Zentrum für Telekommunikations- und Medienwirtschaft (ZfTM)

Work in Progress

Die ZfTM-Schriftenreihe zu aktuellen Themen der Telekommunikations- und Medienwirtschaft

ZfTM-Work in Progress Nr. 84:

Biased Choice of a Mobile Telephony Tariff Type

– Exploring usage boundary perceptions as a cognitive cause in choosing between a use-based or a flat rate plan –

Torsten J. Gerpott*

* Univ.-Prof. Dr. Torsten J. Gerpott, Lehrstuhl Unternehmens- und Technologiemanagement, Schwerpunkt Telekommunikationswirtschaft, Universität Duisburg-Essen, Lotharstr. 65, 47057 Duisburg.

Zentrum für
Telekommunikations- und
Medienwirtschaft

Work in Progress

für die Telekommunikations- und Medienwirtschaft

ZfTM-Work in Progress ist eine Schriftenreihe des Förderkreises Zentrum für Telekommunikations- und Medienwirtschaft e.V. Alle Angaben erfolgten nach bestem Wissen, jedoch ohne Gewähr für Richtigkeit und Vollständigkeit. Für Fehler im Text und in Grafiken wird keinerlei Haftung übernommen. Aus der Veröffentlichung kann nicht geschlossen werden, daür die beschriebene Lösung oder die verwendete Bezeichnung frei von gewerblichen Schutzrechten ist. Nachdruck oder sonstige Reproduktion (auch Auszüge) nur mit ausdrücklicher Genehmigung des Vorstandes des Fürderkreises. Herausgeber (presserechtlich verantwortlich): Prof. Dr. Torsten J. Gerpott, Dipl.-Wirtsch.-Ing. Andreas Walter, Dipl.-Kff. Sandra Thomas.

Kontakt:
Förderkreis Zentrum für Telekommunikations- und Medienwirtschaft e.V
Am Freischütz 6
47058 Duisburg
Tel 0203-3793109
Fax 0203-3792656
Internet www.zftm.de
Email kontakt@zftm.de

Abstract

Most mobile network operators provide newly acquired or existing customers with the possibility to choose between a monthly flat rate for unlimited voice calls (to certain target networks) and pay-per-minute price schemes when they initially subscribe to the operator's telephony service or change their tariff. Consumers who maximize their utility should select the tariff type that leads to the lowest invoice amount given their anticipated service usage volume. However, previous research looking at users of fixed network telephony, broadband Internet access and other services suggests that a significant share of consumers prefers a flat rate to use-dependent price plans even though their invoice will be higher.

One cognitive explanation for such biased choices is that consumers consider the ratio of the likelihood of calling enough to justify a flat rate to the probability of not calling enough to save money with a fixed price (= "ratio rule") when choosing between the two tariff types. In this assessment they overestimate the first likelihood in proportion to the second one. Drawing on a sample of 203 mobile telephony customers in Germany the present study shows that mobile users are biased in favor of a flat rate because they overestimate their future call usage and behave in line with the "ratio rule" when choosing a tariff type. The analysis indicates that the overestimation effect occurs independent of a person's actual tariff type and general price scheme preferences in real life, her socio-demographic profile (age, gender, income), her previous experience with mobile communication services and her motivation to use a flat rate or a pay-as-you-go plan because of perceived other, non-monetary benefits stemming from a specific tariff type (e.g., avoidance of taxi meter feelings during a mobile call). Practical implications of the results for pricing policies are discussed. It is concluded that managers should not follow the temptation to exploit the overestimation bias in designing pricing and advertising policies pushing customers into fixed price schemes, which do not fit their actual calling patterns.

Keywords: Consumer behavior; flat rate; mobile network operator; price policy; tariff type choice biases; use-dependent price plans

Inhalt

1. Setting and purpose of the present study

Telecommunications management practitioners and scholars agree that pricing of the access to a mobile communications network and of the usage of such an infrastructure for voice calls is a key driver of mobile network operators' (MNO) market success (Becker & Fähse 2007: 10-11; Kim/Kwon 2003: 24-31). MNO offer a broad range of pricing schemes to attract consumers with diverging communication patterns and price sensitivities (Kreye 2005: 43-48). Given the abundance of mobile tariff types it is striking that empirical evidence on customers' choices among various tariff options and on factors influencing tariff type selection decisions is scarce for the mobile telephony service industry.

