

Willingness to Pay for Digital Services: Challenges for Future Research

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ABSTRACT

In this article we discuss three issues that should be considered important in future studies of willingness to pay (WTP) for services in digital networks. First, existing studies of WTP for digital services have several weaknesses when it comes to context- and incentive realism and we suggest alternative methods to overcome these weaknesses. Second, a review of existing studies of WTP for digital services also reveal that existing studies are narrowly focused on measures of willingness to pay. Thus, a nomological network of WTP is suggested to get a broader theoretical framework for purposes of validation of pure willingness to pay measures. Finally, existing studies on WTP for digital services has focused single-channel services. The large number of cross-channel and multi-channel services offered in digital networks, makes us point to the importance of WTP studies for cross-channel and multi-channel digital services in the future.

1 INTRODUCTION

Consumers' spending on online content has increased significantly from 2001 to 2003 (Online Publishers Associations, 2002). A brief review of studies of WTP for digital network services shows that studies are conducted on WTP for broadband enabled services on the Internet available through computers (Sage Research, 2002; eBrain, 2002; Jupiter Research, 2003; Online Publishers Association, 2002; Makarem, 2001), digital services available through high definition television (HDTV) (The Leichtman Group, 2003), and mobile services (Coleago Consulting, 2002; Nokia, 2001; Ericsson, 2002; Forbes, 2003). In this article, the summary of the main findings for mobile services is based on a limited number of empirical studies. However, for 3G mobile services, entertainment services seem to have a high potential (Nokia, 2001), although there are some interest reported also for utility services as news delivery (Forbes 2003) and travel information (Driscoll and Associates, 2003). Also, for general broadband enabled services, several studies indicate that entertainment services are among the services with the largest market potential (Sage Research, 2002; Lyra Research, 2001; Online Publishers Association, 2002). Within this category, movies on demand (Sage Research, 2002; Myrio, 2003), concerts and cultural events (Sage Reserach, 2002), TV shows on demand (Sage Research, 2002; Myrio, 2003), and music download (Sage Research (2002) seem to be the services customers are willing to pay most for. For digital services, studies have focused age (Coleago Consulting, 2001; Myrio, 2003), probability of adoption (Colleago Consulting, 2001), stage of adoption (Nokia, 2001), uniqueness of service (Anstine, 2001; Edison Media Research, 2002), access to broadband (Jupiter Research, 2003), convenience (Molteni and Ordanini, 2003), and whether copies and file transferring is allowed (eBrain, 2002; Jupiter Research, 2003) as variables moderating customers' willingness to pay.

2 PURPOSE OF THE ARTICLE

Studies on WTP for services in digital networks have three typical characteristics. First, the methodology used to measure willingness to pay is typically based on surveys where the respondents hypothetically are asked how much they are willing to pay for a specified service (Coleago Consulting, 2001; Sage Research, 2002; Makarem, 2001; Leichtman Research Group, 2002). This means that the studies are not conducted in a real purchase situation, and the respondents are not given any specific incentives for revealing their true willingness to pay. This method has often been criticized for overestimating consumers' willingness to pay (Botelho and Pinto, 2002; Wertenbroch and Skiera, 2002). The first purpose of this article is therefore to discuss the importance of studying consumers' WTP for digital services in a more realistic context and with more realistic incentives.

Second, existing studies only marginally discuss willingness to pay as a theoretical construct (Ericsson, 2002; eBrain, 2002; Makarem, 2001; Edison Media Research, 2002; Nokia, 2001; Coleago Consulting, 2001; Leichtman Research Group, 2002). It is argued by Wertenbroch and Skiera (2002), that when using the survey method, application of a variety of willingness to pay measurement procedures should be used for cross validation purposes. Thus, supplementary theoretical perspectives from the nomological network of willingness to pay should be included to evaluate measures of consumers' willingness to pay for services in digital networks. Although some variables are revealed to moderate consumers willingness to pay for digital services, several other variables revealed to influence consumer behavior in general also seem to be relevant to include. Thus, the second purpose of the article is to highlight the importance of a broader theoretical manifold in WTP studies and to present a nomological network of WTP, including a discussion of potential moderating variables.

