and enhance the emotional, social, monetary and convenience value. These positive relationships between the context and content value dimensions are also proposed in Figure 1. We propose that this distinction between context-related perceived value (conditional and epistemic value) and content-related perceived value (emotional, social, monetary and convenience) is necessary because of the following findings:

**Figure 1: The MPVal framework**



According to our results, respondents describing conditional value aspects talk about situations in which they would normally use other service channels, but under certain conditions they perceive the mobile service option as extremely valuable. These situations are often described using words ‘when’ or ‘if’. The respondents’ stories usually continue with consequent service in-use experiences, which are described with value terms such as ‘quick’, ‘easy’, ‘handy’, and ‘fun’.

“When I was thirsty and had no food or drink, nor cash at work, I got a soft drink from the vending machine with mobile payment. It is handy.” (26 F)

“I did not remember my friend’s address when I was on my way to her party. I got the address to my mobile [from a mobile number & address inquiry service]. It was extremely valuable to me, because it was quick and easy and I did not have to reveal again how bad my memory is.” (25 F)

“I found the timetable for the bus stop near my friend in the middle of nowhere, when I was in a hurry...It was valuable in that situation because it was far away and I was in a hurry to get home...I haven’t needed that service after that, because my friend moved.” (28 F)

“When I was at the summer cottage and had no timetable or anything. I ordered the train timetable to my mobile. It [the mobile timetable service] is especially valuable in such situations.” (16 F)

Therefore, these context-related conditions (time, location, access, and uncertain conditions) seem to be value perceptions that enhance the monetary, convenience, emotional and social value. Bobbitt and Dabholkar (2001), Richard (2005) and Meuter et al. (2000) report similar conclusions, and postulate that situational factors (e.g. changes in amount of time available, mobility or other external factors) seem to trigger people’s use of self-service technologies (Bobbitt and Dabholkar 2001; Roos 2002).

In addition to time, location, access and uncertain conditions, novelty-seeking is seen primarily as a context-related condition in this study. The temporary nature of novelty value is illustrated by the following quote about testing the functionality of new technologies and buying a soft drink with a mobile phone. The respondent verified that the novelty value vanishes gradually after trial and that she did not use that service in the long term.

“First of all I wanted to test if it [paying for a soft drink using SMS] functions and when it did, I was like wow, this is fun, the first time was great fun...I did not do it after a while, the novelty value tends to vanish after a few months.” (25 F)

Other respondents in this study used mobile payment at vending machines if they had no cash. Conditional and epistemic value are similar in that they are temporary conditions under which the mobile service is used. After the curiosity for new products, services or technology has been satisfied, the same service can no longer provide epistemic, novelty value. Similarly, conditional value is gained under conditions in which the user may be in a hurry, occupied in a meeting, in an unfamiliar place, out of

cash etc. If the context changes, the need for using a mobile service may no longer exist. If there are other alternative ways of accessing same content or paying for services in that situational context, the value generated by the mobile service may be worth less to the user compared to a situational context where the mobile service is the sole source for content.

Supporting preliminary findings have been reported by Williams and Soutar (2005), who propose that in a tourism context novelty value has a stronger influence on satisfaction in pre-use perceptions than after-use value perceptions. Sweeney (2002) also states that some factors used to evaluate the pre-purchase perceived value are no longer important in post-purchase evaluation, for example the hassle of using the service. In addition, she postulates that strategies emphasizing value based on pre-purchase criteria aim primarily at acquiring new customers.

Furthermore, the results of this study and those of Sheth et al's (1991a) research indicate that epistemic value dissolves soon after the trial period and is therefore temporal in nature. This is mainly because epistemic aspects in mobile services reflect novelty-seeking, which may trigger trial behavior without real motivation to use the service in the long run. Similar findings have been reported in the Internet context. Explorative, novelty-seeking behavior seems to trigger certain behaviors (Richard 2005). However, customers who are motivated by epistemic value often return to their regular consumption patterns after satisfying their need for change (Sheth et al 1991a). After the novelty effect vanishes and people start to use mobile services in more mundane everyday life situations, continuous service use may be evaluated primarily by the consequences of service use and driven by the content-related value perceptions (emotional, social, convenience and monetary value).

Recently, factors triggering consumer behavior and the influence of situational context have received increasing interest from academics and practitioners (Dey, Abowd, and Salber 2001; Figge 2004; Gustafsson, Johnson, and Roos 2005; Kim, Kim, and Lee 2005; Lee and Jun 2005; van der Heijden, Ogertschmig, and van der Gaast 2005). Although the trigger construct has not been previously used in perceived value literature, we consider it appropriate to depict the changes in the environment or changes in the customer's state of mind before mobile service use situations. The changes in situations are seen as triggers in service literature by some researchers. For instance, Gustafsson, Johnson and Roos (2005) define situational triggers as something that alters a customers' evaluation of an offer based on changes in their lives or in some external factors affecting their lives. In the field of psychology, triggers have been described as contextual cues, e.g. presence of others and location, which trigger people to certain actions. In repeated situations, stable triggering cues may even result in habitual behavior, without an active decision to do so (Wood, Witt, and Tam 2005). Thus, the context-related factors triggering use found in this study by using CIT may have implications also for continuous, habitual use of the same mobile service in similar or more mundane situations in the future.

## 6 CONCLUSION AND IMPLICATIONS

This paper proposes a mobile perceived value framework that helps to understand the multifaceted nature of perceived value from a customers' point of view. It adds to previous value literature by categorizing value dimensions into context- and content-related value perceptions and by giving concrete meanings to the value dimensions in the mobile service field. Furthermore, we propose that conditional and epistemic value are primarily triggering factors that intensify the experienced value of the service in a certain situation and enhance emotional, social, monetary and convenience value of the services. Conditional and epistemic value exist mainly temporarily, under certain conditions. Most importantly, the study investigates the meaning of the use situations and illustrates how important conditional factors are in influencing use of mobile services, in addition to customers' more permanent value perceptions and preferences that are related to the mobile content itself. This complements previous value theories and helps further conceptualization of the value of electronic services in the future. Furthermore, considering situation-specific factors increases the managerial value of the research (Miller and Ginter 1979), and may help the positioning of mobile services in relation to other electronic services.

The Critical Incident Technique reveals context-specific motivations that may remain unnoticed with general interviewing techniques, and is therefore a good method for exploring underlying value perceptions. We identified new context-related aspects that have not been mentioned in earlier research, e.g. uncertain conditions in which the value of a mobile service is enhanced. For example, location-specific weather reports are especially valued while planning future actions like water sports or skiing in a location where conditions change quickly. Furthermore, e.g. stock quotes or flight delay information are often ordered with the mobile device even if it would be available via other media, when the real-time information is needed urgently. Moreover, information that is not changing rapidly, like public transport route guidance or bus stop-specific timetables, are especially valued when the users' location changes and they need orientation help or guidance on how to get from one place to another, even in their own home town.

The exploratory approach also identified content-related value perceptions of mobile services that have not been reported in earlier research, e.g. anonymous use, gained time to pay, self-respect and teasing. These aspects can be used as examples in communicating the emotional, social, monetary and convenience value that mobile services offer from users' perspective. In addition, since conditional and epistemic factors seem to enhance the need to use mobile services, the example situations described in this study may be used to illustrate situations where mobile services are extremely valuable to users in comparison to more traditional service channels, and thereby to anticipate those situational needs (e.g. when in a hurry, occupied, in an unfamiliar place, lost, without any cash). For example, a person may be occupied in a customer meeting and notice that the parking time is about to finish. He/she can pay for extended parking time instantly, without moving anywhere, without disturbing others, by sending a text message to the parking service provider. The payment may be invoiced on the monthly phone bill that the employer pays. Hence, this situation illustrates the critical situation that triggers service use and emphasizes convenience and

monetary value of the service. This example also illustrates that one service can create several value propositions, and therefore value propositions should be communicated linked to a relevant use context.

These context-related aspects are important for understanding under which conditions users choose mobile content over other possible media like the Internet, catalogues, newspapers etc. Similar services can be used through many different channels or media that compete with each other, and mobile content services are used in some specific contexts in which they are perceived more valuable than the other alternatives. Although it is difficult to anticipate situations in which people will use mobile content services, the results of this study should provide some indications on the kinds of conditions under which mobile content services are preferred by users. On a practical note, this study increases understanding of when and how people use mobile services and what they find valuable in them. The examples presented give indications to service planners and marketers on how context influences continuous service use. They may also provide ideas on how to target the services at those user segments that most likely end up in similar situations and would perceive the services especially valuable. In market reports, price is often indicated as a barrier to use of mobile services (Hyvönen and Repo 2005). However, the illustrations and MPVal framework emphasize the need for a multidimensional value framework that also recognizes other factors influencing mobile service use in situations where they are typically used.

### **6.1. Limitations and future research opportunities**

Because of the explorative research approach and the fact that the study was conducted in a country with a highly developed mobile sector, the findings are not generalizable as such but rather provide insights for further research. More Critical Incident studies are needed in different types of mobile content services. Replications of the technique used in this study are encouraged also in different markets, since CIT is a less culturally bound technique than e.g. surveys and therefore well suited for application in different markets (Gremmler 2004).

Although the exploratory results were limited to a small number of interviewees, they resulted in rich data. It is not unusual to have small samples in CIT studies and qualitative studies exploring value perceptions (Björlin Liden and Skålen 2003; Dabholkar and Overby 2005; Heinonen 2004, 2006; Laukkanen and Lauronen 2005; Roos 2002; Thompson and Haytko 1997). CIT recording solely positive incidents worked well for finding out the underlying value perceptions of services in certain situations. However, it should be noted that CIT gives special attention to most critical and memorable situations (Stauss 1993). Even though mobile services may be normally used in more mundane situations, these examples may be used to illustrate the memorable situations when mobile service are especially valuable to customers and encourage potential users to trial. The criticality of critical incidents may also vary between customers (Edvardsson and Strandvik 2000). Hence, the influence of the conditional and epistemic factors may be stronger for some customers than others. In this study, the respondents were typical regular mobile service users, but not experts of mobile technology or services. Therefore, the epistemic value may have received less attention than in research that focuses on 'innovators'. Those users, who like to keep up

to date with new mobile services and technology in general, may use mobile content more often purely for curiosity reasons. Therefore, further research is encouraged in analyzing the effects of conditional and epistemic factors between different types of mobile services, and different mobile user groups in different cultural and situational milieus.

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# LINKING PERCEIVED VALUE AND LOYALTY IN LOCATION-BASED MOBILE SERVICES

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## ABSTRACT

**Purpose** – To analyze the direct effect of perceived value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) on attitudinal and behavioral components of loyalty: commitment and behavioral intentions to use location-based mobile services.

**Design/methodology/approach** – An online survey for users of a mobile location-based directory service “Where is the nearest?”

**Findings** – The behavioral intentions were most influenced by conditional value; the context, in which the service is used, followed closely by commitment and to some extent monetary value. Commitment can be enhanced through building emotional value and conditional value by focusing on offering fun service experiences in the right context. The influence of social and epistemic value was not significant.

**Research limitations/implications** – Further research is encouraged on the relative importance of the value dimensions’ influence on loyalty in global markets.

**Practical implications** – The minor influence of monetary value as well as the high influence of conditional value implies that the one dimensional value measures are not applicable in a mobile context where decisions are often made spontaneously and based on situational needs. Effective marketing strategies need to take into account the contextual use and emphasize either convenience or emotional value.

**Originality/value** – The paper introduces new context relevant concepts and develops a multidimensional perceived value and loyalty model. Results give practical implications on how to increase awareness of location-based services in a way that gives a realistic picture of how location-based services create value for customers.

**Keywords:** Mobile communication systems, Consumer behaviour, Customer loyalty, Value analysis

**Paper type:** Research paper

## 1 INTRODUCTION

Location-based services (LBS) have gained attention as companies are facing new opportunities in offering more customized services. The ability to identify the customer's location at a certain time is one of the most promising applications of mobile commerce. Positioning techniques help service providers offer entirely new services or add value to current ones by taking the usage context into account (Barnes, 2003; Harter, 2000; Ince, 2005). However, commercialization of location-based mobile services has been slow due to the lack of interesting content and low awareness of the available services. In fact, according to research conducted in UK, France and Germany the two most important reasons for customers not using LBS were: "because I did not know they existed" and "because the services are not useful" (BWCS, 2004). Thus, poor service adoption rates are often explained by an inadequate understanding of the appropriate way to market and communicate services to different segments (De Marez and Verleye, 2004). Effective marketing requires good knowledge of the underlying needs and value perceptions of the specific user segments. People who do not have any experience of using such services may have difficulty in comprehending the real value of location-based information. They need to understand how the service brings value to their everyday life in order to adopt new services (Kaasinen, 2005). Hence, customer perceived value plays an integral role in persuading customers to use the services.

Innovation adoption literature contains theories about the factors which influence consumer acceptance of new technology, trial and future use of those technologies. (Agarwal and Prasad, 1999; Ajzen and Fishbein, 1980; Davis, 1989; Moore and Bensabat, 1991; Rogers, 2003). However, the service perspective of offering compelling content to customers with the help of these technologies rarely has been discussed. The key barrier in attracting the critical mass of customers is still the lack of attractive content that would give the majority of customers a compelling reason to use the services (Gilbert and Han, 2005). Attractive content is also a key to keeping the valuable customers. There is a need for in depth understanding of what influences customer behavior and customers attitudes not only to the technology, but more importantly to the content and service provider offering the services. Knowledge about factors influencing customer loyalty in LBS is needed to guide effective marketing strategies. Implications are needed also to point out what type of value is important in the location-based context from a customer's point.

Measuring customer perceived value is essential in assessing current services and for the development of further ones, because customer segments may have different motives to use services and thus perceive different value in them. Value-oriented segmentation is proven to be better than the traditional approaches based on demographics or tracked buying behavior in LBS, which are new to customers (Köhne *et al.*, 2005). However, to date there are no established measures for customer perceived value in electronic environments. The majority of existing empirical research on customer perceived value is based on traditional services, or on consumption experiences of goods (Babin *et al.*, 1994; Caruana *et al.*, 2000; Cronin *et al.*, 2000; Kerin *et al.*, 1992; McDougall and Levesque, 2000). Modifications may be needed to depict the spontaneous use of self-services in specific situations and the convenience compared to other alternatives. On the other hand, alternative theories

for assessing customer behavior in electronic environments, e.g. technology adoption model (TAM) (Davis, 1989) were created especially for assessing technology adoption in organizations, and are not considered suitable for assessing services for personal use, on the move (Nysveen *et al.*, 2005). In mobile self-services the importance of time and location for customers' value perceptions should be emphasized especially (Heinonen, 2004).

In conclusion, there is a lack of conceptual models and methods to conceptualize context aware services (Dey *et al.*, 2001). Hence, further empirical studies and conceptualization of perceived value and loyalty, especially in the mobile context, are needed. The paper contributes to the loyalty and perceived value literature by introducing new context relevant concepts that are needed in value based marketing for services that use location information and develops a multidimensional perceived value and loyalty model. The purpose of the study is to analyze the direct effect of perceived value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) on attitudinal and behavioral components of loyalty: commitment and behavioral intentions to use LBS. Results give practical implications on how to increase awareness of LBS in a way that gives a realistic picture of how LBS create value for customers. Future research opportunities in the area of the newly emerging LBS are also suggested.

The paper is structured as follows. Following this introduction, a background of LBS is provided. The paper continues with a review of the literature on customer perceived value, loyalty and a description of the conceptual framework. The case company's LBS are described in connection with data collection and sample description. The results chapter is divided into two sections, measurement model and structural model evaluations. Finally, conclusions, managerial implications, and directions for future research are presented.

### **1.1. Location-based services**

“LBS are services in which the location of a person or an object is used to shape or focus the application or service“ (Duri *et al.*, 2001, p. 20). Basic tracking of location information has been used since the 1980s with automated vehicle location for trucking and freight services. However, full commercialization of LBS has only emerged after regulatory change and technological advancement. In the US, the key market driver has been safety deployment and policy concerning emergency service caller location. Other applications for location-based information use are advertising, roadside assistance, fleet management, people tracking, road pricing and location-based products. (Barnes, 2003) Most of the successful LBS so far were created for business to business use. Business to consumer services offered include e.g. maps, location aware directory services, friend finder, locating potential dating partners and route guidance (Barnes, 2003; Rainio, 2003).

The mobile Yellow Pages is one of the most basic LBS offered today. Telecommunication companies such as diAx, Sonera, Telia and Vodaphone all have offered services where the user asks: “what is near me” or “where is the nearest [ATM, bank, shop, restaurant]”. This type of service is considered to be particularly useful when the user moves to an unfamiliar city. Maps have also been included in these types of messages in order to help customers navigate to the service location.

Customers have been able to order color maps with multimedia enabled mobile devices. LBS have the potential to make content and applications more pertinent to users and therefore play an important role in the development of mobile services (Saunders, 2003).

However, even though location-based services were launched in 1999, they have only gained 1 percent of the data traffic in Europe. The implementation of LBS has been slowed by both marketing and technical difficulties. (Patel, 2004) Moreover, the diffusion of mobile phones with location identification is still low and only a minority of operators support the use of location information (Diercks, 2003). Accordingly, the services have not been marketed to end users resulting in low awareness of LBS (Dano, 2003; Rainio, 2003). Nevertheless, recent results indicate that wireless service users perceive LBS to be appealing, especially if they include content such as: emergency services, downloading maps and navigation assistance to various locations as well locating family and friends (Diercks, 2003; Kävlemark and Löfqvist, 2005). From a customer perspective, LBS should be reliable, integrated into mobile phones and up to date. Further important aspects of location-based service use are personalization of services, accuracy of information, low cost and ease of use. (Osman *et al.*, 2003)

To date, mobile operators have been most interested in the use of location information for providing innovative LBS (Barnes, 2003). This is even though there are indications that customers would appreciate location-based service provided by independent service providers and communities, and may not perceive that as tele-operators' core competency (Köhne *et al.*, 2005). Typically, partners in providing LBS to the customers are:

- the mobile operator who provides the location positioning infrastructure that tells where the customer is;
- the content provider that delivers the information;
- the supplier that combines the information with the location information and makes it location relevant; and
- the platforms through which the customers can access the services (Harter, 2000).

Hence, the mobile service value chain includes several partners and co-operation is essential for success.

Location technology and value creation networks have evolved differently in different markets around the world and the main types of positioning techniques are: cell location, advanced network based, and satellite based positioning (Barnes, 2003). In Japan, customers are able to use personal navigator services with the help of global positioning system (GPS) (Harter, 2000). Today, many operators in Europe offer LBS with the help of cell identification information in order to locate the customer. This is because accuracy at 500 meters is sufficient for most of the services currently in use (Barnes, 2003; Harter, 2000). User control of the information is also a very important factor when providers consider which technique to use. In cell identification the

location of the mobile device is identified to the nearest mobile network base station and therefore no modifications are needed to handsets or networks.

One important aspect in providing LBS is privacy. The ability to process very precise location data in mobile communication networks threatens customers' means to protect their privacy. Therefore, the EU privacy and electronic communication directive (Article 9) requires that location data can be used only with the consent of the subscriber. Moreover, the subscriber of a service should be able to temporarily block the location tracking if the consent is given for an ongoing location tracking service. Only emergency services and law enforcement authorities in defense of public and national security and for criminal investigations have permission to use location-based information without the users' prior consent. (EU, 2004) In essence, EU policy ensures that customers have control over the location information gathered about them. This may be one reason why cell identification is widely used by service providers as the information is not stored anywhere and the customer gives the permission to locate his / her mobile device by ordering the service once or alternatively subscribing for a longer period of time. Even though there is interest in services that enable the customer to locate others, only those that have given permission to be located at a particular time can be located by the service user. In a similar manner, marketing messages such as short message service (SMS) and multimedia messaging service (MMS) messages also require prior opt-in consent from the customer in the European Union. The only exception to this Article 13(1) of the privacy and electronic communications directive is if the contact details were obtained in the context of a sale. The organization that sold the product or service may send messages to their customers informing them about related products or services. (EU, 2004) As this kind of communication is seen as customer relationship communication instead of advertising, consent is not required. Since the mobile service market is global in nature and the directives cover all communication sent from or received on a public network within the EU, co-operation agreements are required.

The next section reviews the theoretical background of perceived value, commitment and behavioral intentions and presents the framework of the study. In addition, the choice of using perceived value theory instead of technology adoption model is motivated. Hypotheses suggesting the direct relationship between value dimensions, commitment and behavioral intentions are presented at the end of the next chapter.

