



THROUGH AN INTEGRATED BUSINESS/ E-COMMERCE PROCEDURAL FRAMEWORK, SME'S WILL SURVIVE AND PROSPER IN THE NEW DIGITAL ECONOMY

Anthony David Stiller

Lecturer in Information Systems, Faculty of Business, University of the Sunshine Coast, Maroochydore DC, Qld, 4558
Telephone: +61 7 54301223; Fax: +61 7 54301210; Email: TStiller@usc.edu.au

ABSTRACT:

Australian SME's have an excellent opportunity to take advantage of the growth of e-commerce in Australian and the Asia Pacific region, however take-up rates in IT and Internet adoption are low when compared with other nations. While problems such as language, distance, legal, security, telecommunications infrastructure, culture, electronic payments and financial systems, government rules and regulations have been identified as major obstacles for Internet adoption, the literature is sparse on guiding the SME through the steps necessary in developing a procedural framework to follow to maximise their potential to implement a best practice model.

This paper will address the need for SME's to initiate, control and develop their own integrate business/e-commerce adoption model to suit their business by following a procedural framework rather than accept a predetermined adoption model and web interface design proposed by a consultant using standard templates and formats that match the hosts operating system, software and hardware platform.

INTRODUCTION

For the Small-to-Medium Enterprise (SME) in Australia looking for new ways to enhance existing business practices and look toward new markets in the digital economy, reading media releases such as that from an Australian Government Minister (1998, p1) of the Department of Information, Science and Communication (DISC), "countries and firms that fall behind [in electronic commerce] run real risks of being uncompetitive in the future. Those countries that are the "early adopters" will be well placed to capture major productivity gains and improve international competitiveness", look toward business and e-commerce consultants to advise and guide them through the maze of electronic adoption strategies, best practice and business models.

The SME manager wanting to take advantage of this opportunity and desires to be an "early adopter" of technology and e-commerce, is confronted with range of electronic commerce adoption, best practice and business models outlined in books, advertising from consultants, on the web, government agencies as well as through their own business organisation all extolling the virtues of being part of the digital economy from the historical and technical aspects, but little in the process on how to develop and implement a strategy that best meets their specific industry needs.

Current literature is confusing and presents conflicting views at to what business strategy or e-commerce adoption model should be used. Sussis (2000, p1) an e-commerce consultants states that 'as businesses move into significant e-businesses, good planning strategies, design and implementation becomes more and more essential' but offers little else in describing what the SME has to do next to meet this challenge. While Adam, Dogramaci, Gangopadhyay & Yesha (1999, p63) are correct when they say 'Business models provide general rules for companies to adhere

to when implementing new initiatives', the SME with little or no understanding of e-commerce, best practice's, world wide web terminology or technology needs guidance and advice in practical terms so they can immediately grasp, understand and work through these concepts step by step.

For the SME managers looking at available models and strategies in an attempt to reduce operational costs and increasing market share both nationally and internationally, the statement by NOIE (1999, p1) that "E-commerce allows business to be done more efficiently, as it is driving change across many sectors of the economy and producing a more efficient allocation of resources ...will generate growth dividend economy-wide' takes on significant meaning for the SME and worth investigating.

According to the Yellow Pages Small Business Index (2000, p22), 'approximately 25% of small business had a home page [and] of small businesses connected to the Internet, 71% had a home page or intended to get one [while] 56% of medium businesses had a home page, with a further 23% intending to establish one within 12 months'. While these statistics are encouraging for IT and e-commerce adoption, having an Internet homepage and using it for e-commerce transactions other than an information page and for sending and receiving emails' are two different things.

In order to take advantage of e-commerce opportunities a number of questions need to be raised including; 1) Who does the SME turn to for strategy planning advice? 2) What is a successful model? 3) How can I do business across the Internet? 4) After spending all this time and money, what will be my net rate of return on investment? 5) What happens if my business grows to fast and we can't cope with the expansion?. These concerns and issues need to be addressed before, while and during the development of a business strategy and not simply by purchasing an 'off-the-shelf' solution.

According to 'The Yellow Pages Small Business Index' (2000, p6), a small business is one which has 'up to 19 full-time employees including the proprietor if he or she is part of the workforce [and] medium-sized business employing between 20 and 200 full-time persons'. Figures published in 'The Year Book Australia' from the Australian Bureau of Statistics (1999) show that small business employs approximately 50.2% of the total Australian workforce of the 9,141,800 people.