Third, the studies typically measure customers' willingness to pay for single-channel services (Sage Research, 2002; Makarem, 2001; Myrio, 2003). Often, a brand or a company is offering a service through more than one channel. However, we have not been able to find studies focusing willingness to pay for content in a multi-channel/cross-channel service compared to a single-channel service. Consequently, the third purpose of the article is to address the importance of focusing willingness to pay for cross-channel and multi-channel digital services.

2.1 Purpose 1: Context and incentives when studying willingness to pay

Four methods to estimate willingness to pay are described by Wertenbroch and Skiera (2002). The methods differ in their incentives to reveal true willingness to pay and simulation of actual point of purchase context. With the transaction method, respondents receive a fee before the estimation of WTP begins. They are then exposed to products where the price is manipulated, and they chose to buy the product with the manipulated price they perceive as "right". The method can be pure experimental or it can take place in a real purchase situation. The fee given to the respondents reduce the possibility that estimates are biased downward due to liquidity constraints. Thus, incentive compatibility should be considered relatively good when using the transaction method. By using the transaction method, only the pure experimental approach will be useful for revealing willingness to pay for products and services yet not on the market. However, in pure experimental studies, simulation of actual point of purchase context suffers, and the revealed willingness to pay may be biased.

One of the survey methods discussed by Wertenbroch and Skiera (2002) is based on contingent valuation of customers' WTP for a given product. This method could be used by an open ended approach, where customers are asked to state their WTP for a given product, or by a close-ended approach, where customers' choose whether to by a product at given price alternatives or not. When using the contingent valuation method respondents are typically given a description of the product/service evaluated and the hypothetical circumstances under which it is made available. Thus, the WTP estimated by the respondents do not have any implications for the respondents, and the context is hypothetical. The survey method, therefore, scores relatively low both on incentives to reveal true WTP and on simulation of actual context.

The Vickrey auction (Wertenbroch and Skiera, 2002) is a sealed-bid auction. The incentive compatibility in this method is relatively good, because the respondent with the highest bid must buy the product. Thus, the WTP estimated by the respondents have implications for the respondents. However, there is a limited stock of products, so respondents compete with one another to

win the auction. The stock constraint used in Vicroys method contrasts the usually unrestricted supply of products in a real retail setting. The method is experimentally, and respondents meet and make decisions regarding willingness to pay in a research facility. Thus, simulation of actual point of purchase suffers when using the Vickrey auction method.

With the Becker, DeGroot, and Marschak's (BDM) (Wertenbroch and Skiera, 2002) method, respondents are told that the price of the given product is not yet set, and that we (the researchers) want to know the highest price the respondent is willing to pay for the product. When the respondent has reported his final WTP, he draws a price from an urn. This price will be the actual transaction price. Thus the actual transaction price is set randomly, and the actual transaction price is exogenous to respondents WTP. If the price is less or equal his WTP the respondents are offered the opportunity to buy the product for the price drawn from the urn (which is equal or lower than his WTP). If the price he draws is higher than his WTP, he will not be able to buy the product. The method is also based on "out-of-pocket transactions". Thus, the WTP estimated by the respondents has some implications for the respondents. By using BDM, customers' willingness to pay can be estimated at the point of purchase and thus vary according to purchasing context and competitive set. This possibility ensures point of purchase realism when using the BDM-method.

Table 1: Characteristics of the four methods.

Method	Incentive compatibility	Point-of-purchase realism
Transaction method	Good	Bad
Survey method	Bad	Bad
Vickrey auction method	Good	Bad
BDM method	Good	Good

The overview given in the table are somewhat simplified due to the fact that there are versions of the four methods described. For example, point of purchase realism for the transaction method depends on whether it is a pure experimental approach or a quasi-experimental approach.

