

# **Efficiency and effectiveness dimensions from the impact of Ebusiness on marketing networks: an exploratory view**

Bruce Perrott  
University of Technology, Sydney

## **ABSTRACT**

*Shareholder, competitor and consumer pressures have motivated organisations to embrace various aspects of electronic business for the purposes of efficiency and effectiveness. The complex and rapidly changing montage of emerging and converging technologies that together make up ebusiness capability at a point in time, inhibit the crystallisation of a clear model for managers to follow. As electronic connections between customers and suppliers increases in frequency and complexity, research in this area is becoming increasingly important in an effort to better understand the impact electronic networks have on buyer-seller relationships and business networks.*

*This paper examines recent exploratory research carried out with senior managers in the Australian telecommunications and banking industry in an effort to better understand perceptions of the impact of ebusiness developments on the effectiveness and efficiency of their industries and organisations at a point in time. Research findings are used as a basis to develop prescriptive guidelines in the form of a matrix that is intended to guide the efforts to develop ebusiness capability according strategic or operational initiatives.*

**Key Words:** Electronic Business strategy, marketing efficiency, marketing effectiveness

## **INTRODUCTION**

Electronic commerce (EC) is about the exchange of digitised information between parties. This may represent communication between two parties, co-ordination of the flow of goods and services or the transmission of electronic orders (Rayport and Jaworski 2001)

If electronic commerce relates to transactions, electronic business (ebusiness, or EB) takes a more holistic perspective with this definition; “*Any Internet initiative (Tactical or strategic) that transforms business relationships, whether those relationships be business-to-consumer, business-to-business, intra-business or even consumer-to-consumer*” (Hartman and Sifonis 2000). Moving beyond the Internet, a broader definition of ebusiness has been suggested by Laudon and Traver ( 2002 ); “*the digital enablement of transactions and processes within a firm, involving information systems under the control of the firm*”

Advancements and convergence of the technologies of electronic networks have provided firms with the incentive to use these channels as communication and distribution conduits in their dealings with other businesses (business to business) and the end consumer (business to consumer). Electronic business-to-business transactions in 2001 were estimated at US\$700 billion with business exchanges of all kinds estimated at US\$12 trillion. The business-to-consumer transactions estimates have been much smaller by contrast at US\$65 billion (Laudon and Traver 2002).

Shareholder, competitor and consumer pressures have motivated organisations to embrace various aspects of electronic business for the purposes of efficiency and effectiveness. The nature and rate of adoption of the emerging ebusiness technologies and strategies will be of considerable interest to managers who will be progressively looking to improve operating efficiency and effectiveness in marketing networks as well as communication and distribution channels which together make up vital supply chains.

This paper will examine some recent exploratory research carried out with senior managers in the Australian telecommunications and banking industry in an effort to better understand perceptions of the impact of ebusiness developments on the effectiveness and efficiency of their industries and organisations at a point in time (Perrott 2001). Telecommunication companies were chosen because of the key role they play in providing capability and connectivity to potential EB users. Hence senior managers in these companies should have an understanding of current EB issues.

Banking companies were chosen because of the high potential benefits that could be gained from ebusiness strategies. Electronic banking has superior cost and marketing advantages over traditional branch banking networks. It was therefore considered that senior bank managers would be highly conscious of the issues surrounding the adoption of ebusiness strategies.

## **RESEARCH METHODOLOGY**

As the research objective was to uncover manager's perceptions of issues relating to the development of electronic business and networks, qualitative research methodology was used. The research approach was through semi-structured in-depth interviews of about one hour duration. Senior managers in the selected companies were chosen on the basis

of the likely effect of EB on their functional responsibilities. One or two researchers present at each interview gathered data via note taking and audio recording of the interview. Data analysis was undertaken using the software program NUDIST Power version, revision 4.0.

Research included 16 in-depth management interviews in 5 telecommunication related organisations (including the largest operators in Australia, Telstra and Optus, and in New Zealand; Clear, Telecom NZ, EFSPOS. On the user side, 10 in-depth interviews were conducted in the two largest Australian banks (Westpac and NAB).