To gain an insight as to reasons why SME's have not engaged in e-commerce, The Yellow Pages Small Business Index (2000, p4) have identified the following points as key reasons:

- a concern that the use of the Internet for e-commerce could lead to uncontrolled growth
- satisfaction with current business arrangements
- uncertainty about the quality and availability of products, and about delivery and supply arrangements
- concern about not having enough understanding of technology to be able to manage and direct the adoption of e-commerce, and about how these skills would be accessed
- time and expense
- a belief that the business products or services did not lend themselves to the Internet

Each of the concerns raised point to a deficiency in levels of business planning and an understanding of electronic commerce and how it could be applied to their business operations. Satisfaction could be interpreted as the fear of the unknown, while concerns for growth, technology, products and services indicate a lack of forward planning, reliable information and a framework to assist them in working through these issues.

As stated earlier, the SME manager is likely to obtain their information on e-commerce/ business models and IT adoption from one of the categories listed below, and while the information contained is relevant and of a quality that could assist the SME manager, no attempt has been made to provide the SME manager with an integrated procedural framework to assist them in working through each stage. The categories of literature and advice come from:

- e-commerce and business management textbooks and reference material set in formal education courses at universities, Technical And Further Education (TAFE) Institutes and private providers;
- web site information downloaded from e-commerce consultants and sent through email subscription lists
- handbooks and training courses offered through Industry Advising organisations, trade groups and government departments

In a study conducted by Arabatzis and Rovolis (1999, p7) for The European Commission Enterprise DG aimed at improving SME's access to electronic commerce in the European Union, stated:

"after an analysis of success indicators for web sites (traffic achieved, turnover increase, cost savings, new customers acquired), it was found that the type of the web site plays a crucial role for business success. Companies whose web site plays a vital part in their operations are the most successful. In contrast, web sites that are a first step in exhibiting an Internet presence, do not appear to have any positive impact on a business's success".

The nature of the Internet user is changing as more and more users access the Internet to browse and/or purchase goods and services online. Its 'stickiness', or ability to attract and keep people

at their site and convert hits to transactions can measure the web site's success. Preece (2000, p215) discusses how 'online communities' affect a web sites success and advises the web site developer to 'gather information that will lead to a deeper understanding of the communities needs ... [as they] vary according to their age, culture, education, personality, and so on'. For the business owner, online communities also play an 'important role in marketing, as people tell each other about their purchases and discuss banner ads, and help and advise each other' (Preece, 2000, p17). A successful integrated business/e-commerce model will include a process that assesses the needs of the online community and have the capacity to meet its changing needs.

REVIEW OF E-COMMERCE LITERATURE

A review of the e-commerce literature identifies a number of distinct and vary different business or adoption models from which an SME can choose when designing and developing their site. While the literature encourages businesses to maximise their cyber potential by utilising key business strategies and internet models, Lawrence, Corbett, Fisher, Lawrence and Tidwell (2000, p24) presents ten business models 'to adapt essential disciplines of successful management techniques to participate in online business on the Internet' and expect the SME to fit into one or more of these categories.

Samuelson. R (2000) identifies five business models based on the cost and potential revenue potential and identified on web sites as 'vanity, information, advertising, subscription, and storefront sites' while Viehland. D (1999) describes three new business models for electronic commerce as 'virtual retailing, distributed storefronts, and buyer-led pricing'. To add to the confusion, Fauah and Tucci (2000, p46) use a generic business model put forward by Rappa and Timmers called 'brokerage, advertising, infomediary, merchant, manufacturer, affiliate, community, subscription, and unity' as a way to make money on the Internet for the SME.

Four Internet business strategies have been put forward by Treese and Stewart (1998, p40) called channel master, customer magnet, value chain pirate, and the digital distributor based on a three step approach of 'first selecting the strategy, design the commerce value chain, and implement an evolving solution' since the Internet market is evolving and not static. Instead of defining specific business adoption models, Kalakota and Robinson (1999, p xvii) have developed an extensive Roadmap for Success which 'focuses on the business architecture that managers must build in order to achieve e-business success' and while they highlight the need to integrate all aspects of business with e-commerce technology and design, it is not written with the SME in mind who does not have a technical background.

Huff, Wade, Parent, Schenberger and Newson (1999); Whitley (2000); Turban, Lee, King and Chung (2000) and Schneider and Perry (2000) present their strategies and models that do not take into account the changing nature of business-to-business (B2B), business-to-consumer (B2C) and government-to-business (G2B), essential for the SME.

