

# What Drives Users to Pay for Freemium Services? Examining People's Willingness to Pay for Music Services

*Completed Research Paper*

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## ABSTRACT

Freemium is intended to be a promising method that allows content providers to earn money now that Web 2.0 users feel entitled to free software. However, industries that use freemium, like the music industry, still struggle to cover their costs. Despite its practical relevance, no studies have investigated why customers are willing to pay for a service that can also be used for free. Based on the Theory of Planned Behavior, we developed a research model to identify antecedents of consumers' intentions and attitudes towards the premium version of music services when a free version is available. The results of our survey with 157 participants show that using the free version has a negative impact on users' intention to pay for the premium version. Our practical implications indicate that music service providers should focus on the premium product and introduce a time-limited freemium.

## Keywords

Freemium, willingness to pay, music as a service, theory of planned behavior.

## INTRODUCTION

Today, many internet services are available for free in order to satisfy Web 2.0 users, who feel entitled to free software. Content providers have developed different strategies to generate, at least indirect, revenues: Advertising, transaction fees, donations, and freemium are the most successful models for cross-subsidies. Especially freemium has gained popularity in the last few years. Next to the free version of the service, a chargeable premium version is usually available. Wilson (2006) invented the portmanteau freemium, which is a combining of the words "free" and "premium". Almost all users use the free service, which is financed by advertisements. Only about 5% of users are willing to pay for premium features (Anderson, 2009). Globally, that 5% of heavy users will make up for the 95% non-paying users, with any further revenues being profit.

Several types of internet services offer freemium products: In the early 2000s, freemail providers like yahoo offered the user a cost-free email service, which was financed by advertisements. For a monthly fee, the service was free of advertisements and the user's web space was nearly unlimited. In 2007, Spotify, a Music as a Service (MaaS) provider from Sweden, revitalized the freemium concept. Using the basic, free version of the service, the user can listen to millions of songs but is interrupted by audio commercials. The premium version offers several benefits: no advertising, offline availability, and access via mobile devices (Dörr, Benlian, Vetter and Hess, 2010; IFPI, 2012). Today, the freemium concept is even present in the communication market (e.g., Skype) and Free2Play games.

Freemium services' primary aim is to convert non-paying users into paying customers. In the mobile app market, freemium seems to be the best way to increase revenues. Liu, Au, and Choi (2012) found that the freemium strategy increases the sales volume and revenue of an app. However, the situation is different in the music industry: Spotify, for example, has a 15% conversion rate but still struggles to cover its costs (Palmer, 2011). Therefore, it is very important for freemium service providers to know the antecedents that lead users to pay for a service even though there is a free version.

Despite its practical relevance, very few studies have addressed the question of why customers are willing to pay for a service when they can obtain the basic functions for free (Oestreicher-Singer and Zalmanson, 2009). Dörr et al. (2010) examined different service features' influence on people's willingness to pay for MaaS services by surveying 132 MaaS users. They concluded that sound quality and the contract period have a significant influence on users' willingness to pay. Oestreicher-Singer and Zalmanson (2009) performed a data analysis of the online radio station last.fm and concluded that very active

network users are more willing to pay for freemium services. Dörr (2012) applied the Theory of Planned Behavior (TPB) to look behind music pirates' intentions to use MaaS and to pay for such services. A total of 132 music pirates would use the basic, free version but had very little intention to pay for the premium version. Users' subjective norms and attitudes towards the service proved to have the most predictive power when explaining people's intention to use MaaS. MaaS's relative advantage over illegal downloading influenced users' attitudes towards the service. Wagner, Benlian, and Hess (2013) used the Dual Mediation Hypothesis to investigate whether free versions occur as advertisements for premium versions within freemium business models. Their results indicate that there is no advertising effect between free and premium versions. No other studies have explained users' willingness to pay for a service that is also available for free. Therefore, the aim of our study is to identify the antecedents of users' willingness to pay for freemium services. Owing to its homogeneous expression of freemium, we chose MaaS as our application area.

The remainder of the paper is structured as follows: Section 2 develops the background of our research question by drawing on literature on the TPB and describes our research model. Section 3 describes the methodology we used for data collection and data analysis. Subsequently, in Section 4, we describe the main results and conclude the study in section 5 with a summary and the implications of our results, and mention some study limitations.

## THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

### The Theory of Planned Behavior in the Context of Music as a Service

We chose the TPB as the theoretical framework for our model. The TPB belongs to the most powerful predictive persuasion theories and has been used several times in the Information Systems field to measure user acceptance and adoption. One advantage of the TPB is its flexibility in allowing new variables (Ajzen, 1991). In past studies regarding the acceptance of music distribution channels, the TPB was used and extended successfully (e.g., d'Astous, Colbert and Montpetit, 2005; Plowman and Goode, 2009). According to Ajzen (1991) the actual behavior is guided by three factors: evaluations of the behavioral outcomes (attitude), beliefs about the normative expectations of others (subjective norm), and beliefs about the factors that could strengthen or weaken the performance of the behavior (perceived behavioral control). Figure 1 shows our research model with its hypotheses.

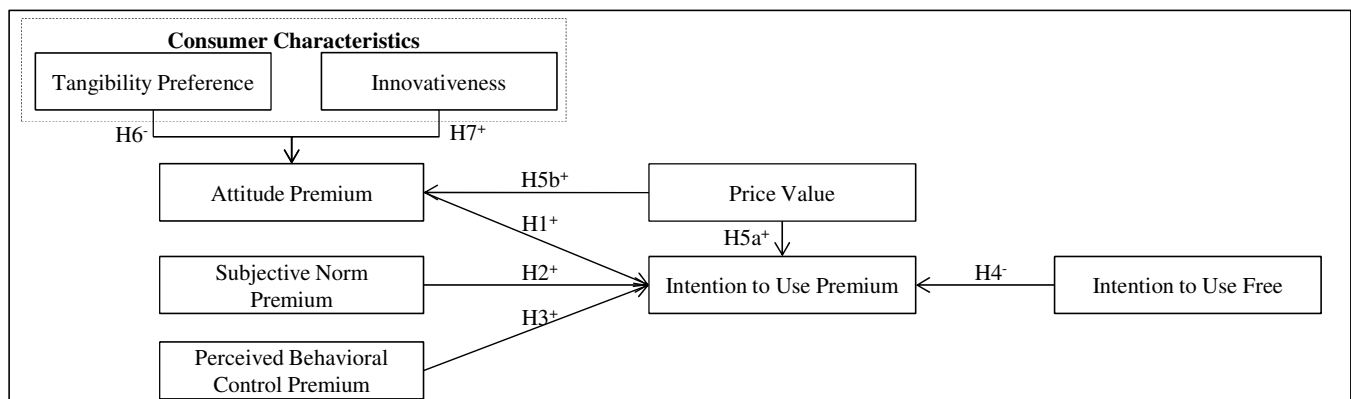


Figure 1. Research model

#### Attitude

Attitude towards the behavior refers to the degree to which a person has a favorable or unfavorable evaluation of a planned behavior. Most definitions agree that the characteristic attribute of attitude is its evaluative (positive-negative) dimension (Ajzen, 1991). In the TPB, attitude is seen as a determinant of the behavioral intention. We hypothesize:

*H<sub>1</sub>: Users' attitude towards the premium version is positively related to their intention to use the premium version.*

#### Subjective Norm

The next predictor of behavioral intention is the subjective norm. Subjective norm "refers to the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991, p. 188). Subjective norm – especially when adopting music

distribution channels – is supposed to be a powerful predictor of behavioral intention (e.g., Wang, Chen, Yang and Farn, 2009). People are willing to discuss the topic of music and the ways in which it is consumed. Therefore, people consider others' opinions in their decision making process. Therefore, we hypothesize:

*H<sub>2</sub>: Users' subjective norms regarding the premium version are positively related to their intention to use the premium version.*

### *Perceived Behavioral Control*

The last antecedent of behavioral intention is perceived behavioral control (PBC). As already mentioned, PBC represents the control beliefs during the formation of the behavioral intention. The construct refers to the perceived ease or difficulty of performing the planned behavior (Ajzen, 1991). Because MaaS, like most other freemium services, also represents a new technology, PBC is supposed to be a relevant determinant of behavioral intention.