Interview prompt questions were focused firstly on issues external to each organisation in the general economy, and secondly on issues inside the organisation. External and general probes included the following;

- defining EB and EC
- drivers of EB
- inhibitors to the adoption and growth of EB
- benefits of EB to society
- costs of EB to society
- the impact of EB on the industry structure and dynamics

Internal Issues included;

- the organisations approach to EB
- the vision for EB
- factors driving the move to EB
- factors inhibiting the move to EB
- what are the effects of EB on the organisation
- what are the critical capabilities needed to meet EB objectives
- extent of involvement in EB
- who is driving EB

This paper draws on the research findings from the second cohort of probes, Internal Issues. These questions focused on the impact of ebusiness on their own organisations.

### **Effects of EB on the Organisation**

Two specific questions were asked to which open responses were noted and recorded;

*“What are the effects of EB on your organisation?” and,*

*“What other comments do you have on EB and how it relates to your organisation?”*

Rationale for probing this topic was to better understand managers perceptions in the following areas;

- how developments in EB are affecting the structure and dynamics of an organisation
- identification of important issues which impact on the efficiency and effectiveness of an organisation
- identify different approaches to actioning EB direction
- to contrast different opinions of the how EB is impacting on organisations

The consolidated responses by both telecommunication and bank senior managers to these open ended questions are listed in Table 1 in order of frequency of response;

**Table 1. Consolidated responses; telecommunication companies and banks**

<i>Issue mentioned by respondent</i>	<i>Response Pattern</i>
Market pressures are forcing EB	11 out of 26 interviews
EB as a new way of doing business	12 out of 26 interviews
New Processes needed to manage EB	11 out of 26 interviews
Levels of success in implementing EB	6 out of 26 interviews
Staff capabilities needed for EB	7 out of 26 interviews
Speed to market through EB	4 out of 26 interviews
Cost Reduction/profit/revenue from EB	3 out of 26 interviews
Customer impact	3 out of 26 interviews

### **Researchers Comments and Observations**

The *three most critical issues* when looking at the consolidated responses for both telecommunication companies and the banks were;

- *Seeing EB as a new way of doing business* (mentioned in 12 out of 26 combined responses)
- *New business processes were needed to manage EB effectively* (mentioned in 11 out of 26 combined responses)
- *Market pressures were forcing companies to become EB enabled* (mentioned in 11 out of 26 combined responses)

In an effort to understand the different priority issues between telcos and banks, the major issues are contrasted in order of frequency of mention by respondents in Table 2.

**Table 2**

<i>Priority Issues for Telcos</i>	<i>Priority Issues for Banks</i>
Seeing EB as a new way of doing business	Market pressures were forcing companies to become EB enabled
New business processes were needed to manage EB	New business processes were needed to manage EB
Market pressures were forcing companies to become EB enabled	Need changes to staff capabilities to handle EB successfully
Levels of success needed in implementing EB strategies	Need to share knowledge between people to gain advantage

The notable difference between the two groups was that the banks have felt the need for EB enablement because of market pressures by way of competitive pressures from other banks as they race to reduce operating costs and improve customer reach and service standards with emerging EB strategies. Telcos primary focus was on seeing EB as a new way of conducting business. There was agreement between telcos and banks on the second listed priority of developing new processes to manage EB.

From the open-ended responses, some of the more significant issues included the following;

*a) From telcos;*

- the incentives to embrace EB included the reduction of operating costs and hence enhance profit margins, and the opportunity to improve market reach and penetration by providing improved customer value
- that the life of assets would be reduced as accelerated redundancies occur with the rapid changes in technologies supporting EB enablement
- in order to survive, companies had no choice other than to progressively and urgently follow an EB enablement path. The nature and pace of EB change is often set by key competitors in an industry.
- it is usually difficult to assess the financial returns that EB projects will yield. This creates a problem in allocating funds between EB investments and other business investment opportunities where the returns can be assessed with greater certainty.