## **2 LITERATURE REVIEW AND DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK**

Several theories which describe the factors influencing consumer behavior exist in marketing, psychology and information systems literature. To date, technology related literature has concentrated primarily on explaining initial adoption of technology in organizations using theories of innovation diffusion (Rogers, 2003), the TAM (Davis, 1989; Davis *et al.*, 1989) theory of reasoned action (TR) (Ajzen and Fishbein, 1980; Davis *et al.*, 1989) later extended into theory of planned behavior (TBP) (Ajzen, 1991) and technology readiness (TR) (Parasuraman and Colby, 2001). Of these, TAM appears to be the most widely used model (Agarwal and Prasad, 1999). Recently, researchers have acknowledged the limitations of TAM and included additional

aspects as components influencing behavior e.g. emotions, subjective norm, voluntariness, image, social influence, control, facilitating conditions, perceived enjoyment, perceived needs, and value. (Legris *et al.*, 2003; Nysveen *et al.*, 2005; Venkatesh and Davis, 2000; Venkatesh *et al.*, 2003) Moreover, perceived value related concepts like relative advantage and compatibility, which incorporates the attitude towards technology have been found to overwhelmingly influence user acceptance compared to the other traditional elements of TAM (Agarwal and Prasad, 1999; Fitzgerald, 2002; Plouffe *et al.*, 2001; Suoranta, 2005). The usefulness concept has even been replaced by perceived value in recent research (Kaasinen, 2005). In effect, the extensions of the original TAM model now include value related aspects that traditionally have been researched in consumer psychology, services marketing and relationship marketing literature.

Theories of consumption values and concepts like utility, value creation and customer loyalty are all well established concepts in the marketing literature, and also depict the factors influencing purchase decisions and future use of products and services. Perceived value theories provide a good background for assessing mobile services and the value of the content from a customer's point of view. Mobile services are not necessarily used at all in organizational setting, where most of the technology-related models were developed and tested. Furthermore, technology is only an enabler of new and innovative LBS. Customers' evaluation of the usage experience is not based on technology but mainly on how valuable they perceive the location-based information to be in certain context. This is especially relevant in the mobile services, where the personal, social, psychological and physical context that the service is being used in should be taken into account. (Carroll *et al.*, 2002a; Tamminen *et al.*, 2004).

Rogers' (2003) theory of innovation diffusion has received criticism for relying too much on the innovators and early adopters to market the services to other people who may have different needs and value perceptions to use the services (Moore, 1991). Focusing on perceived value gives a good foundation to attract people who share similar value perceptions, not just an attitude to technology in general. Perceived value has been proven to be a reliable construct in predicting purchase behavior. It also gives practical implications how to market services to end users and demonstrate concrete benefits and value in specific contexts. Therefore, this paper concentrates on perceived value. Next, the theoretical background of customer perceived value is presented. Alongside this are the supporting findings from earlier research for the value dimensions influence on commitment and behavioral intentions.

## **2.1. Customer perceived value**

Customer value perceptions steer purchase behavior and refer to the value that customers perceive they receive or experience by using the service (Bettman *et al.*, 1998). Customers may perceive the value of an offering differently based on their personal values, needs, preferences and financial resources (Ravald and Grönroos, 1996). Value perceptions may also differ according to the usage situation (Anckar and D'Incau, 2002). In marketing literature, it is common to measure perceived value as a single overall value construct (Bolton and Drew, 1991) or to use a multi-item scale to measure perceived value as a unidimensional construct that traditionally has emphasized price perceptions (Anderson and Srinivasan, 2003; Chiou, 2004; Dodds and Monroe, 1991; Grewal *et al.*, 1998; Thaler, 1985). Monroe (1990) further

proposed that perceived overall value is a weighted sum of acquisition and transaction value. Thus, one perspective from which to investigate perceived value is to divide it into acquisition, transaction, in-use, and redemption value (Monroe and Chapman, 1987; Parasuraman and Grewal, 2000). Acquisition value emphasizes the net gains associated with the benefits and the money given up by acquiring and using a product or service. Transaction value refers to the psychological satisfaction or pleasure obtained by purchasing the product at a good price compared to the customer's internal reference price (Monroe and Chapman, 1987). In-use value means utility derived from using the product or service and redemption value relates to benefit of service termination Parasuraman and Grewal (2000). In the mobile service context, acquisition and in-use value are believed to dominate, because transaction value emphasizes price and sees customers as rational beings, who are aware of current price level and consider the benefits and sacrifices needed to obtain the product or service. But in a mobile service context, customers may not be aware of the current price level and services often are purchased spontaneously without carefully considering the benefits and sacrifices (Anckar and D'Incau, 2002). Further, the redemption value, which becomes salient first in late stages of product or service usage, is hardly relevant if the service use is not invoiced as a continuous subscription. Hence, a broader view on perceived value is needed which also takes into account other aspects of consumption that are more relevant in the mobile service use context.

Zeithaml (1988, p.14) provides a general view that depicts value independent of when the assessment is made in consumption situations: "perceived value is the consumer's overall assessment of the utility of a product based on what is received and what is given." Thus, value perceptions are constituted as a trade-off between benefits and sacrifices. The perceived sacrifice includes non-financial aspects, such as time, search costs and physical or mental effort (Dodds and Monroe, 1991). The customer has to invest money and/or time in order to receive the service. Similar definitions can be found in several researchers' work. (Keon, 1980; Lichtenstein and Bearden, 1989; Lichtenstein *et al.*, 1990; Urbany *et al.*, 1988)

Other complementary views on value, which further differentiates people based on their consumption motives are Holbrook's (1994) and Hirschman and Holbrook's (1982) definitions of value. Hirschman and Holbrook (1982) describe consumers as either problem solvers or seekers of fun and enjoyment, and thus refer to utilitarian vs. hedonic consumption. The hedonic view highlights the importance of a fun experience in contrast to the effective achievement of a utilitarian goal. Holbrook (1994) further postulates that consumption experiences most likely involve more than one type of value simultaneously. However, differentiating between utilitarian and hedonic aspects might be difficult in self-service contexts where people are actively taking part in the service process and enjoying the fun experience while achieving a goal. Thus, consumption motives should be measured with a broader framework in a mobile service context.

An extensive framework on consumption related values, which incorporates literature from several fields is offered by the theory of consumption values (Sheth *et al.*, 1991). Sheth *et al.* (1991) framework was used as a foundation for this study, as it contains both the utilitarian and hedonic view of consumption by including goal oriented consumption in functional value as well as the emotional aspects of hedonic

consumption. The model also takes into account context dependency. The five value dimensions which have been identified by Sheth et al. (1991) are functional, social, emotional, epistemic and conditional value. Since no measurement items were reported to validate this perceived value model in the electronic self-service context, other researchers' work has been used as support to define these dimensions in detail. Description of the value dimensions in LBS is provided in Table I.

**Table 1 Description of the value dimensions**

<b>Value dimension</b>	<b>Description</b>	<b>Sources</b>
Monetary value	Value derived from task fulfilment. Monetary benefit or superiority compared with the alternatives.	Sheth et al. (1991)
Convenience value	Ease and speed of achieving a task effectively and conveniently.	Mathwick et al. (2001), Anderson and Srinivasan (2003)
Social value	The utility derived from the product's ability to enhance social self-concept.	Sweeney and Soutar (2001 p. 211)
Emotional value	Product / service generates feelings or affective states.	Sheth et al. (1991), Sweeney and Soutar (2001)
Conditional value	Depends on the context, exists only in a specific situation. Context includes "any information that characterizes a situation related to the interaction between humans, applications, and the surrounding environment".	Sheth et al. (1991), Holbrook (1994), and Dey et al.(2001, p. 97)
Epistemic value	Experienced curiosity, novelty or gained knowledge.	Sheth et al. (1991)

Functional value represents value derived from effective task fulfillment. Often, it relates to monetary value or superiority compared with the alternatives (Sheth et al., 1991). In consumer behavior literature, efficient task fulfillment has also been referred to as the output/input ratio, convenience, availability or ease of use (Holbrook, 1994). In the electronic service context, self-services are often perceived to be better than interpersonal service options, because they allow the saving of time and money (Meuter *et al.*, 2000). Furthermore, convenience is a major attractor for mobile technology use in addition to task fulfillment (Anckar and D'Incau, 2002; Carroll *et al.*, 2002a; Carroll *et al.*, 2002b). Thus, in this study functional value aspects are depicted by two value dimensions, monetary value and convenience value.

Social value relates to social approval and the enhancement of self-image among other individuals (Bearden and Netemeyer, 1999). Support for the importance of social reputation in the form of esteem can be found in several researchers' work (Bhat *et al.*, 1998; Holbrook, 1994; Sheth *et al.*, 1991; Sweeney and Soutar, 2001). Gratification theories also talk about fashion, status and sociability that relate to similar aspects as social value indicating that use of mobile services may be a way to express personality, status, and image in a public context (Leung and Wei, 2000). Sweeney and Soutar (2001 p. 211) define social value as "the utility derived from the product's ability to enhance social self-concept". Thus, social value derives mostly from product or service use shared with others (Sheth *et al.*, 1991).

Emotional value is acquired when a product/service arouses feelings or affective states (Sheth *et al.*, 1991; Sweeney and Soutar, 2001). Play or fun gained by using the service for its own sake is related also to emotional value (Holbrook, 1994). Enjoyment and fun seeking have been reported as customers' motives to use mobile services (Leung and Wei, 2000). In addition, use of technology as such often rises positive feelings, regardless of the service used (Brief and Aldag, 1977).

Epistemic value relates to experienced curiosity, novelty or gained knowledge. The primary reason for purchase may be curiosity about a new product. (Sheth *et al.*, 1991) Novelty and variety seeking have also been suggested to trigger product search (Hirschman, 1980). However, new technology is often purchased without a real functional need and therefore may be used rarely after the novelty effect wears out. Sheth *et al.* (1991) also claim that customers who are motivated by epistemic value often return to their regular consumption patterns after satisfying their need for change.

Conditional value refers originally to circumstances which impact choice. Such situations may be seasonal, once in a lifetime events or emergency situations. (Sheth *et al.*, 1991) Holbrook (1994) postulates that conditional value depends on the context in which the value judgment occurs and exists only within a specific situation. Previous research in the area by Rescher (1969) defines customer perceived value as the outcome of an evaluation made by a single customer of the object in a certain context based on his / her underlying values. However, the previous conceptualization of conditional or situational use often relate to traditional consumption experiences of goods in certain events, e.g. at Christmas. Therefore, the concept of conditional value needs to be updated to depict the real situational nature of mobile services on the move, independent of time and place but dependent on the social and emotional context, technology and networks available. Thus, conditional value is related to the concept of context that is often referred to in the managerial literature on LBS. Context is based on the time, location and social environment, the equipment available, the technological environment, and user specified criteria e.g. mood, work or free time (Kontti, 2004). Hence, conditional value in this paper is defined as: value existing in a specific context, where information that characterizes a situation related to the interaction between humans, applications, and the surrounding environment results in customized information according to the current location of the customer.

## **2.2. The influence of perceived value on commitment and behavioral intentions**

Perceived value has gained recent attention as a stable construct to predict buying behavior (Anderson and Srinivasan, 2003; Chen and Dubinsky, 2003; Cronin *et al.*, 2000; Dodds and Monroe, 1991; Hellier *et al.*, 2003; Parasuraman and Grewal, 2000; Sweeney *et al.*, 1999). Additionally, customers' value perceptions have been found to increase their willingness to buy and decrease their search intentions for alternatives (de Ruyter and Bloemer, 1999; Grewal *et al.*, 2003; Hellier *et al.*, 2003). In past academic research, behavioral intentions have been used by several researchers to predict loyal behavior (e.g. Ajzen and Fishbein, 1980; Duman and Mattila, 2005; Gremler and Gwinner, 2000; Mathwick *et al.*, 2001; Odin *et al.*, 2001; Sweeney *et al.*, 1999; van Riel *et al.*, 2004) Several researchers have confirmed that commitment and behavioral intentions are both loyalty related concepts, yet by definition distinct

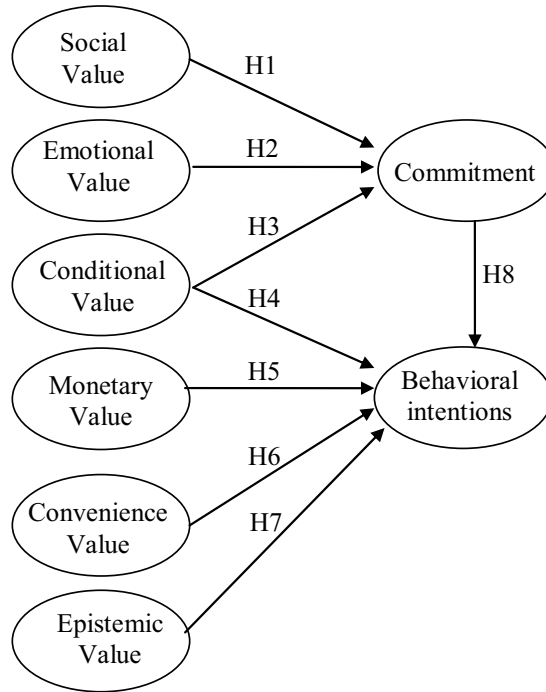
constructs (Beatty *et al.*, 1988; Pritchard *et al.*, 1999). Therefore, they should be measured as individual constructs. Earlier research supports the importance of commitment in relationship marketing and the need to understand the reasons behind the behavior. (Dwyer *et al.*, 1987; Gundlach *et al.*, 1995; Morgan and Hunt, 1994; Roos *et al.*, 2005).

Early views on loyalty focused solely on repeat purchase behavior, but current definitions of customer loyalty include both the attitudinal and behavioral component (Morgan and Hunt, 1994; Oliver, 1999). The attitudinal component consists of affective and continuance commitment; affective commitment is based on liking and identification and continuance commitment on dependence and switching costs. (Fullerton, 2003) The relationship marketing perspective emphasizes the affective commitment to a service provider, because it positively influences loyalty (Fullerton, 2005). Thus, in LBS that are not based on subscription, continuance commitment is not that relevant, since there are no real constraints or costs resulting from switching service providers. Thus, commitment is defined as an enduring desire to maintain a relationship in accordance with Moorman, Zaltman and Despardé's (1992) and Morgan and Hunt's (1994) definitions.

In service marketing commitment has been found to be the most important driver of loyal customer behavior (Gundlach *et al.*, 1995; Harrison-Walker-, 2001; Johnson *et al.*, 2001; Wetzels *et al.*, 1998). Furthermore, committed customers tend to be more tolerant to service failures (Mattila, 2004). The importance in measuring commitment to the service provider lies in estimating if a customer is truly loyal or only buys from the same service provider out of habit, convenience or constraints. This type of habitual loyalty is seen as a result of lack of consumer choice, lack of effort or purchase based on merely situational cues. Purchase based on habit is referred to as "inertia" by Anderson and Srinivasan (2003) and Gounaris and Stathakopoulos (2004), "spurious loyalty" by Baloglu (2002) and Dick and Basu (1994), and "vulnerable customer segment" by Baldinger and Rubinson (1996) and Liljander and Roos (2002). Commitment is especially important in the location-based service context, where purchase decisions are made in a certain situational context and people may not use the service frequently, but can still be considered loyal to one service provider if they are committed to use the same provider's service next time the need arises.

Roos *et al.* (2005) have found that committed customers can identify differences between the service offerings of other telecommunications service providers and appreciate the benefits offered by their own service provider, but the uncommitted customers cannot state any differences. Thus, the uncommitted; "spuriously loyal" customers are highly volatile and susceptible to competitor's offers, even though they might account for a large part of the company's revenues (Baloglu, 2002). In the current undifferentiated mobile service market a large proportion of customers may well be "spuriously loyal", i.e. make frequent purchases only out of habit or convenience, or because they do not perceive a difference in competitors' service offerings or do not even know of other service providers existence. Thus, commitment in the current mobile service market is considered to be relatively low. In accordance to differences in the level of commitment and behavior, it is important to distinguish the difference in value dimensions influence on commitment and behavior in order to be able to plan effective marketing strategies.

The direct influence of different value dimensions to commitment and behavior has not received much attention yet in the literature, but based on earlier conceptualization of each construct, the relationships between the value constructs, commitment and behavioral intentions in LBS are next hypothesized in detail. The research model illustrating the hypothesized relationships is illustrated in Figure 1.



**Figure 1 SEM model**

Social interaction plays an important role when people are on the move or unable to navigate to the desired location. People may find it difficult to remember maps and streets or exact addresses, and tend to interact with other people to ask the way to the nearest service location. (Tamminen et al., 2004) Social value has been suggested to be positively related to commitment to a relationship with the company (Hennig-Thurau *et al.*, 2002; Wang *et al.*, 2004). Further, in the online context, social value is expected to enhance commitment (Hsieh *et al.*, 2005), therefore a positive relationship is also expected in a mobile context.

*H1.* Social value has a positive effect on commitment

Previous research has found a direct relationship between emotions and satisfaction (Liljander and Strandvik, 1997) and between emotions and attitude towards using self-service technologies (Dabholkar and Bagozzi, 2002). Semeijn, van Riel, Birgelen & Streukens (2005) distinguished the importance of emotions in online services and found that joy and value influence loyalty indirectly via satisfaction. Further, emotional value has been found to be especially important for loyal customers, and help build further close emotional links with the wanted customers (Butz and

Goodstein, 1996). Consequently, the author expects a positive relationship between emotional value and commitment.

*H2.* Emotional value has a positive effect on commitment

It is to be expected that conditional value will be highly important in LBS since they are used primarily in a specific context. In turn, context is expected to intensify a need to use a certain service in a specific situation and thereby influence the intention to use the service positively. For example if a person is lost in an unknown city, they can use a mobile location-based service to find out where they are and how to get where they want to go. Support for the direct positive effect of the context i.e. conditional value on purchase behavior was found in Ha' s work (1998). He also suggests an indirect effect of attitude and social influence on behavior via situational factors. Thus, conditional value is expected to influence both commitment and behavioral intentions positively.

*H3.* Conditional value has a positive effect on commitment

*H4.* Conditional value has a positive effect on behavioral intentions

Monetary and convenience value should have a strong influence on value perceptions of task fulfillment-oriented, information based services, e.g. location-based search services, because they give instant convenient access to services that may be good value for money compared to alternatives. According to earlier research, functional value that Wang et al. (2004) defined as "utility derived from the perceived quality and expected performance of the product or service" has a direct effect on behavior and an also indirect effect on behavior via satisfaction (Wang *et al.*, 2004). Therefore, it is expected that monetary value and convenience value affect behavioral intentions positively.

*H5.* Monetary value has a positive effect on behavioral intentions

*H6.* Convenience value has a positive effect on behavioral intentions

The role of epistemic value may be important in services which are new to the customer, just as location-based mobile services appear to be for the majority of customers. However, consumers who try the service mainly in order to test new technologies may not use the service again, nor feel committed to the service provider and mobile services in general. Even though people state that their motive to use a service is to try something new, or to learn new ways of doing things, it does not create value for the customer. Recently, other researchers have also reported the negative influence of novelty value on behavior (Duman and Mattila, 2005; Kävlemark and Löfqvist, 2005). Thus, the novelty effect does not last long and if a product is purchased based primarily on the novelty value, it may not be used after the novelty value disappears (Sheth *et al.*, 1991). Therefore, epistemic value is expected to have a negative effect on behavioral intentions.

*H7.* Epistemic value has a negative effect on behavioral intentions

Commitment is one of the key drivers of behavioral loyalty in addition to perceived value according to earlier research (Fullerton, 2005; Hennig-Thurau *et al.*, 2002;

Odekerken-Schröder, 1999; Pagani, 2004; Wang *et al.*, 2004). It is expected that the importance of commitment in driving loyal behavior is even higher in the location-based context where customers actively need to seek out a service provider to access location-based information on the move.

*H8.* Commitment has a positive effect on behavioral intentions

### **3 RESEARCH DESIGN**

#### **3.1. Case company's location-based services**

This study examines the LBS offered by Fonecta Ltd, a directory service provider. Their services include printed directories, directory advice via telephone and self-service directories online and via mobile devices. A survey was conducted with users of Fonecta's location-based service that allows people to find the nearest service location by ordering the information with the help of a text message. Search words include a wide range of commercial and public services, e.g. a restaurant, pharmacy, locksmith, bank, post office, hospital, liquor store, disco and cash teller. The customer sends a search word (e.g. BANK) as a SMS to the company service number. The customer then receives a customized text message according to his/her location which includes the name and the address of the three nearest banks. The price for each search is 0,7 €. Fonecta, the content provider, plays the most important role in marketing the services to the end users, and delivers the information to end users via a network which supports several mobile operators. The service uses cell ID information and thereby does not store any information about the customers' location. The consent for tracking location information is given automatically when the customer orders the information. The provider has the ability to include offers or sweepstakes from the nearest services to the message. However, this feature has not been used because of lack of interest from the customers currently using the service. Moreover, the service provider has chosen to provide a simple SMS based service in order to reach a wider audience, as well as ensuring the quick and reliable delivery of information to a wide variety of mobile handsets and network providers.

#### **3.2. Development of measures**

The value framework of the study is based on the concepts used by Sheth *et al.* (1991). The constructs were measured with items used previously in the literature (Chen and Dubinsky, 2003; Dodds and Monroe, 1991; Soutar and Sweeney, 2003; Sweeney and Soutar, 2001; Sweeney *et al.*, 1999). The items were modified to depict value in a mobile service context, which differs significantly from Internet and brick and mortar contexts. Since no previously validated items existed for all the value dimensions, items were generated also from interviews with end users of mobile services. The wording of the items has been influenced by other items used to measure similar concepts (Anderson and Srinivasan, 2003; Donthu and Garcia, 1999; Mathwick *et al.*, 2001). The items and their sources are presented in Appendix.

