SUBSCRIPTION TO FEE-BASED ONLINE SERVICES: WHAT MAKES CONSUMER PAY FOR ONLINE CONTENT?

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ABSTRACT

Increasingly, Web-based content or service sites are turning to a subscription-based business model. This article examines factors that influence potential consumers' opinions about such paid services. A survey was conducted to examine the impact of several factors on consumers' willingness to access subscription-based Web content. The results indicated that respondents' intentions are significantly influenced by these factors. Specifically, their willingness to pay for online content or services is positively related to their perception of convenience, essentiality, added-value, and service quality, and to their usage rate of a given service. In addition, their willingness to pay is negatively related to their perceived unfairness in a subscription-based online service model. Managerial implications based on our findings are discussed.

Keywords: subscription-based online services, paid online content, willingness to pay, consumer survey

1. Introduction

During the Internet boom, a vast number of websites attracted Internet surfers by offering them with large amounts of free information ranging from news, business data to sports statistics. However, the once well-sold business model of offering free content to secure advertisement revenues yielded rather disappointing results for most of the e-service providers. Increasingly, advertising revenues alone are insufficient to meet the bottom-line needs of a company for survival [Addison 2001, Dewan *et al*. 2003, Turban *et al*. 2002]. Forced by the harsh business reality to seek alternative sources of revenue, many of these web operators have begun charging users a subscription fee for access to online information and/or services [Olsen 2001, Goldman 2001, Prasad *et al*. 2003, Taylor 2001]. For instance, when advertising rates plummeted, companies such as Encyclopedia Britannica and NetZero had to diversify their sources of revenue by moving into a pay-for-content model [DiCarlo 2001, Streitfeld & Cha 2001]. If this continues, the era of totally free content might eventually diminish. Instead, free content will be used primarily as a marketing ploy: a complementary trial period is strictly used for purposes of enticing customers to subscribe to a service or buy a product online. Alternatively, some sites attract customers by offering a limited amount of free content. They then hope to convince their customers to shift to a variety of "premium," fee-based content [Outing 2002].

Will consumers be willing to pay for online services or content after they have been so accustomed to receiving it for free? According to research conducted by the Online Publishers Association, consumer spending for online content in the U.S. grew from $1.31 billion in 2002 to $1.78 billion in 2004, for an annualized growth rate of 17% [OPA Research 2003, 2004, 2005]. The categories that experienced the most significant growth, however, appeared to concentrate on content that is of an entertainment nature, such as adult materials, music, gaming, and sports. Skepticism remains that consumers who once feasted on online content at no cost are now ready and willing to be charged for accessing the same content. For example, despite an increase in the number of sites that offer fee-based content, Jupiter Research reported that slightly fewer people seemed willing to pay for online content in 2002 (42 percent) than in 2000 (45 percent) [Crosbie 2002]. In a survey conducted by the Pew Internet & American Life Project in 2002, when asked to pay for access to a site that was previously free, only 12 percent of U.S. Internet users indicated they would pay, while 50 percent would find a free alternative, and 36 percent would simply stop accessing the online information or service altogether [Crosbie 2002]. With a few notable exceptions, such as those traditionally paid news or information services that are now also available online (e.g., *The Wall Street Journal Online* and *Consumer Reports Online*) and various gaming sites, subscription-based Web services have yet to make a significant financial contribution to their providers [Boumans 2004]. Indeed, while the long-term prognosis of a fee-based online service business model remains unclear, initial resistance to paid content can be so strong as to exert a negative business impact on the provider. For example, barely a month after *Yahoo!* began charging for auction listing fee, the volume of listings had dropped by an estimated 90% [Schiffman 2001]. When *Ireland.com* changed from a free access site to a paid site, it managed to convert less than 1% of it regular visitors to become subscribers. As a result, it also lost banner advertising revenues [Boumans 2004].

Meanwhile, there are signs that some businesses have been successful in converting their "users for free" to "customers for a fee." *Freeserv*e, which introduced the free internet service provider (ISP) model to Europe, started to charge users for unlimited Internet access in April 2000. By early 2001, it had successfully migrated 500,000 of its 2.1 million users to paid subscribers [Addison 2001]. *Consumer Reports Online*, *The Wall Street Journal (WSJ) Online*, and *Hoover's Online* are the three most notable examples of information goods providers that analysts say are well-positioned to earn paid subscribers. Since *Consumer Reports* started its online version in 1997, the service had signed up one million subscribers by the end of 2002. By 2003, both *WSJ.com* and *Hoovers.com* had managed to convert at least 10% of their regular visitors into paid customers, a level considered sufficient to make an e-content portal profitable [Ooi 2003].