*b) From Banks*

- EB is seen to present the opportunity for greater transfer of knowledge between staff as they discuss implications of EB developments.

- EB may change the structure and nature of the banking industry as competitors may emerge from non-traditional sources.
- it is usually difficult to assess the financial returns that EB projects will yield. This creates a problem in allocating funds between EB investments and other business investment opportunities were the returns could be assessed with greater certainty.
- here is a need for a change in staff skills in order to embrace EB effectively
- there is executive fear of the unknown in trying to come to terms with EB
- there is a need for more middle management commitment in accepting and expediting EB change
- time to implement EB change is critical as there is competitive urgency

### **Dimensions of Effectiveness and Efficiency**

Incentives to use electronic channels may take the form of potential benefits in efficiency and effectiveness. Economies in electronic communication and distribution transactions can substantially reduce the costs of business operations. The richness of those connections is also enhanced with the potential for interactive, personalised and asymmetric relationships. There is also the ongoing potential to improve the reach to new supply sources and customers using the fast growing electronic network (Evans and Wurster 2000). In reality, most firms will need to plan marketing strategies for both traditional or “place” aspects of the business, and the fast developing electronic or “space” dimensions of the business (Rayport and Siviokla 1994). Both approaches need to be co-ordinated in a cost effective manner whilst providing the customer with an effective and integrated solution.

Some analysis was carried out in an attempt to examine the results in terms of primary motivation for adopting electronic business approaches. This was looked at in dimensions of *efficiency* and *effectiveness*.

Starting from basic definitions, the Oxford Dictionary (Fowler and Fowler 1964) defines *effective* as “having an effect”. In an attempt to add clarity to this meaning the word *effectual* is listed as “answering its purpose”. For *efficient*, the dictionary provides “productive of effort”. For *efficiency* the explanation is given as “the ratio of useful work performed to the total energy expended”. In another attempt to add clarity to the definitions of effectiveness and efficiency they may be defined as follows;

*Effective* - doing the 'right' things

*Efficient* - doing things right

If we make the assumption that the above research responses could fall into one of three possible classifications in terms of motivation to adopt EB strategies or approaches, namely; for purposes of *efficiency*, *effectiveness* or for reasons external or *exogenous* to the organisation. Using this as a classification framework, the main responses can be classified as follows;

***For the top three responses*** in terms of level of response of all 26 respondents from both the banks and telcos (ie those which were mentioned by 11 or 12 of the 26 respondents - refer Table 1);

*Efficiency*

- Nil

*Effectiveness*

- EB as a new way of doing business (No 2 in Table 1)
- New Processes needed to manage EB (No 3 in Table 1)

*Exogenous*

- Market pressures forcing EB (No 1 in Table 1)

***When all eight responses*** are included in the analysis, the following stratification results;

*Efficiency*

- cost reduction/profit/revenue from EB (No 7 in Table 1)

*Effectiveness*

- EB as a new way of doing business (No 2 in Table 1)
- new Processes needed to manage EB (No 3 in Table 1)
- levels of success in implementing EB (No 4 in Table 1)
- staff capabilities for EB (No 5 in Table 1)
- customer impact (No 8 in Table 1)
- speed to market through EB (No 6 in Table 1)

*Exogenous*

- market pressures forcing EB (No 1 in Table 1)

From this analysis, it can be seen that the primary driving motivation for adopting EB strategies are related to improving the effectiveness of the business unit, ie doing things better or differently.

Another investigation showed the growing importance of effectiveness in attempting to assess marketing performance. The Chartered Institute of Marketing in the UK commissioned the London Business School to examine the return on marketing expenditure in the financial services industry. In effect, they were invited to determine the efficiency of marketing expenditure in terms of the increased profits it contributed. They were not able to do so in the sample because of lack of data. The firms themselves could not do so either. What was found was effectiveness; by and large firms were achieving the targets in their plans. Competitive firms were winning because they were setting different targets ie metrics. In the Metrics project research they also found that management was increasingly assigning more importance to effectiveness rather than efficiency (Ambler 2000).