Five industry experts' comments were sought on the relevance of the constructs and they were proven to measure the appropriate constructs as a result of two separate concept tests, letting academic experts link the items with the concept they thought it

measured. Commitment was measured with items relating both to commitment to the service provider and to mobile services in general. Behavioral intentions also related to both use of the same service provider's services and use of mobile services in general. The measures were adapted from previously established commitment and behavioral intentions measures, and a seven point Likert scale was used throughout the survey (see Appendix).

### **3.3. Data collection**

The data was collected with an online questionnaire targeted to end users of the case company's location-based mobile service. One thousand nine hundred and fourteen invitations were sent by e-mail to registered users of the company's web search services. This was the only way to reach current users of the location-based services, since there was no record of mobile service users. Earlier research recommends targeting surveys only to those respondents who have experience of using the service. This is considered especially important in new service areas like LBS where non-users usually have no realistic perception of the service. Thus, the prerequisite for participating in the survey was that the respondent had experience of using the company's location-based mobile services. There were 411 answers and the response rate was 22 percent. The response rate is considered acceptable, because the invitation was sent to the company's Internet service users and those who had no experience of the company's mobile services were not eligible to answer the survey. A screening question was used to ensure that the customers actually had used at least one search word listed in the survey. Twenty-nine respondents were excluded from further analysis because they did not indicate which search word/s they had used. In addition, a further 103 cases including over 10 percent missing values were excluded. The remaining sample to be analyzed consisted of 279 responses. Missing values in the remaining observations were estimated using the expectation-maximization (EM) method, which is recommended by several researchers (Arbuckle, 1996; Dempster *et al.*, 1977; Enders and Bandalos, 2001; Malhotra, 1987; Schafer, 1997). Test statistics showed that the EM imputation of missing values did not bias the original means and standard deviations, since there were no significant differences before and after imputation.

The sample can be described as follows: The mean age of respondents was 34 years. The sample was fairly equally divided between men (57 percent) and women (43 percent). A small proportion had university degree (8.5 percent), while most of the respondents had completed vocational training (35.7 percent). Sample demographics are presented in Table II.

**Table 2 Sample characteristics**

<b>Characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
<i>Age</i>		
Under 15	16	5.7
15-19	37	13.3
20-24	38	13.6
25-29	36	12.9
30-39	61	21.9
40-49	47	16.8
50+	44	15.8
<i>Gender</i>		
Male	160	56.5
Female	122	43.1
<i>Pre-Tax Income (Euros per year)</i>		
Less than 10000	57	20.1
10001 - 20000	41	14.5
20001 - 30000	64	2.6
30001 - 40000	40	14.1
40001 - 50000	11	3.9
Greater than 50000	12	4.2
Do not want to answer	56	19.8
<i>Education (highest level completed)</i>		
Primary School	77	27.2
High School	40	14.1
Vocational Training	101	35.7
Polytechnic	40	14.1
University	24	8.5
<i>Who pays for your use of mobile services?</i>		
Me	207	73.1
Employer	34	12
Parents	34	12
Other	8	2.8

## **4 RESULTS**

### **4.1. Measurement model evaluation**

A two-step modeling approach following Anderson and Gerbing (1988) was used. The measurement model evaluation included exploratory and confirmatory factor analyses in order to purify and test the resulting measures. First, exploratory analysis (maximum likelihood analysis with oblique rotation) was conducted on the items to investigate if the theorized value dimensions could be extracted from the data. The scale was purified by deleting items that did not correlate with other items measuring the same construct. The Kaiser-Mayer-Olkin measure of sampling adequacy was good (0,869) and Bartlett's Test of Sphericity was significant, indicating that the items were

correlated and suitable for factor analysis (Hair *et al.*, 1998). The correlations between the composite variables are shown in the lower triangle in Table III.

**Table 3** Correlation matrix and square roots of AVE

Construct	1	2	3	4	5	6	7	8
1. Monetary value	0.79							
2. Convenience value	0.408	0.80						
3. Social value	0.294	0.327	0.88					
4. Emotional value	0.378	0.500	0.636	0.87				
5. Epistemic value	0.230	0.404	0.205	0.327	0.99			
6. Conditional value	0.310	0.709	0.154	0.453	0.457	0.86		
7. Commitment	0.308	0.515	0.394	0.556	0.269	0.459	0.76	
8. Behavioral intentions	0.405	0.695	0.272	0.527	0.417	0.689	0.607	0.75

**Note:** Square root of AVE are reported on the diagonal; all correlation are significant at the 0.01 level (2-tailed).

All of the correlations were significant, thus supporting the nomological validity of the constructs. Conditional and convenience value seemed to be relatively highly correlated (0.71), but the Fornell and Larcker (1981) test revealed that they do measure separate constructs. Thus, convergent and discriminant validity was assessed by calculating the average variance extracted (AVE) (see Appendix). All AVE values were well above 0,50, and therefore it can be stated that the constructs display a high degree of convergent validity (Fornell and Larcker, 1981). Furthermore, high discriminant validity was also demonstrated by the fact that the square root of AVE of each construct is higher than the correlations between that construct and any other construct in the model. The square roots of AVE for each construct are reported on the diagonal in Table III. Thus, the constructs are both conceptually and empirically distinct from each other (Fornell and Larcker, 1981).

In the exploratory factor analysis a six-component solution depicting six value dimensions was clearly identifiable. The six identified factors were:

- (1) Monetary value;
- (2) Convenience value;
- (3) Social value;
- (4) Emotional value;
- (5) Epistemic value; and
- (6) Conditional value.

Next, the quality of the measurement model was assessed on unidimensionality, convergent validity, reliability, and discriminant validity in two steps, first for exogenous and endogenous variables and then for the whole model. The LISREL 8.54 program was used to assess the unidimensionality of the constructs. Social value variables were skewed slightly and therefore the asymptotic covariance matrix was used in LISREL, because it provides the Satorra-Bentler  $\chi^2$ , which uses a robust maximum likelihood estimation that allows for the use of non-normal data (Holmes-

Smith *et al.*, 2005). Confirmatory factor analysis (CFA) for all parts of the model provided evidence for unidimensionality, since the items loaded at least 0.5 on appropriate constructs. The factor loadings are presented in Appendix. Convergent validity for the measurement model including the exogenous variables was supported by a good overall fit:  $\chi^2 = 184.17$ ,  $df = 104$ , ( $p < 0.01$ ), RMSEA = 0.052, CFI = 0.98, GFI = 0.91, AGFI = 0.87 and NNFI = 0.97. The fit statistics for the measurement model for each construct were good. The fit statistics, AVE and alpha values are reported in Appendix. Both NNFI and CFI exceed the recommended 0.90 threshold levels (Byrne, 1998; Hair *et al.*, 1998) In addition, RMSEA is lower than 0.08 as recommended by Hair *et al.* (1998). Reliability was estimated by assessing the internal consistency of the scale items using Cronbach's  $\alpha$ . The alpha values were all above 0.7 and therefore the measures were considered reliable (Nunnally, 1978). The results of the structural model are presented next.

#### 4.2. Results for structural model

Table IV illustrates the hypothesized relationships and summarizes which hypotheses are supported by the results. All of the nine hypotheses, except two (H1 and H7) were supported.

**Table 4 Results for structural model**

Hypothesized Relationship	Standardized Estimates	t-value	Hypothesis Supported
H1 Social value → commitment	0.08	0.79	No
H2 Emotional value → commitment	0.43***	3.08	Yes
H3 Conditional value → commitment	0.31***	4.14	Yes
H4 Conditional value → behavioral intentions	0.44***	2.90	Yes
H5 Monetary value → behavioral intentions	0.12***	2.47	Yes
H6 Convenience value → behavioral intentions	0.17*	1.29	Yes
H7 Epistemic value → behavioral intentions (negative)	0.05	0.62	No
H8 Commitment → behavioral intentions	0.32***	5.15	Yes

$\chi^2_{(255)} = 466.14$  ( $p < .01$ ) CFI = 0.97 GFI = 0.86  
 NNFI = 0.97 IFI = 0.97 RMSEA = 0.055

**Notes:** \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$

The estimates of social and epistemic value were in the expected direction but not significant. The structural model had a good overall fit statistics: Satorra-Bentler  $\chi^2_{(255)} = 466.14$  ( $p < 0.01$ ), CFI = 0.97, GFI = 0.86, NNFI = 0.97, IFI = 0.97 and RMSEA = 0.055. The normed chi-square 1,8 ( $\chi^2 / \text{degrees of freedom}$ ) for the structural model is acceptable, values between one and two indicating an acceptable fit (Holmes-Smith *et al.*, 2005). Commitment and three value dimensions: conditional, convenience and monetary value had a significant, positive relationship with behavioral intentions. According to the standardized estimates (see Table IV), conditional value had the strongest influence on behavioral intentions (0.44) followed closely by commitment (0.32). Furthermore, convenience value (0.17) and monetary value (0.12) had also an effect on behavioral intentions, but their effect was minor compared to the other constructs. In addition, the other value dimensions had an indirect effect via commitment. Thus, commitment was influenced strongly by

emotional value (0.43), but almost as strongly also by conditional value (0.31). In contrast, the positive effect of social value on commitment and the negative effect of epistemic value on behavioral intentions were non-significant.

Next, the results are discussed more in detail.

## 5 DISCUSSION

In general, the awareness of LBS is still low and people appear to be unaware of their true value. Therefore, to date, the main aim of marketing communication in general, should be to promote awareness and trial thereby attracting the right customers who will use the services also in the future. Promoting mobile services should be based on consumers' real perceived benefits of using location-based information on the move and illustrate concrete examples of how the information brings value to the customer in a specific situation.

The results of this study indicated that both commitment and behavioral intentions to use LBS are strongly influenced by *conditional value*, the context in which the service is used. In situations when such services are needed, it is important for customers to access information that is customized according to the current location. The freedom of place and time provided by mobile phones in general is considered attractive compared to other alternatives (Carroll *et al.*, 2002a). Earlier research supports the importance of conditional value, in that people in general lack motivation to use new mobile services unless these services create value in situations where mobility really matters and thereby affect people's lives positively (Järvenpää *et al.*, 2003).

Furthermore, Kaasinen (2005) postulates that the traditional content of service directories is designed for home or office use, and lack service categories which are considered especially important on the move, for example, gas stations, ATMs and bus stops. Even though the Internet is a popular channel for searching for location and contact information, it may not serve the customer best in all situations, especially with regard to identifying automatically the current location. Thus, wireless, mobile devices have additional benefits compared to the fixed Internet that do not exist in the fixed networks. Therefore, location-based information is considered to be especially valuable to customers who search for information with a mobile device on the move.

In addition, compared with the traditional context of service usage, the mobile use context varies, e.g. in that the context may change quickly, and these unplanned changes in context e.g. available network, meeting a friend or change in network connections while on the move, may occur without the users being able to control it (Kaasinen, 2005). Because the context may even change during a usage session, services should adapt to the recognized context (Tamminen *et al.*, 2004). Thus, in line with the results of this paper, which indicate how overwhelmingly important the usage context is in location-based services, it also should dominate the communication of the potential value of the location-based mobile services.

The value of the service could be communicated based on illustrative examples depicting some specific critical situations when LBS are especially valuable. For example, noticing at the bus stop that you do not have any money with you and you need to find a cash teller near to your location. Another example would be a family on

holiday who suddenly has to stay overnight in an unfamiliar town late at night and find the nearest hotels quickly and conveniently. By using the mobile service they can find the information and drive directly to that location. These situations depict the conditional use of mobile LBS in a specific context when other media are unavailable. Moreover, this has further implications for service providers assessing and predicting frequency of use. Because context has such a high importance, service usage frequency does not reflect the perceived value. A service may be considered extremely valuable, but still be used only occasionally when the need arises. (Kaasinen, 2005)

Emotional value had the strongest influence on commitment followed closely by conditional value. Emotional value had also an indirect effect on behavioral intentions via commitment. Thus, building commitment with communication that emphasizes the fun, emotional aspects of using a service in certain situations, helps customers to differentiate the service providers and remember how to order the services next time when the need arises. Emotional value relates to positive feelings and fun. However, in location-based service context emotions can also mean avoiding negative feelings and solving problem situations while on the move. Security related services are rated highly in surveys asking what type of location-based services people would like to use in the future (BWCS, 2004). Thus, examples of locating the nearest police station, hospital, family member or even a stolen vehicle might be considered highly valuable by the customers and create a positive sense of security.

Convenience value is a major attractor of self-service technologies in general depicting the ease of getting the information compared to other alternatives, which was also supported in this study. In essence, the time saved and convenience gained by searching for a location with a mobile device can be very critical and valuable to the customer. Information can be gained easily and instantly and it may even be more accurate than asking directions from strangers in an unfamiliar city. Compared to fixed Internet services that offer maps and directories, the convenience of mobile services lies in their ability to customize the information according to customer's location. As a result, the customers can locate themselves without having to find out and type the location information into the service interface.

Monetary value refers to good value for money and an acceptable price level. In general mobile service users are price sensitive, but price may not be one of the most relevant factors when customers assess the value of a mobile service. This is important information for service providers who are constantly confronted with public opinion that mobile services are generally highly priced. It is a matter of price perception compared to other alternatives and those customers who perceive the mobile services to be affordable and good value for money when they need the information may also be willing to pay for the service in the right context.

Epistemic value had no significant effect on behavioral intentions. Because earlier research supports a negative relationship, epistemic value may be only the trigger to use the service for the first time and therefore, should not be expected to influence behavior positively. Moreover, social value did not have a significant effect on commitment. The reason might be that people often use the services on the move privately and when traveling in unfamiliar places, there might not be any social contacts available. In addition, if there are other people present, the problem may be solved by asking for directions from others instead of ordering the information via a

mobile device. Furthermore, earlier research also supports that in electronic environments, family, friends and peers do not pose as much social pressure for starting to using self-services as they do in traditional services (Fitzgerald, 2002). Recently, Nysveen et al. (2005) concluded that social aspects influence the intention to use services more significantly in experiential than goal-directed mobile services. Therefore, social value may be of more significant importance in mobile LBS that emphasize social interaction within a group, especially in a customer-to-customer context, e.g. location-based mobile gaming or geocaching [1].

### **5.1. Managerial implications**

The results of this study give several implications for new mobile service developers and marketing managers with regard to how to plan and market LBS that will be considered valuable by customers and used in the future, and also how to enhance commitment to the service provider. First, companies should choose the customer segments they wish to attract and keep, offering services which particular customer segment finds valuable. Or if a company already offers location-based services, they could target the relevant types of services to a customer segment that most likely will perceive some specific location-based information valuable. Thus, value-based planning of new location-based services helps to identify ways in which location information can make customers lives better in certain situations.

Second, effective marketing strategies require good knowledge about the needs and value perceptions of each customer segment. The value-based approach gives a good foundation for segmenting and planning marketing strategies that are differentiated to customer segments that use mobile services for the same reasons and thus helps to attract customers that may have a real need for using the service. Also, communicating these benefits to potential customers helps to attract new customers who share similar value perceptions with the customers the company wishes to keep.

Third, the results give indications for marketing strategies that can be either directed in building commitment to the service provider or concentrating on attracting a mass of new customers that may only be spuriously loyal. Based on companies' current customer base, the main aim may be to attract and keep truly loyal customers who are committed to use the services of the same service provider, who can differentiate between competitors' offers, who do not easily switch service providers and may attract also new users with positive word-of-mouth. Another strategy may be to attract a wide user base that may not necessarily feel committed, uses services out of habit or convenience, and is easily affected by competitors new service offerings. This option may be viable in markets where there is no competition yet and the primary aim is to educate people to use LBS or when the company's strategy in general is oriented to competing with price. In any case, differentiating LBS in the future requires brand building in order to make people more aware of who is providing the service. Linking services to some specific organization or a brand also helps to manage the consent of customers that is needed for tracking the location of customers.

Differentiating the services from competitors is necessary if the company wants to gain a committed customer base that stays committed and spreads positive information by word-of-mouth communication. The results give indications that commitment is primarily influenced by emotional value. Thus, emphasizing a fun

service experience with new technology helps to build commitment. In addition, conditional value also had a surprisingly strong effect on commitment, indicating that people are committed to using their personal mobile devices for accessing information in certain situations and that mobile devices have a great deal of personal meaning to people. It is encouraging that even though people would not yet be able to differentiate between the offerings of different location-based mobile service providers, they seem to perceive themselves to be loyal mobile service users and thus are potential truly loyal customers in the future. When striving for committed customers, the first step is to build recall of what services they used and how to access it again in the future. Since LBS are often used in situations when no other media is available, or when their current location is unknown to the user, special attention should be given to the ability to recall how to use the service when the need arises in a certain situation. Network operators can include information in platform menus or portals, but the content provider which markets services directly to several network users has to rely on other means to attract customers. The logic of search words and recall of the service provider's number are important for service access. In conclusion, if the service cannot be accessed easily via a portal of some sort, customers should be encouraged to save the most important search words on their mobile phone. In that way they can remember where and how they ordered the service the last time and can easily access the same service offered by the same service provider at another time.

An alternative strategy might be to primarily attract a large amount of customers to try the services, with the risk that the customers may switch to competitors as soon as new providers enter the market with new or cheaper services. In that case, a marketer could just concentrate on communicating the conditional value, convenience value and monetary value of location-based mobile services as a convenient way of accessing location-based information needed in specific situations, especially when in hurry or when no other media is available. Encouraging customers to switch to using a mobile device in stead of using their desktop computer for searching location information could be done by emphasizing the convenience of using a mobile device, anywhere, anytime, quickly, easily and even cheaply compared other alternatives, e.g. calling friends or service directory service numbers.

## **5.2. Conclusion**

In conclusion, the results from the study indicate that considering the direct influence of several value dimensions on customer loyalty is essential in differentiating how to enhance commitment and/or loyal behavior. Therefore, the paper contributes to service marketing theories by introducing a multidimensional perceived value model for assessing the direct influence of value both on commitment and behavioral intentions. Hence, customer loyalty was also measured with a two-dimensional construct in contrast to one-dimensional concepts traditionally used in marketing and management literature. Measuring the direct effects on both concepts gives implications for differentiated marketing strategies according to the perceived value and type of customer loyalty.

The paper also gave implications about the fundamental value of location-based mobile services that drive behavior, which is the conditional value of getting customized information based on the location that is relevant to customers in a specific situational context. In contrast, industry reports to date state convenience and

enjoyment as major drivers for the use of mobile location-based services for consumer market (Ince, 2005), thereby underestimating the true value of location-based information, which is highly context dependant. Thus, this paper contributes to both business practice, and value and loyalty literature by introducing relevant value dimensions in location-based mobile service use situations that influence behavioral intentions. Furthermore, the paper demonstrates the importance of emotional value in building commitment to the service provider, which also in turn affects loyal behavior.

### **5.3. Limitations and future research directions**

The study was conducted in one European country, for users of one basic location-based service currently offered to several tele-operators' customers. Other, more advanced location-based services with different aims, e.g. dating, friend finder and location based gaming may yield different results, possibly increasing the influence of emotional and social value. However, the author believes that the sample represents well the user profile of potential location-based services in the future and feels that the results can be generalizable for goal directed location-based mobile services. The variety of service location information that the respondents in this study had searched for was wide and the respondents had concrete experience of the value of the customized location information in everyday situations. Also, the sample was quite mature compared to most of the earlier studies conducted in mobile service area and respondents are believed to represent well the potential customers who would benefit most from the goal-directed mobile location-based services.

However, customers' value perceptions and their influence on commitment and behavior may differ in different cultures, and results indicating the weight of the influence of different value dimensions should be interpreted cautiously at least with regard to the Asian markets where social influence of the group tends to be higher than in Europe, where the culture is considered to be more individualistic. The model, as such, is general and can be applied to assess services in different markets, but further research is needed to analyze differences between the influence of value dimensions in Asian, European and American markets that are at different phases of development with regard to the LBS offered to the consumer market. Therefore, further research is encouraged in all kinds of mobile service contexts in order to be able to compare perceived value of different types of mobile services and generalize the results globally. As more targeted location-based-services are developed in the future, further research could also explore if there exist possible niche customer segments that may have distinct motives for using location-based mobile services. Also, further research should explore other factors, not measured in the current study, which might affect customer loyalty.