Both successful and unsuccessful stories call for an understanding of why consumers choose to subscribe or not subscribe to fee-based online services. Such an understanding can be critical to the long-term viability of the online service industry. A survey of current literature suggests that there is a dearth of empirical research devoted to this important issue. The purpose of this article is therefore to explore and understand factors that influence potential consumers' opinions and purchase decisions regarding fee-based online content and services. This article is organized as follows. First, we propose potential factors that may influence consumers' attitude to subscription-based online content and services. We then report a survey examining the impact of each of these factors. Finally, we discuss managerial implications based on our findings.

2. Consumers' Willingness to Pay for Online Content: Possible Contributing Factors

The factors that compel consumers to adopt subscription-based online services may be multi-fold, ranging from customer's perception of value and importance, their belief about fairness, to their general attitude towards paying for such services that were once freely available. Based on an extensive literature review, this study identifies and explores the following factors that may have a significant impact on consumers' willingness to buy online services. These factors are: convenience, essentiality, added value, perceived service quality, usage frequency, perceived fairness, and security concerns.

2.1 Convenience

According to the Internet commerce value proposition by Keeney [1999], there are benefits and costs associated with not only the products/services being purchased online, but also the *processes* of obtaining those products/services. Consequently, it is the net value of these benefits and costs, as perceived by individual consumers, which influences their purchase decisions. Compared to traditional delivery channels, there are clear benefits in receiving information products/services online. Today's online consumers take it for granted what was unthinkable only a generation ago: shopping 24 by 7 from home. Moreover, the Web makes it a simple matter the offering of an unlimited selection of content – from travel to legal counsel, from medical advice to match-making – all to be delivered instantly and in a variety of media and presentation formats. Thus the Internet has greatly increased the *convenience* of accessing information goods and services. Convenience has been found an important component of online consumer satisfaction [Schaupp and Bélanger, 2005]. Based on an economic analysis on empirical data, Chun and Kim [in press] suggest that as the convenience associated with obtaining goods and services increases, the prices charged by the online market tend to exceed those charged by the traditional offline market. Other studies have reported that the convenience perceived by consumers appear to have a strong impact on their e-commerce activities [Eastin 2002, Elliot and Fowell 2001], and they sometimes are even willing to pay a higher price for goods sold online [Bailey 1998, Lynch and Ariely 2000]. Because subscription-based online services typically distinguish themselves from free sites by offering highly specialized or privileged content, it can be argued that, instead of engaging in a time-consuming and potentially unproductive search of similar content for free, consumers may decide that the convenience of getting instant access to the desired content is a major benefit worth paying for. This study therefore explores the possibility that the **perceived convenience** provided by an online service may have some influence on consumers' willingness to pay for that service.

2.2 Essentiality

Keeney's [1999] value proposition also suggests that the perceived value of a given information product depends on how important or essential it is to meet consumers' information needs. Increasingly, online information providers are encouraged to concentrate on specialized content that is very difficult, if not impossible, to get elsewhere [Shapiro and Varian 1999]. For example, the *Consumer Reports'* Web site might be considered an essential online information source by over a million paid subscribers, because it provides important information to meet their needs and because the source of information is quite exclusive. Another study revealed that commuters were willing to pay for travel information that was otherwise free, if the information satisfied their immediate information needs [Wolinetz 2001]. The latest OPA report [OPA Research 2005] indicated that the top three paid content categories, personals/dating, entertainment/lifestyles, and business/investment, together accounted for 67% percent of consumer online content spending in 2004. All three categories appear to offer content that is important to meet specific consumer needs but is not readily available (i.e., easy to find and at little or no cost) on the Internet. Therefore, this study explores the impact of information essentiality on consumers' willingness to pay for online content.

