

2001

A Four Phase Model of EC Business Transformation amongst Small to Medium Sized Enterprises: Preliminary Findings from 34 Australian Case Studies

Stephen B. Chau

University of Tasmania, stephen.chau@utas.edu.au

Paul Turner

University of Tasmania, Paul.Turner@utas.edu.au

Follow this and additional works at: <http://aisel.aisnet.org/acis2001>

Recommended Citation

Chau, Stephen B. and Turner, Paul, "A Four Phase Model of EC Business Transformation amongst Small to Medium Sized Enterprises: Preliminary Findings from 34 Australian Case Studies" (2001). *ACIS 2001 Proceedings*. 3.
<http://aisel.aisnet.org/acis2001/3>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2001 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

A Four Phase Model of EC Business Transformation amongst Small to Medium Sized Enterprises: Preliminary Findings from 34 Australian Case Studies

Stephen B. Chau and Paul Turner

School of Information Systems
University of Tasmania, Hobart, Australia
stephen.chau@utas.edu.au, paul.turner@utas.edu.au

Abstract

This paper presents a four phase model of EC business transformation constructed from analysis of 34 Australian SME case studies. The model explores the relationships between degrees of organisational transformation and potential benefits to be derived from EC. The model illustrates that potential benefit from investment in EC activities increase where enterprises engage in a process of organisational transformation. By exploring two identifiable stages in the strategic use of EC the model is extended to highlight that optimal benefit from EC activities is linked to strategic decisions to align organisational structures to leverage EC related competitive edge.

Keywords

Case Study, Exploratory study, Small Business, Computer-based Communication Systems

INTRODUCTION

Since the mid-1990s sustained growth in the Internet and in the conduct of electronic commerce (EC) has fundamentally changed the global business environment. Numerous studies have highlighted how electronic business practices offer opportunities for enterprises to leverage benefits including global reach, lower transaction costs, more efficient logistics, and increased business responsiveness. At all levels, EC has offered the potential to revolutionise internal and external operational and strategic business practices.

Despite these opportunities, there is considerable evidence highlighting the relative disparities that exist between large enterprises and small to medium sized enterprises (SMEs) in the adoption and utilisation of EC (Lowry et al:1999, Poon & Swatman:1997). The strategic grid developed by Cash, McFarlan and McKenny's (1983) is useful to identify key phases of technology implementation and planning with in an organisation however the theory is focused at large organisations. SMEs are characteristically different to large organisations. The organisational theories of large organisations may be appropriate to SMEs but their applicability needs to be validated in each specific SME case. (Raymond:1985). Clearly, there is a need for organisational theories developed for SMEs, as distinct from those developed for large businesses (Dandridge:1979).

In Australia, SMEs constitute a substantial part of the economy, comprising around 95% of all enterprises and generating more than 50% of private sector employment, their relatively low adoption of EC has attracted considerable academic attention. Previous studies have extensively examined the range of factors inhibiting EC adoption and utilisation amongst SMEs (Corbitt et al:1997, Freel:2000). More recently, as increased numbers of SMEs have become Internet enabled, research has highlighted that the level and extent of EC activity is far from homogenous amongst the SME business category. This research has also provided evidence to suggest that the range of potential EC benefits for SMEs at any particular level of EC activity vary according to the extent of organisational transformation (Chau:2001).

The relationship between organisational transformation and EC benefit is explored by adapting a framework proposed by Venkatraman (1994). The framework depicts the range of potential benefits derived from different degrees of IT enabled business transformation. Venkatraman (1994) suggests that business are able to leverage higher levels of potential benefits derived from IT when IT is used to change the inherent organisational characteristics. However, marginal benefits are only accrued if IT is integrated within existing business structures.

This paper presents a four phase model of EC business transformation constructed from analysis of 34 Australian SME case studies. The model attempts to coherently explore the relationships between different degrees of organisational transformation and potential benefits to be derived from EC. The model illustrates that potential benefits to be derived from investment in EC activity increase where enterprises engage in a process of organisational transformation. Conversely the model highlights that where investment in EC is not accompanied by business transformation the potential to derive EC benefits is inhibited. The results of this research aim to

provide a base for future studies. They highlight that for SMEs the process of maintaining competitive edge involves ensuring that organisational structures and EC technologies are aligned to business goals and strategic direction.