For the SME trying to work through this small sample of e-commerce models and business strategies based on sound research and supported by case studies of successful organisations, the problem of what is best for their organisation and how it can be implemented has been identified as a reason why SME's have not moved toward an e-commerce strategy at a greater participation rate.

REVIEW OF BUSINESS MANAGEMENT LITERATURE

Classical textbook literature introduces the reader to manage-

ment theory and practice suitable for the past millennium and makes little or no reference to changes required to meet the Internet revolution by focusing on the traditional business/client relationship and management structures not suitable for what Yeh, Perlson and Kozmetsky (2000, p11) say is a 'holonic' approach based on adoption, empowerment, instant execution, and instant involvement. The main advantage of working in a Zero Time environment;

'enables businesses to reach outstanding levels of performance without the chaotic disruption brought about by traditional approaches such as restructure and reengineering'. pxiii

Allen, Miller and Wyatt (2000:85) state, "There is sparse mention in the [observation behaviour] OB literature of new information and communications technologies, their origins or their implications, outside of discussion of computerised automation in the manufacturing sector". Where information and technology is mentioned in management textbooks, it is usually addressed in one or more separate chapters and not integrated into existing management models, methods or strategies.

In a very comprehensive book on Australian and New Zealand management theory and practice in a global context, (Davidson & Griffin, 2000) much emphasis is placed by the contributing authors the challenges management must face as they compete within the global economy. However only one chapter at the end of the book looks at issues relating to information technology, and in that chapter, only one topic covers the growing trend in electronic commerce but again provides no answers for the SME on how to meet the challenge.

Whitley (1995) presents the 'Core Values Model' as the most effective method to use within organisations to ensure that through collaboration, employees are part of the decision making process and uses a 'Best Practice Approach' case study from BHP Iron Ore as a way of highlighting the success of collaboration between management and employees in decision making.

BEST PRACTICE

The term Best Practice is found in many pieces of literature, textbooks, displayed on consultant web sites, and used by organisation to inform their customers of practices and procedures that are in place. However very few define what it means specifically for their business as there is no universal definition and leaves it to the customer or business partner to use their own validation criteria to substantiate or refute the claim.

In the development of an integrate business/e-commerce adoption model, we will use the definition of best practice put forward by the Australian National Training Authority (ANTA) in their Best Practice Newsletter (1197). The Australian Best Practice Demonstration Program (ABPDP) includes world-class outcomes as the key element of defining best practice as:

'a comprehensive, integrated and cooperative approach to the continuous improvement of all facets of an organisation's operations. It is the way leading-edge companies manage their organisations to deliver world-class standards of performance.'

While best practice aims toward world-class standards, it does not mean perfection, but introduces procedures and practices that deliver the most effective way for performing tasks and processes within their business specialisation. The aim of an integrated procedural framework is to be suitable for as many SME

organisations as possible, therefore defining best practice becomes an integral part of the model and will vary from organisation to organisation as the SME manager focus in on their operation.

If the argument put forward by Andrew Cox (1997, p50) that "there is no single answer to the question of what is operational 'best practice' because of the contingent nature of the world within which companies operate" can be substantiated. What does the SME manager use as a guide to assist in developing their own integrated business model that takes into account the structure and operation of the organisation as well as developing an e-commerce strategy.

The Australian Government has produced an 'E-Commerce Best Practice Model' (2000, p6) for Australian businesses and consumers as a guide to assist organisations develop procedures and practices that comply with Australian laws and regulations, fair trading practices while building consumer confidence in the online environment since it:

'addresses areas where the online environment's special characteristics necessitate business practices different to those in the offline world. These include: the distance between the business and the consumer; the speed transactions can be completed online; the need for authentication; and information collection practices'

The e-commerce, business management and best practice literature all have a major shortfall in integrating theories and practice into a procedural framework that will assist the SME manager work through each step in design and implementation. Further, they do not provide a pathway to seeking answers to each of the concerns that hinder e-commerce adoption.