2.3 Added Value

Given the vast amount of free content available online, there must be added value in subscription-based online services to make consumer feel that it is worth paying for. According to a study conducted by comScore Networks and the Online Publishers Association, consumers appear most willing to pay for content considered of superior quality, of exclusive value, or to meet more emotional/passionate needs [Elkin 2002]. In other words, the content has to be proprietary and differentiated. For instance, when federal bureaucracies began posting their documents online and ease access for everyone at no charge, it posed a significant big challenge for CQ.com, the online version of *Congressional Quarterly*, a subscription-based political publisher. However, CQ.com managed to keep its customers by providing them with expertise and professional assistance, including a collection of databases with user-defined search tools for tracking the progress of legislation, such as congressional daily schedules, news updates, and expert analyses of bills scheduled for floor consideration, thus adding values to the otherwise free and readily available content [Sternstein 2005]. In this study we also explore the impact of **added value**, as perceived by consumers regarding a premium online service, will have on their willingness to pay for that service.

2.4 Perceived Service Quality

It is well known that consumers often use price as an indicator of product quality, i.e., the higher the price, the higher the perceived quality [Monroe 1990]. Conversely, if consumers perceive a product or service to be of higher quality than another product or service, they naturally expect to pay a higher price for the former [Zeithaml 1988]. While certain information can be accessed for free, it is conceivable that consumers may be willing to pay for the same information if the service quality is noticeably better [Kettinger and Lee 1994, Luarn and Lin 2003]. Basic cable television services, for example, win over subscribers not because they offer more programming but because their service quality is dramatically better than that of free broadcast television [Karikari *et al*. 2003]. Consumers have also been accustomed to paying for Internet services because they believe paid ISPs provide better quality than free services [Suri *et al*. 2003]. America Online, for instance, enjoys the market leader position despite its higher access fees, because it may be perceived as offering better services (turn-key software for novice users, no banner ads, good support, online communities, and no time limit) than its less expensive or free competitors. This study therefore explores the impact of **perceived service quality** on consumers' willingness to pay for online services.

2.5 Usage Frequency

The foregoing factors all have the underlying assumption that online consumers' attitudes towards paid content are influenced fundamentally by a rational cost/benefit analysis. Some recent studies, however, also suggest that consumers' past online experience can be habit-forming and may play a significant role in their future e-commerce activities and satisfaction [Molla and Licker 2001]. Gefen [2003], for example, found that consumers' tendency to continue using a given e-commerce vendor is influenced by habit. The more they buy at a particular site, the more likely they will buy from the same place again. Liao and Cheung [2001] suggest that frequency and duration of Internet access can significantly affect the willingness of a consumer to shop online. Within the context of the current study, if a consumer has become habitual in accessing specific content or service online, it is plausible that s/he would be willing to pay to continue accessing it, should it become necessary. Consequently, this study further explores the impact of **usage frequency** on consumers' willingness to pay for online services.

2.6 Perceived Fairness

Regardless of the value of content, one of the biggest challenges facing online service businesses is the Internet culture that has developed over the years: consumers have become accustomed to the belief that such businesses are financed by advertisers and therefore should provide their content/services for free. As a result, when asked to pay for content access, consumers may perceive a certain degree of unfairness [McDonald 2002, Taylor 2001]. Even online retailers, who compete with brick-and-mortar retailers to sell physical goods, must deal with similar challenges. Studies have found that consumers tend to perceive price unfairness if products sold online are priced equally to those sold through traditional channels [Hardesty and Suter 2005, Huang *et al*. 2005]: they simply believe that goods sold online should be priced lower. While Web companies hope that consumers will consider online paid content or information as a commodity to buy, few Web users have warmed to the idea that it is fair to pay for online content. When a consumer takes it for granted that certain online services (e.g., online banking) should be free, he/she is likely to feel unfair if a fee is now required and, consequently, they will be less willing to pay for it [Schonfeld 2001]. Therefore, this study further explores the possible impact of consumers' **perceived fairness** on their willingness to pay for online services.

2.7 Security Concerns

Ever since the commercialization of the Internet, the perceived security and privacy risks associated with transacting online has been a continuous concern for consumers [Belanger *et al*. 2002, Brown and Muchira 2004, Elliot and Fowell 2001, Liao and Cheung 2001]. Consumers may be unwilling to use subscription-based online services simply because online payments are involved and they are reluctant to transmit credit card numbers or other personal information over the public Internet. Therefore, this study also explores the potential negative impact of consumers' **security concerns** on their willingness to subscribe to fee-based online services.