THE 34 CASE STUDIES

This paper is part of a larger study investigating the adoption and utilisation of EC by Australian SMEs. The aim of the case studies was to investigate the uptake of EC amongst SMEs and to construct a model to depict the various levels of EC utilisation. The case studies represent a broad range of businesses from seven different industries including agriculture, retail trade, hospitality, education, communication and manufacturing. These businesses vary in age from start-ups to one business that has been operating for more than 80 years. The SMEs that participated in this research were from two States in Australia: approximately half the case studies were conducted in Tasmania and the other half in Western Australia over an 18-month period. A basic description of the 34 case studies is presented in the Appendix (Table 2.)

METHODOLOGY

An interpretive epistemology was deployed as the most logical and appropriate approach to capture information about the beliefs, actions and experiences of SME participants in relation to their use of EC. A qualitative research design employing multiple case studies was favoured as the best means by which to capture the richness of the information, operational environment and the culture of the participating SMEs. Yin (1984) and Benbasat, Goldstein and Mead (1987) have previously discussed the merits of using multiple case studies to provide replication logic and rich descriptions of emergent research areas and Zikmund (1997) has justified and validated multiple case study analysis for investigations into the use of inter-organisational information systems.

In operationalising data collection a series of interviews were conducted with senior management in each business case. Data was collected on the background of the business and their associated internal and external trading systems as well as core target markets. Using a semi-structured interview question frame managers were asked a series of questions investigating the reasons for adopting EC and the current use of EC within the business. Associated questions addressed any problems faced during or subsequent to EC adoption, any organisational changes that occurred as a result of EC, benefits received from adopting EC and the direct impact of EC on the business performance. An appraisal of existing IT/EC skills and resources was also undertaken along with insights in to future EC plans. Interviewees were invited to discuss the current use of EC technologies and their perceptions of the overall impact of EC within their business. The development process of EC applications and how these systems were supported and maintained was also addressed. Finally interviewees were asked to outline the incorporation of their EC strategies within existing business structures.

Each interview was taped recorded and subsequently transcribed for analysis. Thematic coding was deployed as the analysis technique starting at the sentence level to generate key concepts and themes. Following Neuman (1994) a final iteration was conducted to identify cases that supported, conferred and showed disparity between the key themes.

MODEL DEVELOPMENT

The level and extent to which SMEs utilise EC varies considerably. Previous research (Chau:2001) has categorised EC activity amongst SMEs into four provisional phases as illustrated in diagram 1. This previous research specifically indicated that these four categories did not imply an evolutionary process of development from A→D but rather that SMEs could migrate or establish themselves directly at any one of the four phases.

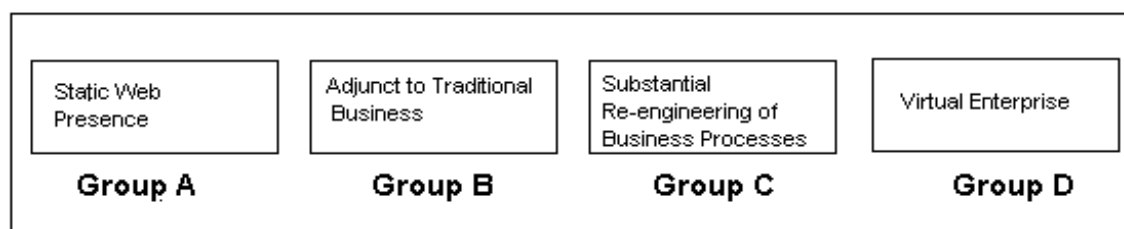


Diagram 1. Provisional phases of EC initiatives by SMEs

Group A: Enterprises have established a static web presence

Group B: Enterprises use EC to supplement their traditional business

Group C: Enterprises use EC to substantially re-engineer business processes

Group D: EC is integral to the business's viability. EC plays an instrumental role in business processes.

