

# Chapter I

## Broadband Adoption and Diffusion (BAD): A Framework

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### ABSTRACT

*The aim of this chapter is to outline various factors reported in the 49 chapters of this handbook of research. The aim is also to organize identified factors in a meaningful manner in order to propose a framework of broadband adoption and diffusion. This chapter illustrates the fact that research on the adoption, diffusion, usage, and impact of broadband is clearly a global issue which requires a multi-disciplinary approach. The proposed framework includes three levels of factors—macro factors, individual micro factors, and SME-level micro factors. These three levels of factors are relevant at different levels of development, deployment, and diffusion of broadband which persist in various developed and developing countries. The chapter concludes by suggesting that the proposed framework is based on a comprehensive set of factors observed in various countries, and future studies may use this framework to identify gaps and then bridge those gaps by conducting new studies.*

### INTRODUCTION

A recently published book on the issue of broadband adoption from the consumer perspective suggested that “the problem of the slow rate of broadband adoption and usage in many countries includes factors that may not be covered only by examining consumer perspectives” (Dwivedi, 2007). Since the deployment and diffusion of broadband is in different stages in different countries, developed and developing worlds require different types of

approaches for managing the deployment, diffusion, and adoption of broadband. For example, in terms of a developing country, there is a need to look at regulation and infrastructure development issues at the national level. However, in terms of developed countries where progress has been made towards infrastructure development in urban areas, there is a need to determine the factors affecting broadband adoption and use in the rural and farm economic sectors and the development of broadband infrastructure in rural communities.

Researchers within the developed countries context should systematically examine the broadband issues at various levels, for example, heterogeneous coverage, adoption, and usage of broadband. This is also linked with the issue of the digital divide, so future research efforts should be focused on examining the varying levels of adoption in different sections of society and formulating strategies that policymakers may apply to create more homogeneity in the digital society (Dwivedi, 2007). Similar to individual consumers, small and medium-size enterprises (SMEs) have also been slow in adopting broadband. Factors that may affect individual consumers are likely to differ with those affecting the adoption of broadband by SMEs. Dwivedi (2007) provides an in-depth understanding of the factors affecting broadband adoption by consumers, but the factors affecting broadband adoption by SMEs remain largely untouched and therefore require the immediate attention of researchers (Dwivedi, 2007).

New electronic services such as e-government services are currently being implemented in many countries. The diffusion and adoption of high-speed Internet is a prerequisite for the successful adoption of such emerging electronic services by citizens (Dwivedi, Papazafeiropoulou, Gharavi, & Khoubati, 2006). This suggests that studying the impact of broadband on consumers, particularly in areas such as consumer adoption of new communication methods, music and software downloads, entertainment, retail, travel, and tourism on an individual basis can be beneficial in determining the real impact of broadband (Dwivedi, 2007). Widespread adoption of broadband is also likely to change the way many businesses undertake their business processes by affecting the value chain. Therefore it is important to examine the business model of many sectors, particularly television, telecommunications, publishing, and the picture/photo industry (Dwivedi, 2007). For example, future research needs to examine the way the adoption of broadband will influence the economics of the motion picture industry. Also, with broadband facilitating the implementation of IPTV, the issue arises as to how IPTV will affect the current business model of the media

and broadcasting/television industry. Similarly, broadband is an enabling technology for PC-to-PC communication such as VoIP, so a further issue which requires attention is how broadband VoIP will influence the telecommunications industry (Dwivedi, 2007).

The issues discussed above are certainly critical to the success of the adoption and diffusion of broadband at global, national, and local levels. The aim of this chapter is to outline the issues and factors that are explored and discussed within this handbook of research by various authors from different geographical regions. This chapter first illustrates and describes the profile and background of the contributors. Then it proceeds to list and outline various factors that affect broadband deployment, diffusion, adoption, usage, and the impact of broadband. Finally, before concluding the chapter, a brief discussion on a proposed framework on broadband adoption and diffusion is provided.

## **PROFILE OF AUTHORS**

### **Research Discipline of Authors**

Table 1 illustrates the fact that the authors of this handbook represent various research areas, as the expertise of their home departments varies widely. A total of 24 research disciplines are represented by authors including business, management, economics, IT, computer science, health science, and information systems (see Table 1). This clearly suggests that research on broadband deployment, diffusion, adoption, usage, and impact is the concern of many disciplines and, hence, is truly multidisciplinary in nature.

### **Geographical Location of Authors**

Table 2 illustrates the global nature of research on broadband-related issues. Chapters from more than 25 countries including both developed and developing countries from all continents were included in this handbook. However, the predominance of the chapter contributions is from Australia, European Countries, India, Japan, the UK, and the United States.

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