The review of WTP studies for digital services shows that most of the studies are based on the survey method with a contingent valuation approach. Several studies have revealed that the use of the contingent valuation model overestimate customers' willingness to pay compared to customers' real willingness to pay (Botelho and Pinto, 2002; Wertenbroch and Siera, 2002).

2.2 Purpose 2: Nomological network of willingness to pay

Below we briefly review a few other theoretical perspectives related to WTP in order to establish the nomological network of willingness to pay.

2.2.1 Acceptance and adoption

In information systems research, two constructs are closely related to willingness to pay - adoption and acceptance. Three models stand out as the most widely applied to explain information systems and service adoption intentions. The technology acceptance model (TAM) (Davis, 1989) focuses on the cognitive and affective explanations of intention to use a specific technology or service. It includes five concepts - perceived user friendliness, perceived usefulness, attitudes towards use, intention to use and actual use. TAM may be seen as a special case of the TRA - theory of reasoned action (Fishbein and Ajzen, 1975). TRA includes four general concepts - behavioral attitudes, subjective norm, intention to use and actual use. In general TRA does not propose specific determinants of behavioral attitudes (attitudes towards use). However, in TRA these attitudes are composed of the belief that use leads to certain outcomes, and the evaluation of the desirability of these outcomes. The inclusion of subjective norm, however, represents an important additional social explanation when compared to TAM. The theory of planned behavior (TPB) was proposed as an extension of the theory of reasoned action to account for conditions where individuals do not have complete control over their behavior (Ajzen, 1991). This is particularly relevant to situations of service adoption under financial or other behavioral constraints. Perceived behavioral control - as included in TPB - reflects the internal and external constraints on behavior, and is directly related to both behavioral intention to use and actual use (Ajzen, 1991).

2.2.2 Marketing and consumer psychology research

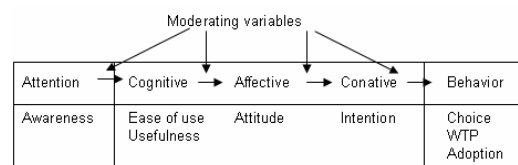
Constructs positively related to customers' willingness to pay in marketing and consumers' psychology is awareness, attitude, intention, and choice. Awareness reflects customers' awareness, their interest level, or their readiness for a service or a product (Schiffman and Kanuk, 1997). Peoples' consciousness, or awareness, about an object is found to influence customers' willingness to pay for the object positively (Vlosky, Ozanne and Fontenot, 1999). When it comes to attitude and intentions, theories as theory of reasoned action and theory of planned behaviour are also used in marketing. Attitudes and intentions are assumed to influence actual choice positively. Positive effects of attitude toward an object on willingness to pay for the object are revealed by e.g. Rio, Vazquez and Iglesias (2001).

2.2.3 Moderating variables

In the review of studies focusing WTP for digital services we reported several variables revealed to influence customers WTP for digital services. However, what is absent in this research is traditional moderating variables found to be of importance for customers behavior in many studies; such as consumers' channel

experience (Bruner and Kumar, 2000), product knowledge (Bei and Widdows, 1999), product expertise (Alba and Hutchinson, 1987), perceived risk (Dowling and Staelin, 1994), and product involvement (Bei and Widdows, 1999).

The nomological network is illustrated in figure 1.



By including several variables from the nomological network of WTP, measures of WTP can be validated against other measures related to WTP. Furthermore, as can be seen from figure 1, the variables included in the nomological network can be seen as a causal flow of psychological processes starting with product awareness, mediated by cognitive, affective, and conative mental processes, ending with a perception of WTP and a decision (choice) to buy/adopt the product/service or not. Thus, the variables included in the nomological network of WTP may also be used to explain the psychology behind the observed WTP.