This paper aims to extend this phased model of EC utilisation to investigate the relationship between organisational transformation and potential benefits to be derived from EC activities. In examining this relationship it is important to acknowledge previous research that has examined links between technology and business transformation. Venkatraman (1994) identified an association between the range of potential benefits enabled by investment in information technology and levels of organisational transformation, while Poon and Swatman (1997) identified a relationship between organisational process adjustment and potential benefits from the Internet for internal application systems integration. The model presented in this paper examines potential EC benefits in relation to degrees of business transformation at different phases of EC utilisation amongst SMEs. This revised model highlights that strategic direction is an important factor in influencing the potential to derive benefits from EC activities. This model again uses the term phase to acknowledge that these positions are not necessarily distinct or independent from one another and that SMEs may often be in a transitional state between phases. Based on case study data analysis the model develops the following propositions:

- i) The potential benefits to be derived from EC activities increase where enterprises engage in a process of organisational transformation. As investment in EC technologies increases optimal benefits can only be obtained by suitable changes in organisational structure and processes. Optimal benefits from utilisation of EC will be achieved by those SMEs engaging in the highest degrees of organisational transformation.
- ii) The phases depicted in the model are not sequential steps of EC utilisation. The position of particular SMEs relies on strategic choices about the use of EC and their readiness to engage in organisational transformation. Subject to business directions and strategic goals it is possible through investment for an SME to migrate or establish themselves directly at any one of the four phases.
- iii) There are two distinct stages outlining the strategic use of EC amongst SMEs. The initial stage comprises a period of experimentation with EC that delivers limited EC benefits and requires limited organisational change. The second stage involves a clear strategic direction requiring greater resources and organisational transformation and potentially provides significant EC benefit.

The model (Diagram 2.) presents four phases of EC utilisation. These phases are described as follows:

Position Po: Conventional SME utilising no EC

Phase P1: SMEs incorporate a static web presence

In Phase 1. SMEs acknowledge that EC will play a role in their industry in the future. These enterprises incorporate basic EC initiatives, typically a basic web site providing information on organisational background, email contacts, and information on product and services. These web sites tend to be static and require little maintenance. Other organisations that can be included in this phase, may have no web presence but use electronic banking functions. The development of these web sites often occurs because of work by in-house staff interested in web page design. These individuals rarely have any formal training in IT. In some cases (for example cases B and C - table 2.) the management developed the web sites themselves.

Phase P2: SMEs add dynamic and interactive functionality to their use of EC. This does not involve any major transformation of these enterprises core structures.

In Phase 2. SMEs demonstrate an interactive utilisation of EC on their web site. Core internal business processes remain unchanged and EC initiatives are performed in addition to the core business. EC applications are not integrated directly into existing information systems. EC endeavours are largely deemed to be experimental and are not highlighted as strategic. In some cases (for example cases J and I - table 2.) perceived benefits from EC activities are not expected in the short term however, these SMEs are happy to continue to support their current EC activities.

Phase P3: SMEs engage in substantial re-engineering of business processes to accommodate EC initiatives. EC developments become integral to the strategic objectives of the enterprise.

In Phase 3. SMEs engage in an advanced stage of EC utilisation. These SMEs have an in-depth understanding of their business and what benefits EC technologies can provide. These SMEs actively examine phase 4 SMEs to examine how best to use EC to facilitate increased revenue generation by opening their business to the global market place or by streamlining their internal business processes and supply chains. These SMEs have a clear EC strategy that correlates directly with their business strategy. EC initiatives require substantial capital/resource expenditure and involve substantial organisation transformation in many core business processes. Customer Service and Information Systems are altered to accommodate the online marketplace. The degree of organisational transformation is markedly higher than cases found in phase 2.

Phase P4: Virtual business enterprises. The use of EC is fundamental to business operations. EC is used strategically to support the business.

In Phase 4. These SMEs have either restructured their traditional business to trade completely online or are classified as new Internet start-up businesses focusing their core market at the WWW. These types of virtual businesses may operate from home or other non-commercial settings substantially reducing the overheads incurred in traditional commercial business operations. Virtual organisations readily embrace new technologies for computer-mediated communications as suggested by Barnatt (1997). Case AB (table 2.) demonstrates how a business owner has consolidated his operations to such a degree that he is the only full time employee. The owner contracts extra support when required. He now operates his business in a mobile environment and communicates with customers and business partners via email. Businesses that trade in information products are highly suited towards a virtual setting.

