

Chapter XXII

Inside the Microcosm: A Case Study of a Wireless Internet Hotspot

Pierre Vialle
GET-INT, France

Olivier Epinette
GET-INT, France

Olivier Segard
GET-INT, France

ABSTRACT

The objective of this chapter is to highlight critical elements affecting the diffusion of broadband wireless Internet at a hotspot location, through a case study. The research deals with a wireless Internet services project in the main Paris airports, and comprises two components. First, we analyze the emergence of a value chain for a new service, based on the cooperation of several firms. In particular, we show how different actors can or cannot position themselves on this value chain, according to their resources and capabilities. Second, we explore the perceptions and attitudes of business passengers in order to better understand the potential adoption and use of hotspot services, and provide a preliminary framework of analysis. The research is drawn from a qualitative survey, made up of in-depth interviews of potential suppliers (airline companies, service providers, airport managers) and business passengers.

INTRODUCTION

In this chapter we explore micro-level factors affecting the adoption and diffusion of broadband data transmission at wireless Internet hotspots. The number of commercial hotspots enjoys a worldwide popularity and was expected to reach a total number 143,000 by the end of 2006, showing a growth of

47% compared to 2005. To our knowledge, little academic-oriented research addresses the topic of public hotspots; it tends to focus on market, implementation, and business model considerations (i.e., Chang, Yu, & Tsai, 2006; Vandeputte, 2005). Valuable insights for our project have been provided by Thorngren (2002), who has analyzed various business models of WLAN hotspots in

airports. The key issue in the adoption and usage of wireless Internet outside homes and offices is the attractiveness of each hotspot. This is a more complex situation than in the case of broadband access in the home, where demand can be seen as responding at an aggregate level to factors such as availability of infrastructure and service, price level, or penetration rate of home PCs— factors which in turn may depend on market characteristics and regulatory policy. Diffusion here depends on a mix of “general decisions” to adopt and use wireless Internet in a situation of mobility, and of micro decisions to adopt it and/or use it in a specific hotspot, depending on specific conditions. Moreover, some hotspots, as in the case of airports, may deliver specific content and services in addition to the plain Internet and e-mail access, and decide to bill for service provision. Therefore, all the issues dealt with in the case of large-scale service provision are also encountered at a lower scale in very specific consumption situations. It is essentially a question of designing and implementing networks and services, of identifying potential users, and ensuring that services provision meets the expectations and usage constraints of target customers.

This chapter is based on a research project carried out from January to December 2003, and financed by the Louis Le Prince Ringuet Foundation. It highlights critical aspects in providing broadband access with what was a new technology at the time, through the analysis of a case study. The objective of this project was to draw lessons from the launch of a new telecommunications service. The partnership between ADP Télécom and the research team was based on mutual interest. The researchers had the opportunity to gather information on several aspects of the project during its successive phases, while ADP Télécom benefited from the support of the research team, in particular concerning the marketing component of the project. The research deals with a wireless Internet services project in the main Paris airports, the provision of which began in the year 2003, and comprises two components. First, we analyze the emergence of a value chain for a new service and show how different actors can or cannot position

themselves on this value chain, according to their resources and capabilities. Second, we explore the perceptions and attitudes of business passengers in order to better understand the potential adoption and use of hotspot services, and provide a preliminary framework of analysis. The research is drawn from a qualitative survey, made up of in-depth interviews of potential suppliers (airline companies, service providers, airport managers) and business passengers.

BACKGROUND INFORMATION

Wireless Internet Hotspots

A hotspot is defined as a geographic area that is covered by a wireless network. Inside this area, Internet access is made available to any device equipped with a wireless card. Hotspots are located in public venues such as coffee shops, hotels, railway stations, or airports. Most industry experts forecast that airports are promising hotspots for wireless Internet because of the time the passengers spend checking in and waiting before boarding.

Our study relates to a hotspot service in the main airports of Paris, using wireless local area network (WLAN) technology. WLAN is a short-range, broadband data communication system using radio waves. Various standards coexist, but the 802.11b standard, defined by the Institute of Electrical and Electronics Engineers (IEEE), tends to be dominant. It allows a theoretical flow of 11 Mb/s in the frequency band of the 2.4 GHz, on a distance of up to several hundred meters. The IEEE 802.11b standard is better known under the name of WiFi. The deployment of a wireless Internet network is relatively easy, and it offers a much higher level of flexibility than fixed networks. The number of accesses can be increased without needing to re-dimension the network, as would be the case with fixed networks. This system allows some limited mobility inside one cell, but contrary to cellular networks such as GSM networks, does not allow roaming between cells without service interruption. Such networks can be accessed by different types of terminals equipped with wireless Internet chips,

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