## ENDNOTES

[1] Geocaching is an outdoor sport that involves the use of a GPS receiver to find a "geocache" or "cache" placed anywhere in the world. A typical cache is a small, waterproof container containing a logbook and a treasure. Geocaching is a unique take on a traditional Easter-egg hunt in that it uses two recent technologies, the GPS and the internet. (<http://en.wikipedia.org/wiki/Geocaching>)

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**APPENDIX MEASUREMENT ITEMS, CONFIRMATORY FACTOR ANALYSIS RESULTS AND COMPOSITE RELIABILITY**

<b>Constructs</b>	<b>Loading</b>	<b>Items and their sources</b>
		Adapted from Chen and Dubinsky (2003), Dodds and Monroe (1991) and Sweeney and Soutar (2001)
<i>Monetary value</i>	0.89	The price of this mobile service is acceptable
$\alpha = 0.83$	0.88	This mobile service is good value for money
AVE = 0.63	0.59	This mobile service is better value for money than what I would pay for the same service via Internet ( n )
$\chi^2 = 0.20, df = 1, p > 0.1, RMSEA = 0.000, CFI = 1.00, GFI = 1.00, AGFI = 1.00$		
		Adapted from Anderson and Srinivasan (2003) and Mathwick et al. (2001)
<i>Convenience value</i>	0.80	I value the ease of using this mobile service
	0.70	Using this mobile service is an efficient way to manage my time
$\alpha = 0.88$	0.83	I value the possibility to use this service instantly via my mobile device ( n )
AVE = 0.64	0.88	I value the convenience of using this mobile service ( n )
$\chi^2 = 1.26, df = 2, p > 0.1, RMSEA = 0.000, CFI = 1.00, GFI = 1.00, AGFI = 0.98$		
		Adapted from Soutar and Sweeney (2003) and Sweeney and Soutar (2001)
<i>Social value</i>	0.82	Using this mobile service helps me to feel accepted by others
	0.92	Using this mobile service makes a good impression on other people
$\alpha = 0.91$	0.91	Using this mobile service gives me social approval
AVE = 0.77		
$\chi^2 = 1.51, df = 1, p > 0.1, RMSEA = 0.043, CFI = 1.00, GFI = 0.99, AGFI = 0.96$		
		Adapted from Soutar and Sweeney (2003) and Sweeney and Soutar (2001)
<i>Emotional value</i>	0.88	Using this mobile service gives me pleasure
$\alpha = 0.86$	0.84	Using this mobile service makes me feel good
AVE = 0.75		
CFA results not available		
		Adapted from Donthu and Garcia (1999)
<i>Epistemic value</i>	0.76	I used this mobile service to experiment with new ways of doing things
$\alpha = 0.78$	0.76	I used this mobile service to test the new technologies ( n )
AVE = 0.98	0.70	I used this mobile service out of curiosity ( n )
$\chi^2 = 0.03, df = 1, p > 0.1, RMSEA = 0.000, CFI = 1.00, GFI = 1.00, AGFI = 1.00$		

(continued)

Constructs	Loading	Items and their sources
<i>Conditional value</i>		Created for this study
$\alpha = 0.85$	0.87	I value the information this service offers, with the help of which I get what I need in a certain situation ( n )
AVE = 0.74	0.85	I value the customized information according to my location, that I get by using this location based mobile service ( n )
CFA results not available		
<i>Commitment</i>		Adapted from Fullerton (2003), Garbarino and Johnson (1999), and Zeithaml et al. (1996)
	0.49	I feel loyal to this service provider
	0.74	I consider the mobile channel my first choice to order this type of services
$\alpha = 0.83$	0.91	I am a loyal mobile service user
AVE = 0.58	0.87	Mobile services have a great deal of personal meaning for me
$\chi^2 = 6.19, df = 2, p > .05, RMSEA = 0.086, CFI = 0.99, GFI = 0.98, AGFI = 0.91$		
<i>Behavioral Intentions</i>		Adapted from Gremler and Gwinner (2000), Taylor and Baker (1994) and Zeithaml et al. (1996)
	0.62	I intend to continue using services of this service provider in the future
	0.79	Next time, when I need this type of information, I will order it again with a textmessage #
$\alpha = 0.84$	0.80	I will use similar mobile services more frequently in the future #
AVE = 0.57	0.80	The probability that I will order this type of service next time via the mobile channel is #
$\chi^2 = 4.28, df = 2, p > 0.1, RMSEA = 0.064, CFI = 0.99, GFI = 0.99, AGFI = 0.95$		
<b>Notes:</b>		
		Items scored on 7-point scales ranging from "I totally disagree" to "I totally agree" unless otherwise indicated:
		( # ) Measured on a scale where 1 = Not at all likely to 7 = Extremely likely
		$\alpha$ = Cronbach's standardized item $\alpha$ , ( n ) New Item created for this study



COMPARING THE PERCEIVED VALUE OF  
INFORMATION AND ENTERTAINMENT  
MOBILE SERVICES

MINNA PIHLSTRÖM & GREGORY J. BRUSH

PAPER 3

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III

# COMPARING THE PERCEIVED VALUE OF INFORMATION AND ENTERTAINMENT MOBILE SERVICES

Minna Pihlström<sup>17</sup> & Gregory J. Brush<sup>18</sup>

## ABSTRACT

The importance of perceived value in customer decision-making is well known. However, few studies assess empirically the direct effects of various perceived value dimensions on post-purchase behavior. This article examines differences between information and entertainment mobile content service users in how their value perceptions influence intentions to repurchase, intentions to spread positive word-of-mouth, and willingness to pay a price premium. The direct effects of four value dimensions are analyzed: monetary, convenience, emotional, and social value. Within this study we also propose and test the antecedent effects of conditional and epistemic value. This approach advances the value literature by increasing understanding of how individual value dimensions influence post-purchase behavior and of the role of epistemic and conditional value. Using a sample of 579 mobile service users, results are analyzed with multi-group structural equation modeling. The findings support use of multidimensional value and loyalty constructs to identify differences between service user groups, and argue for the use of differentiated value-based marketing strategies for entertainment and information mobile services.

**Keywords:** mobile service, value, loyalty, behavior, word-of-mouth, willingness to pay

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## 1 INTRODUCTION

The mobile phone and other mobile devices are used increasingly for accessing various content services. As an example of the potential of content service development, Hot Telecom (2006), a global telecom research organization, projects that by 2010 world-wide revenues generated from mobile services will rise to reach almost US\$1.7 trillion. For their success, mobile content services depend on their ability to create value for the customer that the users are willing to pay for and continue to use after trial (Advani & Choudhury, 2001). Mobile services in this study are defined as content services that are accessed via a mobile handheld device (e.g. PDA, mobile, cellular, smart phone, GPS) and are delivered in interactions between an organization and a customer (thus excluding interpersonal communication). The two main areas of mobile services that have significant growth potential are entertainment and information content services. Entertainment services in this study include such content as games, logos, ring tones, and horoscopes, while information services include search services, news, travel and traffic information, sports updates and financial information.

Theories for differentiating, targeting and marketing the various mobile content services are needed to attract customers to use the content services and market them to their peers. Customer value is considered “the fundamental basis for all marketing activity”, and perceived value has proven to be a stable predictor of customer behavior (Holbrook, 1994, p.22). However, previous literature has largely estimated the effect of overall perceived value on behavioral constructs such as loyalty. The direct effect of value dimensions has received only limited attention (Sweeney & Soutar, 2001). As a response to several calls for further investigation (Dubé, Cervellon, & Jingyuan, 2003; Lin, Sher, & Shih, 2005), the aim of this study is to examine if there are differences between information and entertainment service users in how their various dimensions of perceived value influence (1) intentions to repurchase, (2) intentions to spread positive word-of-mouth (WOM), and (3) willingness to pay (WTP) a price premium.

Bloemer, de Ruyter and Wetzels (1999) underline the importance of analyzing the effect of multidimensional constructs on customer loyalty across different services. They have found differences in the effects of individual service quality dimensions on WOM in the entertainment and fast food industries. Similarly, we posit that a multidimensional value approach will reveal differences in the influence of various value dimensions on post-purchase intentions for mobile entertainment and information content users. Due to the diversity of mobile content services, people use them for different reasons (Nysveen, Pedersen, & Thorbjørnsen, 2005).

Research in the mobile service field is emerging especially in the mobile payment and banking field (Kleijnen, Wetzels, & de Ruyter, 2004; Laukkanen, 2006; Munnukka, 2005). Nevertheless, more research has been encouraged across mobile service categories (Nysveen et al., 2005). The marketing literature offers few insights into differentiation of mobile content. Mobile services have been predominantly targeted all mobile device owners. For example, mobile service providers often bundle a combination of information and entertainment services together and market them as “infotainment services” (Hearn, 2001). This shows inadequate understanding of the

perceived value different services may offer, and may result in poor service adoption rates (De Marez & Verleye, 2004).

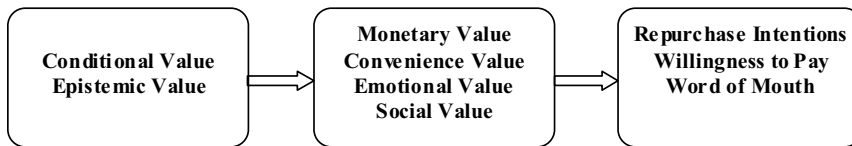
This study contributes to perceived value and loyalty literature by illustrating the suitability of multidimensional value and loyalty constructs for examining potential differences between services. Examining direct relationships between value and behavioral constructs and the antecedent effects of context-specific conditions is expected to increase understanding of the relationships between value dimensions and their influence on post-purchase behavior. The study also contributes to mobile service literature by examining various services and comparing the influence of value across two service categories.

The paper is structured as follows: we begin with a brief introduction to the conceptual research model and present hypotheses on the effects of customers' monetary, convenience, emotional and social value on their repurchase intentions, WOM and WTP. We then examine differences between information and entertainment service user groups, and the antecedent effects of epistemic and conditional value. The 'Method' section follows with a discussion of the measurement model. We then report the multi-group structural equation results for the conceptual research model and examine significant differences between the two groups. The results are discussed and the paper concludes with theoretical and managerial implications, limitations and future research directions.

## **2 THEORETICAL BACKGROUND AND HYPOTHESES**

Perceived value is defined here as a multidimensional construct consisting of monetary, convenience, emotional, social, conditional and epistemic value. This multidimensional view of value is especially encouraged in the mobile field, where recent research results indicate that perceived value should include the time and location in which the service process occurs (Heinonen, 2004). The perceived value dimensions in this study are based on the broad consumption value framework introduced by Sheth, Newman and Gross (1991). The five original consumption value dimensions developed by Sheth et al. (1991) (functional, emotional, social, epistemic and conditional) were designed for analyzing purchase decisions for traditional goods or brands. Consequently, although the value dimensions remain the same, except for functional value, some modifications were required in order to adapt these perceived value measures for use in a mobile service context. Sweeney and Soutar (2001) argue that functional value has sub-dimensions (value for money and expected performance of the product) that should be measured separately. We therefore divide functional value into two sub-constructs. Here, they are labeled monetary and convenience value. Significantly, convenience has been reported as an important reason to use mobile services (Ankar & D'Incau, 2002). In previous literature, the value dimensions have each been conceptualized as having a direct influence on consumption behavior (Sheth et al., 1991). The conceptual research model, presented in Figure 1, proposes the direct effect of monetary, convenience, emotional and social value on 1) Intentions to repurchase, 2) WTP, and 3) WOM behavior. However, we suggest that conditional and epistemic value should be conceptualized as antecedents of the other value categories, and only indirectly influence intentions to repurchase, WOM behavior and WTP through the

aforementioned value dimensions. Sweeney and Soutar (2001) encouraged future research to test the role of conditional value as a different order dimension than the other value dimensions. Furthermore, Duman and Mattila (2005), in a cruise vacation context, report that novelty (epistemic) value affects behavior indirectly through perceived value. Support for the conceptualization of epistemic and conditional value as antecedent to the other value dimensions is also found in the field of customer behavior. Belk (1975) discusses some situational aspects that resemble our conditional value description. He suggests that momentary conditions, such as cash on hand, illness or fatigue are antecedent states.



**Figure 1** The conceptual model

While intentions to repurchase, WOM communications and willingness-to-pay behavior have traditionally been measured as components of a multi-dimensional measure of behavioral intentions (Zeithaml, Berry, & Parasuraman, 1996), following Bloemer, Odekerken-Schröder and Kestens (2003) we have specified the factors here as separate constructs. Zeithaml et al. (1996) measured WTP as part of their behavioral intentions construct, but research investigating the antecedents of WTP and WOM has remained scarce. Lam and Mizerski (2005) postulate that motivations to engage in positive WOM behavior differ between people. Some do it for self-enhancement and others for achieving social status. This finding suggests that personal value perceptions can influence WOM behavior. Therefore, this study posits WOM, WTP and repurchase intentions as outcomes of perceived value. This approach allows for an empirical examination of the direct and potentially differential individual effects of the perceived value dimensions on each behavioral intention (Lin et al., 2005).

## 2.1. Research hypotheses

*Monetary value* denotes perceptions of good value for money or low price compared with alternatives (Sheth et al., 1991). Because electronic self-services are often perceived to save time and money (Meuter, Ostrom, Roundtree, & Bitner, 2000), monetary value is expected to have a positive effect on the use of all mobile services. However, monetary value is expected to be more influential in the information services context, where the immediate consequences of use are evaluated more thoroughly than in entertainment contexts (Sullivan Mort & Rose, 2004).

**H1: (a)** There is a positive relationship between monetary value and intentions to repurchase, and **(b)** it is significantly stronger for information service users

Support for differing levels of price sensitivity for services has been found by Bolton and Lemon (1999). They suggest that customers evaluating services from a utilitarian perspective (more likely to be information service users) appear to be more sensitive to

price decreases. Those evaluating services from a hedonic perspective (more likely to be entertainment service users) appear to be more sensitive to price increases. Although there is an absence of investigation into how different dimensions of perceived value directly influence WTP, it is logically assumed here that the higher the monetary value users perceive, the higher the price they are willing to pay. As information service users are expected to be more aware of the prices for each service, the relationship is expected to be stronger for information service users.

**H2: (a)** There is a positive relationship between monetary value and WTP more, and **(b)** it is significantly stronger for information service users

Mobile devices are ideal for WOM communication, also referred to as viral marketing in electronic contexts. In the mobile environment, WOM communication can be distributed by messaging, calling, or personal communication. The higher monetary value users perceive in services, the more actively they will promote it to their peers. Similar to hypothesis 1b and 2b, monetary value is expected to be more relevant for information service users. Therefore, the influence of monetary value on WOM communications is also expected to be stronger in information services.

**H3: (a)** There is a positive relationship between monetary value and WOM communications, and **(b)** it is significantly stronger for information service users

*Convenience value* represents the ease and speed of achieving a task effectively and efficiently, saving time and effort (R. E. Anderson & Srinivasan, 2003). Convenience has been considered a general motivation to use self-services (Anckar & D'Incau, 2002). Pura (2005) and Rintamäki, Kanto, Kuusela and Spence (2006) postulate the importance of convenience in the mobile context. This value dimension is not expected to be as important in entertainment as it is in information service use. This view has been supported in Internet contexts, where utilitarian aspects like convenience are important when evaluating work-related systems. In contrast, van der Heijden (2004) found perceived enjoyment to be a strong predictor of usage intentions in entertainment contexts. Convenience is also expected to have a more significant influence on WTP and WOM behavior for information service users. People are expected to be willing to pay more for content services that offer information instantly and conveniently. Convenience value as a rational consequence of use is also easy to communicate to peers.

**H4: (a)** There is a positive relationship between convenience value and intentions to repurchase, and **(b)** it is significantly stronger for information service users

**H5: (a)** There is a positive relationship between convenience value and WTP more, and **(b)** it is significantly stronger for information service users

**H6: (a)** There is a positive relationship between convenience value and WOM communications, and **(b)** it is significantly stronger for information service users

*Emotional value* arises through fun, or enjoyable, service experiences (Holbrook, 1994). Services can make people feel good, relaxed and give pleasure. Emotional value is expected to influence the use of mobile information content, as hedonic value is

derived from the interaction with the technology itself (Sherman, Lawrence, Mathur, & Smith, 1997). However, findings from Childers (2001), Sánchez-Franco and Roldán (2005), and van der Heijden (2004) in an Internet environment support the view that emotional value influences purchase intentions to a greater extent in hedonic Internet services than in utilitarian Internet services. It is also expected that the higher the emotional value users gain, the higher the price they are willing to pay, and the more likely they are to spread positive WOM. In line with the aforementioned findings from the Internet environment, all emotional value effects are expected to be stronger for entertainment service users. Therefore, it is hypothesized that:

**H7:** (a) There is a positive relationship between emotional value and intentions to repurchase, and (b) it is significantly stronger for entertainment service users

**H8:** (a) There is a positive relationship between emotional value and WTP more, and (b) it is significantly stronger for entertainment service users

**H9:** (a) There is a positive relationship between emotional value and WOM communications, and (b) it is significantly stronger for entertainment service users

*Social value* is defined as the social approval or enhanced social self-concept generated by service use (Sweeney & Soutar, 2001, p. 211.). Social value is expected to have a greater influence on the use of entertainment services, as they are often used in a social environment that involves interpersonal influence (Sullivan Mort & Drennan, 2005). In contrast, information services are often used alone and involve less social interaction. Therefore, we expect that the influence of social value on repurchase intentions, WTP and WOM is higher in entertainment service use situations where social appreciation is an important motivation to use the service.

**H10:** (a) There is a positive relationship between social value and repurchase intentions, and (b) it is significantly stronger for entertainment service users

**H11:** (a) There is a positive relationship between social value and WTP more, and (b) it is significantly stronger for entertainment service users

**H12:** (a) There is a positive relationship between social value and WOM communications, and (b) it is significantly stronger for entertainment service users

*Antecedent effect of conditional value:* Conditional value denotes the value derived from the independence of time and place and is experienced only in certain contexts or situations (Holbrook, 1994; Sheth et al., 1991). It is generated under certain conditions depending on time, location, the social and technological environment, or mental state of the user. Conditional value may arise in situations where the user is on the move. Information service users often use them for problem solving in situations that are unplanned, and in unfamiliar locations, where the effect of conditional value is strong. However, entertainment services may also be used in similar situations when other entertainment media is unavailable. As context-specific factors like time pressure affect value perceptions (Mallat, 2005) irrespective of the service used, the contextual cues in the situation are expected to be more important than the type of service used in that situation. Therefore we suggest an antecedent effect of conditional value for both

service types, which positively influences monetary, convenience, emotional and social value, and no significant group differences are hypothesized here.

**H13:** (a) There is a positive relationship between conditional value and monetary value, and (b) there is no significant difference in this relationship for entertainment and information service users

**H14:** (a) There is a positive relationship between conditional value and convenience value, and (b) there is no significant difference in this relationship for entertainment and information service users

**H15:** (a) There is a positive relationship between conditional value and emotional value, and (b) there is no significant difference in this relationship for entertainment and information service users

**H16:** (a) There is a positive relationship between conditional value and social value, and (b) there is no significant difference in this relationship for entertainment and information service users

*Antecedent effect of epistemic value:* Epistemic value refers to novelty value and the value derived from learning new ways of doing things. In a mobile service context, it also entails curiosity for new content and gained knowledge through testing new services. Novelty is often provided as a reason for trying new services, but some previous research results indicate that novelty aspects may negatively influence overall perceived value and also indirectly behavioral intentions (Donthu & Garcia, 1999; Duman & Mattila, 2005). The reasoning behind this finding is that goods or services may not be used after trial, if novelty is the only reason for purchase (Sheth et al., 1991). However, novelty is generally seen as positive, creating curiosity and interest in new products and services. In the psychology literature, novelty-seeking has also been referred to as experiential behavior, which in technological environments entails, for example, browsing the Internet without a specific goal in mind (Novak, Hoffman, & Duhachek, 2003). Thus, novelty-seeking has been hypothesized to be more relevant when people seek hedonic benefits rather than primarily utilitarian benefits (Cotte, Tilottama, Ratneshwar, & Ricci, 2006; Duman & Mattila, 2005). Therefore, we expect that the effect of epistemic value is stronger for entertainment service users on all value categories.

**H17:** (a) There is a positive relationship between epistemic value and monetary value, and (b) it is significantly stronger for entertainment service users

**H18:** (a) There is a positive relationship between epistemic value and convenience value, and (b) it is significantly stronger for entertainment service users

**H19:** (a) There is a positive relationship between epistemic value and emotional value, and (b) it is significantly stronger for entertainment service users

**H20:** (a) There is a positive relationship between epistemic value and social value, and (b) it is significantly stronger for entertainment service users

### 3 METHOD

Data was collected from users of various mobile services provided by a single service provider in Finland to test the hypotheses. Following Anderson and Gerbing (1988), the research model is evaluated in two stages. First, the measurement model is evaluated separately for value and outcome items (repurchase intentions, WOM and WTP). Then the structural model for both information and entertainment service user groups is estimated using a multi-group structural equation approach. We conclude by empirically testing differences between the two groups on the hypothesized relationships.