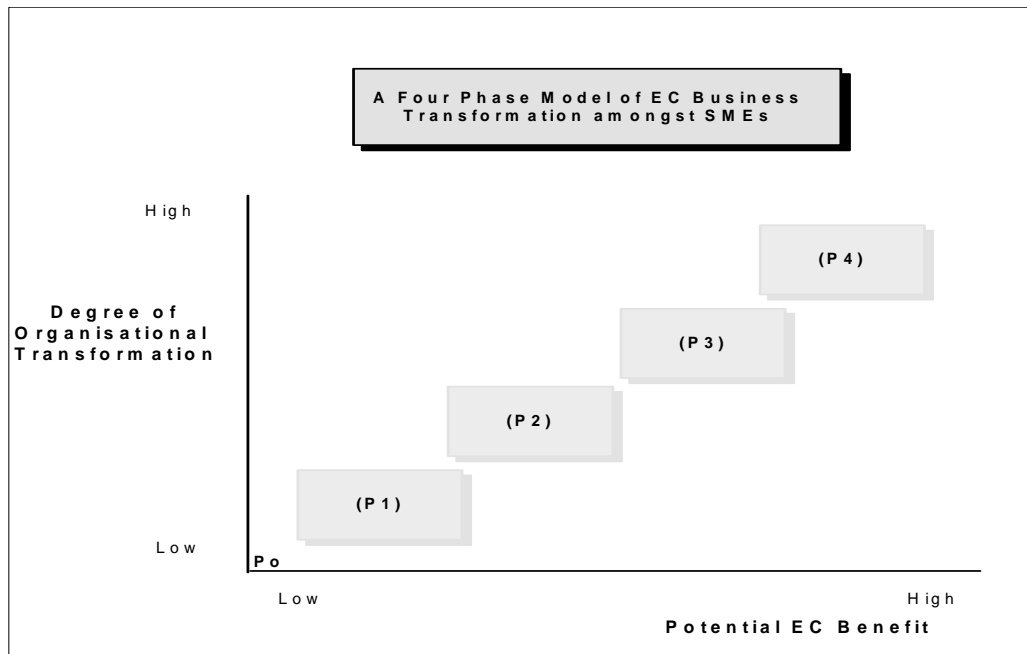


Diagram 2. A Four Phase Model of EC Business Transformation amongst SMEs

Degrees of Organisational Transformation: Analysing the Case Studies

Position Po

Po types SMEs are conventional enterprises with no EC activity. As a consequence there is no organisational transformation required as a result of EC.

Phase 1

The level of organisational transformation in phase 1 is minor. Cases (A, B, C, D, E) demonstrate characteristics that illustrate this phase. Minor changes may include the introduction of email and electronic banking facilities. However the core business processes are unlikely to undergo any significant changes.

Phase 2

The level of organisational transformation in phase 2 is greater than in Phase 1 but is limited to the accommodation of some types of electronic commerce to the business. Cases (F, G, H, I, J, K, L, M) demonstrate characteristics that illustrate this phase. Indeed in this phase SMEs show reluctance to change and in some instances articulate this explicitly as a means of insulating their existing core business from online fraud and data security issues. In this phase while on-line ordering facilities are common, the orders/information received is manually re-entered -re-processed into existing off-line information systems. Product information is acquired from mirrored databases, which are independent of core database systems. This provides an extra layer of security from data corruption and infiltration.

Phase 3

The level of organisational transformation in phase 3 is significantly greater than in phase 2 as SMEs implement a structured strategic focus. Cases (N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA) demonstrate characteristics that illustrate this phase. SMEs in phase 3 have management teams that acknowledge the benefits of aligning EC strategies with business philosophies. They demonstrate commitment to incorporating EC technologies into the organisation. As a result significant organisational changes are made to incorporate EC applications within core business processes.

Phase 4

The level of organisational transformation in phase 4 is dramatic and attempts to exploit the full potential of EC. Cases (AB, AC, AD, AE, AF, AG, AH) demonstrate characteristics that illustrate this phase. SMEs in phase 4 utilise the Internet as mechanisms for business with core trading partners and consumers. To operate in this phase an existing business will have transformed its self into a virtual business. The business is unlikely to have a physical "shop front" and may operate from home or other non-commercial premises. The business has the capacity to be totally mobile. Start-up businesses that have been conceptualised as virtual business enterprises from the outset will also reside in this phase.