3. Research Methods and Results

Data for this study were collected through a survey instrument. The subjects were business students of a large Western US state university. One hundred and sixty-five valid responses were collected. Among the 160 subjects who reported their gender, 91 were male and 69 were female. In terms of age, most of them were in the 20-24 group (53.0%), followed by those in the 25-29 group (24.4%) and the 30-34 group (14.6.2%). The remaining 7.3% were above 35. Unlike the traditional profile of a college student (young, studying full-time, and with little or no work experience), this sample consisted of respondents that were relatively older (average age 26) and more mature, and most of them had part-time jobs (average work hours 20 per week). We believe therefore that the subjects in this study are more representative of online consumers than typical college students**.**

A questionnaire was developed to gather the subjects' attitudes toward subscription-based online services and the factors that may have an influence on their willingness or unwillingness to subscribe to these services[1]. The subjects' opinions were measured on a 5-point scale along the aforementioned variables including essentiality, convenience, added value, perceived quality, usage frequency, perceived fairness and security concern. In addition, demographic data such as gender and age were also collected as controlled variables. The subjects' willingness to subscribe to paid online services (will/ will not pay) was measured as a dependent variable.

The analysis of the data started with a multivariate analysis of variance (MANOVA), followed by a canonical discriminant analysis. In order to check the possibility of multicollinearity of the variables, the VIF and tolerance values were examined as a first step in a multiple regression. As shown in Table 1, no VIF value exceeded 10.0 and the tolerance values showed that collinearity did not explain more than 10 percent of any independent variable's variance. Thus, we found no evidence of the existence of multicollinearity in the results [Hair *et al*. 1998].

Table 1: Assessing Tolerance for Multicollinearity

Variable	Tolerance	VIF
Added Value	.838	1.193
Security	.973	1.028
Perceived quality	.827	1.208
Essentiality	.491	2.035
Convenience	.538	1.860
Usage Frequency	.611	1.638
Perceived Fairness	.955	1.047

MANOVA was first used to establish the statistical significance of group differences in whole profiles of predictor variables and to reduce the number of predictors for a classification analysis [Huberty 1984, Montemayor 1996]. The multivariate statistic for MANOVA is statistically significant (Wilk's Lambda = 0.744, $F_{[df=9,99]} = 5.74$, $p < 0.01$). Follow-up tests of group differences by examining the *F*-ratio indicated that six out of nine predictor

[1] The questionnaire is available upon request.

variables were statistically significant ($p < 0.05$). In particular, as shown in Table 2, compared to respondents who were not willing to subscribe to fee-based online services, those willing rated significantly higher on *convenience*, *essentiality*, *usage frequency*, *added-value*, *perceived quality* and *perceived fairness*. However, age, gender and security concerns were found to be insignificant between the two groups.

Table 2: Summary of Interpretative Measures for MANOVA and Discriminant Analysis

Variable[a]	**Discriminant Loadings**	**Mean (Standard Deviation)**		***F* Value**[b]
		Willing	**Non-Willing**	
Convenience	.66	4.09 (.86)	3.17 (1.30)	19.24**
Essentiality	.56	3.80 (1.07)	2.94 (1.31)	14.21**
Usage Frequency	.53	2.66 (1.45)	1.57 (1.0)	20.59**
Added Value	.40	3.45 (1.16)	2.79 (1.32)	7.57**
Perceived Quality	.37	3.75 (1.12)	3.26 (1.21)	4.68*
Perceived Fairness	.34	4.48 (.64)	4.07 (.91)	7.39**
security[c]	----	3.55 (1.41)	3.45 (1.55)	.13
Age[c]	----	----	----	.09
Gender[c,d]	----	----	----	.78

a. Variables ordered by discriminant loadings or the absolute size of correlation between discriminating variables and standardized canonical discriminant functions.
b. Tests for the equality of the group means: * $p < .05$; ** $p < .01$.
c. Variables not used in Discriminant Analysis.
d. Categorical variables.

To distinguish those who were willing and unwilling to pay for online services and to identify which predictor variables are relatively more useful in differentiating the two groups, discriminant analysis was used for such a purpose. Since gender, age and the security concern of using credit cards did not significantly differentiate the two groups, they were excluded in the following discriminant analysis. The other six variables, namely, *convenience*, *essentiality*, *added-value*, *perceived quality*, *usage rate* and *perceived fairness*, were entered with a simultaneous estimation approach to form the discriminant function. As shown in Table 3, the discriminant function is statistically significant (canonical correlation = 0.55, Wilks's Lambda = 0.70; Chi-square $_{[df=6]}$ = 21.01, $p < 0.01$). The group centroids are .66 (willing to pay) and -.64 (unwilling to pay), respectively.