One reason for this research gap could be that there is simply no need for this type of investigation since a person's tariff choice is just the outcome of a rational decision making process in which she forecasts her future usage of mobile calls to various target networks and selects the price plan which leads to the lowest invoice for the expected profile of future consumption. However, a number of recent studies indicate that this rational choice model is not sufficient to capture consumers' mobile tariff type selection behaviors. Findings of Iyengar et al. (2007), Bolle & Heimel (2005), Huang (2005) and Kreye (2005) suggest that for a significant proportion of mobile users the tariff plan they chose is not the cost-minimizing scheme. This observation is in line with results obtained for other (telecommunication) services where customers are asked to opt for a tariff plan before they actually start to use a service such as voice calls from fixed telephony networks (Narayanan et al. 2007; Miravete 2005; Backhaus et al. 1998; Kridel et al. 1993; Kling & van der Ploeg 1990; Train et al. 1989; Hobson & Spady 1988; Train et al. 1987), internet access (Lambrecht & Skiera 2006a), online news provision (Schulze & Gedenk 2005; Stahl 2005) or health club exercise possibilities (DellaVigna & Malmendier 2004).

The inability or unwillingness to select the tariff type leading to the lowest price for an individual's consumption level is generally referred to as a "bias" in favor or against a tariff type or, more concisely, as "tariff-choice bias" (Lambrecht & Skiera 2006a: 212; Schulze & Gedenk 2005: 158; Nunes 2000: 397; Kridel et al. 1993: 134; Train 1991: 211-213). Specifically in mobile voice telephony, it is presently common that consumers can select from two general categories of tariffs: (1) "measured" or "metered" plans where subscribers pay per unit (= minute) for outgoing calls actually made and which can but do not necessarily have to entail a usage-independent monthly fixed access charge and (2) flat rate plans. Under flat rate plans the customer is entitled, for a fixed monthly fee, to call into specified target networks without any impact of the number and the duration of his calls on his monthly price (Narayanan et al. 2007: 1; Miravete 2005: 1321-1322; Miravete 2002: 945; Train et al. 1987: 109).

In many countries, flat rate variants for calls originating from mobile radio devices were introduced not long ago. For instance, in Germany *E-Plus* was the first competitor starting to offer a fixed price plan in August 2005. It included unlimited calls of its customers to other *E-Plus* users (= mobile on-net connections) and to fixed telephone network access subscribers within Germany. Given the relative newness of mobile flat rates previous scholarly empirical work has not focused on choices between flat and use-dependent price schemes but rather on whether and why consumers choose different kinds of use-based tariff plans (e.g. Iyengar et al. 2007; Bolle & Heimel 2005; Huang 2005). Therefore, the purpose of this study is to contribute toward closing this research gap by providing empirical evidence on the existence of flat rate or use-based tariff-choice biases among residential mobile telephony customers in Germany and on the extent to which a cognitive explanation, namely a faulty estimation of one's demand for mobile calls, can account for why people tend to buy more (mobile connection usage rights) than they use.

2. Theoretical background for the empirical analysis

According to Nunes (2000: 397-398, 407) causes for tariff-choice biases can be classified into cognitive and motivational explanations (for similar views see Lambrecht & Skiera 2006a: 213; Lambrecht & Skiera 2006b: 594; Schulze & Gedenk 2005: 162-164). *Cognitive* considerations argue that individuals *unintentionally* buy more than they use because they overestimate the likelihood of consuming enough to justify a flat fee instead of a pay-as-you-go plan. *Motivational* explanations argue that "people often *intentionally* buy more than they expect to use" (Nunes 2000: 397; italics added) since they derive some kind of non-monetary benefit from choosing a tariff which entails the payment of one fixed fee for limitless access to services or products or one which is strictly use-dependent.