Potential for EC-Benefit: Analysing the Case Studies

Position Po

A conventional business with no EC activity and consequently no EC derived benefit.

Phase 1

For relatively low cost SMEs in this phase develop a static web site with email facilities. The introduction of electronic banking capabilities can also be incorporated to provide immediate benefits. Email queries can be automatically channelled to the most appropriate person to answer queries regarding sales, technical or other advice. This has the potential to reduce more expensive conventional telephone enquiries. The businesses as a result can provide additional customer service 24/7. The web site provides an opportunity to display substantial amounts of product information and advice for relatively little costs compared to other forms of print media or advertising. Some businesses indicated that they found the costs of setting up their web site was comparably with the costs associated with the "Yellow Pages™" advertising and that the benefits derived from the web site have the potential to exceed the expectations SMEs have of "Yellow Pages™" listing/advertisement.

Phase 2

Basic online trading functions are a key characteristic of EC applications in this phase. Sales details can be transferred to the business via email or by the use of electronic forms. Businesses identify the Internet as an additional source of potential customers. It was common for businesses in this phase to develop their web sites in-house, often by staff with no formal IT skills but with an interest in web page design. This further reduces the barriers for businesses embarking on EC activities in this phase. Benefits attained in Phase 1 can also be reaped by Phase 2 businesses. The ability of users to download product information, product demonstrations and software updates/solutions were characteristic of Phase 2 businesses. SMEs in this phase derive additional benefit from being able to service large numbers of customers simultaneously.

Phase 3

EC is used strategically within the business to enable the streamlining of information in a timely and cost effective manner. Information flows are not duplicated and links between on-line and in-house information systems are maintained. The benefits derived from EC are directed internally within the business and externally to other trading partners and consumers. Case N a distributor with 50 agencies around Australia uses their secure web site to provide inventory and product information to each of the agencies. Conventional phone and fax information flows still exist for several of the agents however the on-line alternative has continued to increase in popularity. Agents can access information about products, gain inventory status or order products 24/7 thereby dramatically reducing costs associated with supporting these agents.

Phase 4

Phase 4 businesses have the potential to acquire all the benefits displayed in the previous phases plus the advantages of operating a virtual business model. The benefits to be derived from trading as a virtual enterprise are potentially immense. The resources to operate the business are significantly less than businesses located in Phase 1 and 2 and 3. Operational costs are reduced along with staffing costs. The costs of world-wide communications are significantly reduced if email is used extensively. Geographic limitations are lower for virtual enterprises trading in information based products. These businesses are highly mobile and can operate

effectively anywhere and at any time. These virtual businesses are exemplars of the potential of web-based commerce.

Stages of Strategic Utilisation of EC

From analysis of the case studies it is evident that this basic four phase model can be extended to highlight the role of strategy in influencing the phase of EC utilisation that SMEs occupy (Diagram 3.).