*H<sub>3</sub>: Users' perceived behavioral control regarding the premium version is positively related to their intention to use the premium version.*

### **Context-Based Extensions**

Following the TPB, we used behavioral intention as the dependent variable in our model. Because MaaS can be used both for free or with a paid subscription to obtain premium content, we had to consider the intention to use the free service ( $I_F$ ) as well as the intention to use the chargeable service ( $I_P$ ). Usually, users are given an unlimited period during which they can test the freemium service for free. Owing to this unlimited free testing offer, there is an interplay between  $I_F$  and  $I_P$ . According to Bhattacharjee, Perols, and Sanford (2008), satisfaction is the main driver of continuance intention. If users are satisfied with the free version of a MaaS, they are unlikely to switch to the chargeable premium version. Furthermore, it was found that there is a significant negative effect between users' attitude towards the free and the premium versions (Wagner et al., 2013). Therefore, we hypothesize:

*H<sub>4</sub>: Users' intention to use the free version is negatively related to their intention to use the premium version.*

In contrast to organizational settings, consumers are usually responsible for the money they spend. Therefore, Venkatesh, Thong, and Xu (2012) used price value as an additional construct in UTAUT2. According to Zeithaml (1988), price value is determined by comparing a product's quality with its price. Several studies concerning the adoption of new technologies and services have confirmed the significance of price value (e.g., Pavlou and Fygenson, 2006; Venkatesh et al., 2012). Freemium services offer their users a special price structure. In the free basic version, the service is financed by advertisements and therefore the consumers have to spend their attention. Users have to pay between \$5 and \$10 for the premium version. Users are more willing to use the service if there is a high price performance ratio. We hypothesize:

*H<sub>5a</sub>: Price value for the premium version is positively related to users' intention to use the premium version.*

Quality and price are especially utilitarian attributes that influence cognitions and therefore attitudes (López and Ruiz, 2011). Since MaaS has a specific pricing structure, price value also determines users' attitude towards the service and, therefore, indirectly determines their intention to use it. We derive the following hypothesis:

*H<sub>5b</sub>: Price value for the premium version is positively related to users' attitude towards the premium version.*

MaaS offers users a new kind of listening experience without them having to download music. As long as an active internet connection is available, the user can listen to unlimited music via internet stream. According to Freiden, Goldsmith, Takacs, and Hofacker (1998), tangibility refers to the "product's physical properties and the extent to which it can be seen, felt, heard, smelled, etc." (p. 214). Music – as a piece of information – is completely intangible but becomes tangible through its medium. With the on-going digitalization of mediums (LP → CD → MP3 → MaaS), music is becoming increasingly intangible due to its loss of haptic attributes, which in turn influences consumers' behavior. By comparing reviews on digital and physical music, it could be shown that digital music is consumed in a less involved and therefore less focused way than physical music (Wagner and Hess, 2013). Styvén (2010) found that people with a strong involvement in music prefer tangible versions thereof (e.g., CDs). Generally, individuals with a real need for touch tend to gravitate toward physical channels (Peck and Wiggins, 2006). Therefore, we hypothesize:

*H<sub>6</sub>: Tangibility preference is negatively related to users' attitude towards the premium version.*

MaaS is a music service that offers an innovative kind of listening experience. Spotify, the first successful music streaming service, was launched in Sweden in 2007; it is now available in more than 13 countries. MaaS is seen as an innovation in music consumption as it offers a new type of streaming service and a “music-all-you-can-eat” concept. Innovativeness describes the general propensity of consumers to adopt new products (Arts, Frambach and Bijmolt, 2011). The empirical literature found mixed results concerning consumer innovativeness’s influence on product adoption (Im, Bayus and Mason, 2003). However, in their meta-analysis, Arts et al. (2011) found strong support for the influence of innovativeness. Herrero Crespo and Rodríguez del Bosque (2008) also mentioned how the personal innovativeness of users influence the TPB and found strong empirical support for its influence on attitudes. We thus derive our seventh hypothesis:

*H<sub>7</sub>: Innovativeness is positively related to users’ attitude towards the premium version.*

## EMPIRICAL RESEARCH METHODOLOGY

### Measures

All of the used scales were adapted from prior research. All questions were rated on a Likert-scale ranging from 1 to 5, where 1 refers to the lowest score on the item scale and 5 the highest score. Attitude was measured using semantic differentials. Table 1 summarizes the sources from which the items for the scales were drawn.