2.3 Purpose 3: Willingness to pay for cross-channel and multi-channel services

Cross-channel services refer to services with identical content distributed in two or more channels. Multi-channel services are defined as services with supplementary or complementary content in additional channels. An example of a cross-channels service is when television companies give customers the possibility to watch television programs on their computer through the Internet at the same time as it is broadcasted on television. However, it is a multi-channel service when customers are given the opportunity to use their mobile phones to vote or make comments when watching a television show.

What is interesting in such a services context is whether access to content in a new channel has an influence on customers' willingness to pay for content in existing channels. One way to shed some light on the importance of this is to relate the discussion to whether cross-channel and multi-channel services are substitutes, supplements or complements to each other. If people start to watch television shows on their computers through the Internet in stead of watching on television, this is an example of channel substitution. If additional content related to a television show is offered through SMS or MMS without any changes in people watching the original show on television, this is an example of supplementary services. However, if these subscription services on SMS and MMS increase the interest in the television show, the additional channels are complementary to the original channel. In particular in

situations characterized by supplementary and complementary channels, willingness to pay becomes more complicated. When channels are supplementary (see e.g. Riel, Liljander and Jurriens, 2001), people are using a new channel in addition to the original channel to get access to the service. This does not influence their interest or use of the original channel, meaning that only the use of the new channel represents an increased interest or use of the service. Given that the new channel used is not free, this represents an increased willingness to pay for the service. In a complementary situation (Dutta-Bergman, 2004), the content offered in one channel influence the interest and use of content available in other channels. Thus, we have a situation characterized by channel synergies where perceived value of the content presented in one channel increase as a result of the additional content of the service offered in another channel. This increased value means people will be willing to pay more for the content distributed in the original channel in addition to their willingness to pay for the content distributed in the additional channel.

3 PROPOSITIONS FOR FUTURE RESEARCH

3.1 Context and incentives when studying willingness to pay

The measures of customers' willingness to pay for digital services are, due to the heavily use of surveys methods (contingent valuation approach), probably not very precise. Thus, an important issue in future research should be to develop more accurate methods to measure customers' willingness to pay for digital entertainment services. In particular, we have pointed to the importance of more realism in incentives and point of purchase context, as discussed by Wertenbroch and Skiera (2002). Thus, a main issue we suggest should be focused in future studies of WTP for services in digital networks is:

Future research 1: to deploy methods that includes more realism in incentives and point of purchase context.

3.2 Nomological network of willingness to pay

Most of the research on WTP for digital services is only marginally based on theoretical discussions and reflections. The ones who are have focused relatively narrowly on the WTP construct. One way to overcome this weakness is to build on the nomological network of willingness to pay. By doing this, measures from various theoretical perspectives can be used, and the results revealed from the various theoretical perspectives can be validated against each other – giving us more trustworthy results of customers' willingness to pay for-, accept-, adopt-, use-, etc. digital entertainment services. Therefore, one of the issues that should be focused in future research on customers' willingness to pay for digital entertainment services is:

Future research 2a: to deploy of a broader spectre of

methods and measures to reveal what we believe will be a more correct estimate of customers' willingness to pay for digital services.

In addition, the inclusion of variables in the nomological network of WTP makes it possible to explain the causality between variables in the nomological network of WTP - increasing our understanding of how to influence consumers' WTP. Future research should therefore;

Future research 2b: study the causality between variables in the nomological network of WTP.

The discussion presented in this article also reveals that relevant moderating variables found to influence consumers' behaviour in general are not included in studies of customers' WTP for digital services.

Future research 2c: Effects of potential moderating variables should therefore be included in future studies to get a more nuanced picture of willingness to pay for digital services in various customer segments.

3.3 Willingness to pay for cross-channel and multi-channel services

None of the reviewed studies of willingness to pay for digital services focus on willingness to pay for cross-channel services or multi-channel services. Several digital services are available in more than one channel. Thus, it will be of interest to study changes in willingness to pay for digital services in the main channel when the digital services are presented in additional channels as well. We therefore suggest that future research should;

Future research 3: study customers' willingness to pay for not only singles channel services but also cross-channel services and multi-channel services.

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