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An empirical study among early adopters in Germany

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Abstract

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Tariff type selection, usage intensity, and satisfaction of mobile Internet customers

An empirical study among early adopters in Germany

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Prior literature argues that many mobile Internet (MI) subscribers are not very satisfied with this innovative, non-voice access service and thus stop using MI after a few try-outs. Mobile network operators (MNO) typically require MI adopters to choose between three tariff types (i.e., use-dependent, block, and flat rate plans) before they start to use MI. Hence, an important cause for a meager average MI satisfaction level may be that MI adopters have selected a tariff type which is financially inappropriate for their MI usage behavior. Unfortunately, extant work has not yet empirically examined the joint effect of tariff type selection and usage intensity on overall customer satisfaction with the MI access service supplied by their MNO. The present paper addresses this gap by analyzing "system-captured" tariff type and MI usage intensity data obtained for a sample of 399 MI subscribers of an MNO in Germany. The objective measures were integrated with subjective adopter responses to questions concerning their overall MI satisfaction and self-estimated MI usage intensity. Responses were collected by means of a standardized telephone survey. Correlation, moderated regression, and contingency table analyses revealed that for MI adopters in a use-dependent (flat) tariff scheme usage intensity was significantly negatively (positively) related to MI satisfaction. This observation is taken to indicate that overall satisfaction with MI access services is decreasing if customers overpay for their MI access because they have selected unsuitable rate plans. Based on this conclusion, implications are derived for MI pricing policies of MNO and for future research on attitudes and use behaviors of MI adopters.

Keywords:

Churn reduction; Customer choice; Germany; Mobile Internet; Mobile telecommunication/data services; Pricing; Rate plan suitability; Satisfaction; Tariff type; Usage intensity

Contents

1. Introduction

Mobile Internet (MI) or mobile Web entails packet-switched and Internet Protocol-(IP-)based access to value-added data applications via nationwide advanced cellular mobile communication networks and portable appliances (Ahn et al., 2006; Kim, Chan, & Gupta, 2007; Lee et al., 2007; Shin et al., 2009). MI incorporates a wide range of mobile non-voice communication, information, entertainment and commercial transaction services (e.g., web browsing, email, video streaming). MI tries to provide the same "look and feel" as wired Internet access alternatives at fixed locations (DSL, cable modem, telephone line dial-up) or as wireless platforms such as WLAN/WiFi or WMAN/WiMAX which provide a more strongly constrained geographical reach (cf., Kim & Jee, 2006; Gimpel, 2009). MI distinguishes itself from other fixed or "portable" Internet access systems by including the option of using the web anywhere ("ubiquitous communication") even while traveling at high speed (e.g., in trains). MI is a *subset* of *mobile data services (MDS)* which do not only cover IP-based delivery of applications known from the conventional Internet. Rather, they additionally encompass the entirety of more or less established variants of text messaging services (SMS, MMS), location-based services, and WAP-based applications delivered by mobile network operators (MNO) (Bina, Karaiskos, & Giaglis, 2008; Hong et al., 2008; Lee, Shin, & Lee, 2008; Kuo, Wu, & Deng, 2009; Qi et al., 2009).

Market analysts agree that demand for MI access and services has started to boom in many industrialized countries during the past few years. Further hefty MI subscriber growth is expected in the near future. IDATE (2009) forecasts that the number of MI customers in Europe will increase from about 70 million at the end of 2008 to more than 160 million at the end of 2012. Nevertheless, several authors also note that a large share of subscribers refrains from using MI intensively, reduces MI usage after the first few trials, or even completely ceases applying MI after the initial adoption (Blechar, Constantiou, & Damsgaard, 2006; Lee et al., 2007; Kim, Lee, & Kim, 2008; Lee, Shin, & Lee, 2008; Verkasalo, 2008b). Therefore, it is desirable to identify factors influencing customers' MI usage continuation and intensity beyond their first try-outs.

An important antecedent of MI use continuation and usage increases is the overall satisfaction of MNO customers with the MI service features of their supplier (Fogelgren-Pedersen, 2005; Hong, Thong, & Tam, 2006; Lee et al., 2007; Koivumäki, Ristola, & Kesti, 2008; Kuo, Wu, & Deng, 2009). Overall MI satisfaction of customers is in turn shaped by their evaluations of various facets of MI offerings. Past research has repeatedly shown that customer perceptions of MI price levels or, in other words, customer MI price/bill concerns are significantly negatively related to MI satisfaction or other measures of MI acceptance (Cheong & Park, 2005; Hong & Tam, 2006; Kim, Chan, & Gupta, 2007; Turel, Serenko, & Bontis, 2007; Bina, Karaiskos, & Giaglis, 2008; Hong et al., 2008; Kim, Choi, & Han, 2009; Kuo & Yen, 2009; Malhotra & Malhotra, 2009; Shin et al., 2009).

This finding is neither conceptually intriguing nor very helpful for MNO managers seeking to promote continued and more extensive usage of MI after its initial trial by customers. It is of limited practical usefulness because MNO regularly lack data on how favorable *individual* MI customers assess the specific pricing schedule they have subscribed to. In contrast, an MNO's billing and customer administrati-

on systems contain information on (1) MI tariff type selection and (2) past MI usage intensity at the level of the individual subscriber (cf., Wei & Chiu, 2002). The central tenet of the present paper is that it is seminal to amalgamate these two pieces of information in order to predict a customer's probable satisfaction with her MNO's MI offerings and to draw conclusions on how a customer's satisfaction may be increased by taking actions to better match a customer's MI tariff type and MI usage intensity.

The structure of the remainder of this article is as follows. I begin with an outline of how MI tariff type and usage intensity are expected to interact in influencing customer satisfaction with MI in section 2. Section 3 describes the empirical data and methods used. In section 4 I present the statistical results. I then discuss practical implications of the empirical findings in section 5, and research conclusions derived from the study's limitations and outcomes in section 6.