#### 3.1. Background of the case company and its mobile content services

Zed Nordic is a content provider that offers a wide range of mobile services in the Nordic countries. LaNetro acquired the Scandinavian mobile content pioneer Zed in 2004. The company changed its name to LaNetro Zed and kept Zed as its brand for mobile content services. LaNetro is considered the market leader in providing mobile content and now offers services in approximately 16 countries throughout Europe, Asia, the Americas and Africa (<http://www.zed.biz/lanetrozed>). Access to Zed's services in Finland is independent of the customer's telecom operator network. Similar services are provided by several competing mobile content providers and telecom operators in the market. Most of the content can be accessed with text messages, although use of some services requires multimedia-enabled phone models. Entertainment services provided by Zed Nordic include: logos, picture messages, ring tones, java games, cartoons, java entertainment (quizzes, photos, tourist guides, adult entertainment), horoscopes and other entertainment (tarot cards, jokes, pranks), and subscription services (paparazzi, jokes, horoscope, mobile chat, dating service, anonymous messages). Information services include: news, economy, weather reports, sport results, lotto and gambling results, and search services (phone numbers, names, car registration information, tax information, timetables, and route information).

#### 3.2. Measures

The questionnaire included items that were derived from the services marketing and loyalty literature, and new items developed through a qualitative pre-study. All measurement items used, including their sources, are presented in Appendix. Items were modified from previous studies by selecting items that apply to mobile services and by adapting the wording to fit the mobile service context. For example, an item commonly used to measure loyalty: "Do more business with XYZ in the next few years" (Zeithaml et al., 1996) was adapted to the mobile context as follows: "I will use more services offered by this service provider in the future". Epistemic and conditional value measures had not been included in previous empirical value studies, and appropriate scales were not available. Therefore, measures for these two value dimensions were developed from a pre-study of 31 personal in-depth interviews with mobile service users. The interviews explored what customers perceive valuable in mobile services. Sheth et al's (1991) definition of epistemic value and Donthu and Garcia's (1999) wording of questions to measure innovativeness was used as a reference

to develop epistemic value items. The repurchase intentions, WOM and WTP items were modified from loyalty measures previously used in e-business environments.

### 3.3. Sample and data collection method

The data were collected through an online survey conducted in 2004. Zed Nordic customers were invited to answer the questionnaire with a banner advertisement on the service provider's mobile portal webpage.

**Table 1** Sample characteristics

Characteristics	Entertainment Sample		Information Sample	
	Number	Percentage	Number	Percentage
<i>Age (n=571)</i>				
Under 15	47	11,9	7	4,0
15-19	88	22,2	28	16,0
20-24	84	21,1	56	32,0
25-29	77	19,4	30	17,1
30-39	70	17,7	32	18,3
40-49	25	6,3	16	9,1
50+	5	1,3	6	3,4
<i>Gender (n=570)</i>				
Male	211	53,4	97	55,4
Female	184	46,6	78	44,6
<i>Pre-Tax Income (Euros per year) (n=406)</i>				
Less than 10000	117	43,7	55	39,9
10001 - 20000	56	20,9	34	24,6
20001 - 30000	56	20,9	26	18,8
30001 - 40000	24	9,0	13	9,4
40001 - 50000	8	3,0	8	5,8
Greater than 50000	7	2,6	2	1,4
<i>Education (highest level completed) (n=566)</i>				
Primary School	126	32,2	35	20,0
High School	71	18,2	48	27,4
Vocational Training	102	26,1	42	24,0
Polytechnic	54	13,8	29	16,6
University	38	9,7	21	12,0
<i>Most Recent Use (of the focal service provider's mobile services) (n=575)</i>				
Just tried for the first time	18	4,5	4	2,3
Yesterday/Today	57	14,3	15	8,6
This Week	56	14,0	25	14,3
This Month	86	21,5	51	29,1
1-3 Months Ago	109	27,3	57	32,6
4-6 Months Ago	74	18,5	23	13,1

The respondents were asked to indicate from a menu the service they had used most recently and to answer the questionnaire with reference to that specific service. The division into entertainment and information services was undertaken by the authors. It reflects categorizations used by research organizations Ovum and Juniper Research, and also parallels how some companies, for example TeliaSonera and Vodafone Live, categorize their services on their user interface menus. This survey process generated 961 responses, of which 102 were unusable, as the respondents either had not previously used Zed Nordic mobile services or did not state the mobile service they had used. Additionally, surveys including non-random missing values or more than 10 percent missing data (280) were excluded from further analysis. The Expectation-Maximization (EM) approach, as a strategy to deal with missing values was used to allow complete case analysis with SEM (Schafer, 1997). The final sample analyzed consisted of 579 responses; 402 entertainment service users and 177 information service users. Table I presents the characteristics of the respondents.

### 3.4. Measurement model estimation

Exploratory factor analysis was conducted with SPSS in order to provide a preliminary examination of whether the items measure separate constructs. Six value dimensions (monetary, convenience, emotional, social, conditional and epistemic value) were extracted from the data. Furthermore, intentions to repurchase, WTP more and WOM formed three separate factors. Additional measurement development and estimation was performed with LISREL 8.3 and its companion program PRELIS 2 using maximum likelihood estimation. A preliminary test of internal consistency indicated that all item-to-total correlations exceeded .50 (Robinson, Shaver, & Wrightsman, 1991).

The quality of the measurement model was assessed in two steps. First, separate confirmatory factor analyses (CFA) were estimated to assess the reliability and validity of each of the constructs in the model. All the factor loadings were significant statistically ( $p < 0.01$ ). The standardized factor loadings for 51 of the 54 items across both service samples exceeded the .70 standard that indicates that each measure is accounting for 50 percent or more of the variance in the latent underlying construct. Thus, these measures display adequate within-method convergent validity. Furthermore, the Cronbach alpha for each construct in both samples was over .80, significantly exceeding the .70 level advocated by Nunnally (1978), and supporting the unidimensionality of the measures (See Table II).

Second, two multi-group CFA models were estimated for the value dimensions (monetary, convenience, emotional, conditional, epistemic) and outcome variables (intentions to repurchase, WOM, WTP) in the model to test for external validity and examine the configural and metric invariance of the study data across the two samples (Steenkamp & Baumgartner, 1998; Vandenberg & Lance, 2000). This was undertaken to ensure that the measures can be used in cross-group comparisons. Goodness of fit statistics for both CFA models supported the existence of configural invariance of the measures across samples (Value Dimensions:  $\chi^2_{(240)} = 755.31$  ( $p < .01$ ), CFI=.94, IFI=.94; Outcomes:  $\chi^2_{(48)} = 415.23$  ( $p < .01$ ), CFI=.92, IFI=.92). Support was also found for the metric invariance of the measures (Value Dimensions:  $\chi^2_{(252)} = 773.62$  ( $p < .01$ ), CFI=.94, IFI=.94; Outcomes:  $\chi^2_{(54)} = 423.57$  ( $p < .01$ ), CFI=.91, IFI=.92).

The chi-square difference test for the configural and metric invariance models indicates that the additional invariance constraint on the factor loadings does not significantly affect the fit of the CFA model when compared to the unconstrained configural invariance model (Value Dimensions:  $\Delta \chi^2_{(12)} = 18.31, p > .10$ ; Outcomes:  $\Delta \chi^2_{(6)} = 8.34, p > .10$ ). These findings support the existence of measurement invariance.

**Table 2 Reliability estimates**

Construct	Entertainment services					Information services					
	Item	AVE	reliability	$\alpha$	Standardized loading (t-value)	AVE	reliability	$\alpha$	Standardized loading (t-value)		
<i>Value variables</i>											
Monetary value	1	0.71	0.88	.86	.89	21.32	0.64	0.84	.80	.87	12.48
	2				.84	19.73				.92	13.49
	3				.78	17.90				.56	7.70
Convenience value	4	0.62	0.83	.82	.74	15.66	0.66	0.85	.81	.74	10.69
	5				.84	18.15				.88	13.18
	6				.78	16.84				.81	11.93
Emotional value	10	0.78	0.91	.89	.89	22.26	0.78	0.91	.89	.83	13.14
	11				.88	21.67				.98	17.21
	12				.87	21.50				.84	13.40
Social value	14	0.69	0.90	.90	.89	20.10	0.80	0.92	.92	.81	12.76
	15				.92	21.78				.99	17.67
	16				.91	21.56				.88	14.53
Conditional value	17	0.70	0.87	.84	.79	18.10	0.64	0.84	.81	.79	11.57
	18				.88	20.82				.83	12.29
	19				.83	19.02				.78	11.31
Epistemic value	20	0.67	0.86	.83	.81	18.18	0.66	0.85	.81	.94	14.45
	21				.92	21.27				.82	12.14
	22				.70	15.15				.64	9.10
<i>Outcome variables</i>											
Repurchase intentions	23	0.77	0.91	.91	.91	22.75	0.63	0.83	.82	.87	12.66
	24				.91	22.71				.87	12.54
	25				.82	19.71				.61	8.51
Word-of-mouth	26	0.77	0.91	.89	.76	17.66	0.74	0.90	.85	.71	10.55
	27				.95	24.32				.94	15.66
	28				.92	23.43				.92	15.20
Willingness to pay	29	0.68	0.87	.87	.87	20.10	0.64	0.84	.81	.91	13.51
	30				.85	19.63				.77	11.03
	31				.76	17.02				.72	10.30

Note: Average variance extracted (AVE) and composite reliability statistics are derived from Fornell and Larcker (1981).  $\alpha$  = Cronbach's standardized item alpha.

The correlations between the composite variables are reported for each sample in Table III. All of the constructs were correlated in the entertainment sample, supporting the nomological validity of the constructs. In the information sample 29/36 (80.6%) of the constructs were correlated. The convergent and discriminant validity tests suggested by Fornell and Larcker (1981) were conducted. The average variance extracted (AVE) was well above 0.50 for all constructs, indicating that the constructs display a high degree of convergent validity. In addition, AVE was higher than the squared correlation between that construct and any other construct in the model. Therefore, the constructs are both theoretically and empirically distinct from each other. AVE is reported in Table II with other reliability statistics.

**Table 3 Descriptive statistics and correlation matrix of latent variables**

	1	2	3	4	5	6	7	8	9
1. Monetary value		.661**	.602**	.449**	.577**	.381**	.544**	.431**	.514**
2. Convenience value	.402**		.627**	.401**	.711**	.465**	.592**	.424**	.446**
3. Emotional value	.367**	.218**		.687**	.663**	.550**	.625**	.612**	.621**
4. Social value	.310**	-.026	.748**		.508**	.503**	.423**	.711**	.654**
5. Conditional value	.340**	.683**	.280**	.016		.562**	.599**	.560**	.495**
6. Epistemic value	.266**	.089	.609**	.540**	.182*		.435**	.482**	.384**
7. Repurchase intentions	.419**	.568**	.368**	.172*	.451**	.154*		.602**	.499**
8. Word-of-mouth	.257**	.126	.641**	.562**	.048	.396**	.333**		.689**
9. Willingness to pay more	.450**	.144	.547**	.520**	.059	.361**	.345**	.554**	
Mean (entertainment sample)	4,18	4,64	4,17	3,46	4,48	4,25	4,72	3,43	3,40
Mean (information sample)	3,85	5,15	3,02	2,44	5,02	3,30	4,89	2,64	2,98
Std. Deviation (entertainment)	1,30	1,34	1,52	1,75	1,48	1,50	1,50	1,79	1,56
Std. Deviation (information)	1,20	1,23	1,46	1,51	1,35	1,60	1,22	1,51	1,32

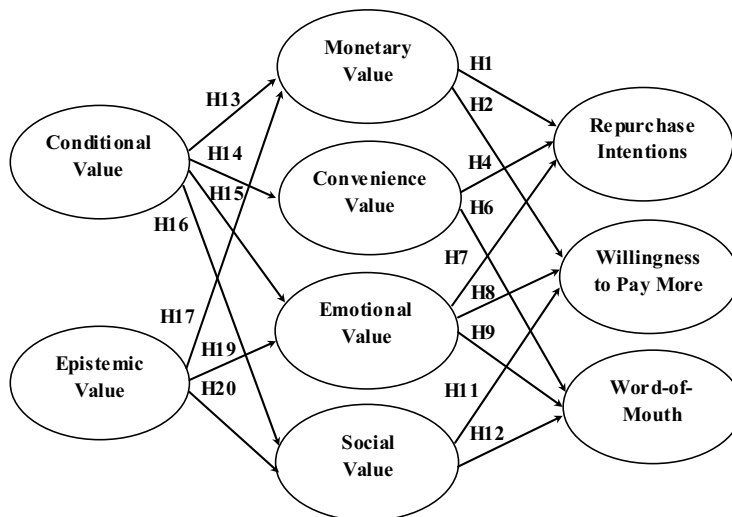
Correlations for the entertainment sample are above the diagonal, information sample below.

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

## 4 RESULTS

The conceptual research model (see Figure 1), in which monetary, convenience, emotional and social value all have a positive effect on repurchase intentions, WOM and WTP, and both epistemic and conditional value have a positive influence on all other value categories, was estimated. Four of the paths were insignificant for both groups (monetary value → WOM, convenience value → WTP, social value → behavioral intentions, epistemic value → convenience value) and we proceeded to estimate a trimmed model without these paths (J.C. Anderson & Narus, 1990). It is shown in Figure 2.



**Figure 2 The trimmed model**

Overall fit measures suggest that the trimmed structural model provides a good fit to the data. Although the chi-square test is significant ( $\chi^2_{(32)} = 297.63, p < .01$ ), the CFI = .91 (Comparative fit index), IFI = .91 (Incremental fit index), and SRMR = .07 (standardized root mean square residual) meet conventional standards for acceptable model-data fit. A value less than .08 for the SRMR is considered evidence of a good fit (Hu & Bentler, 1999; Kline, 1998).

In further support of the conceptual research model, the majority of the hypothesized relationships found support in both entertainment and information service user groups. In both groups, intentions to repurchase were positively and significantly influenced by monetary (H1a), convenience (H4a) and emotional value (H7a). WTP for the mobile services was in both service groups affected positively and significantly by monetary value (H2a), emotional value (H8a) and social value (H11a). Word-of-mouth was significantly influenced by emotional value (H9a) and social value (H12a) in both service groups, and convenience value in the entertainment group only (H6a). Conditional value had a significant effect on all value categories: monetary (H13a), convenience (H14a), emotional (H15a) and social value (H16a) for both groups. Epistemic value influenced only emotional (H19a) and social value (H20a) in both service groups, and monetary value in the information sample (H17a).

The strength of influence of the value dimensions appears to differ across information and entertainment service user groups. This was empirically tested as follows. Prior to testing part (b) of the hypotheses specifying differences between information and entertainment services, an investigation of whether full structural invariance could be supported was undertaken. A structural model where all hypothesized effects were constrained to be invariant across the samples was estimated ( $\chi^2_{(48)} = 401.95, p < .01$ ; CFI = .88, IFI = .88, SRMR = .11). The chi-square difference test for the unconstrained and constrained structural models indicates that full structural invariance cannot be supported ( $\Delta \chi^2_{(16)} = 104.32, p < .01$ ). Consequently, the hypotheses were tested by constraining the focal effect to be invariant across samples and then performing a chi-square difference test on the values obtained for the constrained and unconstrained models. The results are presented in Table IV.

There are significant differences in the following relationships between the information and entertainment service user groups: convenience value  $\rightarrow$  repurchase intentions, emotional value  $\rightarrow$  repurchase intentions, emotional value  $\rightarrow$  WOM, social value  $\rightarrow$  WOM and social value  $\rightarrow$  WTP. However, the group differences in emotional value  $\rightarrow$  WOM were opposite to those hypothesized. In contrast to our expectations, other hypothesized differences were not significant and the relationships proved to be similar across service user groups. Moreover, the results also reveal differences between the antecedent effects of epistemic and conditional value. Epistemic value had a stronger effect on monetary, emotional and social value for information service users. In contrast, conditional value had a stronger effect on monetary, emotional and social value for entertainment service users. It also had a positive, although not significantly different, effect on convenience value for both user groups.

**Table 4 Hypothesis Test Results**

Hypothesized Relationship	Standardized Estimates		$\chi^2$ Difference	Hypothesis Supported	Information vs. Entertainment
	Entertainment Sample	Information Sample			
H1 <sub>(a)</sub> Monetary Value → Repurchase intentions	.14***	.17**		Yes	
H1 <sub>(b)</sub> Information > Entertainment			.13	No	I = E
H2 <sub>(a)</sub> Monetary Value → Willingness to Pay	.21***	.33***		Yes	
H2 <sub>(b)</sub> Information > Entertainment			1.46	No	I = E
H3 <sub>(a)</sub> Monetary Value → WOM	#	#		No	
H3 <sub>(b)</sub> Information > Entertainment				No	I = E
H4 <sub>(a)</sub> Convenience Value → Repurchase Intentions	.33***	.55***		Yes	
H4 <sub>(b)</sub> Information > Entertainment			4.15 **	Yes	I > E
H5 <sub>(a)</sub> Convenience Value → Willingness to Pay	#	#		No	
H5 <sub>(b)</sub> Information > Entertainment				No	I = E
H6 <sub>(a)</sub> Convenience Value → WOM	.11**	.01		Partial	
H6 <sub>(b)</sub> Information > Entertainment			1.21	No	I = E
H7 <sub>(a)</sub> Emotional Value → Repurchase Intentions	.37***	.20***		Yes	
H7 <sub>(b)</sub> Entertainment > Information			2.7*	Marginal	E > I
H8 <sub>(a)</sub> Emotional Value → Willingness to Pay	.20***	.27***		Yes	
H8 <sub>(b)</sub> Entertainment > Information			.22	No	I = E
H9 <sub>(a)</sub> Emotional Value → WOM	.13**	.54***		Yes	
H9 <sub>(b)</sub> Entertainment > Information			8.87***	No	I > E
H10 <sub>(a)</sub> Social Value → Repurchase Intentions	#	#		No	
H10 <sub>(b)</sub> Entertainment > Information				No	I = E
H11 <sub>(a)</sub> Social Value → Willingness to Pay	.50***	.30***		Yes	
H11 <sub>(b)</sub> Entertainment > Information			2.79*	Marginal	E > I
H12 <sub>(a)</sub> Social Value → WOM	.65***	.22***		Yes	
H12 <sub>(b)</sub> Entertainment > Information			12.88***	Yes	E > I
H13 <sub>(a)</sub> Conditional Value → Monetary Value	.77***	.37***		Yes	
H13 <sub>(b)</sub> Entertainment = Information			14.78***	No	E > I
H14 <sub>(a)</sub> Conditional Value → Convenience Value	.88***	.82***		Yes	
H14 <sub>(b)</sub> Entertainment = Information			.68	Yes	I = E
H15 <sub>(a)</sub> Conditional Value → Emotional Value	.67***	.16***		Yes	
H15 <sub>(b)</sub> Entertainment = Information			36.21***	No	E > I
H16 <sub>(a)</sub> Conditional Value → Social Value	.42***	-.12**		Partial	
H16 <sub>(b)</sub> Entertainment = Information			32.24***	No	E > I
H17 <sub>(a)</sub> Epistemic Value → Monetary Value	-.05	.30***		Partial	
H17 <sub>(b)</sub> Entertainment > Information			11.71***	No	I > E
H18 <sub>(a)</sub> Epistemic Value → Convenience Value	#	#		No	
H18 <sub>(b)</sub> Entertainment > Information				No	I = E
H19 <sub>(a)</sub> Epistemic Value → Emotional Value	.20***	.74***		Yes	
H19 <sub>(b)</sub> Entertainment > Information			39.83***	No	I > E
H20 <sub>(a)</sub> Epistemic Value → Social Value	.31***	.74***		Yes	
H20 <sub>(b)</sub> Entertainment > Information			19.81***	No	I > E

$\chi^2_{(32)} = 297.63$  ( $p < .01$ ) CFI = .91 IFI = .91 SRMR = .07

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .10$

# Trimmed from final model

## 5 DISCUSSION AND IMPLICATIONS

The most important difference between entertainment and information service users' post-purchase behavior was that entertainment service users' continuous service use is primarily influenced by emotional value, in contrast to information service users' behavior which is principally influenced by convenience value. However, continuous information service use is also significantly influenced by perceptions of emotional value. This result supports recent findings that emotional value has an essential role in technology-related service use situations (Novak et al., 2003).

The results confirmed that positive WOM intentions were influenced by emotional and social value. Furthermore, differences between information and entertainment user groups were also found. Social value had a stronger effect on WOM for entertainment service users, and emotional value a stronger effect for information service users. A likely reason for this result is the observation that entertainment content is often shared with others. For example, logos and ring tones are frequently ordered for the purpose of amusing or annoying friends and are known to be sent as gifts. Entertainment services that make a good impression on others are talked about with friends. Information services are more often likely to be used alone. Consequently, the emotional use experience appears to promote word-of-mouth better than the social appreciations gained by information service use.

Conversely, similar value-based effects on WTP were found for both service groupings. The results indicated that perceptions of greater experienced monetary, emotional and social value have a positive and significant effect on WTP for both entertainment and information mobile services. Overall, these findings indicate both an intersection and heterogeneity in the effects of the value dimensions on behavioral intentions for the two mobile service user groups.

Conditional value generally had a more significant effect for entertainment services users. Therefore, it would appear that mobile entertainment services are perceived valuable especially on the move, for example on public transport, when the need arises to pass time and entertain oneself.

