Preface

In many countries, small businesses comprise over 95% of the proportion of private businesses and approximately half of the private workforce, with information technology (IT) being used in a majority of these businesses. Governments around the world are placing increasing importance upon the success of small business entrepreneurs and are providing increased resources to support their success. There are a number of key differences in the use of IT between small and larger businesses. These include: small businesses generally have fewer resources available to devote to IT, they have very little control over forces that are external to the organisation, they generally do not have their own separate IT department and small businesses generally have less formalised planning and control procedures for the adoption and use of IT. Small business entrepreneurs are thus often placed in the situation of knowing that IT can support their business in some way, but they lack the expertise and resources to know how it can be effectively applied.

Up until a few years ago, research into the use of IT in small businesses was almost non-existent when compared with the amount of research being carried out for medium and large-sized businesses. Recently, an increasing amount of research has been conducted into this important, emerging field.

The main purpose for **Managing Information Technology in Small Businesses: Challenges and Solutions** is to showcase the wide variety of research being carried out in the area of small business and IT. In doing this, the book examines the challenges facing small businesses in their use of IT and the solutions that are being proposed. The book is separated into two major parts, research that deals with IT and small business in general, and research that deals with the rapidly expanding field of e-commerce.

Chapters in each part fit into one or more sub-themes. The first sub-theme relates to **Studies** that are breaking new ground in the field. Even though the amount of work being done in the area is rapidly increasing, we still do not know enough about the manner in which small businesses use IT. The second sub-theme is **Frameworks and Models.** Much work is being done to provide frameworks and guidelines that will allow us to direct small businesses to use IT effectively. The final sub-theme is **Challenges and Solutions,** examining some of the current challenges facing small businesses in the use of IT and the available solutions.

A brief overview of the book follows.

The first chapter, by the editor, provides an introduction to many of the areas covered in the book.

Part One: Small Business and Information Technology

Chapter Two, by *Linda Duxbury, Yves Decady* and *Angel Tse,* examines the impact of company size on the adoption, use and perceived impact of computer technology in Canadian businesses. It also compares and contrasts small, medium and large businesses with respect to their use of computer technology and its perceived impacts.

Chapter Three, by *M. Gordon Hunter*, analyses an information systems development project which is considered by the users to be "completed," yet unsuccessful. It concludes with a discussion of how the framework may be useful in understanding information system success or failure within a small business context.

Chapter Four, by *Aurelio Ravarini, Marco Tagliavini, Giacomo Buonanno* and *Donatella Sciuto,* suggests that small businesses could benefit from a tool that supports the business in monitoring information systems adequacy and making competent choices about information systems development. The purpose of the chapter is to provide such a tool.

Chapter Five, by *Arthur Tatnall*, suggests that the introduction of a new information system into a small business, or the upgrading of an existing system, should be seen as an innovation and so considered through the lens of innovation theory. The chapter considers the well-known innovation diffusion theory, but argues that another approach, that of innovation translation, has more to offer in the case of innovations that take place in smaller organisations.

Chapter Six, by *M. Gordon Hunter, Monica Diochon, David Pugsley* and *Barry Wright,* explores the unique issues faced by small businesses regarding the adoption of information technology by examining 10 small businesses in Nova Scotia. The discussion is presented relative to major themes which emerged during interviews with the 10 small business managers. A series of recommendations are made for the major stakeholder groups.

Chapter Seven, by *Ye-Sho Chen, Robert Justis* and *P. Pete Chong,* looks at small businesses involved in franchising. The chapter suggests how IT can be used to help develop the working knowledge that is disseminated throughout the franchise system. This is achieved by organising previous studies into a framework to provide a comprehensive view of the franchising business operations and the role IT plays in enhancing the effectiveness and efficiency of the franchise system.

Chapter Eight, by *Yanqing Duan, Russell Kinman* and *Mark Xu,* is concerned with current practice in relation to decision support systems (DSSs) in small businesses. The authors identify managers' needs for computer-based support, and explore if and how computer-based DSS could be better developed and utilised to meet these needs. Factors that hamper the utilisation of DSS in small firms are also discussed.

Chapter Nine, by *Borut Werber*, examines basic computer security problems and the use of IT in 122 small Slovenian businesses. The purpose of the study was to assess why some Slovene small businesses do not use IT, what kind of security measures are used, how many and what kind of problems they had with computer

hardware and software and how they managed to solve those problems.

Part Two: Small Business, the Internet and Electronic Commerce

Chapter Ten, by *Kristy Lawrence*, discusses the advantages of electronic commerce and the potential of collaborative, or industry-based, practices to encourage the adoption of electronic commerce technologies among small businesses. The Tasmanian Wine sector was investigated in order to identify issues that may inhibit the development of collaborative, industry-wide electronic commerce adoption programs.

Chapter Eleven, by *Ron Craig*, examines small and medium-sized manufacturing businesses in Canada, specifically in their use, and potential use, of the Internet and electronic commerce. The following questions were examined. Do they lead or lag larger firms? Is an e-commerce strategy important for them, and what reasons do they see for pursuing it? Are firms that pursue an e-commerce strategy more successful than those that do not?

