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Determinants of willingness to look for separate international roaming services

An empirical study of mobile communication customers in Germany

Work in Progress # 132

Abstract

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International roaming (IR) makes it possible to conveniently use mobile communication services (MCS) such as voice calling, text messaging and Internet access abroad without the hassle to switch providers, devices or SIM cards. In order to support the development of a competitive intra-European Union (EU) market for IR services, customers in the EU will be enabled to buy IR services separate from their existing domestic MCS as of July 2014. Therefore, an understanding of determinants of residential customers' willingness to look for separate IR services is of interest both for regulators and providers of MCS. The present research seeks to contribute to this understanding by developing nine hypotheses on the level and on determinants of consumers' willingness to look for separate IR services. The hypotheses are tested in a sample of 510 German-speaking mobile communication users who responded to an online-questionnaire. PLS analysis of the survey data reveals that the constructs associated most strongly with the willingness criterion are IR price information seeking, expected risks of separated IR services (e.g., low savings, inaccurate bills), and expected convenience of IR separation. Implications of the findings are highlighted for regulators, firms considering to enter the market for unbundled IR services and established mobile network operators.

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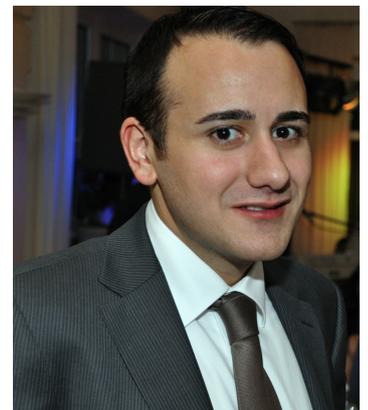
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1. Background

The convenient option to use mobile communication services (MCS) such as voice calling, text messaging and Internet access/data abroad without the hassle to switch providers, devices or SIM cards is an important driver of the phenomenal development of MCS demand since the early 1990s. The foundation for seamless cross-border availability of MCS is international roaming (IR). IR in turn requires interoperable cellular network equipment based on digital standards (e.g., GSM, UMTS, LTE) both in a user's home and visited country as well as IR contracts between the involved mobile network operators (MNO[1]) (Shortall, 2010, p. 1). The provider in the home country (domestic provider) invoices the user a specific retail IR tariff whereas the provider in the visited country (visited provider) bills the domestic provider a stipulated wholesale IR tariff (Martino, 2007, p. 139; Office of Communications [Ofcom], 2011, p. 360).

In 2012, European MCS providers achieved a turnover of almost 142 billion euro of which about 5 billion euro were generated by the supply of IR services to users within the European Union (EU) (European Telecommunications Network Operators' Association [ETNO], 2012, p. 8; European Commission, 2012). The progressing economic and political integration within the EU implies an increase in cross-country travel intensity in Europe in the mid and long term. More travel will result in a growing demand for IR services (Infante & Vallejo, 2012, p. 736). Merry (2012, p. 4)

forecasts that European MCS providers will realize an IR service volume in 2016 which exceeds that in 2011 by 125%.

For quite some time politicians, consumer protection associations and end-customers criticize MCS providers with regard to the retail price level of IR services. This critique is fueled by empirical evidence indicating that invoiced IR rates by far exceed (1) the prices for the corresponding domestic services and (2) the IR production costs (Body of European Regulators for Electronic Communication [BEREC], 2013, p. 4; European Commission, 2011, p. 13). The EU-wide definition and periodic adaptation of retail and wholesale IR price caps since July 2007 (Gerpott, 2012, pp. 208–213) did not completely remedy the relatively expensive nature of IR services. Consequently, in the EU many travelers still restrict their demand of IR services (TNS Opinion & Social, 2011, p. 25; Vodafone, 2011).

The past and present discussion concerning the usage intensity of IR services creates the impression that IR rates are the only driver of consumer demand for such services. However, this view ignores that MCS are typically sold in bundles containing domestic and IR services. This bundling makes it difficult for users to thoroughly compare tariff components. To date, consumers do not have the option to select an IR tariff which is independent from their domestic tariff and provider. As a result, so far competition on basis of IR elements in MCS bundles and accordingly on the market for IR services is very weak.

In order to increase pressure on providers by raising consumer attention to IR prices and to support the development of a competitive intra-EU market for IR services, the separation of IR and domestic MCS was made mandatory in article 4(1) of Regulation (EU) No 531/2012 (2012): As of July 2014, domestic providers must enable their customers to access stand-alone IR services from any other IR provider (= alternative provider). Furthermore, customers will be able to access stand-alone mobile data services directly on the visited network regardless of existing contracts with domestic or alternative providers.

This structural separation of IR service offerings is novel to both providers and end-customers. Thus, from an IR service provider's perspective it is of great importance to understand which factors significantly influence an end-customers willingness to look for separately sold IR services. According to the best of our knowledge, no such investigation currently exists. Therefore, the purpose of the present paper is to empirically explore which customer perceptions and background characteristics significantly contribute toward explaining inter-individual variance in MCS end-users' willingness to look for separate IR services.

The remainder of this paper is structured as follows: Section 2 depicts the technical options to implement the separate sale of IR services in the EU. Section 3 develops hypotheses regarding the effects of various factors on end-consumers' wil-

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1. MNO usually grant infrastructure access to mobile virtual network operators (MVNO) and service resellers against a payment of wholesale fees and thus enable them to offer MCS to end-customers. Since our work focuses on business relations between providers and consumers, we use the term *provider* regardless of the ownership structures of the infrastructure. Thus, *providers* include MNO, MVNO and resellers of MCS.

lingness to consider separate IR services from an alternative provider. Section 4 outlines the data collection procedure and reports sample characteristics. Additionally, it introduces the statistical methods and the variable measurements. Section 5 presents the results of the hypothesis testing. Finally, section 6 discusses implications of our empirical findings and highlights areas requiring