

44 GLOBAL DIFFUSION OF BROADBAND: Current State and Future Directions for Investigation

Michael D. Williams
Yogesh Kumar Dwivedi
Swansea University, UK

Catherine Middleton
Ryerson University, Canada

Diana Wilson
Trinity College, Dublin, Ireland

Morton Falch
Technical University of Denmark

Alex Schulz
De Montford University, UK

Vishanth Weerakkody
Anastasia Papazafeiropoulou
Brunel University, UK

Ben Ramdani
University of Manchester, UK

Roya Gholami
Aston University, UK

Please use the following format when citing this chapter:

Williams, M. D., Dwivedi, Y. K., Middleton, C., Wilson, D., Falch, M., Schultz, A., Weerakkody, V., Papazafeiropoulou, A., Ramdani, B., and Gholami, R., 2007, in IFIP International Federation for Information Processing, Volume 235, Organizational Dynamics of Technology-Based Innovation: Diversifying the Research Agenda, eds. McMaster, T., Wastell, D., Ferneley, E., and DeGross, J. (Boston: Springer), pp. 529-532.

1 INTRODUCTION

Governments all over the world are encouraging broadband Internet connectivity to both residential and small business consumers. Despite large investments for developing the enabling infrastructure and the provision of access at affordable prices, however, demand for broadband has not increased the expected rate in many countries. The slow rate of broadband adoption can be viewed as being “supply constrained” in the developing world where countries are lagging behind in infrastructure development, but “demand constrained” in countries where high-speed access is already available to the majority of the population. In order to achieve greater uniformity in rates of adoption and use of broadband in both residential and small business contexts, and to reduce the digital divide, it is essential to focus upon understanding both macro- and micro-level factors influencing adoption and consequent use of broadband. The overall aim of this panel is to stimulate discussion and contribute to an understanding of the diffusion of broadband from a global perspective. In order to realise the overall aim, a number of studies from a range of different countries (including Australia, Canada, Denmark, Germany, Ireland, Kingdom of Saudi Arabia, Singapore, and United Kingdom) are integrated within the panel discussion.

2 PANEL STRUCTURE AND CONTENT

Williams and Dwivedi will introduce and chair the panel. Both chairs have been involved in a number of projects on broadband adoption and the information society.

Middleton will identify areas that have been holding up broadband development in Australia. In examining multiple areas for attention (competition, user characteristics and behaviors, applications, network characteristics, and pricing), the experience of Canada, a leader in broadband deployment, is used to show the differences in each area. This part of the panel outlines objectives for the development of a more user-friendly broadband environment in Australia, which would encourage broadband adoption. Although both countries discussed here have their own policy agendas and some unique circumstances related to broadband deployment, Middleton will provide valuable insights for policy makers and industry leaders in Australia, and in other countries struggling to develop widespread broadband deployment.

Wilson will consider from a marketing perspective the political, cultural/social, and economic factors, both micro and macro, affecting the supply/demand nexus of broadband services for the Irish consumer. She will highlight the development of broadband, its current situation of roll-out and uptake, and examine the reasons for its continuing poor performance and offer recommendations on how Ireland may close the gap and perhaps even move ahead.

Falch will provide a comparison of broadband development in the OECD countries, which reveals that national policies are important for the penetration of broadband. Successful policies include direct intervention in the form of financial support to infrastructure development in disadvantaged areas, regulation ensuring facility based compe-

tion, and facility measures such demand stimulation and providing common visions for the information society.

Schulz will present a case study from East Germany where local politicians failed to take the demand for broadband seriously. Using the theoretical lens of responsibility, this section will also present an explanation of why the demand/supply model fails when free markets do not emerge or exist.

Weerakkody will present findings from a survey that explores the reasons for the slow progress of broadband adoption in the Kingdom of Saudi Arabia. Particular emphasis was placed on individual level factors such as social and cultural influences. The key findings were that the factors with the main influence on attitude toward adoption of broadband were (1) usefulness, (2) service quality, (3) age, (4) usage, (5) type of connection, and (6) type of accommodation. Contrary to prediction, although socio-cultural factors such as regulation through filtration of broadband were found to have no significant influence on the adoption of broadband, consumers were aware and largely did not like the regulation.

Papazafeiropoulou will argue that the existing diffusion of innovations theories are inadequate for the study of broadband diffusion and a more socio-technical approach is required for this purpose. Such an approach would be useful for SMEs considering the adoption of new technologies such as broadband, and for policy makers seeking to apply effective technological adoption policies.

Ramdani will argue that while most large European companies are connected to broadband, SME (small- to medium-sized enterprises) connectivity is lagging behind. The question of why one SME adopts broadband while another does not is still understudied. The purpose of this part of the panel is to fill this gap by investigating the environmental, organizational, and technological factors impacting broadband adoption in the small business context. Based on the ICTs innovation adoption literature, a framework of SME broadband adoption has been developed and empirically validated using key decision makers in nine SMEs in the Northwest of England.

Gholami will argue that in spite of the increasing significance of broadband Internet, there are not many research papers explicitly addressing issues pertaining to its adoption and post-adoption. Previous research on broadband has mainly focused on the supply side aspect at the national level, ignoring the importance of the demand side, which may involve looking more deeply into the use, as well as factors impacting organizational and individual uptake. This part of the panel empirically verifies an integrated theoretical model, comprising the theory of planned behavior and the information systems continuance model to examine factors influencing broadband Internet adoption and post-adoption behavior of some 1,500 organizations in Singapore. Overall, strong support for the integrated model has been manifested the results, providing insight into influential factors. At the adoption stage, perceived behavioural control has the greatest impact on behavioural intention. The findings also suggest that, as compared to attitude, subjective norms and perceived behavioural control more significantly affect the broadband Internet adoption decision. At the post-adoption stage, intention is no longer the only determinant of broadband Internet continuance; rather, initial usage was found to significantly affect broadband Internet continuance.

3 CONCLUSIONS

The panel participants will contribute to the existing body of broadband adoption research in two main areas: panelists Middleton, Wilson, Morten, Schulz, and Weerakkody will address issues related to national policies and individual/consumer level adoption, while Papazafeiropoulou, Ramdani, and Gholami will focus their discussions upon the issue of broadband adoption in the SME context. Needless to say, findings presented by all panelists will also be of interest to supply-side stakeholders including ISPs and governments. Finally, panelists will also formulate research issues requiring further investigation.