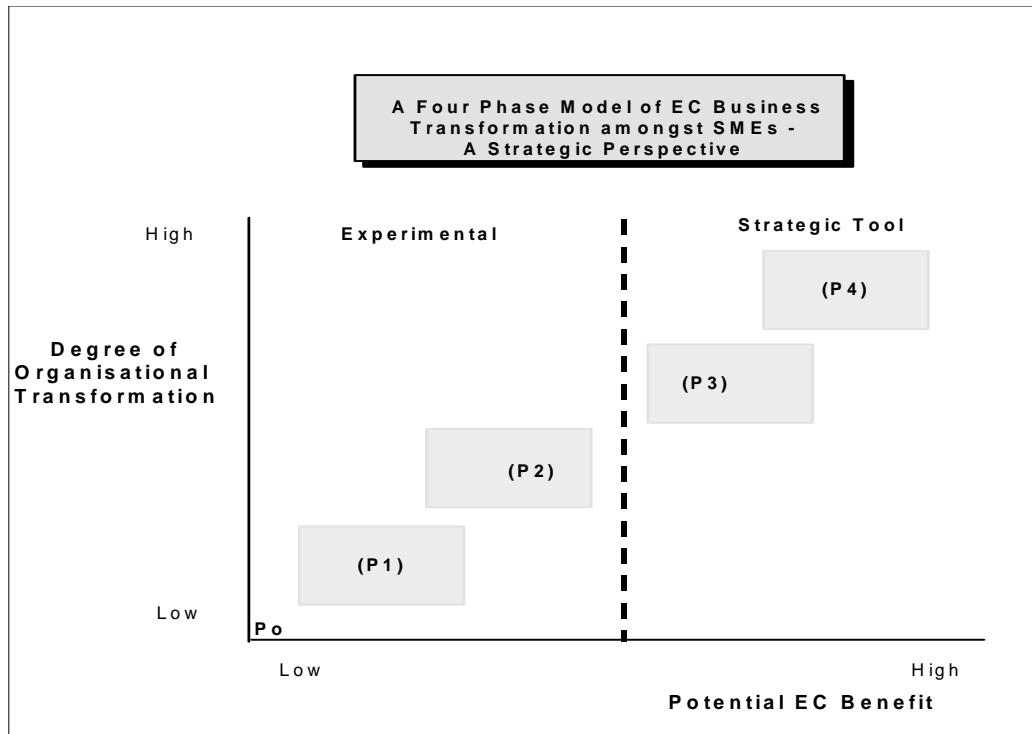


Diagram 3. A Strategic view of a Four Phase Model of EC Business Transformation

The case studies highlight that from a strategic perspective SMEs approach the utilisation of EC in two distinct ways: Firstly as an experimental tool and secondly as a core strategic mechanism. The experimental use of EC is characteristic of businesses identified in Phases 1 and 2. Minor benefit and organisational change exists. The businesses classified in Phases 3 and 4 value the use of EC highly and approach it in a strategic manner. In these phases the implementation of EC is deemed a key strategic tool in the current and future operation of the business.

Position Po

Position Po represents a conventional business with no EC activity. There exists no change in strategic outlook as a result of EC.

Phases 1 and 2

EC is not considered strategically important to the business. The business essentially adopts EC with a view to experimenting with what contribution it can make to the organisation. (Cases I and K) stated that they did not expect return on their investment in the short term. The capital outlay to establish their EC applications was minimal and the amount of other resources utilised relatively minor. In (Cases B, C, J, K) web sites were created by the business owner or family friends. In some instances, these SMEs have not computerised their offices and continue to rely use of a home computer to develop and maintain their web strategy. If these SMEs acquire sustained benefit from the utilisation of EC they expressed the intention to commit more resources to the use of EC and to become more strategic, thus entering Phase 3.

Phase 3

Businesses in Phase 3 demonstrate a high degree of strategic utilisation of EC. EC is deemed an essential part of their business practice. It is used to enhance customer service (Cases P, Y), Reduce transaction costs (Cases Y, X, Q) and provide operational efficiencies unobtainable in the past (Cases Q, Z). The capital and resource outlay has been extensive however management believes that costs associated with aligning EC strategies with core business strategies will enable them to be more competitive in associated marketplaces. EC is used to enhance

supply chain management and customer information systems (Cases N, Z, Y). Business to Business efficiencies are derived from superior on line communication technologies (Case N) and business to consumer transactions are improved by the ability to disseminate rich information to consumers in a timely and cost effective manner (Case R).

Phase 4

Businesses in phase 4 are completely reliant both operationally and strategically on the utilisation of EC. Deploying a virtual business model enables costs to be significantly reduced and as such numerous SME start-ups choose to begin their businesses in this Phase (Case AE, AF). Similarly a business in Phase 3 may find that a substantial portion of its market place is derived or accessed from the on line environment and may consider two avenues. A total consolidation of business activities and transformation from a “bricks and clicks” company to a “clicks” only business or choose to start up an independent business solely catering for the online community. The use of strategic alliances may also give rise to this state however as previous research has highlighted this is not a key determining factor in virtual small business (Chau and Turner:2001). Table 1 below summarises this extended model.

