

# **The identification of new and emerging markets in the telecommunication sector: A first multi- criteria proposal for regulatory bodies applied to the VDSL case**

## **Abstract**

Bernd Beckert<sup>1</sup>, Knut Blind<sup>2</sup> and Bent Nowack<sup>3</sup>

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- 1 Fraunhofer Institute for Systems and Innovation Research, Karlsruhe Office, Department: New Technologies, email: bernd.beckert@isi.fraunhofer.de.
  - 2 Fraunhofer Institute for Systems and Innovation Research, Berlin Office, and Berlin University of Technology, Faculty Economics and Management, Chair of Innovation Economics. email: Knut.Blind@TU-Berlin.de.
  - 3 Berlin University of Technology, Faculty Economics and Management, Chair of Innovation Economics, email: Bent.Nowack@TU-Berlin.de.

In February 2003, the European Commission published the regulatory directive 2003/331/EC on a common regulatory framework for electronic communication networks and services, according to which "new and emerging markets, in which market power may be found to exist because of 'first mover' advantages, should in principle not be subject to ex-ante regulation."

The directive and in particular both the introduction of the dynamic concept of 'first mover advantages' and the 'emerging markets' concept reflect a development towards a more dynamic perspective on competition processes within the European regulatory bodies. However, the definition of new and emerging markets still remains imprecise, especially since "identifying a genuinely new market is a lot harder than it sounds ..." Geroski (1998).

While there is an ongoing debate among scholars about the appropriate regulatory regime for the access regulation of new telecommunication infrastructure in general and "Very High Data Rate Digital Subscriber Line" (VDSL) broadband network in Germany in particular as a new and emerging market (Baake et al. 2005), a systematic and economic grounded derivation of market (process) criteria for the definition and identification of new and emerging markets has rather been neglected.

Against this background, this paper provides a global framework in order to analyse, discuss and identify new and emerging markets from a dynamic market perspective by introducing a multi-criteria approach.

The target is to identify meaningful indicator combinations, which not only point to a market emergence and development process in a specific case, but which can also claim a certain universal validity, as well as facilitate a fact-based inter-subjective comparability for sector specific regulatory authorities.

Within our framework, new and emerging markets will be regarded as a special case of dynamic markets (Teece, Coleman 1998). Markets do not simply appear out of the blue, as it is assumed in static neoclassical market approaches, they rather develop along complex feedback processes among the relevant market dimensions over time (Ikeda 1990; Sterman 2000; Soberman, Gatignon 2005).

Accordingly, we derive and discuss a set of market process and performance criteria and their characteristics along the market components "Supply", "Demand" and "Product" taken "Technology" as further aspect separately into account by an assessment of various innovation, market and competition process theories, empirical contributions and market concepts (Bauer 1989; Teece, Coleman 1998; Malerba 2006). In order to be able to draw a clear demarcation line between old and new "product" markets our concept of market demarcation and identification of new markets is not based however on a purely static definition of a new market, rather it is based on the gradual character of the market emergence process (Teece, Coleman 1998; Kitzner 1998).

In order to structure and frame the relevant market dimensions and dynamics for regulation purposes, we apply the heuristic model of innovation system (Carlsson et al. 2002). Finally, we integrate the criteria into a market-innovation phase model (Schmidt, Rittaler 1987).

Strictly following a fact based approach, we apply our new market concept on the case VDSL network and its (possible) downstream services.

Based on the evaluation of 19 criteria which were appropriately processed and discussed in order of relevance, an initial evaluation of the VDSL case for Germany is carried out, with attention to the development of the indicators, their objectivity and reliability, taking account of qualitative information. The individual assessments so far are based on the information available in November 2006.

If our qualitative estimates of the development of individual criteria are integrated into a specific market phase matrix with particular consideration of the specifics of the telecommunication sector, then the individual evaluations of the criteria innovation activities, infrastructure, technological standards or also product and technology performance indicate that the VDSL network with its (possible) downstream services has clearly the potential of a new market. However, a reliable statement about the important demand-side criteria and down-stream services can only be made in future.

Consequently, continuous up-dating, checking and possibly re-evaluation of the criteria are necessary in future. In addition, the development of emerging new markets is not yet completely ascertainable in an early market phase. In view of this fact, signs or the relevant criteria, respectively criteria sets, which could speak in favour of the development of new markets in an early market phase, should be utilised as criteria for cautious regulation.

Overall, the paper provides a (first) global framework for capturing and tracking emerging market processes. If one takes the constructed market phase matrix as the basis, with particular consideration of the specifics of the telecommunication sector, characteristic features of the VDSL case can be classified as an ideal-typical emerging new market at an early development stage.

Further research should focus on the empirical investigation of the interrelationship between the different types of market process criteria. Then the concept can be applied commonly for regulatory purposes.

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