In contrast to our expectations, epistemic value had a stronger effect on monetary, emotional and social value in the information service context. One possible reason for this finding may be that when mobile information services are used for novelty reasons (for epistemic value), these services are used for intrinsic self-oriented reasons without a real goal in mind, for example when just trying out new ways of doing things with new technologies. Generally, information services are used for extrinsic, utilitarian reasons to achieve a task, and they thereby create mostly convenience value. However, as suggested by our results, customers experiencing high levels of epistemic (novelty-seeking) value primarily gain emotional and social value through their information service use. Thus, services that are used for the first time may be evaluated mostly by the novel experience of using the service as such and only to a lesser extent by the consequences of use. Epistemic value also had a significant positive relationship with monetary value, but only in the information services group where the novelty effect may enhance perceptions of good value for money. The absence of an influence of epistemic

value on the monetary value of entertainment services indicates people who use entertainment mobile services mainly for their novelty value are not that concerned about price when they are used for the first time.

### **5.1. Implications for theory**

This study makes three main contributions to the perceived value and loyalty literature. Firstly, we have shown that in a mobile service context, a multidimensional view of value is necessary. Previous research has often used perceived value measures that estimate solely price perceptions (Dodds & Monroe, 1991). Value for money or customer sacrifices appear not to dominate perceived value orientations in the mobile field to the same extent that they seem to in the consumer goods industry (Sweeney & Soutar, 2001). Additionally, although generally overlooked in previous studies, the context-specific conditions under which services are used through the mobile channel are essential factors in deriving perceived value. This study contributes to the value literature by proposing and testing the antecedent effects of conditional and epistemic value on other value dimensions. Although previous literature has suggested that they may be different level constructs than the other value dimensions (Sweeney & Soutar, 2001), this study is the first to empirically investigate this. We found empirical support for the role of conditional and epistemic value as antecedents that intensify the need to use a service in certain situations and consequently enhance emotional, social, monetary, and convenience value derived from the use of mobile services. This finding argues for future studies to consider explicitly analyzing the role of context-specific conditions and their influence on perceived value derived from service use.

Secondly, although it has proven to be a useful method for identifying differences between services (Bloemer et al., 1999), investigation of the direct relationships between individual value dimensions and customer post-purchase behavior has received little attention. We linked perceived value to behavioral intentions by analyzing the direct influence of four value dimensions on three post-purchase behavioral intentions. The existence of differential value effects on repurchase intentions and WOM versus similar value effects on WTP supports the use of multidimensional value and behavioral outcome constructs, and the importance of testing the direct perceived value – behavioral outcome relationships across different services.

Thirdly, we identified differences in the implications of customer perceived value between entertainment and information service users that are in line with the Internet service literature, yet do not directly support the hedonic vs. utilitarian value dichotomy (Hartman, Soyeon, Barber, & Matthew, 2006). Emotional and epistemic value were found here to influence both entertainment and goal-directed information content use. This indicates that the emotional experience in mobile service use is important irrespective of the type of mobile content used. The importance of intrinsic stimulation and self-esteem (social value) in this study also supports an expansion of the utilitarian – hedonic value dichotomy to include social dimensions. These findings highlight the need to view critically the applicability of theories developed in an interpersonal service setting to the mobile service environment, where experiential and social aspects, and the context under which the service is used, are likely to be more important than in these traditional environments.

## **5.2. Managerial implications**

There is considerable complexity in the role of the perceived value on behavioral intentions. While there was found to be heterogeneity in some value – behavioral intentions relationships, in others the effects were similar across the two groups. Through understanding differences in the perceived value of entertainment and information service users, a marketer can create targeted marketing strategies for dissimilar segments and plan marketing communications that address the critical motivations driving continuous service use, WOM and WTP. Moreover, companies can also attract new customers by emphasizing the perceived value dimensions that are considered important by current customers, and thereby promote self-selection of the service provider based on similar customer perceived value.

## **5.3. Limitations and future research directions**

The results are derived from users of a single service provider's services in one country (Finland). Caution should therefore be applied when attempting to generalize the findings to significantly dissimilar services and markets. Future research could replicate the study with multiple service providers' mobile services. Cross-national research is encouraged to investigate whether the results presented in this paper are generalizable to other cultural milieus, and if the relative importance of the value dimensions is the same in different markets. A further limitation is that repurchase behavior was measured with self-reported intentions. In future, a comparison is encouraged between actual purchase data and intentions to repurchase as indicated by customers. Further research could also explore additional factors likely to influence intentions to repurchase positively or negatively and that have not been included in this study. Additionally, it may be valuable to investigate the existence of differences in the costs of various mobile services and usage patterns to better predict price sensitivity and revenue streams for a range of mobile services.

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**APPENDIX: SCALE ITEMS**

<b>Constructs</b>	<b>Items and their sources</b>
<i>Monetary Value</i>	<p>(Adapted from Chen and Dubinsky 2003; Dodds and Monroe 1991; Sweeney and Soutar 2001)</p> <ol style="list-style-type: none"> <li>1. The price of this mobile service is acceptable</li> <li>2. This mobile service is good value for money</li> <li>3. This mobile service is better value for money than what I would pay for the same service via other channels (internet / store) ( n )</li> </ol>
<i>Convenience Value</i>	<p>(Adapted from Anderson and Srinivasan, 2003; Mathwick et al. 2001)</p> <ol style="list-style-type: none"> <li>4. I save time and money when I order the information via the mobile service ( n )</li> <li>5. I value the ease of using this mobile service</li> <li>6. I value the option of using this service instantly via my mobile device ( n )</li> <li>7. Using this mobile service makes my life easier ( d )</li> <li>8. Using this mobile service is an efficient way to manage my time ( d )</li> <li>9. I value the option of using this mobile service without others noticing ( n ) ( d )</li> </ol>
<i>Emotional Value</i>	<p>(Adapted from Soutar and Sweeney 2003; Sweeney and Soutar 2001)</p> <ol style="list-style-type: none"> <li>10. Using this mobile service gives me pleasure</li> <li>11. Using this mobile service makes me feel good</li> <li>12. Using this mobile service makes me feel relaxed</li> <li>13. I value the option of sending emotional messages to my friends via this mobile service ( n ) ( d )</li> </ol>
<i>Social Value</i>	<p>(Adapted from Soutar and Sweeney 2003; Sweeney and Soutar 2001)</p> <ol style="list-style-type: none"> <li>14. Using this mobile service helps me to feel accepted by others</li> <li>15. Using this mobile service makes a good impression on other people</li> <li>16. Using this mobile service gives me social approval</li> </ol>

<b>Constructs</b>	<b>Items and their sources</b>
<i>Conditional Value</i>	(Created for this study) 17. I value the information / entertainment this service offers, with the help of which I get what I need in a certain situation ( n ) 18. I value the independence of place and time offered by the use of this mobile service ( n ) 19. I value the real time information and interaction that this service makes possible ( n )
<i>Epistemic Value</i>	(Adapted from Donthu and Garcia, 1999) 20. I used this mobile service to experiment with new ways of doing things 21. I used this mobile service to test the new technologies ( n ) 22. I used this mobile service out of curiosity ( n )
<i>Repurchase intentions</i>	(Adapted from Gremler and Gwinner 2000; Taylor and Baker 1994; Zeithaml and Berry 1996) 23. Next time, when I need this type of service, I will choose this service provider 24. I intend to continue using services of this service provider in the future 25. I will use more services offered by this service provider in the future
<i>Word of Mouth</i>	(Adapted from Harrison-Walker 2001) 26. I would gladly forward valuable messages I have received from my service provider to my friends ( n ) 27. I mention this service provider to others quite frequently 28. I am proud to tell others that I use this service provider's services
<i>Willingness to Pay</i>	(Adapted from Bloemer, Odekerken-Schröder and Kestens 2003; Fullerton 2003; Zeithaml and Berry 1996) 29. I will continue to use services from this service provider even if the price increases somewhat ( # ) 30. I am willing to pay a higher price for this service than competitors' similar services ( # ) 31. I will continue to use this type of service via the mobile device even if the prices increase ( # )
Note:	<i>Items scored on 7-point scales ranging from "I totally disagree" to "I totally agree", unless otherwise indicated ( # ) Measured on a scale where 1 = Not at all likely to 7 = Extremely likely ( n ) New item created for this study ( d ) Item deleted</i>



COMMITTED TO CONTENT PROVIDER  
OR MOBILE CHANNEL?;  
DETERMINANTS OF CONTINUOUS  
MOBILE MULTIMEDIA SERVICE USE

MINNA PURA

PAPER 4

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IV

COMMITTED TO CONTENT PROVIDER  
OR MOBILE CHANNEL?;  
DETERMINANTS OF CONTINUOUS MOBILE  
MULTIMEDIA SERVICE USE

*Minna Pura*

ABSTRACT

The focus of the article is analysis of relationships between value perceptions, commitment and intentions to use mobile multimedia service (MMS) content. Attracting a committed wide audience end-user base that uses multimedia content frequently is essential for success of the services. Customers' preferences for both the content provider and for the channel used are included. This is necessary for exploring further how to increase continuous use and revenue per user in the mobile field. In the empirical case of mobile multimedia services in the real estate business, intentions to use the same service provider again were found to be directly influenced by commitment to use the same provider, and indirectly by emotional and social value perceptions of MMS content. The usefulness of the content had no effect on intentions to use the same provider. However, it influenced intentions to use the mobile channel as such. Implications for theory and marketers are discussed.

## CONTRIBUTION

The aim of the study is to analyze the relationships between perceived value, commitment and behavioural intentions to use both the mobile channel (technology as such) and the content provider (organization providing the service). A value approach combined with the commitment theories gives new insights into what affects continuous use of multimedia content and what the end-users of the mobile multimedia content perceive as valuable in them. The combined view including both customers' preferences for the content provider and the channel used gives implications on how to increase continuous use and revenue per user in the mobile field.

TAM models estimate feelings towards systems, software or technology, but ignore users' attitude towards the organization providing the content. This paper fills this gap in the information systems literature by applying commitment theories that emphasize the emotional attachment to the provider organization or brand. The paper also contributes to the services marketing field by exploring how value propositions influence the commitment and intentions to use the mobile channel or technology as such. The role of the channel is important in multi-channel environments where there are several alternative distribution channels. To the best of the author's knowledge, commitment to use the same channel to access services has not been empirically estimated in previous literature.

The results indicate that building a wide audience customer base requires commitment to the content provider. Committed users use the content offered by the same service provider also in the future. In order to stay committed, users should also perceive the MMS content as valuable. Commitment can be enhanced by offering hedonic use experiences that include both emotional and social aspects of use. These findings contribute to previous technology-oriented literature by increasing understanding of what influences commitment to and intentions to use the same content provider in the mobile field. A further important finding is that utilitarian aspects that have received attention in TAM studies, such as usefulness or relative advantage, seem to have little influence compared to the hedonic elements in building provider commitment. The paper disentangles commitment to use the mobile channel as such and commitment to the provider to predict intentions of continuous use of mobile services. In line with TAM studies, utilitarian value does positively influence intentions to use the mobile channel as such. However, utilitarian aspects have no influence on commitment and intention to use the provider.

In conclusion, the value-based theories are expected to increase understanding of why customers perceive MMS content valuable. This information is necessary for service developers and marketers who communicate the value of the content to potential wide audiences. Effective marketing strategies should primarily attract target audiences that will continue to use MMS after trial and are committed to use the same service provider also in the future.

## 1 INTRODUCTION

In recent years, companies have started to extend their cross-media strategies by implementing SMS (short message service) and MMS (multimedia messaging service) [1]-based content in their service offerings (Feldmann 2005). The importance of the mobile channel in multi-channel strategies is expected to increase, as the customers require interactive service anytime, anywhere (Pagani 2004). The electronic channels add to the traditional media and enable customers to access content via several media or distribution channels (e.g. Internet, mobile channel, digital television, magazines, brick and mortar stores). Offering valuable content via mobile devices is expected to be increasingly important in gaining a competitive edge by strengthening relationships with the customers (Lin and Wang 2006).

Creating profitable content requires long-term customer relationships and understanding of what influences the users' commitment to a mobile vendor and their repeat purchase intentions (Lin and Wang 2006). Since there is a finite number of users, customers should value the content so that they are willing to pay for it and optimally be kept long-term after the trial (Peffer and Tuunanen 2005). Lack of understanding of the needs and requirements of the wide end-user audience and of the ability to keep the trial users of new technology may easily result in market failure (Tuunanen 2003). In this vein, value perceptions have proven to be useful, since they are linked to purchase behaviour. Thus, companies should try to attract customers that are committed to the provider and prefer to use the mobile channel to access content services. Furthermore, they should also aim at providing content that these users perceive as valuable.

The technology acceptance model (TAM) has become a cornerstone of IS research (Scornavacca et al. 2006). However, previous TAM theories offer little insight as to how to promote commitment to content provider and what the wide audience perceives as valuable in the content offered with the help of the technology. Traditional TAM studies do not take into account the positive attitude towards a provider that is essential for attracting and keeping the wide audiences. New theories should be tested empirically in the mobile field, where previous research has long been dominated by descriptive and conceptual analysis (Scornavacca et al. 2006). Thus, this study aims at adding to the mobile research field. It also fills a gap the IS field by analyzing commitment to content provider and how value perceptions influence it. Theories that help to understand how to commit users to use one content provider's services in the long run are essential for keeping the wide audience end-users. Moreover, perceived value theories are helpful in examining why mobile content is used.

Services marketing theories do not explicitly account for the influence of new technology or the channel used to access the service, which is increasingly important in new self-service contexts where users can choose between several distribution channels. Since the electronic channels are gaining importance and content providers have to offer services via multiple channels, the influence of the channel used will become a priority for academics and practitioners involved in services marketing in the future (Bolton et al. 2004). How the technology used affects relationships between customers and organizations is yet to be discovered in the service marketing field (Bitner et al. 2000;

Sweeney and Morrison 2004), and is considered one of the most serious challenges for long-term relationship building and survival of organizations (Zineldin 2000).

Therefore, this study incorporates elements from both service marketing and IS fields, and analyzes intentions of continuous use of the mobile channel as such (technology) and intentions to use the same content provider (organization offering the services). In this study, the mobile channel is defined as a service distribution channel and a means of communication between the provider organization and the customer, using advanced telecommunications and multimedia technologies through a mobile handheld device (e.g. PDA, smart phone, mobile, or cellular phone).

The purpose of this study is to analyze the relationships between perceived value, commitment to the mobile channel and to the service provider, and behavioural intentions to use the mobile channel and the service provider. The results provide implications on what influences the use intentions of MMS content in general, and intentions to use the same service provider continuously, irrespective of the channel.

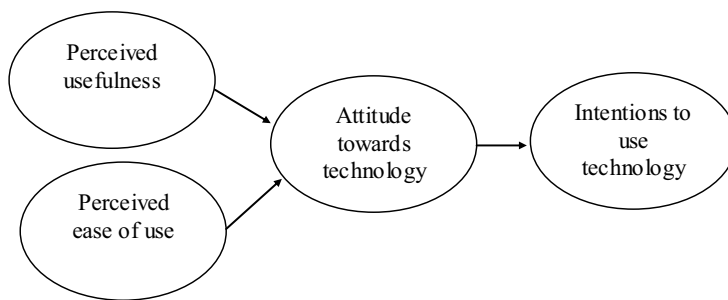
The structure of the paper is as follows. First, the traditional TAM models used in IS literature are briefly described and the use of alternative theories for predicting use of mobile content is explained. Three key differences between constructs used in this study and constructs used in TAM studies are also discussed. Second, the theoretical constructs of perceived value, commitment, and intentions to use are described. Third, the hypothesized relationships between the constructs are presented and tested. After presenting the results of the study, the paper concludes with implications and suggestions for future research.

## **2 THEORETICAL BACKGROUND**

In IS literature, user attitudes and intentions to use technology are analyzed with the help of technology adoption models (TAM) that stem from theory of reasoned action (TRA) (Fishbein and Ajzen 1975) and theory of planned behaviour (Ajzen 1991). TAM has been widely used both in marketing and information systems literature to predict trial use; i.e. adoption of new technologies, services, systems or media (Agarwal and Prasad 1999; Davis 1989; Davis et al. 1989). Since TAM was developed in an organizational setting, these models ignore the users' perceptions of the content provider organization, as well as their perceptions of the content that needs to be paid for. Recent work in this area also acknowledges the limitations of requirement engineering studies in the IS field, especially while designing content for BtoC markets where the needs and requirements of the wide potential end-user audience vary, and where the end-users are not within organizational reach (Baron et al. 2006; Tuunanen 2003). TAM models have also been criticized for not accounting for the human and social process of technology use (Legris et al. 2003), and further research has been encouraged to explore the direct effect of additional new determinants of use behaviour (Venkatesh and Davis 2000).

Moreover, the value of the mobile content has received little attention in comparison to new mobile technologies per se, even though technologies and solutions are only a means of using the content. Furthermore, in IS literature, only conceptual attempts have

been made so far to measure the customer attitude towards *using* the system, product, service or channel (Bobbit and Dabholkar 2001; Pagani 2004). The traditional TAM model is illustrated in Figure 1. In order to provide an improved explanation of consumer behaviour, dimensions from other fields have been included in the TAM (Kaasinen 2005; Legris et al. 2003). The included dimensions represent value, perceived enjoyment, social influence, voluntariness, image, control, facilitating conditions and attitude to the channel or to technology itself (Bobbit and Dabholkar 2001; Dabholkar and Bagozzi 2002; Kleijnen et al. 2004) or to mobile service (Nysveen et al. 2005a). Nevertheless, even recent extended TAM models offer little insight into understanding commitment to content provider, because in TAM models attitude to technology is conceptualized as positive or negative feelings related to a system (Venkatesh et al. 2003).

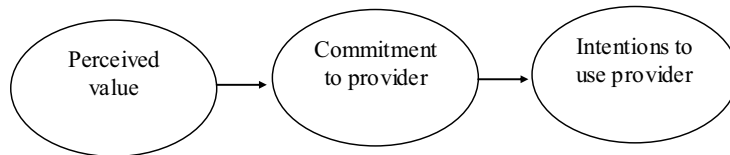


**Figure 1** The view used in TAM models

It is also usual to include a perceived ease of use variable in TAM models. Perceived ease of use is not analyzed in this study, because ease of use has been found to influence only intentions to trial use, but not continuous use (Karahanna et al. 1999). However, several studies have shown that perceived usefulness has a dominating influence compared to ease of use for potential users (for an extensive review see Legris et al. 2003). Perceived usefulness of the TAM model is similar to the utilitarian value construct in the marketing literature, because it depicts the task-oriented nature of the perceived value that enables the user to solve a problem effectively. However, it does not acknowledge the price of the product or service, because TAM models stem from organizational settings where use of technology is not voluntary and monetary sacrifices from the user are not required. Furthermore, the traditional TAM model does not incorporate the hedonic aspects of the use experience that emphasize the importance of the fun and enjoyment derived from using the *content* with the help of technology. Neither does it assess social appreciation people gain by using mobile services. Mobile services in particular are used in social situations where making a good impression on others is important.

Therefore, in this paper, the author applies the value-based view that depicts the motivation for continuous use of the content. By applying theories that mainly stem from the service marketing field, an alternative approach for assessing intentions to use mobile services is suggested. The value-based approach is expected to provide more insight for marketing purposes than the traditional technology adoption model approach, because it also indicates what users perceive valuable in the MMS content.

In the marketing literature, perceived value has proven to be a stable predictor of intentions to buy (Duman and Mattila 2005; Parasuraman and Grewal 2000; Voss et al. 2003). Furthermore, perceived value directly influences commitment to a provider and, indirectly, intentions to use the same provider in the future (Luarn and Lin 2003; Pura 2005). The established way to analyze customer behaviour in the service marketing field that emphasizes the content provider organization is illustrated in Figure 2.



**Figure 2** The service marketing view

The value and commitment theories used in this study are different from the TAM constructs presented in Figure 1 in the following main aspects:

- Perceived value includes a wide array of aspects that are related to users' motivations to use the content, in addition to willingness to use the new technology or mobile channel as such. Perceived value incorporates not only utilitarian aspects (also reflected by the usefulness or relative advantage construct) but also hedonic, emotional aspects of experiential use. Moreover, the social aspects of social acceptance, recognition, and gaining appreciation of others by using MMS content, are also included.
- “Commitment to provider” is defined as a desire to maintain a relationship with the service provider. A similar view is applied to “commitment to mobile channel”, thus emphasizing the personal meaning of the preference for using a mobile channel as such, even if alternative channels are available. In TAM theories, attitude to behaviour or technology used is defined as a narrower construct describing positive or negative feelings about the system.
- In this study, intentions to use are analyzed both with regard to the mobile channel as such (technology) and to the content provider (organization offering the service). TAM models only measure attitude towards technology (or a system). In addition, intentions in this study are measured as intentions for *continuous use* in the future. Some TAM models measure intentions merely as likelihood to adopt a system (see e.g. Chin and Gopal 1995).