CONCLUSIONS

This paper has presented a phased model of EC business transformation developed from the analysis of 34 SME case studies. This model reveals that there are at least four phases of SMEs utilisation of EC. These phases emerge not as distinct stages of EC adoption but rather as transitional states in the use of EC that SMEs may establish themselves at directly or migrate to from other phases. By exploring the relationships between degrees of organisational transformation and potential benefits to be derived from EC the model has illustrated that increased value from EC accrues to those SMEs capable of re-aligning business structures and processes. From the case studies it also emerged that there are two distinct strategic perspectives adopted by SMEs in relation to the use of EC: experimental and strategic. These insights enabled the model to be extended by overlaying these two stages to reveal the role of strategy in influencing the phase of EC utilisation that SMEs occupy. While for many SMEs the utilisation of EC remains experimental it is evident that the greatest benefits from EC will only accrue when SMEs treat EC as a strategic tool and engage in organisation transformation to leverage competitive advantage. Future extensions of this model will explore its utility in specific EC niches e.g. business-to-business, business-to-consumer and also introduce factors including degree of EC investment and existing IT/EC capabilities. Despite the exploratory nature of this model it is anticipated that it will make a valuable contribution as a base for future research in this area.

| | PHASE 1 | PHASE 2 | PHASE 3 | PHASE 4 |
|-------------------------------|---|--|---|--|
| Organisational Transformation | Minor. No change to existing business structures | Minor. Changes to organisation are incorporated primarily in business to consumer type transactions | Major. Fundamental change to business processes. | Total organisational transformation is a requirement. Alternatively Start-up businesses begin in this phase. |
| Potential EC Benefit | Reduced marketing and publishing costs. Streamlined banking facilities and enhanced communication | EC benefit derived from adding online business to consumer type of transactions, seeking new markets | Substantial benefits derived from increase operational efficiencies, enhanced customer service and cost reduction | Significant benefits are found. Lower operating costs and resources. Consolidation of business expenses and reduction in staff numbers are possible. |
| Strategic Focus | Low strategic focus. | Experimental. Core business processes remain unchanged | High strategic focus. EC is used to streamline supply chain management and internal business processes. | EC is vital to the success of businesses in this Phase. EC is acknowledged as an important strategic tool. |

Table 1: Summary of extended four phase Model of EC Business Transformation amongst SMEs

REFERENCES

- Barnatt, C. (1997) Virtual organisation in the small business sector: the case of Cavendish Management resources, *International Small Business Journal*, 15(4)pp.36-47.
- Benbasat, I., Goldstein, D.K. and Mead, M. (1987) The Case Research Strategy in Studies of Information Systems, *MIS Quarterly*, Sep, 369-386
- Cash J., McFarlan F.W., & McKenney J. (1992) *Corporate Information Systems Management*, 3rd Edition., Irwin
- Chau, S. B., (2001) "Four Phases of Ecommerce a Small Business Perspective: An Exploratory Study of 23 Australian Small Businesses", *Proceedings of the Information Resource and Management Association Conference*, Toronto, Canada 2001
- Chau S.B. & Turner P. (2001) "A Conceptual Approach to Virtual-ness in Small Business Electronic Commerce: Four Australian Case Studies" *School of Information Systems Working Paper*, University of Tasmania, February 2001.
- Corbitt, B., Behrendorff, G., Brown-Parker, J., (1997) SMEs and electronic commerce, *The Australian Institute of Management*", Vol 14., pp204-222
- Dandridge, T.C., Children are Not Little 'Grown-Ups': Small Business Needs Its Own Organisational Theory, *Journal of Small Business Management*, 17(2), April 1979, 53-57
- Freel, M, Barriers to Product Innovation in Small Manufacturing Firms, *International Small Business Journal* March 2000 (18:2) p60
- Lowry, G., Singh, M. and Scollary, A. (1999) Electronic commerce initiatives in Australia: Identifying opportunity, meeting challenges and measuring success, *Proceedings of the 10th Australasian Conference on Information System: 532-541. Wellington, New Zealand 1-3 December.*
- Neuman, , W.L. (1994) *Social Research Methods: Qualitative and Quantitative Approaches* (2nd edition) Allyn and Bacon, USA.
- Poon, S. & Swatman, P. (1997) Small Business Use of the Internet: Findings from Australian Case Studies, *Proceedings from PAWEC*
- Raymond, L., Organisational Characteristics and MIS Success in the Context of Small Business, *MIS Quarterly*, 9(1), March 1985, 37-52
- Venkatraman, N., (1994) IT-enabled business transformation: from automation to business scope redefinition, *Sloan Management Review*, 35(2) Winter, p73(15)
- Yin, R. (1994) *Case Study Research. Design and Method*. London: Sage
- Zikmund, W.G., (1997). *Business Research Methods* (5th ed.). Sydney: *The Dryden Press*
-