Construct	Source
Intention to Use Free (I <sub>F</sub> )	Venkatesh et al. (2012)
Intention to Use Premium (I <sub>P</sub> )	Venkatesh, Morris, Davis, and Davis (2003)
Attitude (A)	Ajzen (1991); Teng and Laroche (2007)
Subjective Norm (SN)	Venkatesh et al. (2012)
Perceived Behavioral Control (PBC)	Venkatesh et al. (2012)
Price Value (PV)	Venkatesh et al. (2012)
Tangibility Preference (TANG)	Styvén (2010)
Innovativeness (INN)	Steenkamp and Gielens (2003)

**Table 1. Items and their origins**

### Data Collection and Analysis

To test our hypotheses, we developed an online questionnaire using MaaS as an application area. At the beginning of the survey, we showed a short video explaining the functionality and main features of MaaS to ensure that all participants had the same knowledge base. Our online survey was active from 8 August to 8 September 2012. We sent an invitation link via email to 4,656 students of a German university from which we collected 445 datasets. We only considered datasets from participants who had already been using MaaS. As a result, the final sample comprised 157 valid responses from 49.7% female and 50.3% male respondents with an average age of 24. Our survey followed the usual approach of asking students about their music consumption (e.g., Plowman and Goode, 2009). Participants took approximately 12 minutes to complete the survey. Missing values were replaced by the linear trend for that point. We subsequently estimated approximately 6% of the answers. We compared the answers of participants who only answered the survey after receiving a reminder with those of the remaining participants to test for non-response bias (Armstrong and Overton, 1977). The results showed no significant differences and therefore non-response bias was not a concern.

For our analysis, we decided to use partial least squares (PLS). The PLS procedure enabled us to model latent constructs under conditions of non-normality and small sample sizes. The PLS algorithm minimizes residual variances to enhance optimal predictive power. To achieve this goal, PLS estimation is performed by iterations of regression, which is why it is not necessary to make further sample distribution assumptions (Chin, 1998). SmartPLS version 2.0.M3 (Ringle, Wende and Will, 2005) was used for our analysis.

## RESULTS

### Validation of the Measurement Model

In order to establish content validity, we only adopted constructs that were used in previous studies. Two pretests showed no issues concerning content validity. Factor loadings must be above .70 to establish an indicator reliability of at least 50% (Hair, Anderson, Tatham and Black, 1998). After rejecting two items from PBC and innovativeness each, a new calculation

showed significant factor loadings that were above the threshold. To evaluate construct reliability, we calculated the composite reliability of each construct. The composite reliability of all constructs was well above the critical value of .70. Furthermore, the average variance extracted (AVE) values exceeded all the threshold of .50 (Chin, 1998). Discriminant validity was assessed by investigating the latent construct correlations and the square root of their specific AVE. The square root of the AVE for each construct was much larger than the correlation of the specific construct with any of the other constructs in the model (Fornell and Larcker, 1981). To summarize, all constructs satisfied the abovementioned reliability and validity criteria. The results can be found in Table 2.

	Mean (Standard Deviation)	Composite Reliability	1	2	3	4	5	6	7	8
<b>I<sub>F</sub></b>	4.258 (1.112)	.959	<b>.885</b>							
<b>I<sub>P</sub></b>	1.825 (1.244)	.984	-.496**	<b>.953</b>						
<b>A</b>	3.349 (1.029)	.928	-.210**	.482**	<b>.721</b>					
<b>SN</b>	2.196 (.929)	.972	-.257**	.417**	.196*	<b>.920</b>				
<b>PBC</b>	4.666 (.513)	.742	.145	-.140	.105	-.209**	<b>.595</b>			
<b>PV</b>	3.388 (.907)	.926	-.252**	.445**	.359**	.217**	-.015	<b>.807</b>		
<b>TANG</b>	2.403 (1.214)	.904	-.032	-.155	-.200*	-.165*	-.015	.008	<b>.758</b>	
<b>INN</b>	3.077 (.861)	.846	-.065	.232**	.195*	.331**	.030	.027	-.052	<b>.733</b>

- \*p < .05; \*\*p < .01; all other correlations are insignificant.
- Diagonal elements are AVEs; off-diagonal elements are correlations between constructs.

