

# The Use of ICTs in Small Business

**Stephen Burgess**

*Victoria University, Australia*

**U**

## INTRODUCTION

This article examines the main drivers and barriers facing small business owner/managers in the manner in which they use information and communications technologies (ICTs) within their businesses. The early part of the article examines the notion of what is meant by small business. The discussion then moves onto describing some of the drivers and barriers to the use of ICTs in small business and the implications of these to small businesses.

## BACKGROUND

### What is Small?

When studying the use of ICTs in small business, the range of definitions used to describe small business ranges from micro businesses to small and medium sized enterprises. This range can make it extremely difficult for researchers to match up different small business studies. A 2003 study by members of the information resources management association special research cluster on small business and information technology (Burgess, 2003) found that:

- Definitions of small business ranged from less than 20 (Australasia), 50 (Europe), and 100 (North America) employees (with some definitions including annual turnover and asset levels)
- Definitions of micro business ranged from less than 5 to less than 10 employees
- Definitions of medium business ranged up to 200, 250 and 500 employees

A common acronym used to represent small and medium sized businesses is SME. There is some argument as to whether the term is of any use at all given the vast differences between small and medium sized businesses. Still, there continue to be studies that examine the use of ICTs in SMEs.

For my purposes, small businesses are those businesses with 20 employees or less. However, most small businesses are micro businesses (Fillis, Johansson, & Wagner, 2004a), made up of less than five employees.

### Size is Important!

Why is it so important to consider the size of the business? A number of studies suggest that there is a relationship between the size of a business and its level of adoption of ICTs (McDonagh & Prothero, 2000). There is also a relationship between the size of a business and the different characteristics it will have that can lead to the successful use of ICTs (Igarria, Zinatelli, Cragg, & Cavaye, 1997; Pollard & Hayne, 1998). As such, research findings based upon traditional information systems in larger businesses are not necessarily directly applicable to small businesses. This will be touched upon again later in the article.

## DRIVERS AND BARRIERS TO THE USE OF ICT IN SMALL BUSINESS

The literature around the area of small business and information technology is rife with what is now a fairly accepted list of barriers to the successful implementation of ICTs in small businesses. These barriers typically include (Igarria et al., 1997; Management Services, 1997; McDonagh et al., 2000; Pollard et al., 1998):

- The cost of ICTs—this is perhaps not so much of an issue these days (well, in developed countries anyway)
- Lack of time to devote to the implementation and maintenance of ICTs
- A lack of ICTs knowledge combined with difficulty in finding useful, impartial advice
- Lack of use of external consultants and vendors
- Short-range management perspectives
- A lack of understanding of the benefits that ICTs can provide, and how to measure those benefits
- A lack of formal planning or control procedures

What about small businesses and e-commerce? Small businesses do face a series of barriers that they need to overcome before moving into the digital economy. These are (Taylor & Murphy 2004b):

- Many SMEs are unaware of the potential of e-commerce to enhance their business.

- Some SMEs occupy clearly defined (and small) niche markets that they are satisfied with. They do not need the extended connectivity provided by the Internet. In addition, small businesses may be happy with their existing activities because they are adequate enough to enable to maintain a particular “lifestyle” (Fillis et al., 2004a).
- There are still perceptions of unresolved security and privacy issues related to use of the Internet.
- Many SMEs lack the necessary skill base to engage in the digital economy.
- The perceived high initial and ongoing costs associated with ICTs and e-business can be seen as a barrier. This is also supported by Fillis et al. (2004a).
- Many SMEs cannot experiment with ICT investments like larger businesses. They need to be sure that there will be returns for the e-commerce investments they make.
- Organisational readiness:
  - The level of Internet knowledge in the business amongst non-IT professionals, for instance the owner/manager; an Internet aware owner might support or initiate Internet adoption.
  - The suitability of systems within the business to access and use the Internet. Historically, smaller business sizes have been identified as a factor in lower ICT adoption rates and Internet technologies (Martin & Matlay, 2001). One important aspect here is if the infrastructure is available for businesses to take advantage of ICTs. This can especially be important in rural and remote areas and developing countries.
- External pressure:
  - From existing users, particularly customers but perhaps external business partners (such as suppliers).

Having identified some of the barriers to the successful use of ICTs, there is also a fairly common list of drivers that are listed in the literature that appear to indicate a greater chance of successful implementation of ICTs in small businesses.