### STRATEGIC IMPLICATIONS

Managers in an organisation who decide on EB enablement strategies at a point in time, will be motivated by the opportunities it presents in terms of improving the business operation effectiveness, its efficiency, or perhaps both. It has been suggested that actions concerned with effectiveness relate more to strategic moves, whilst those concerned with efficiency relate more to operational or tactical matters (Johnson and Scholes 1993).

To demonstrate alternate paths to a certain level of EB enablement at a point in time, it is useful to develop the *EB Enablement Matrix* shown in Figure 1. It has as its axes, *Drive for Effectiveness* and the *Drive for Efficiency*. Quadrant positions on the matrix could be described as follows;

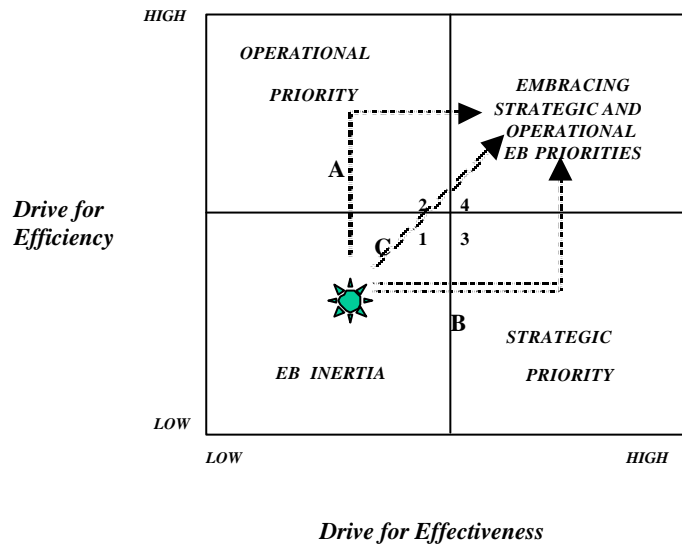
***EB Inertia***; Here where the drive for efficiencies and effectiveness offered by EB enablement is relatively low, management decide not to make moves to be EB enabled as they see no benefits from either operating efficiencies or improved effectiveness.

***Operational Priority***; Managers placing their business units in this quadrant, consider that the primary motivation for EB enablement will be because of the relatively high anticipated benefits through operating efficiencies.



Figure 1

## *Electronic Business Enablement Matrix*



**Strategic Priority;** Managers placing their business units in this quadrant, consider that the primary motivation for EB enablement will be because of the relatively high benefits to the business unit's effectiveness.

**Embracing Strategic and Operational EB Priorities;** Managers placing their business units in this quadrant, consider that the motivation for EB enablement will be because of relatively high perceived benefits to both operating efficiency and improvements to the Unit's effectiveness.

Assuming a business unit initially places itself at the point of the star in Figure 1. Here managers have ranked the need for EB enablement low in terms of estimated effectiveness and efficiencies that it could bring to the business unit. Managers may have reached this conclusion after carrying out an objective investigation of the potential advantages and disadvantages of becoming EB enabled using an evaluation tool similar to the *Electronic Business Indicator Assessment* (Perrott 2001).

Our research among a sample of senior managers (Perrott 2001) showed that the level of *attraction*, or forces driving organisations to electronic business could be scaled according to importance in four key areas namely; cost benefits, competitive pressures, market advantage and value adding.

***Cost benefits.*** This category relates to the incentive of reductions in operating and transaction costs of doing business electronically compared to traditional physical methods. Cost benefits transfer to improvements in operating efficiency.

***Competitive Pressures.*** This category relates to a business unit's threat of being left behind in 'place' while others move to 'space'. Some companies have used electronic channels as a first mover marketing strategy.

***Market Advantage.*** This category is when a business anticipates a strategic advantage such as market coverage, penetration, reach or customer access gained via electronic connections.