Table 2. Descriptive statistics, composite reliabilities, correlations, and AVEs

Results from the Structural Model

We decided to use effect size  $f^2$  to test the validity of our model, t-values to determine the significance of the paths within the model, and Ball’s  $Q^2$  as to determine the model’s predictive relevance.  $Q^2$  can be calculated as  $1-E/O$ , where  $E$  represents the squares of prediction errors and  $O$  is the sum of the squares of the errors from the prediction given by the mean of the remaining data points. A  $Q^2 > 0$  indicates the predictive relevance of the model. Conversely, a  $Q^2 \leq 0$  suggests a lack of relevance. Using the jackknifing procedure, we could show that all constructs have a positive  $Q^2$ ; our model therefore shows predictive relevance concerning  $Q^2$  (Fornell and Bookstein, 1982). We moreover computed the Cohen’s  $f^2$  to check each construct’s effect size (Cohen, 1988). All our significant variables show at least a small effect size. Figure 2 presents the results of our equation model.

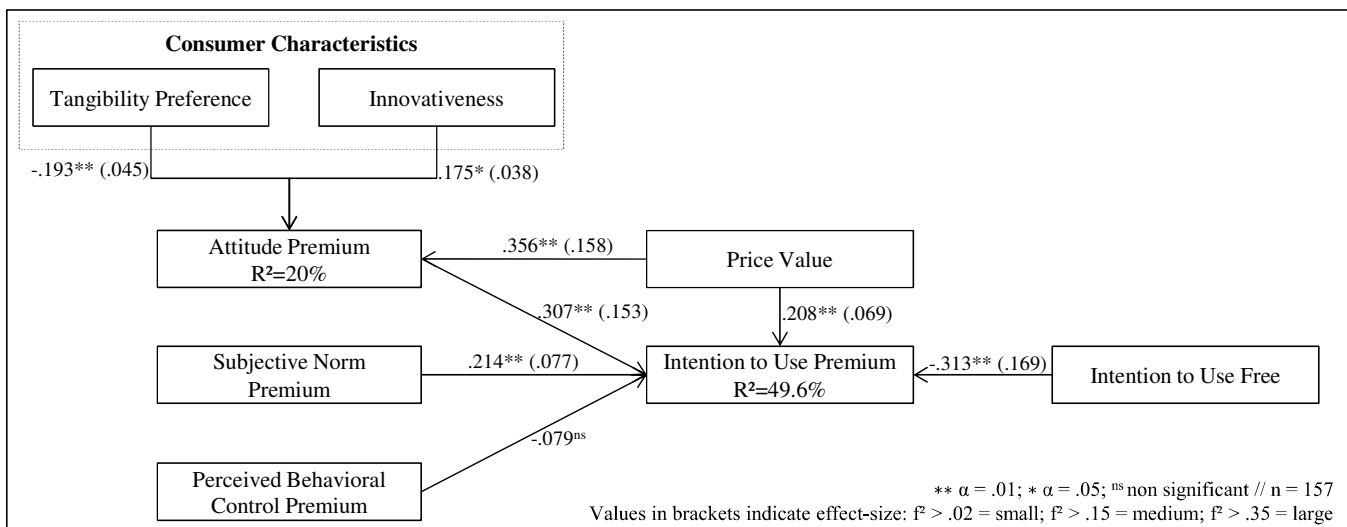


Figure 2. Results

We found support for four of our five hypotheses concerning participants’ use intention. Attitude positively influences users’ intention to use chargeable premium versions of MaaS ( $\beta = .307$ ,  $p < .01$ ); H1 is thus supported. Subjective norm also has a

positive influence on the intention to use the premium version ( $\beta = .214, p < .01$ ); therefore H2 is supported. However, as PBC was not found to have a significant influence on the intention to use MaaS, H3 was rejected. This is possibly due to the low variance of the PBC construct. Most participants felt able to use MaaS (mean = 4.67 on a five point Likert-scale) while showing a low standard deviation (.513). The results show that PBC shows no significant relevance compared to the other antecedents. The strongest relationship in the basic model is between people's intention to use the free version and the intention to use the premium version of MaaS. The negative relationship ( $\beta = -.313, p < .01$ ) shows that a higher willingness to use the free version results in a reduced willingness to pay for the premium version. As long as a satisfying free version is available, individuals refuse to switch to the premium version. This meets our hypothesis and H4 is thus accepted. Price value has a significant influence on the intention to use the premium version ( $\beta = .208, p < .01$ ), supporting H5a. Using the TPB as well as price value and intention free as additional constructs, we were able to explain 49.6% of the variance in people's intentions to use premium versions.