### 2.1. The research model

This section begins with descriptions of the constructs of perceived value, commitment and intentions to use that are commonly used in marketing theories. The research model is presented in Figure 3. Second, theories of how utilitarian and hedonic value perceptions are expected to influence commitment and intentions to use are presented. Third, the relationships between commitment and intentions to use are hypothesized. Fourth, cross-effects between channel and content provider are proposed.

### 2.1.1. *Perceived value*

Value as a concept is employed across disciplines and paradigms, such as social science and economics, management, marketing, accounting and financing. From an organization management perspective, creating and delivering superior value to the most profitable customers will increase the equity of the organization. However, delivering value to customers requires understanding of the customers' needs, desires and value perceptions. Thus, recently, the concept of customer perceived value has grown in popularity within business research. It is value that customers perceive they receive or experience (Bettman et al. 1998). It influences not only the use of services and products, but also the use of channel, because customers evaluate the perceived value of the mobile channel compared to existing alternatives (Anckar and D'Incau 2002). In the mobile field, a customer interacts with the service provider (or the mobile self-service interface) in a given context and evaluates the content based on previous experiences and underlying values.

Furthermore, in marketing and information systems literature perceived value is often divided into hedonic and utilitarian aspects, depicting differing customer needs and requirements for different types of products and services. In the consumer behaviour literature, several researchers have used utilitarian and hedonic value to capture the multifaceted nature of consumption (Babin et al. 1994; Chandon et al. 2000; Hirschman and Holbrook 1982; Koiso-Kanttila 2005; Noble and Griffith 2005; Novak et al. 2003; Sweeney and Soutar 2001; van der Heijden 2004). Utilitarian value refers to problem-solving and the effective achievement of a goal, whereas hedonic value highlights the importance of the fun and enjoyment derived from using the product, service or technology. Utilitarian value is usually depicted by terms such as valuable, beneficial, useful, wise (Bearden and Netemeyer 1999; Spangenberg et al. 1997). Thus, utilitarian value includes the perceived usefulness aspect that has consistently been reported as a strong predictor of technology use intentions (Childers et al. 2001; Legris et al. 2003; Venkatesh and Davis 2000).

Items that measure hedonic value often include terms such as pleasant, nice, happy, delightful, funny, enjoyable, amusing (Bearden and Netemeyer 1999; Spangenberg et al. 1997). Hedonic, experiential behaviour has gained in importance in technological environments, where many individuals perceive the process of using a service more important than the result of the consumption (Novak et al. 2003). In TAM literature, the hedonic aspects have been measured by enjoyment items (Childers et al. 2001; Chin and Gopal 1995; Davis et al. 1989; Moore and Bensabat 1991; Pagani 2004), whereas social appreciation gained by the mobile content use has not gained much attention. Social use experience and gained social appreciation are important, especially in the mobile service field. Social aspects are also essential in the real estate field, where the search process and purchase decision usually involve the whole family.

In mobile contexts, social aspects have traditionally been conceptualized as social norms, i.e. pressure from others to use new technology (Kleijnen et al. 2004; Venkatesh et al. 2003). However, the social user experience as such has not explicitly been taken into consideration in this field, and further research is encouraged in order to provide a more complete understanding of intentions to use new technology (Celuch et al. 2007). Social value is likely to be important for users of mobile services in group situations

mainly for the sake of the social experience as such. This kind of social aspect of consumption is hedonic in nature. Support for linking emotional value with social value and defining them as hedonic value was found e.g. in Sheth et al. (1991). They state that social value linked to choice behaviour is similar to emotional value in that they both overlap with theories in social psychology that explain belongingness needs, fun, comfort and esteem needs. In addition, social value also pertains to acceptance, recognition, and influence needs. Furthermore, emotional and social value are both differentiated from utilitarian needs that Sheth et al. (1991) describe as functional value. Therefore, in this study hedonic value incorporates both emotional and social aspects.

### ***2.1.2. Commitment to provider and to mobile channel***

Commitment has been conceptualized in different ways in previous literature. Commitment can result from either dedication (affective commitment) or constraints (calculative commitment) (Fullerton 2005; Gustafsson et al. 2005). Mobile content is offered via telecom operators' networks and therefore requires a contract with a telecom operator. There are several ways to pay for content. It can be paid after use, if the user has a contract with the provider. In that case the content will be invoiced on a monthly phone bill (post-paid). Another alternative is to use pre-paid cards, or to pay for a monthly contract that allows use without limits or a certain amount of content for free. The pre-paid contracts, which make it more difficult to change content provider, can be seen as indicators of calculative commitment. Nevertheless, calculative commitment may not guarantee continuous use. Bendapudi and Berry (1997) suggest that constraint-based relationship maintenance can lead only to staying in the relationship, but dedication-based relationship maintenance leads, at best, to affective commitment and enhancement of the relationship. Therefore, attention in the literature is mostly given to affective commitment.

Commitment is usually defined as "the extent to which an exchange partner desires to continue a valued relationship" (Moorman et al. 1992). In this study, commitment refers to "a buyer's enduring desire to continue a relationship with a seller accompanied by his willingness to make efforts at maintaining it" (Odekerken-Schröder 1999, p. 64). A similar definition has been used e.g. by Morgan and Hunt (1994). In the mobile context, this means that the users are attitudinally committed to using the same provider on a continuous basis, regardless of whether they have an existing contract with the provider or not.

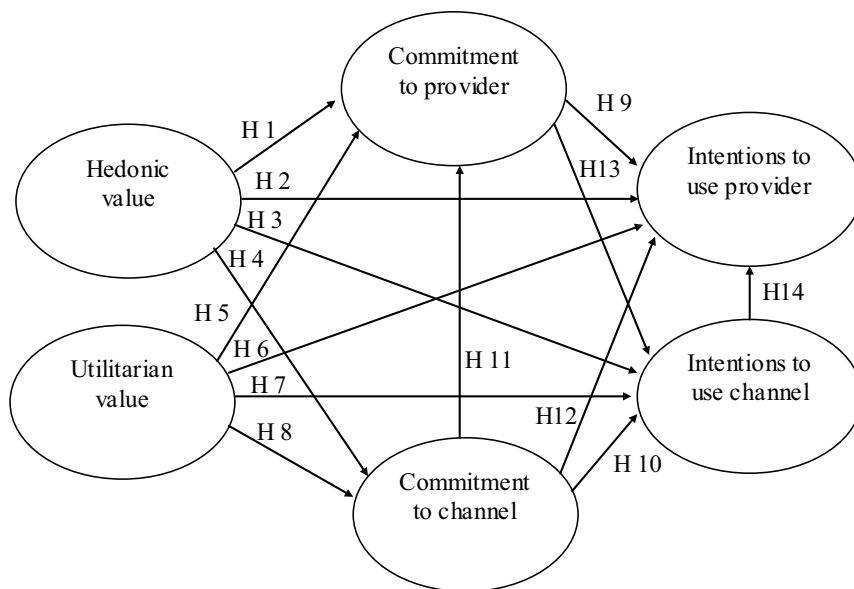
### ***2.1.3. Intentions to use provider and mobile channel***

The effect of different channels on customer relationships is still an insufficiently researched area (Bolton et al. 2004). Little is known about how the use of a mobile channel influences commitment and intentions to use the same content provider. Reichheld and Schefter (2000) argue that serving customers consistently over the same channel (Internet) will result in lock-in effects. This effect may influence the length of the customer relationship with the service provider, and may therefore promote continuous use of the same channel. Verhoef and Donkers (2005) also state that the acquisition channel is an important predictor of customer retention, the Internet

performing better than direct mail for customer retention purposes. The mobile channel may perform even better for relationship-building purposes, because the mobile device is a personal gadget enabling instant access to services, as well as personalized communication with the content provider.

Channel-specific research further asserts that utilitarian value influences consumer channel purchase frequency behaviour across brick and mortar, catalogue and Internet channels (Noble and Griffith 2005). Mathwick et al. (2002) discovered that certain channels support goal-directed tasks, whereas others work for experiential tasks. Since information-based MMS can be considered both goal-oriented and experiential, the author analyzes the influence of both utilitarian and hedonic value perceptions on commitment and intentions to use.

The research model presented in Figure 3 illustrates the hypothesized relationships between the constructs described above. The hypotheses will be presented next.



**Figure 3** The research model and hypotheses

## 2.2. Influence of utilitarian and hedonic value perceptions on commitment and intentions to use

Both hedonic and utilitarian factors are expected to positively influence use behaviour (Meuter et al. 2000). Hedonic value is expected to primarily influence commitment, because commitment is based on an affective evaluation. Chaudhuri and Holbrook (2001) report findings where hedonic value has a positive influence on brand affect. Moreover, Pura (2005) reports that commitment was found to be mostly influenced by emotional value which is usually defined as the hedonic motivation to behaviour. Furthermore, the influence of commitment on continuous use is expected to be stronger

for organizations offering hedonic value than those offering utilitarian value propositions (Bolton et al. 2004). Supporting findings for the differing effect of hedonic and utilitarian value has also been reported by Pura (2005). She postulates that in a mobile location-based service context, behavioural intentions are mostly influenced by monetary value and convenience value, both of which may be considered utilitarian motivations. Because hedonic value – the effect of emotions – has recently received much attention also in technology-oriented research, the direct effects of hedonic value on intentions to use the channel and the provider are also tested.

H 1 Hedonic value has a direct, positive effect on commitment to the content provider

H 2 Hedonic value has a direct, positive effect on intentions to use the content provider

H 3 Hedonic value has a direct, positive effect on intentions to use the mobile channel

H 4 Hedonic value has a direct, positive effect on commitment to the mobile channel

H 5 Utilitarian value has a direct, positive effect on commitment to the content provider

H 6 Utilitarian value has a direct, positive effect on intentions to use the content provider

H 7 Utilitarian value has a direct, positive effect on intentions to use the mobile channel

H 8 Utilitarian value has a direct, positive effect on commitment to the mobile channel

### **2.3. The influence of commitment on intentions to use**

Commitment has been found to be one of the key drivers of intentions to buy (Hennig-Thurau et al. 2002). However, Bolton et al. (2004) suggest a contrasting proposition that affective commitment may not influence actual mobile service use. Their assumption is based on the reasoning that customers committed to a mobile *phone supplier* are not necessarily going to use the phone more often than those who are not committed to use that supplier. Nevertheless, if we differentiate between commitment to the mobile *channel* and to the *content provider*, it is expected that commitment to the channel will have a positive influence on intentions to use it, and that commitment to the content provider results in higher intentions to use the same content provider again. Previous research also supports these relationships. For example, Morgan and Hunt (1994) postulate that if customers are committed to a supplier, they are likely to buy additional services from the same provider versus other competitors. It can be expected that the positive influence of commitment on behaviour is significant both with regard to the mobile channel and the content provider. For example, Sweeney and Morrison (2004) assert that when technology is properly used, it can facilitate relationship commitment between customer and company. A positive link has also been suggested between commitment and relationship duration, i.e. the frequency of use of services increases the customer share over time (Verhoef 2003).

Previous research has not differentiated between commitment and intentions to use the channel or the provider. However, the established positive relationships between

perceived value, commitment and intentions to use the same organization (content provider), product, service or brand are expected to apply also to the mobile channel (technology). It has also been shown that commitment leads to purchase intentions (Bloemer and Odekerken-Schröder 2003; Garbarino and Johnson 1999; Morgan and Hunt 1994).

H 9 Commitment to the content provider has a direct, positive effect on intentions to use the content provider

H 10 Commitment to the mobile channel has a direct, positive effect on intentions to use the mobile channel

#### **2.4. The cross-influence between mobile channel and content provider**

Technology-mediated service channels are generally found to contribute to favourable intentions to use, if they perform satisfactorily, irrespective of service type (Van Birgelen et al. 2006). Thus, the author proposes that customers, who consider the mobile channel to be their first choice for accessing services, feel loyal also to the service provider offering these services. It is expected that after having used mobile services for a certain task, the probability of using the same provider also in the future for the same or different task increases. In fields where customers choose from the channel offerings of a single service provider, using multiple channels (online and personal service) tends to broaden the customer's exposure by giving access to the service provider, by positively influencing the use of the online channel again in the future, and by increasing the overall satisfaction in a multi-channel environment (Montoya-Weiss et al. 2003). Van Birgelen et al. (2006) further posit that through the electronic channels, a service provider can make personalized service offerings and facilitate additional use of face-to-face service in non-routine situations. Therefore, it is expected that commitment to the provider also has a positive effect on future use intentions of the mobile channel. Similarly, it is expected that commitment to the mobile channel will increase intentions to use the same service provider in the future.

H 11 Commitment to the mobile channel has a direct, positive effect on commitment to the content provider

H 12 Commitment to the mobile channel has a direct, positive effect on intentions to use the content provider

H 13 Commitment to the content provider has a direct, positive effect on intentions to use the mobile channel

H 14 Intentions to use the mobile channel has a direct, positive effect on intentions to use the content provider

### 3 METHOD

#### 3.1. Background of the case company's field of business and the MMS content offered

In the real estate business, the mobile services offered to the wide end-user audience currently comprise of multimedia information of available apartments and houses for sale and rent. Pictures, floor plans, maps and information can be accessed with mobile devices that have picture-messaging capabilities. The major real estate agencies in the focal market offer such mobile content services. Some also offer an alert service that sends the information and a picture of the apartment that meets the search criteria as a multimedia message to the customers' mobile devices. Nevertheless, in this business field the wide audience is still reached mainly through newspaper advertising. However, the mobile channel has a strategic supporting role in attracting new customers, and serving the current customers better through multiple channels.

Huoneistokeskus Oy is a Finnish real estate agency offering services for people interested in selling, buying or renting apartments. Their services can be accessed by visiting an office, by phone, via the Internet and recently also via mobile handheld devices. Customers can use three types of services by sending an SMS code to the company number: 1) Order a multimedia message to their mobile device. As a result, the customer receives a multimedia message that includes a floor plan, picture of the apartment, price and other relevant information as well as the agent's contact information. 2) Order an eBrochure to their e-mail address. The A4 format pdf file includes pictures and all relevant information about the apartment. 3) Request an agent to contact them. The customers' contact information and request is delivered automatically to the right agent.

The electronic medium has changed the real estate market, and is today seen as a competitive necessity and a potential strategic differentiator within the industry. The electronic environment makes it easier for customers to compare alternatives and access information, photos and floor plans to support their decision-making. In addition, virtual self-services improve and speed up the customer search experience and offer companies cost efficiencies (Aalberts and Townsend 2002). As customers can access the information easily and effectively, the real estate agent's role is becoming more consultative (Muhanna and Wolf 2002). Furthermore, agents that provide services via the electronic channels can lower brokerage fees and gain market share (Mullaney 2004).

Moreover, electronic services in the real estate market may serve as an effective customer acquisition tool, since information-rich content attracts potential customers to use real estate agents' services. The sales process in this market begins before the customers are identified, as people tend to perform preliminary searches prior to contacting the agent (Henderson and Cowart 2002). Some studies even claim that people using the Internet to search for homes utilize real estate agents more than non-Internet users (Muhanna and Wolf 2002). Internet services are often aimed at delivering mass communication of standardized information and facilitating effective search experiences. The mobile channel offers opportunities for more customized home-

specific information and enhanced interactivity between the real estate agent and customer.

While using the mobile content, the wide audience end-users usually access the content either via mobile portals or network operators' menus that offer a wide range of content and services. In this case, they access the MMS content by ordering it directly from the content provider, the real estate agent. However, even in this case the mobile content value chain comprises a large number of players, and requires co-operation between e.g. the handset device manufacturer and software supplier, network operator, content and service provider, and the end user (Feldmann 2005).

### **3.2. Research sample**

The data was collected using an online questionnaire targeted at end-users of the case company's mobile services in May 2004. Invitations were targeted at mobile MMS content users by placing the invitation at the end of the ordered mobile multimedia message, as well as on the website. The sample analyzed in this paper consists of 108 respondents. The data were screened for those who had experience of using the real estate agency's mobile services, which was a prerequisite for being able to answer the questions. 23 percent of the respondents were male and 77 percent female, which corresponds with the user profile of the case company's online and mobile clientele. In general, females tend to be more active in viewing apartments than males. The age of the respondents ranged from 18 to 65 years. The mean age of the respondents was 36 years. 41 percent of the respondents earn between 20,000 and 30,000 euros per year (before taxes), which is considered middle-class income. The mean income in Finland was 18,500 euros when the study was conducted (Statistics Finland 2006). The respondents were not experts of new technology; most of the respondents rated their mobile service user experience as 'moderate'.

### **3.3. Operationalization of research variables**

The items used to measure the constructs are summarized in Appendix. Utilitarian value was measured by items reflecting extrinsic motivation that enables effective achievement of an utilitarian task (van der Heijden 2004). These include good value for money (Chen and Dubinsky 2003; Sweeney et al. 1999), acceptable price (Dodds and Monroe 1991; Sweeney and Soutar 2001), and value for money compared to other channels. Furthermore, utilitarian aspects include the ease and speed of mobile service use compared to other channels, and convenience of mobile service use (Anderson and Srinivasan 2003). Thus, utilitarian value also incorporates the relative advantage concept used by Rogers (1995) (Chin and Gopal 1995).

Hedonic value was measured by items that describe intrinsically motivated service use, for the sake of the experience, without a specific goal in mind. Therefore, hedonic items included both enjoyment of use (van der Heijden 2004) and social value items. In this study, social value is defined as a hedonic construct, because it is similar to emotional value (Sheth et al. 1991). The emotional and social items were modified from PERVAL scale items created by Sweeney and Soutar (2001). Emotional value depicts positive

emotions or affective states that are generated by service use. Social value describes social approval or enhanced social self-concept generated by service use. In the marketing literature, emotional and social aspects of value have been traditionally measured as separate constructs (Sweeney and Soutar 2001) and therefore items measuring both were included. Thus, in this study, hedonic value depicts the emotional and fun aspects of use experience, as well as the social situations where people can impress their friends and family by using MMS content.

Measures of commitment and behavioural intentions towards the mobile channel do not exist in the previous literature. Therefore, they have been created based on the items measuring commitment and behavioural intentions towards the organization (Baloglu 2002; Dodds and Monroe 1991; Garbarino and Johnson 1999; Mathwick et al. 2001; McMullan and Gilmore 2003; Odin et al. 2001; Zeithaml et al. 1996) and the affective commitment measures of Fullerton (2003). Behavioural intention measures regarding the content provider were adopted from the loyalty literature (Gremler and Gwinner 2000; Mathwick et al. 2001; Taylor and Baker 1994; Zeithaml et al. 1996).

All the variables are reflective measures. Attitude-based factors, such as purchase intentions and commitment, are typically reflective, since they give rise to something that is observed (Jarvis et al. 2003). The measurement items were developed and tested using concept tests, expert interviews, a pilot questionnaire test, and purified using exploratory factor analysis before the analysis reported next.

## **4 ANALYSIS AND RESULTS**

The partial least squares (PLS) approach using PLS-Graph 3.0 was used to estimate the measurement and the structural parameters in the structural equation model. PLS is used increasingly in information systems and management literature (Chin and Todd 1995; Gefen et al. 2000). It is suitable for small samples and does not require multivariate normal data (Chin 1998). PLS is also well suited for exploratory analysis, because it does not necessarily require a solid theoretical base (Gefen et al. 2000).

### **4.1. Assessment of the measurement model**

Exploratory factor analysis (with principal component analysis) was conducted in order to purify the measures and to ensure that the items measured what they were supposed to measure. The Kaiser-Meyer-Olkin measure of sampling adequacy was good (.822) and a Bartlett's test of sphericity was significant. The Oblimin rotation gave the best solution which resulted in a clearly identifiable six-component solution depicting two value categories, two commitment categories and two intentions to use categories. Commitment and intentions to use items were clearly divided into two groups representing: 1) content provider and 2) mobile channel. Therefore, measuring the effect of commitment and behavioural intentions on continuous use separately for the content provider and the mobile channel is justified.

The perceived value items loaded on two components representing utilitarian value and hedonic value constructs. The resulting factors are: 1) Utilitarian value 2) Hedonic

value, 3) Commitment to provider 4) Intentions to use provider 5) Commitment to channel and 6) Intentions to use channel. All factor loadings were above .63. The measurement items applied are reported in Appendix.

#### 4.2. Reliability and validity tests

The reliability, convergent validity and discriminant validity were examined with PLS for the measurement items used in the study. Reliability was assessed using composite scale reliability and average variance extracted (AVE). Correlations and square root of AVE are reported in Table 1. The independent constructs, their reliability and AVE, as well as the weights and loadings for each measure, are reported in Table 2.

