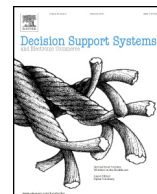




Contents lists available at ScienceDirect

Decision Support Systems

journal homepage: www.elsevier.com/locate/dss

The interplay between free sampling and word of mouth in the online software market

Hong Chen^{a,1}, Wenjing Duan^{b,1}, Wenqi Zhou^{c,*,1}^a Department of Accounting, Information Systems Management, and Supply Chain Management, Palumbo-Donahue School of Business, Duquesne University, 930 Rockwell Hall, 600 Forbes Avenue, Pittsburgh, PA 15282, United States^b Department of Information System & Technology Management, School of Business, The George Washington University, Fungler Hall, Suite 515, 2201 G Street, NW, Washington, DC 20052, United States^c Department of Accounting, Information Systems Management, and Supply Chain Management, Palumbo-Donahue School of Business, Duquesne University, 901 Rockwell Hall, 600 Forbes Avenue, Pittsburgh, PA 15282, United States

ARTICLE INFO

Article history:

Received 15 July 2016

Received in revised form 26 December 2016

Accepted 3 January 2017

Available online xxxxx

Keywords:

Free sampling

Software free trial

Word-of-mouth

Online software market

Interaction effect

ABSTRACT

Free sampling in digital format has become a common business practice in the online market offering consumers first-hand experience with products, due to its low marginal cost and extensive online distribution. At the same time, online word of mouth (WOM) has also been a prevalent strategy on the Internet for increasing product visibility and providing trustworthy product information. Those two online marketing strategies are generally considered to stand alone by marketers and prior research. Nevertheless, by drawing on integrated information response theory as well as theories for explaining online consumers' review sharing, we argue that free sampling complements WOM in the online market by amplifying its sales effect and facilitating its implementation. We provide supportive empirical evidence through a Bayesian analysis of software free sampling on CNET Download.com (CNETD) and sales and WOM from Amazon.com over a 25-week data set. Our results show that adoptions of CNETD free sampling positively interact with Amazon WOM in influencing Amazon software sales. In addition, more adoptions of CNETD free sampling lead to a larger volume of Amazon WOM, and this impact is more significant for less popular products. These findings contribute to our understanding of free sampling in the online market such that, in addition to its direct sales effect, free sampling can also potentially affect sales through influencing online WOM. Therefore, we suggest that marketers evaluate the free sampling strategy by including its interplay with online WOM and apply low-cost free sampling to facilitate the relatively more expensive online WOM marketing strategy, especially for unpopular products.

© 2017 Elsevier B.V. All rights reserved.

1. Introduction

Free sampling is not a new strategy for promoting products. In the traditional offline market, it has been widely applied towards marketing physical products, such as distributing free samples of toothpaste in small quantities at grocery stores. This strategy is generally believed to affect sales positively by stimulating and encouraging purchases, and negatively by cannibalizing some consumer demand [4]. As a natural extension of this practice to the online market, many vendors have been offering free samples in digital format,² such as music files, mobile apps, downloadable software, and Internet videos. For example, Amazon provides free previews of some book chapters; iTunes store lists free songs and free videos across broad categories; CNETD (CNET www.download.com)

hosts hundreds of software free trials for download. As compared to the offline market, free sampling in the online market is used more extensively and considered to be more efficient, partly because of the low marginal cost of digital production and the ease of distribution through broadband Internet [41]. In addition, those products that offer free sampling in digital format are normally in the category of experience goods, whose quality is difficult to evaluate before consumption. Therefore, free sampling in the online market provides consumers with convenient access to direct experience of product quality, at least in part [9,27].

In addition to free sampling, the challenge for selling experience goods online also involves online Word-of-Mouth (WOM) marketing to facilitate online consumers' search and product assessment. More than half of firms in a recent survey reported that they have already adopted online WOM in their marketing campaigns, and 20% to 50% of sales are reported to be affected by online WOM [5,42]. WOM is created by consumers themselves and thus is trustworthy and effective in affecting online market outcomes, as demonstrated by both industry surveys and academic research [10,14,20,27,29,31,45,46]. In particular, WOM volume, which is normally measured by the total number of online user reviews, is known to help the corresponding product stand out from the nearly overwhelming product choices online [13,29].

* Corresponding author.

E-mail addresses: chenh4@duq.edu (H. Chen), wduan@gwu.edu (W. Duan), zhouw@duq.edu (W. Zhou).¹ Authors contribute equally.² In this paper, we define free sampling in the online market as free samples in digital format that are provided and experienced through online platforms. In the remainder of this paper, we may use the phrases *free sampling in digital format* and *free sampling in the online market* interchangeably.

It is natural to ask whether and how free sampling in digital format and online WOM marketing practices interplay in today's online market. The closest answer we can resort to is from the offline market. In the offline context, a negative interaction effect has been found between free sampling and advertisement in affecting market outcome [30,39]. Will such an interplay also exist between free sampling and WOM in the online market, where free sampling is more extensively adopted and WOM is believed as a more effective "advertisement" [31,41,42]? This is a crucial question, because free sampling in digital format is so inexpensive that it can easily be widely implemented, and at the same time more than 70% of the firms are committed to increasing spending on online WOM in the future [42]. It is important for firms to have an in-depth understanding of how low-cost free sampling can influence the effectiveness of their heavily funded WOM marketing strategies in the online market. Nevertheless, few studies in the past have been dedicated to address this issue. The relevant literature mainly looks at free sampling and WOM as two isolated and stand-alone strategies in the online market. Therefore, we wished to study this under-explored area by specifically investigating (1) how the interplay between free sampling in digital format and online WOM affects online retail sales; and (2) how free sampling in digital format affects the volume of online WOM.