With the remaining hypotheses, we tried to explain users' attitude towards the service. Regarding MaaS with its freemium business model, price value is not only a determinant of users' intention to purchase a product but also of their attitude towards the service. Therefore, we hypothesized that price value directly affects users' intentions as well as their attitudes. Price value had a significant positive influence on users' attitude towards the premium version ( $\beta = .356, p < .01$ ); H5b is thus supported. The Sobel test statistic shows a value of 3.72, indicating a significant mediation on a .001 level. Therefore, attitudes partially mediate the relation between price value and intentions. On the consumer level, tangibility preference negatively determines attitude towards the premium version of MaaS; people with a high tangibility preference thus show a negative attitude towards the premium version of a MaaS ( $\beta = -.193, p < .01$ ). Innovativeness shows a positive influence on users' attitude towards the premium version of a MaaS ( $\beta = .175, p < .05$ ). Therefore, Hypotheses H6 and H7 are supported. By using these three constructs, we were able to explain 20.0% of the variance in users' attitude towards the premium version.

## CONCLUSION, IMPLICATIONS, AND LIMITATIONS

This study sought to examine whether and why MaaS users are willing to pay for the premium version of a service even though a free version is available. To test our hypotheses, we developed a research model based on the TPB. To our knowledge, this study is the first to investigate users' intention to pay for a premium service in the presence of a free basic service. On a theoretical level, we have once more demonstrated the TPB's applicability to new research contexts. Overall, we were able to explain 49.6% of the variance in people's intentions to use premium MaaS.

Concerning intentions' determinants, we found support for four of our five hypotheses. The intention to use the free service showed the strongest negative influence on the intention to use the premium service. People seem to be satisfied with the free version and therefore see no need to pay for the service. MaaS providers should make the full premium service available to users for a free trial period so that they become accustomed to the use of MaaS. After a certain amount of time, the trial period will end and users will be forced to pay for further access to the service. This would be a time-limited freemium and contradict the hitherto-practiced feature-limited freemium, which promotes both the free and premium products. In addition to intentions, attitude has the strongest impact on users' willingness to pay for premium products, followed by subjective norm. Users are influenced by the choices of their families, friends, etc. MaaS providers should use marketing techniques, like sponsored links on Facebook, to show potential users that their friends are using MaaS too. Spotify, for example, has allowed its users to share playlists via social media from the start and forces them to connect their Spotify accounts with Facebook.

Three determinants shape people's attitudes towards premium versions: price value, innovativeness, and their tangibility preference. Price value has the most significant impact on users' attitudes, indicating that MaaS's cost structure is more than just a payment model. The idea of a monthly fee to have unlimited access to music is a key feature of MaaS. A high price value ratio of the premium version also positively influences their intention to use the service. MaaS providers should therefore try to increase the price value ratio for the premium version. MaaS is still considered an innovative way to consume music, attracting especially individuals with a high level of innovativeness. MaaS providers should try to keep their innovative character by developing more innovative features. Especially early adopters, who are characterized by a high level of innovativeness, can be attracted by these features. They play a crucial role in the diffusion of new products and technologies and can increase network externalities. MaaS combines features of a new technology and a service. One of these characteristics is the consumption of music without transferring the ownership thereof. Individuals with a high tangibility preference prefer touching and seeing the consumed music and show a negative attitude towards MaaS. MaaS and other digital music providers should therefore try to increase the haptic experience of listening to music. Of course, digital music

remains intangible. However, the consumption of music would become more haptic if the ownership thereof is, at least temporally, transferred to the listener.

The survey's results provide insights into MaaS consumers' evaluation process. However, as with any study, this study has some limitations. The sample consists of students and is not representative of the MaaS services user base. The general model was tested using MaaS as an example, which is why it is not possible to generalize the results to all freemium services. Other industries in the internet business also use freemium models. However, they use different techniques to force users to pay for premium products (e.g., better quality of articles in newspapers, or time advantages in games). Our model did not include such specific attributes; however, as long as its applicability was not tested in other industries, a generalization is not possible. Our results indicate that separating free and premium products can increase people's intention to use the premium version. However, lock-in effects resulting from the free version may also have a positive effect on users' willingness to pay. Future studies should therefore focus on habit and the resulting lock-in effect in detail.

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