INTEGRATED PROCEDURAL FRAMEWORK MODEL

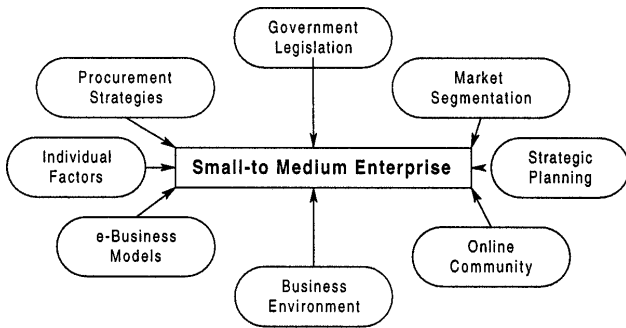
Plant (2000) recognises the need for an integrated e-commerce strategy by introducing seven dimensions of an e-commerce strategy comprising four positional factors of technology, service, market and brand with three bonding factors of leadership, infrastructure and organisational leadership. Plant (2000, p33) states that each organisation, regardless of its business specialisation will benefit from this model when they address each of these seven issues on a continual basis since it:

'allows an organization to map its strategy onto any form of vendor-client relationship, whether that relationship is between two businesses, a business and a customer, or any other entity'.

As can be seen from the two reviews, each field of literature focuses on the business model from their own perspective, however in a virtual market, the two must be integrated and not be treated as separate entities. The integrated procedural framework sets out for the SME the pathway to follow when developing and testing their model.

There are many factors that influence and affect the SME when developing an integrated business/e-business strategy and are representative, but not limited to, those identified in Figure 1.

Figure 1: Influencing factors in e-commerce adoption

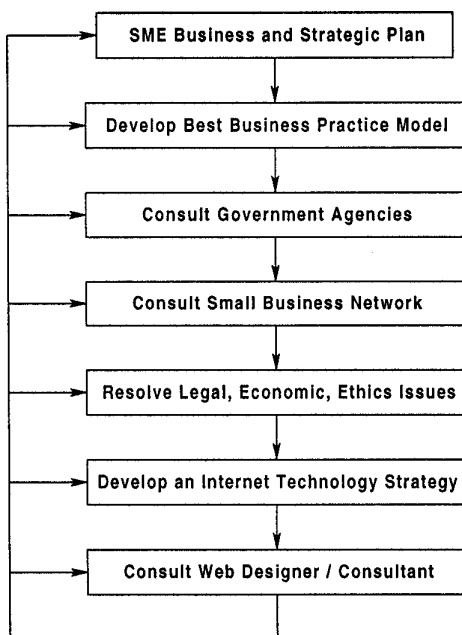


The current practice adopted by the typical SME is to contract a web consultant seeking their advice on an e-business strategy relying on their knowledge and expertise. Another strategy is take responsibility for their own site by designing their own interface with assistance from books, journals, on-line help, news groups and observing competitors web sites. This 'hit and miss approach' can be avoided when the SME takes responsibility for developing their integrated business/e-commerce strategy guided by a procedural framework which addresses each of the influencing factors are identified in Figure 1.

The procedural framework is there to assist and guide the SME and is designed for flexibility and should be used as the blue print capable of being modified and adapted to meet the requirements of each individual organisation. Structured models have little scope for change, however an integrated model is designed to empower the business owner throughout each step enabling them to fully understand the process of designing their own business strategy and have a fully integrated, flexible and effective e-commerce strategy which adds value to the business objectives.

An integrated business/e-commerce procedural framework model is represented in Figure 2 and provides the pathway through each stage of design and development with the SME business owner in control and takes responsibility to source information and advice from experts in each area that has an influence on their business operations.

Figure 2: Procedural Framework Model



Providing the SME with a procedural framework to work through each of the identifiable processes and concepts necessary gain an understanding of the complex issues specific to their business, should provide them with a snapshot of the reality of their organisation by resolving:

- their business and marketing plan
- who their clients are now and in the future, their needs and how best they can be served
- what are their products and services for a 'bricks and click' operation
- government laws and regulations specific to their industry
- market segmentation and their part in the industry network
- legal and ethical issues associated with doing business local and global
- a secure e-commerce technology strategy to meet their business needs and their business/consumer partners
- structures necessary for the web consultant and designer before engagement

Earle and Keen (2000) are of the opinion that the race for establishing one's business presence on the Internet without focusing first on their business model has passed. Internet strategy should be replaced with an articulate business model based delivering value added benefits to the customer, building relationships and community.

'You need a business model to drive business strategy in the era of Internet-led business. A technology model can't drive business strategy and a technology strategy doesn't generate a business model. If you see the Internet as technology, you'll be stuck in .com thinking – looking for the right Web site design. Web sites don't create profit. The business model does.' p21

A successful model is based on the level of trust and confidence between internal and external partners, however it will be the SME manager who will need to keep control of the process as they are the ones who know their business objectives and future business potential. This partnership will enable the model to evolve as the Internet backbone and online community acceptance of doing business online changes. An e-commerce life-cycle approach is a key component in the procedural/framework model.