***Value Adding.*** Where electronic developments add value to customer satisfaction while building strong relationships. This may take the form of more comprehensive or more convenient on-line information both before and after the sale.

As in all evaluations, the benefits of moving into an electronic environment must be considered together with the potential *inhibitors*. Collectively, inhibitors will slow down or prevent the move towards electronic business involvement. Our research has indicated that these would include the following considerations ( Perrott 2001);

***Legacies of the past:*** those things that are not easily dispensed with practically, without great cost or political embarrassment. These may range from IT infrastructure to staff who do not have the skills or aptitude for the electronic way of doing business.

***Inability to access the technology and connectivity*** to provide the electronic service to key markets, including the development of suitable payment systems for products and services supplied.

***Unable to afford or raise the capital*** funds necessary for EB development and expansion. Alternatively decision makers not willing to allocate budgets adequate to complete EB projects.

***Customers may not want to do business electronically,*** and prefer the benefits of traditional and personal, face-to-face service.

Following such an investigation and evaluation the business unit team could consider the alternative paths towards EB enablement in terms of the options shown in Figure 1.

**Path A:** Here the path to an EB enabled future is seen to occur through operational efficiencies. This approach infers that a future in EB can be justified mainly through cost savings. One example of this approach may be a retail bank that is motivated by the large reductions in the cost of marketing and delivering its services via EB channels compared to delivering them through a traditional branch property network.

**Path B:** Here the path to an EB enabled future is seen to occur through the potential to build effectiveness by reaching suppliers and markets not previously accessible (Evans and Wurster 2000). One example of this approach could be that managers of a retail bank see the opportunity to reach new market segments through electronic channels such as the Internet which could not be reached and serviced through the traditional branch property coverage.

**Path C:** Here the path to an EB enabled future is seen to occur through both the potential to build effectiveness and the potential to improve efficiency. This may involve a strong commitment with considerable resources devoted to a process of EB transformation rather than a more gradual evolutionary path that could be inferred by making the move to EB enablement from an operational efficiencies path (Perrott 2001). To carry through the previous retail banking example, in this quadrant, managers are highly motivated by both the benefits of effectiveness and efficiency that EB enablement will bring to the business.

### **IMPLICATIONS FOR MANAGEMENT**

In trying to bring about ebusiness transformation, companies have often paid too much attention to technology. Technology has driven the ebusiness enablement process; “ *as if adding the software or hardware could, on its own, bring about miracles. But systems do not work in a vacuum, and senior managers would do well to recognise the complementary nature of technology, business process and ebusiness readiness throughout the value chain, from their suppliers to their customers. By taking a more holistic view, executives can turn these facets of a company’s operations into the drivers of ebusiness excellence*” (Barua et al 2001).

It has been suggested by other researchers that information technology and the Internet have transformed the nature of business. This transformation is not only about conducting business on-line, it is also about integrating ebusiness capabilities into every aspect of value creation such as procurement and customer relationship management (Cavusgil 2002.)

Although technology is a key enabler of ebusiness, it is not an end in itself but a path towards providing a business benefit. Very large IT budget allocations evident in the late 1990's were provided with the uncertainty of financial returns and business benefit out of fear of not being left behind in the ebusiness race (Perrott 2001). Now organisations are being more careful and budgets are under increased scrutiny. In supporting the move to ebusiness, executives are making sure the IT investments are based on a sound business case and benefits (Haapaniemi 2001).

This exploratory research and the resulting prescriptive framework has attempted to add operational and strategic considerations to the debate and justification for devoting resources for the migration towards ebusiness enablement.

Although the research provided some useful insights into the issues that managers contemplated in the race to become EB enabled. Limitations of the research need to be acknowledged in reading the findings. These included the small sample of managers participating in the research and the fact that they were selected on the basis of their availability rather than on an objective sampling rationale. Another limitation was the small number and specific business nature of organisations taking part in the research, therefore substantially restricting the generalisability of any findings.

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