

# Chapter XIV

## Understanding the Organisational Impact and Perceived Benefits of Bluetooth–Enabled Personal Digital Assistants in Restaurants

**Eusebio Scornavacca**

*Victoria University of Wellington, New Zealand*

**Mishul Prasad**

*Victoria University of Wellington, New Zealand*

**Hans Lehmann**

*Victoria University of Wellington, New Zealand*

### ABSTRACT

*The hospitality industry, more specifically restaurants, has recently started to exploit the benefits of mobile technologies. This research explores the perceived benefits of using PDAs in a restaurant in a business-to-employee (B2E) context. The findings indicated that the most common perceptions are increased efficiency; speedier service; better usability and ease of use; enhanced reputation/image; and increased accuracy. Most of the negative perceptions were related to the technical shortcomings of the technology such as unreliable transmission of data, system crashes, short battery life, and limited durability of the devices. The paper concludes with recommendations for future practice and research.*

### INTRODUCTION

Due to the fast adoption of mobile technologies throughout the world, many academics have enthusiastically predicted a seamless, wireless

world where mobile electronic business can occur anywhere and anytime via handheld devices such as cellular phones and PDAs (Andreou et al., 2005; Balasubramanian, Peterson, & Jarvenpaa, 2002; Barnes & Scornavacca, 2004; Frichol,

2004; Scornavacca & Barnes, 2003; Siau, Lim, & Shen, 2001; Siau & Shen, 2003; Walker & Barnes, 2005).

Much of the literature on mobile business has focused on consumer applications (Scornavacca, Barnes, & Huff, 2006). However, according to studies published by AT Kearney (2003), the international market for B2E applications is expected to grow twice as rapidly as the market for wireless business-to-consumer (B2C) applications.

Worldwide, the hospitality industry has embraced B2E mobile technologies. Several examples of wireless applications can be seen today in hotels, cafes, bars, and restaurants (Microsoft Corporation, 2004). In restaurants, vital tasks such as taking orders from customers using the traditional pen-and-paper method can easily be performed more efficiently with the use of mobile technologies such as PDAs or specialist mobile devices (Microsoft Corporation, 2004). Businesses that implemented mobile technologies reduced operations costs, gained efficiency, and improved service quality (Barnes, 2004; Barnes, 2002; Beulen & Streng, 2002; Parasuraman & Grewal, 2000; Raisinghani, 2002).

The purpose of this case study was to explore the perceived benefits of using wireless PDAs in a restaurant and to verify if managers and employees have the same perceptions. Identifying the differences and similarities on the perceived benefits of different stakeholders can contribute to the improvement and better understanding of the adoption process of mobile technologies in restaurants and other organisations alike.

The next section of this paper reviews the literature pertinent to this study. This is followed by organisational background and research methodology. The results of the research are then provided, along with the case analysis. The paper concludes with suggestions for future research.

## MOBILE BUSINESS

There are some fundamental differences between m-business and e-business. Zhang and Yuan (2002) point out that three broad aspects that should be taken into account in order to understand the concept of mobile business: *origin*, *technology*, and *nature of service*.

- **Origin:** Due to widely expanding networks and nearly free access to the Internet, e-business bridges distances and enables companies to display and sell goods and services cheaply to consumers and businesses around the world. In the Internet world, much is given away free or at a discount in the hope that a way will eventually be found (presumably through advertising income) to turn traffic into profits. Contrarily, m-business is rooted in paid-for service in the private mobile phone industry where business competition is stiff. In the telecom world, users pay for airtime, by the size of the data packet transmitted, and by the service used for what they get. Therefore, due to their different origins, the customer bases of m-business and e-business are quite different.
- **Technology:** The fundamental infrastructure of e-business is the Internet. It has a well-established protocol, TCP/IP, which solves the global Internet-working problem and ensures that computers communicate with one another in a reliable fashion. In contrast, m-business services are constrained by a variety of wireless media communication standards ranging from global (satellite), regional (third generation [3G], IEEE 802.11a/b, I-mode), to short distance (Bluetooth). Cellular carriers use different systems and standards such as global service for mobile (GSM), time division multiple access (TDMA), and code division multiple access (CDMA) to compete with each other. As a consequence, m-business applications

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