Once the model has been developed, organisations should not be satisfied that this will be their mode of operation for an indefinite period of time or they will lose their competitive advantage. Instead, the SME needs to be proactive in finding out what their online community needs and how they can be served. Within the online community, customers are now better able to compare goods and services offered by organisations, and customer loyalty is under threat.

SUMMARY AND FUTURE RESEARCH

This research has identified a need to develop an integrated business/e-commerce procedural framework model for SME's in Australia to not only survive and prosper in the online community, but also increase operating profits through the uptake of e-commerce technologies. Future research is required to test and refine the integrated procedural framework by involving a sample of SME organisations addressing each of business processes and e-commerce steps outlined in the model and where necessary, modify its framework to increase the uptake by SME organisations in an attempt to be recognized as front runners of online adoption within our local and global digital economy.

REFERENCES

- Afuah & Tucci (2000), 'Internet Business Models and Strategies, Text and Cases', McGraw-Hill Irwin, USA
- Consumer Affairs Department (2000), 'Best Practice Model & Tools for Business', Canprint, Australia at <http://www.ecommerce.treasury.gov.au/>
- Davidson & Griffin (2000), 'Management Australia in a Global Context', Wiley, Singapore
- DISC (1998), 'Getting Business Online', Green Advertising, Australia
- DCITA (1999), 'Australia's e-commerce report card', at <http://www.dcita.gov.au>
- Earle & Keen (2000), 'From .com to .profit Inventing Business Models That Deliver Value And Profit', Wiley, USA
- Fellenstein & Wood (2000), 'E-commerce, Global E-business, and E-societies', Prentice Hall, USA
- Huff, Wade, Parent, Schenberger & Newson (2000), International Edition, 'Cases in Electronic Commerce', Irwin McGraw-Hill, USA
- IBM (1999), 'e-commerce Roadmap, Successful strategies for e-commerce', at <http://www.ibm.com>
- Kalakota & Robinson (1999), 'e-Business: Roadmap for Success', Addison-Wesley Longman, USA
- Lawrence, Corbitt, Fisher, Lawrence & Tidwell (2000), 'Internet Commerce Digital Models For Business', 2nd Edition, Wiley & Sons, Singapore
- McConnell International (2000), 'Risk E-Business: Seizing the Opportunity of Global E-Readiness' at <http://www.mcconnellinternational.com>
- National Best Practices Newsletter, (1997), Issue 11, Australian National Training Authority at http://www.kdc.com.au/bp_issues/bp11.htm
- NOIE (1999), 'E-Commerce beyond 2000', Commonwealth Department of Communications, Information technology and the Arts, Australia
- NOIE (2000), 'Survey of Computer Technology and E-Commerce in Australian and Medium Business', Telstra Corporation Limited, Australia
- Plant R. (2000), 'eCommerce Formulation of Strategy', Prentice Hall, USA
- Preece J (2000), 'Online Communities Designing Usability, Supporting Sociability', Wiley, Great Britain
- Samuelson R (2000), 'The Five Business Models of E-Commerce', eVine Online at <http://www.searchz.com>
- Schneider & Perry (2000), 'Electronic Commerce', Course Technology, Canada
- Sussis D (2000), 'A Useful e-RoadMap', e-consultant at http://commerce.internet.com/e-consultant/print/0.9571_363881.00.html
- Treese & Stewart (1998), 'Designing Systems For Internet Commerce', Addison-Wesley, USA
- Turban, Lee, King & Chung (2000), 'Electronic Commerce A Managerial Perspective', International Edition, Prentice Hall, USA
- Vanakkeren & Cavaye (1999), 'Factors Affecting Entry-Level Internet technology Adoption by Small Business In Australia: An Empirical Study', Proc. 10th Australasian Conference on Information Systems
- Viehland D (6-8 August, 1999), 'New Business Models For Electronic Commerce', 17th Annual International Conference of the Association of Management / International Association of Management, San Diego, California, USA.
- Ward, Griffiths & Whitmore (1994), "Strategic Planning Form Information Systems", Wiley, Great Britain
- Whiteley D (2000), 'e-Commerce Strategy, Technologies and Applications', McGraw-Hill, Cambridge
- Wortzel & Wortzel (1997), 'Strategic Management in a Global Economy', Third Edition, Wiley, USA
- Yeh, Pearlson & Kozmetsky (2000), 'Zero Time Providing Instant Customer Value – Every Time, All the Time', Wiley, USA.

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