**Table 1** Correlations and average variance extracted (AVE) of latent variables

<b>CONSTRUCT</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>
(1) Utilitarian value						
(2) Hedonic value	.369**					
(3) Commitment to provider	.148	.518**				
(4) Intentions to use provider	.359**	.369**	.464**			
(5) Commitment to channel	.381**	.377**	.101	.229*		
(6) Intentions to use channel	.635**	.388**	.106	.305**	.571**	
square root of AVE	.849	.854	.933	.877	.872	.894

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Discriminant validity was assessed by comparing the AVEs with the square of the correlations. Since the square root of each AVE value is greater than the off-diagonal elements in Table 1, discriminant validity is also considered good (Fornell and Larcker 1981). Scale reliability ranged between 0.94 and 0.88, exceeding the cut-off value of 0.7. AVE ranged between 0.87 and 0.72, exceeding the cut-off value of 0.5. Convergent validity of the constructs was evaluated by checking the factor loadings of the measures on their respective constructs. Since individual item loadings are all greater than 0.7, they are considered adequate.

**Table 2 Reliability, AVE, weights and loadings of the variables**

CONSTRUCT	SCALE		ITEM	WEIGHT	LOADING
	RELIABILITY	AVE			
Utilitarian value	.94	0,72	U1	0.1683	<b>0.8483</b>
			U2	0.1839	<b>0.8509</b>
			U3	0.1404	<b>0.7685</b>
			U4	0.2253	<b>0.8443</b>
			U5	0.2292	<b>0.8885</b>
			U6	0.2276	<b>0.8741</b>
Hedonic value	.93	0,73	H1	0.2284	<b>0.8453</b>
			H2	0.2523	<b>0.8824</b>
			H3	0.1983	<b>0.8540</b>
			H4	0.2529	<b>0.8632</b>
			H5	0.2391	<b>0.8225</b>
Commitment to provider	.93	0,87	CP1	0.5273	<b>0.9295</b>
			CP2	0.5457	<b>0.9343</b>
Intentions to use provider	.87	0,77	UP1	0.7751	<b>0.9661</b>
			UP2	0.3211	<b>0.7823</b>
Commitment to channel	.91	0,76	CC1	0.3911	<b>0.7931</b>
			CC2	0.3761	<b>0.9254</b>
			CC3	0.3828	<b>0.8930</b>
Intentions to use channel	.92	0,80	UC1	0.3210	<b>0.8659</b>
			UC2	0.3972	<b>0.9327</b>
			UC3	0.3983	<b>0.8827</b>

#### 4.3. Assessment of the structural model

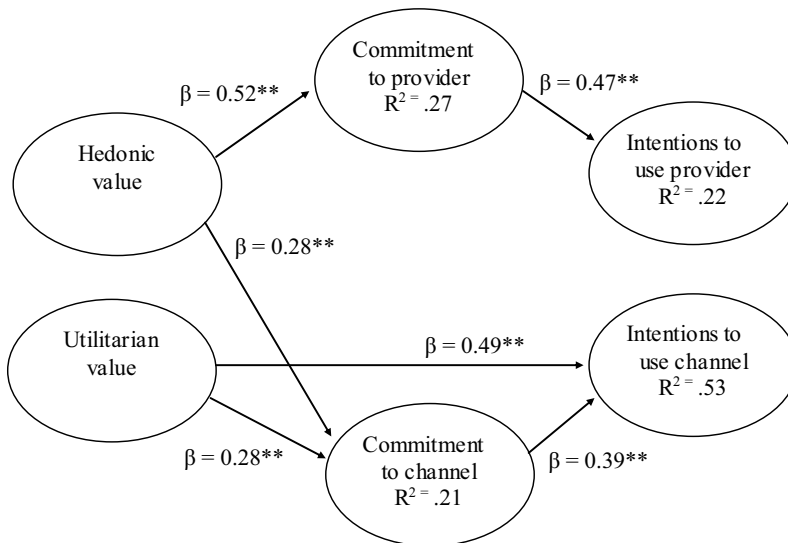
First, a saturated model based on the proposed theoretical hypotheses was tested. Second, an alternative final model with only significant relationships was estimated. The results of the final model in Figure 4, as well as the non-significant hypothesized relationships, are discussed in more detail below. Hypotheses 2, 3, 5, 6, 11, 12, 13, and 14 were not significant in this sample, as indicated in Table 3.

The hypothesized relationships between hedonic value and intentions to use the mobile channel or the content provider were positive but insignificant, as were the relationships between utilitarian value and commitment to the content provider, as well as intentions to use the content provider. None of the hypothesized cross-effects between the mobile channel end content provider were significant in this study. This may be due to the nature of the real estate business, or it may indicate that users of MMS services might use mobile services of many providers and do not necessarily consider this service provider the first choice in further service provider decisions.

**Table 3 Overview of the results**

NO	HYPOTHESIS	RESULT
H 1	Hedonic value -> commitment to content provider	Supported
H 2	Hedonic value -> intentions to use content provider	Not supported
H 3	Hedonic value -> intentions to use mobile channel	Not supported
H 4	Hedonic value -> commitment to mobile channel	Supported
H 5	Utilitarian value -> commitment to content provider	Not supported
H 6	Utilitarian value -> intentions to use content provider	Not supported
H 7	Utilitarian value -> intentions to use mobile channel	Supported
H 8	Utilitarian value -> commitment to mobile channel	Supported
H 9	Commitment to content provider -> intentions to use content provider	Supported
H 10	Commitment to mobile channel -> intentions to use mobile channel	Supported
H 11	Commitment to mobile channel -> commitment to content provider	Not supported
H 12	Commitment to mobile channel -> intentions to use content provider	Not supported
H 13	Commitment to content provider -> intentions to use mobile channel	Not supported
H 14	Intentions to use mobile channel -> intentions to use content provider	Not supported

After testing this proposed saturated model, the insignificant paths were omitted from the final alternative model as suggested by Gefen et al. (2000). Figure 4 presents the structural results of the final alternative research model with significant paths. The multiple  $R^2$  values given for each dependent construct are reported in Figure 4. The  $R^2$  values indicate the fraction of total variance in a dependent construct that is accounted for by the independent constructs impacting it. All the structural paths in the model have significant t-values at  $\alpha = 0.01$  (estimated by a bootstrapping procedure using 1000 samples). The loadings for all constructs are significant at a  $\alpha = 0.01$  level.



Note: \*\* path is significant at the 0.01 level.

**Figure 4 Results of the final research model.**

The results shown in Figure 4 indicate that hedonic value perceptions have a strong influence on both commitment to content provider ( $\beta=0.52$ ) and commitment to mobile

channel ( $\beta=0.28$ ). Utilitarian value perceptions also influence commitment to mobile channel ( $\beta=0.28$ ), and intentions to use the mobile channel ( $\beta=0.49$ ). These relationships result in  $R^2$  of 0.27 for commitment to content provider and  $R^2$  of 0.21 for commitment to mobile channel. Intention to use the same content provider is influenced by commitment to the provider ( $\beta=0.47$ ), which results in a  $R^2$  of 0.22 for intentions to use the provider. In addition, intentions to use the mobile channel are also influenced by commitment to the mobile channel ( $\beta=0.39$ ) resulting in a  $R^2$  of 0.53 for intentions to use the mobile channel. Hence, hypotheses 1, 4, 7, 8, 9, and 10 were supported.

#### **4.4. Commitment as a mediator between value perceptions and intentions to use**

Commitment was found to have a significant, positive, direct influence on intentions to use. In addition, it has a positive mediating effect between hedonic value and intentions to use, both for the channel and for the provider, and also between utilitarian value and intentions to use the channel. The analysis of the mediation was conducted in PLS by first estimating the whole final model, second solely the direct effects in the model, and third the indirect effects in the model. The effect size ( $f^2 = 0.029$ ) between the final model and the model with only direct relationships indicates that the additional indirect paths in the final model have a small ( $>0.02$ ) effect and should be included (Gefen et al. 2000). Furthermore, since the direct relationship between hedonic value and channel intentions becomes insignificant when commitment to the channel is added to the model, the effect of hedonic value on intentions to use the channel is considered to be completely mediated by commitment. However, the relationship between utilitarian value and intentions to use the channel becomes smaller but stays significant after adding the commitment to the channel construct into the model. Therefore, as suggested by Baron and Kenny (1986), the effect of utilitarian value on intentions to use the channel is considered to be partially mediated by commitment to the channel. The same applies for the effect of hedonic value on intentions to use the provider that is partially mediated by commitment to the provider.

## **5 DISCUSSION**

The results of this study bring important additional insights with regard to commitment to use the same service provider, regardless of the technology or channel used. A notable finding is that intentions to use the same provider were influenced directly by commitment to the service provider and indirectly by hedonic value perceptions. This can be seen as the main contribution of the study, because the role of commitment has not been widely acknowledged in TAM theories. In addition, previous studies in the mobile field mainly emphasize convenience value of mobile service use compared to other channels. However, the results of this study emphasize that in effect, hedonic aspects of a fun, enjoyable use experience promote best commitment both to the provider and to the mobile channel as such.

Commitment theories proposed in this study add to the theory development in the mobile field by taking into account the attitudinal commitment towards the provider and the channel. Commitment was in this study defined as an attitudinal construct, commitment to use the mobile channel or the same service provider, regardless of

channel choice, again in the future. This type of emotional attachment to the service provider, or new technologies as such, seems to play an important role in explaining behaviour in the mobile service context (Pura 2005). Commitment also captures positive feelings and is considered an affective construct. In contrast to the constructs used in TAM models, it includes feelings of attachment to the provider or channel and willingness to keep them as users' first choice compared to alternatives in the future. Previous attitudinal measures in TAM models have emphasized general attitudes towards behaviour (Venkatesh et al. 2003). Attitude towards behaviour has previously been defined as "an individual's positive or negative feelings about performing the target behaviour" (Davis 1989; Fishbein and Ajzen 1975; Taylor and Todd 1995). Affect has been defined similarly as an individuals' liking of the behaviour (Venkatesh et al. 2003). These attitudes or affect have in previous TAM models mainly been relative to systems, software or technology, and not related to the provider organization.

One reason why commitment to the content provider organization has received so little interest in previous IS literature may be that the TAM theories were originally developed in an inter-organizational setting, where the user cannot select between different service providers. Another reason may be that TAM theories are primarily focused on analyzing adoption behaviour of technology and attracting potential users, instead of evaluating continuous use of content. Hence, alternative theoretical models are needed in order to truly recognize how continuous use of MMS content could be enhanced. As Karahanna (1999) suggests, the factors influencing trial use and continuous use may vary. Recognizing what explains intentions of continuous use of the same service provider, regardless of the preferred channel, requires acknowledging the role of the organization providing the mobile content, as is done in this study. Thus, this study uses commitment theories that have been found to influence purchase behaviour of services and brands and choice of providers from a wide audience perspective.

In this study, commitment was found to be an important mediator between value perceptions and intentions to use. In technology-oriented studies, attitude towards technology is often reported as a mediator between usefulness and intentions to use technology. Since both commitment and attitude towards technology are considered affective constructs, these results are similar to results found with TAM studies. Moreover, in this study utilitarian value influenced the intentions to use the mobile channel, i.e. technology as such, both directly and indirectly, via commitment to the channel. The influence of utilitarian value on commitment to channel is in line with TAM study results that attitude towards technology is mostly explained by the usefulness of the technology (Nysveen et al. 2005a).

However, most importantly, in contrast to earlier studies that emphasize usefulness aspects, the results of this study indicate that utilitarian value perceptions do not significantly influence intentions to use the same provider. The utilitarian aspects tend to affect choice of which channel or technology to use, and may be communicated to promote trial use of services, but they do not necessarily enhance continuous use of the content. The lack of influence of utilitarian value on commitment and intentions to use the same service provider indicates that good value for money compared to other information channels, the convenience and ease of using the mobile service, and instant delivery of information and pictures have little importance for users, when they consider

which service provider to use. This is an important finding for companies struggling with increasing average revenue per user

Furthermore, building continuous relationships with the users requires understanding of the value that the mobile content generates also during and after the use experience, and how commitment to the content provider can be built. For this purpose, this study used an approach commonly used both in marketing and IS literature, differentiating between utilitarian and hedonic value. Social value related to mobile content use was incorporated in the hedonic value construct, offering a wider view of value than the extended TAM models.

The results of this study indicate that intentions to use the same provider in the future are mostly explained by commitment to provider. Therefore, it should be taken into account in a wide audience end-user context. Building long-term relationships with the mobile content users is crucial for providing attractive and profitable mobile content services in the future. Even though customers may not care whose services they use at the moment, long-term goals should include building commitment also to the provider. This would also ease the task of providing services via multiple channels, not just via the mobile channel. Previous research also indicates that adding an MMS channel to the main distribution channels strengthens customer loyalty and helps providers to interact with their customers (Nysveen et al. 2005b). Furthermore, the increasing number of electronic channels available also requires analysis of users' commitment to using a specific channel, in this case the mobile channel compared to other alternative channels. Therefore, we suggest that theories analyzing behaviour in the mobile field should include both customers' preferences for the content provider and for the channel used, in order to be better able to predict behaviour in the long run.

### **5.1. Managerial implications**

According to Watson et al (2002), mobile services are important for companies' success. However, understanding what drives intentions to use mobile services in the long run is of vital importance for service developers and marketing managers. Creating profitable services requires a committed wide audience that not only prefers to use the mobile channel for accessing services but also chooses the same content providers' services in the future.

Marketing managers should acknowledge the hedonic and utilitarian aspects influencing intentions to use the mobile channel and the service provider, when considering how to communicate about new or current services to potential users. Even in information-based services that aim at fulfilling a certain task effectively, such as mobile content in the real estate business, the effect of hedonic aspects of service use seems to be of great importance in creating commitment to the provider and the electronic channels as such. Multimedia and pictures add to the hedonic, fun experience, pleasure and social approval gained by mobile content use. These elements may be emphasized to support the long-term goals of building a committed customer base.

The automatically delivered information, pictures and maps ease the task of the agent in matching the needs of buyers and sellers in the real estate market, and enable them to

concentrate on their expert role and personal selling that is regarded crucial in making once-in-a-lifetime type decisions, such as buying a house. The Internet is a popular channel for searching for apartments, but it may not serve the customer best in all situations. Mobile services are often seen as supplementary services that offer great possibilities for customized communication. Even though the small screen size of the mobile device may not be optimal for viewing apartment pictures, it is a convenient way of showing the pictures and floor plans to others and carrying the information with you. Multimedia services provide new opportunities to help customers manage the search process effectively and compare alternatives with the help of pictures and maps.

The role of the mobile services in real estate agents' service mix is emerging around the world, but so far the mobile services offered are not differentiated between competing real estate agents. However, the strategic value of the mobile services may increase as companies realize the full potential of serving specific customer segments effectively via the mobile channel. In accordance with earlier research on Internet-based real estate services, mobile services may attract especially buyers, sellers and renters of houses and apartments who are first thinking about contacting an agent, and who screen the possibilities to get an idea of the current market situation. With relationship-building goals in mind, house- or apartment-specific agent information offered should also facilitate more convenient instant interaction with the right agent and help the customer find the location easily.

However, adding new channels to the service offering incurs costs, and in order to offer profitable services, the target audience should be wide enough to be able to reach the critical mass, and facilitate sufficient average revenue per user (ARPU) or average margin per user (AMPU) (Kuo and Yu 2006; Shosteck Group 2003). Nevertheless, in a mobile commerce context, people are not necessarily bound to a content provider with a contract, and they can order services directly from any content provider that supports their telecom operator.<sup>19</sup> Companies are beginning to realize the importance of creating long-lasting customer relationships and differentiating their image. Attracting the right kind of customers is crucial in order to survive the increasing competition in the field. In this respect, it is important to realize that users of mobile services tend to be committed to using the mobile channel for different tasks.

The most lucrative user segment of these services might be the people who use their mobile device actively and use a variety of mobile services. Therefore, marketing strategies should acknowledge the channel-specific behaviour of current and potential customers. Lee (2002) encourages companies to identify individual customers' preferred channels for different services and building relationships utilizing technological innovations. Her research in the electronic banking field indicates that people may prefer different channels for doing different tasks. In addition, previous research shows that technologically savvy customers are not more committed to using electronic self-services than others (Sweeney and Morrison 2004). Other studies suggest that Internet users are not more likely to engage in mobile shopping than non-Internet

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<sup>19</sup> Most of the mobile services in the focal market are supported by all of the major teleoperators and can be ordered directly from the content provider or via the teleoperators' portals. In global markets, services may be mainly accessed via mobile portals that also support a wide range of services offered by different service content providers.

users (Bigne et al. 2005). Therefore, we propose that current customers who primarily use Internet search services may not prove to be any better target audience for MMS content than totally new potential customers. Instead, marketing strategies could aim at identifying potential customers who are most likely to prefer the mobile channel for accessing apartment-related information.

## **5.2. Concluding remarks**

This study used commitment theories to explain intentions to continuous use of MMS. The results indicate that building a loyal wide audience customer base that uses the content offered by the same service provider also in the future requires commitment to the content provider. In order to stay committed, users should also perceive the MMS content valuable. The results of this study show that commitment can be enhanced by offering hedonic use experiences that include both emotional and social value propositions. These findings contribute to previous technology-oriented literature by increasing understanding of what influences commitment to and intentions to use the same content provider in the mobile field. In this respect, utilitarian aspects or usefulness of the content seems to have little influence compared to hedonic elements. The paper also contributes to the services marketing field by exploring how value propositions influence commitment and intentions to use the mobile channel or technology as such, if several alternative distribution channels are available. These results support the empirical findings of TAM models, indicating that both utilitarian and hedonic value perceptions have a positive effect on intentions to use the mobile channel, i.e. technology as such. In conclusion, the combined view including both customers' preferences for the content provider and the channel used is necessary for exploring further how to increase continuous use and revenue per user in the mobile field.

### ***5.2.1. Limitations of the study and suggestions for further research***

The use of MMS is based on self-estimated intentions to use. If historical real usage data and rate of return of customers are available, more sophisticated measures could be used to estimate the real use and anticipated customer lifetime value of users. In addition, the heterogeneity in different customer segments could be taken into account while estimating the future value of the customer segments (Fader 2005). Unfortunately, these measures are rarely available for the content providers in this field. Therefore, it is common to use self-reported intentions to use the technology or service measures to predict use in both marketing and the IS field.

Future research is encouraged to test the model of this study in other mobile service contexts across industries to ensure generalizability. Finding an apartment or house is typically a service that is used actively a few times in a customer's lifetime, and during that process users may use several providers' services simultaneously. Therefore, commitment to use the same provider again may be low, based on this special characteristic of the field in this study. Similarly, the cross effects between channel and provider may be insignificant in this study due to the nature of the industry, where self-service channels are used typically before personal contact with the agency. Thus, the

influence of commitment on behavioural intentions to use the same content provider and the cross effects between channel and provider could be analyzed further in other mobile service contexts, in order to see whether these results are industry-specific or apply for a wider selection of mobile multimedia services.

Furthermore, even though MMS is widely used in the real estate business field in Finland, the service may not be common in other markets. Future research could explore the demand for similar MMS content targeted at wide audience end-users in other, less mature mobile markets, where the devices base allows reading multimedia content, but where users do not yet widely use mobile Internet. In more mature markets, it would be interesting to explore whether users prefer to access customized BtoC multimedia content according to customers' preferences and location to more traditional mass communication of the real estate search engines offered via the Internet.

## ENDNOTES

[1] MMS is the evolution of Short Message Service (SMS) (SMS is a text-only messaging technology for mobile networks). With MMS, a mobile device is no longer confined to text-only messages. It can send and receive multimedia messages such as graphics, video and audio clips, and so on. It has been designed to work with mobile packet data services such as GPRS and 1x. (Wikipedia 2006)

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## APPENDIX THE MEASUREMENT ITEMS

CONSTRUCT	ITEM
Utilitarian value	U1 The price of this mobile service is acceptable (a)
	U2 This mobile service is good value for money (a)
	U3 This mobile service is better value for money than what I would pay for the same service via other channels ( internet / store). (a)
	U4 I value the ease of using this mobile service (a)
	U5 I value the possibility to use this service instantly via my mobile device (a)
	U6 I value the convenience of using this mobile service (a)
Hedonic value	H1 Using this mobile service helps me to feel accepted by others (a)
	H2 Using this mobile service makes a good impression on other people (a)
	H3 Using this mobile service gives me social approval (a)
	H4 Using this mobile service gives me pleasure (a)
	H5 Using this mobile service makes me feel good (a)
Commitment to provider	CP1 I feel loyal to this service provider (a)
	CP2 I am emotionally attached to this service provider (a)
Intentions to use provider	UP1 Next time, when I need this type of service, I will choose this service provider (a)
	UP2 I intend to continue using services of this service provider also in the future (a)
Commitment to channel	CC1 I consider the mobile channel my first choice to order this type of service (a)
	CC2 I am a loyal user of mobile services (a)
	CC3 Mobile services have a great deal of personal meaning for me (a)
Intentions to use channel	UC1 Next time, when I need this type of service, I will order it again via the mobile device (b)
	UC2 I will use similar mobile services more frequently in the future (b)
	UC3 The probability that I will order this service next time via the mobile channel is (c )

**Notes:** a 7 point Likert scale was used: a) 1= totally disagree...7=totally agree

b) 1= Not at all likely... 7=extremely likely c) 1= very low... 7 = very high



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