Some of these factors are (Naylor & Williams, 1994; Yap & Thong, 1997; Swartz & Walsh, 1996; Zinatelli, Cragg, & Cavaye, 1996):

- The involvement of owner/managers in the implementation of ICTs
- The involvement of users (employees) in development and installation
- The training of users
- The use of disciplined planning methodologies in setting up applications
- The number of analytical/strategic (versus transactional) applications being run
- The level of ICTs expertise within the organisation
- The role of the external environment (especially consultants and vendors)

In relation to e-commerce, Mehrtens, Cragg, and Mills (2001) developed a model of Internet adoption using an innovation theory approach, suggesting that the decision to adopt was based upon:

- **Identifying perceived benefits:** These can take the form of:
  - Efficiency benefits from the *relative advantage* that the Internet can provide over traditional methods
  - Employees gathering information in a more effective manner
  - A tool to build the image (or “brand”) of the business

We can now examine some of the factors mentioned in these lists more closely.

## **FACTORS IN THE ADOPTION OF ICT BY SMALL BUSINESSES**

### **Role of Owner/Manager**

One of the key factors leading to successful use of ICTs in small businesses identified in the previous section was the involvement of small business owner/ managers in the ICTs implementation.

There is some evidence to indicate that managers in small businesses are less likely to know how to use ICTs effectively or to keep up with the latest trends in ICTs than their counterparts in larger businesses (Pollard et al., 1988). Igbaria et al. (1997) cite a number of references to support the view that management support can promote the acceptance of ICTs. They found that the support of management positively affected the perceived ease of use and the perceived usefulness of ICTs within the small business.

The motivation of owner/managers is a key factor in shaping the e-business development of a small business. Their perceptions can range from highly positive entrepreneurial viewpoints to very conservative stances. The orientation of the business and the owner/manager can affect the level of Internet connectivity of the business. Business that exhibit entrepreneurial characteristics are more likely to adopt e-business (and will do so at a faster rate) (Fillis et al., 2004a). An important finding from Lee’s (2004) study is that owner/managers with higher computer self-efficacy were more likely to adopt Internet applications. Indeed, Martin et al. (2001) suggest that the managerial knowledge,

5 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/use-icts-small-business/14162](http://www.igi-global.com/chapter/use-icts-small-business/14162)

## Related Content

---

### Web-Based Algorithm and Program Visualization for Education

Cristóbal Pareja-Flores, Jaime Urquiza-Fuentes and J. Ángel Velázquez Iturbide (2009). *Encyclopedia of Information Science and Technology, Second Edition* (pp. 4093-4098).

[www.irma-international.org/chapter/web-based-algorithm-program-visualization/14191](http://www.irma-international.org/chapter/web-based-algorithm-program-visualization/14191)

### Assessing the Political and Socio-Economic Impact of Corruption among Nations

Richard N. LaRocca (2014). *International Journal of Information Systems and Social Change* (pp. 18-40).

[www.irma-international.org/article/assessing-the-political-and-socio-economic-impact-of-corruption-among-nations/119555](http://www.irma-international.org/article/assessing-the-political-and-socio-economic-impact-of-corruption-among-nations/119555)

### Added Value Benefits of Application of Internet Technologies to Subject Delivery

Stephan Burgess and Paul Darbyshire (2002). *Annals of Cases on Information Technology: Volume 4* (pp. 390-409).

[www.irma-international.org/article/added-value-benefits-application-internet/44520](http://www.irma-international.org/article/added-value-benefits-application-internet/44520)

### Connecting the First Mile: A Best Practice Framework for ICT-Based Knowledge Sharing Initiatives

Surmaya Talyarkhan, David J. Grimshaw and Lucky Lowe (2008). *Information Communication Technologies: Concepts, Methodologies, Tools, and Applications* (pp. 513-533).

[www.irma-international.org/chapter/connecting-first-mile/22686](http://www.irma-international.org/chapter/connecting-first-mile/22686)

### Influencing Factors of Enterprise Intelligent Manufacturing Based on the Three Stages of Intelligent Manufacturing Ecosystems

Xuehong Ding, Li Shi, Mei Shi and Yuan Liu (2022). *Journal of Information Technology Research* (pp. 1-18).

[www.irma-international.org/article/influencing-factors-of-enterprise-intelligent-manufacturing-based-on-the-three-stages-of-intelligent-manufacturing-ecosystems/299925](http://www.irma-international.org/article/influencing-factors-of-enterprise-intelligent-manufacturing-based-on-the-three-stages-of-intelligent-manufacturing-ecosystems/299925)