To assess the predictive accuracy of the discriminant function, the sample was divided at random into an analysis sample (60%) for estimating the function and a holdout (40%) sample for validating purpose. Table 2 shows that the discriminant function correctly classified 72.3 percent of the analysis sample and 69 percent of the holdout sample. Test for the discriminant power, as measure by the Press's Q (= 18.77, p<.01), indicated that the hit ratio of the classification matrix is significantly higher than chance.

Table 3: Results of Discriminant Function and Classification

		Results for Each Group	
Discriminant Function	**Overall Results**	**Willing to Pay**	**Non-Willing to Pay**
Group Centroid		.66	-.64
Canonical Correlation	0.55		
Chi-square	21.01**		
% Correctly Classified			
Analysis sample	72.3	72.3	72.3
Hold-out sample	69.0	64.3	75.9

** p< .01.
Press's Q = 18.77, p<.01.

Further differentiation of the willing-to-pay and unwilling-to-pay groups was made by examining the differences between group means on each discriminant variable. As shown in Table 2, all of the discriminating variables were found to differ significantly. The relative importance of the predictors was assessed by discriminant loadings, which are considered relatively more valid than discriminant function coefficients as a means of interpreting the discriminating power of predictor variables [Hair *et al*. 1998]. Table 2 shows variables that are significant predictors in the order of the magnitude of discriminant loadings and the significance level of group differences in each discriminant variable measured by *F*-ratios. As all variables were entered in the simultaneous discriminant analysis, any variables exhibiting a discriminant loading of +/- .30 or higher magnitude are generally considered substantive [Hair *et al*. 1998].

In summary, as shown in Table 2, the six variables used in the discriminant analysis appear to be good predictors of willingness to pay for online services. Of all the discriminant variables, *convenience*, *essentiality*, and *usage frequency* are the top three factors that differentiate willing-to-pay from unwilling-to-pay groups, followed by *added value*, *perceived quality* and *perceived fairness*. Our findings thus largely provided support for our propositions, with the exception of *security concern*, which was not found to be significantly related to respondents' willingness to pay for online services.

4. Managerial Implications

Recently, more e-commerce experts and online information service providers are seeing the turning point where online information and content will start to carry a price tag. As Internet commerce matures, while more people are becoming familiar and comfortable with paying for content, it seems unlikely that the trend will translate to a significant source of revenues for Internet companies anytime soon [Bowman 2004]. Understanding consumers' perceptions and attitudes toward subscription-based online content or services and related determinant factors is critical for managers to assess and predict the behaviors of their online customers, which should in turn help a company to choose appropriate business models. Naturally, only when a revenue-generation method is accepted by the majority of potential customers can this method be sustainable [Coupey 2001].

Given that the belief is still strong among Internet consumers that they can "Google" their way into finding what they want for free, a subscription-based online service must enhance the perceived value of the content through differentiation and segmentation. Differences in perceptions and attitudes among consumers can lead to a differentiation of market segments that are either willing or unwilling to subscribe to fee-based online content and services. While there will always be consumers who only surf for free, there is also a market that, if targeted appropriately, will be willing to pay for various reasons. As the finding of this study suggest, the primary needs for consumers to subscribe to fee-based online services are convenience, essentiality and usage frequency. Therefore, enhancing the richness and speciality in the content, increasing the ease of access to needed information, and encouraging the usage frequency of a service will contribute to consumer willingness to pay for that service.

Other areas that are worth marketers' attention are added value and perceived quality of online services. Indeed, one way to increase subscription is to add values to online content that distinguish the service from those of free Web sites. Even for mundane information that lacks essentiality, professional knowledge and technical assistance could bring added value and enhance perceived quality. Sometimes, a well-designed marketing execution, such as constantly revised headlines, colors and wordings on a web site might affect the willingness of browsers to start paying for content [Knowledge@Whaton 2003]. In addition, Web operators should communicate the added-value of the service to potential consumers and increase the perceived fairness of the service. For example, the methods of payment could influence consumers' perceived fairness and eventually the willingness to access paid content or services. While subscriptions continue to be the dominant price model, a more flexible fee structure, such as a metered or pay-per-view service instead of a flat annual membership fee, may be perceived fairer to those consumers who will only use the service infrequently for access to particular information.

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