Chapter Twelve, by *Celia Romm* and *Wal Taylor,* looks at whether small businesses should consider national or global business as the main reason for getting themselves 'e-commerce enabled.' The authors promote local e-commerce, particularly as it pertains to regional, rural or remote communities, and propose the Action, Reaction, Integration (ARI) model, which considers the role that SMEs can play in promoting Internet technologies in their communities.

Chapter Thirteen, by *Shirley Bode* and *Janice Burn*, examines the role of consultants in the development of small business Web sites. The chapter incorporates an analysis of 10 Western Australian online small businesses who contracted Web site design consultants to produce their sites. The following questions were addressed. Do small businesses have explicit e-business strategies prior to development of a Web site? Are Web site consultants engaged through a formal engagement process, aligning business and web development strategies? To what extent do small businesses feel their individual e-business needs are understood and met by Web site design consultants?

Chapter Fourteen, by *Dieter Fink*, provides an outline for small professional services practices with an understanding of how to enter the 'e-age' by building an 'e-practice.' It proceeds by mapping the progress that needs to be made in moving from a previous stage of organisational development to one that is suitable for the 'virtual age.' In the transition to the mature stage of development, they need to re-engineer their practices to offer online services and to maximise their intellectual capital through technology-enabled knowledge management. Much of the content of the chapter is based on research carried out in small and medium accounting firms.

Chapter Fifteen, by *Anthony Stiller*, looks at the provision of a procedural framework for small business managers to follow when designing their e-business plan and revenue model so they can remain in charge of the process (and not be pushed into a particular template designed by a consultant to suit their hardware and software platform). The aim of the framework is to give the small business owner control over the entire process until they are at the stage to either develop their own

online presence, or have sufficient information to take to a web consultant who can develop a model which reflects the e-business strategy and is in harmony with the traditional business and marketing plan.

Chapter Sixteen, by *Simpson Poon*, examines the following questions through a study of 224 Singaporean small businesses. Is there any difference between traditional IT applications and e-commerce? Can we apply what we have learned from earlier small business IT experiences to e-commerce? Does the largely external nature of e-commerce systems mean that management needs to play a different role than in the past? The purpose of the study was to bridge the knowledge gap between traditional small business IT systems and e-commerce systems, with the idea of helping management to rethink how they can secure e-commerce benefits.

Chapter Seventeen, by *Robert Klepper* and *Andrew Carrington*, considers some of the challenges faced in establishing an electronic commerce store in a developing country, particularly techniques for reducing costs that otherwise would be a barrier to entry. The described prototype store utilises many low-cost (or free) technologies. A discussion of some of the technical issues involved in developing the prototype is available at the end of the chapter.

Chapter Eighteen, by *Mohini Singh*, discusses the findings of an Australian study that identified the objectives, opportunities and challenges of e-commerce experienced by small businesses that were mostly early adopters of the Internet as a medium of trade. E-commerce issues presented in this chapter include research findings, supported by theory from literature. The chapter concludes with a series of recommendations and strategies for small businesses wishing to adopt e-commerce.

Chapter Nineteen, by *Yanqing Duan, Roisin Mullins* and *David Hamblin,* contends that training is often seen as the most effective way to help small businesses to cope with the increasing demand on improving their skills, while not increasing staffing. The chapter reports the results and summarises the findings from empirical studies conducted across five countries. A pilot project supported by the European Commission's Leonardo Da Vinci programme was set up to address training issues and provide on-line training and support for SMEs in participating countries. To provide the training in the most needed areas and at the most appropriate levels, surveys and focus group discussions were conducted. Guidelines for the development of the on-line training system are derived from the findings.

Acknowledgments

xi

by two of their peers) and tolerated requests from the editor to alter 'this focus' or 'that paragraph' on a number of occasions. Once again, I thank them for their significant contributions to the final result.

I particularly want to thank the following groups and individuals, who have in some way contributed to and nurtured by interest in this area:

- My employer, the School of Information Systems at Victoria University (VU), Australia, especially my colleagues who have tolerated my varying moods over lunch after some heavy 'reading sessions.'
- John Breen, Head of the Small Business Research Unit in the Faculty of Business and Law at VU.
- The staff of Small Business Victoria, now a section of the Department of State Development in the State Government of Victoria, Australia – especially Geoff Lee for assistance in recent years.
- Members of the Small Business Counselling Service, an 'arm' of Small Business Victoria. This group specifically helped to add the 'reality' to my research.
- The Owner/Managers of the many small businesses who have answered surveys, tolerated interviews or complained about how things should be! They all helped to supply another piece to the puzzle and provide the 'practical' aspect that is vital to this type of research.

Special thanks to Idea Group Publishing for inviting me to edit this book, and to Michele Rossi (Development Editor from Idea Group Publishing) for her assistance, encouragement and prompt replies!

Stephen Burgess
Victoria University
Melbourne, Australia