

A Report on Broadband Access Networks for Rural Areas

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Description

The conference's theme, "Disruptive innovation in the ICT industries: Challenges for European policy and business," was from June 22 through June 25, 2014. The subject represented the disruptive effects that successive waves of digital innovation have had on the convergent telecommunications, media, consumer electronics, IT, and web application domains, which are felt both inside Europe and beyond. Due to these waves of innovation, established firms are having trouble changing their business models or, in certain circumstances, have completely been supplanted by newcomers. Consumers have been faced with quickly altering usage contexts where social networks, recommendation services, and search technology capture their personal data and impact consumption of an expanding variety of products within the quickly changing businesses that have emerged.

More than 25 countries sent representatives to the conference, and there were attendees from academics, business, government, and regulatory agencies. The breadth of the papers presented is commensurate with a conference that features more than 30 simultaneous sessions. Papers were presented on subjects ranging from consumer protection to spectrum policy in the European Union, big data analytics, ICT-based innovation in Asia, Spanish behaviour, and OTT providers' business plans. While the participants despite the variety of topics discussed, the papers' intention to examine and comprehend the interaction between changes in technology and how services are delivered, used, and regulated. The papers that were included in this special edition were submissions made in response to a call for papers, in varied degrees, reflect this interaction. The first three papers of this special issue investigate issues related to broadband. In the first of these, 'Facility- and service-based competition and investment in fixed broadband networks: Lessons from a decade of access regulations in the European Union member states', the focus is placed on competition and its impact on fixed broadband investment. The authors employ firm-level panel data to examine the impact of service- and facility-based competition on firm-level investment as well as the strategic effects underlying those investment decisions.

The study concludes that facility-based competition has a significant positive effect on investments made by both incumbents and newcomers, suggesting that these investments are strategic complements, which may reinforce the effects of regulatory decisions. The study also identifies several consequences of intermodal competition at the company level in terms of a fixed-mobile substitution. On the other hand, service competition has little effect on investment choices. In reality, service-based competition has a detrimental effect on newcomers' investments in the later stage of market liberalisation. The authors contend that this calls into question future regulatory

access policies that continue to view service-based competition and multi-layer access requirements as a guiding concept for developing fiber-based access. While growing the body of empirical literature has stressed the importance of (low) prices for broadband adoption, it has largely neglected the role of price variety (within a country). Also from a theoretical perspective, it is not clear how price diversity would affect broadband uptake.

Therefore, the authors provide a quite unique empirical analysis of how tariff diversity affects fixed broadband penetration. The paper employed a dataset of more than 1000 fixed-line broadband rates and other data to measure tariff diversity on a country-level utilised an instrumental variable technique while accounting for numerous industry and socioeconomic characteristics to estimate demand. According to the findings, the elements that have the biggest effects on broadband demand are price, service-related aspects (QoS), and socioeconomic factors (income, education). But tariff diversity also substantially increases demand, and these findings could imply that policy makers should be lenient towards price discrimination in broadband markets. Investigates the cost side of broadband networks, focus is on rural areas, where the deployment of highcapacity broadband access networks lags behind that of urban and suburban areas. The paper assesses the costs for the rollout of fixed access networks capable of providing citizens with downstream broadband capacities of 30Mbps or 100Mbps (since these speeds are related to the broadband targets of the European Digital Agenda). A cost model is employed to determine the cost of a home passed and the cost of a home connected for various fibre- and copper-based network architectures in rural areas.

The study discovers that building a network outside of a town or village in rural area costs, on average, 80% more than building a network inside the town or village, which may result in a digital divide within the same rural area. The prices associated with FTTH, FTTdp-Building, FTTdp-Street, FTTRN, FTTC, and CO-VDSL are listed in the following sequence (descending). Some network architectures (such as FTTC and CO-VDSL) won't be able to deliver 30Mbps to every home in every location. As a result, it's feasible that operators will need to combine different broadband access networks. The authors also highlight several topics that policymakers should address: how the digital divide within a rural area can be avoided; a National Broadband Plan that clearly addresses the provisioning of broadband in rural areas; elaboration of studies on broadband demand in rural areas; and the assessment of costs and technical capacity of wireless networks in rural areas [1-5].

Conclusion

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Date of Submission: 04 May, 2022, Manuscript No. Jtsm-22-74220; Editor assigned: 05 May, 2022, PreQC No. P-74220; Reviewed: 17 May, 2022, QC No. Q-74220; Revised: 22 May, 2022, Manuscript No. R-74220; Published: 29 May, 2022, Date of Submission: 04 May, 2022, DOI: 10.37421/2167-0919.2022.11.325

Acknowledgement

We thank the anonymous reviewers for their constructive criticisms of the manuscript. The support from ROMA (Research Optimization and recovery in the Manufacturing industry), of the Research Council of Norway is highly appreciated by the authors.

Conflict of Interest

The Author declares there is no conflict of interest associated with this manuscript.

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How to cite this article: Hussley, Weven. "A Report on Broadband Access Networks for Rural Areas." *J Telecommun Syst Manage* 11 (2022): 325.