To do so, we collected a 25-week panel data set of software free sampling on CNETD as well as the sales ranks and WOM information of the corresponding commercial software programs on Amazon (www.amazon.com). We empirically analyzed the interplay between CNETD free sampling and Amazon WOM by constructing seemingly unrelated equations in a Bayesian hierarchical framework. We found that in the online software market, free sampling amplifies the sales effect of online WOM. Moreover, more adoptions of software free trials on CNETD also directly lead to more Amazon WOM. Increasing CNETD free trial downloads by 10% can boost the number of Amazon user reviews by 3%, and this impact is more significant on less popular products. Therefore, overall we have found that, in the online software market, free sampling complements online WOM marketing, not only by enhancing its impact on sales but also by attracting more active WOM.

Our results contribute to the literature mainly from the following aspects. First, the finding of the complementary relationship between free sampling and online WOM highlights the importance of examining distinct marketing strategies in a systematic way, instead of separately, to obtain a fuller picture of their impacts. This is especially important for understanding the online market, where the wide reach of the Internet and the convenience of digitalization make it possible that customers are exposed to various internet marketing strategies simultaneously and are aware of others' adoptions of those promotions. Second, they add to our understanding of free sampling in the online market. While relevant prior studies on free sampling in digital format primarily focus on either its direct effect on market outcome or its license strategy [9,11,27,41], we offer a different angle to interpret the role that free sampling plays in the online market. We provide empirical evidence that free sampling in the online market can indirectly affect retail sales in two different ways that have not been revealed before. A large number of consumer adoptions of free sampling in digital format can strengthen the sales impact of online WOM. Free sampling in digital format also encourages more consumers to write reviews online, especially for less popular products, and this in turn potentially affects online retail sales. Third, this study also contributes to the literature with regard to the generation of online WOM. We applied two different theories on the underlying motivation behind consumers' online experience sharing and find that involvement theory dominates self-enhancement theory in our context [12,23]. We will elaborate this discussion in our hypotheses development as well as our empirical results. Lastly, our results also shed some lights on long tail research that studies the heterogeneity of online user choices towards the tail products [1,7,44]. Online search tools, abundant product options, and online WOM are believed to promote the niche market, i.e., the market for the tail products. We find that free sampling in the online market can also be an influencing

factor on the formation of the long tail. Our results show that free sampling in digital format is favorable to less popular products by helping attract more user reviews.

The rest of paper proceeds as follows. Section 2 discusses the related literature and its differences from the current study; Section 3 presents the hypotheses development. The research context and data are discussed in Section 4. We then describe the empirical model and analyze the results. In the last section, we summarize the findings, discuss the managerial implications, and include limitations and future research directions.

2. Related literature

This study mainly draws on three streams of research: (1) the literature on free sampling in the online market; (2) the literature on the interaction of free sampling with other marketing strategies; and (3) the literature regarding the generation of online WOM.

The majority of the literature regarding free sampling in online platforms focuses on its impact on online market outcomes. As a natural extension from studying free sampling in the offline market [4], free sampling in the digitalized context is similarly shown to have two opposite effects on market outcomes, evidenced by analytical and empirical examinations [2,8,9,11,32,36,40,41]. On one hand, consumers may take free samples as substitutes for the corresponding commercial products. This can cannibalize consumer demand, although the inferior quality and limited trial time of free samples may limit this adverse sales effect. For example, in the online software market, the free sample either has the same full functionalities as the commercial product, but for a limited trial time (freeware) or has limited functionalities but is available forever (trialware). On the other hand, consumers get to know the product through directly experiencing the free sample, which can encourage purchases. As a distinction from those studies, our work is not designed to re-examine the sales impact of free sampling in the online market. Instead, we are interested in the interplay between free sampling in digital format and online WOM, another marketing strategy widely adopted in digital settings, in the context of the online software market. Our results suggest that evaluating the sales effect of free sampling in digital format shall also take into consideration its long-run effect, as a result of its interplay with online WOM.

In the particular software context, in recent years, a few scholars have been investigating the differential impact of free sampling license on the diffusion process of free trials, the market outcome of commercial products, and software pricing, [9,15,22,27,36,41]. For example, Lee and Tan [27] empirically studied the difference between freeware and trialware in attracting consumer adoptions of software free sampling. Wang and Zhang [41] looked into software free sampling by analytically optimizing licensing strategy. Nevertheless, we do not consider free sampling as a stand-alone marketing strategy nor focus on different software free sampling strategies. Instead, we control for free sampling license difference to rigorously reveal the interplay between free sampling and online WOM by exploring a unique data set of online WOM, consumer adoptions of software free trials, and sales.

This research is also related with another stream of the literature that studies the interaction effect between free sampling and other marketing strategies on the market outcome, mainly in the offline market. For example, scholars have generally agreed on the negative interaction effect between free sampling and advertisement in the offline market [25,30,37–39,43]. However, even in the offline market, not much attention has been paid to how offline WOM and free sampling interact to influence consumer purchase decisions, probably because user-generated WOM is limited in its amount and is difficult to collect in the offline context. This has been significantly changed in the online market. Online WOM has been a more affordable and effective promotion tool than the traditional advertisement by providing more trustworthy information and incurring lower marketing expenses [42]. Research has also shown that it significantly affects online purchases [3,10,14,20,27–29,

Download English Version:

<https://daneshyari.com/en/article/4972444>

Download Persian Version:

<https://daneshyari.com/article/4972444>

[Daneshyari.com](https://daneshyari.com)