APPENDIX

| Case | Case Code | Phase ID | Industry | Full Time Staff | EC Application | EC Benefit |
|------------------------------|-----------|----------|-------------------|-----------------|----------------------------------|---------------------------------------|
| Restaurant | A | P1 | Hospitality | 3 | Online lunch and catering menu | enhanced customer service |
| Rural Producer | B | P1 | Agriculture | 3 | Electronic Publishing | Reduced publishing costs |
| Hotel | C | P1 | Hospitality | 14 | Basic Online bookings | online booking, marketing |
| Rural Producer | D | P1 | Agriculture | 8 | Accounting Information System | reduced operational costs |
| Fish Farmer | E | P1 | Fishing | 65 | Online Marketing | reduced marketing and costs |
| Flower shop | F | P2 | Retail Trade | 1 | Online Sales | extra sales revenue, marketing |
| Educational Service Provider | G | P2 | Education | 2 | Marketing, Online Sales | global reach, marketing |
| Agricultural Advice Services | H | P2 | Agriculture | 21 | Information dissemination | cost effective communication |
| Retail Shop | I | P2 | Retail Trade | 4 | Online Sales | extra sales |
| Retail Shop | J | P2 | Retail Trade | 4 | Online Sales | global reach, sales |
| Manufacturer | K | P2 | Manufacturing | 9 | Online Sales, Electronic banking | global reach, sales |
| Grocery Store | L | P2 | Retail Trade | 25 | Online Sales | extra sales |
| Craft Shop | M | P2 | Manufacturing | 1 | Online Sales | global reach, sales |
| Communication products | N | P3 | Wholesale Trade | 45 | Supply chain management system | supply chain efficiencies |
| Web Developer | O | P3 | Communications | 4 | ISP | production efficiencies |
| Clothing Distributor | P | P3 | Wholesale Trade | 23 | Customer Information system | Customer service, customer loyalty |
| Web Developer | Q | P3 | Communications | 12 | ISP | production efficiencies |
| Manufacturer | R | P3 | Mining | 27 | Global Intranet | Global reach, customer service |
| Web Developer | S | P3 | Communications | 8 | ISP | production efficiencies |
| Web Developer | T | P3 | Communications | 45 | ISP | production efficiencies |
| Web Developer | U | P3 | Communications | 3 | ISP | production efficiencies |
| Insurance Adjuster | V | P3 | Insurance | 18 | Customer Information System | better communication efficiencies |
| Software Developer | W | P3 | Communications | 2 | ISP | production efficiencies |
| Bakery | X | P3 | Retail | 26 | Franchise Information System | administration efficiencies |
| Financial Service Provider | Y | P3 | Business Services | 35 | Customer Information System | enhanced customer service |
| Food product Manufacturer | Z | P3 | Manufacturing | 49 | Supply Chain Management System | production efficiencies |
| ISP | AA | P3 | Communications | 2 | ISP | production efficiencies |
| Scientific Systems | AB | P4 | Fishing | 2 | Communications, Product Demos | marketing, mobile working |
| Software Distributor | AC | P4 | Retail Trade | 5 | Product Demonstration | global reach, efficient info. systems |
| Online Education Service | AD | P4 | Education | 2 | Online education provider | fully automated business |
| Online Retail Shop | AE | P4 | Retail Trade | 2 | Online Sales | dis-intermediation |
| Online Bookshop | AF | P4 | Retail Trade | 2 | Online Sales | dis-intermediation |
| Fruit tree grower | AG | P4 | Agriculture | 4 | Online Sales | dis-intermediation |
| Stationery Supplier | AH | P4 | Retail Trade | 8 | Online Sales | National reach |

Table 2. Case Study Descriptions: 34 Australian SMEs

COPYRIGHT

Steve Chau and Paul Turner © 2001. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.