

A New Strategy for Micro-business e-Business Adoption Policy

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Abstract

The adoption of e-business by the private sector is still a key thrust of Australian Government Information Economy rhetoric. Many indicators show that Australian business is moving online, however these indicators also show that the smallest-scale businesses (micro-businesses, employing less than 5 people) are lagging in the adoption of e-business. This paper reviews the approach that the Australian Government has adopted in rhetoric and practice to encourage e-business adoption among micro-businesses. It notes that in micro-businesses the influence of the CEO or founder is dominant. On that basis, the paper suggests that the success of encouraging e-business adoption among micro-businesses might be increased by drawing on the multi-channel strategies in the government-to-citizen sphere.

Introduction

The information economy is an accepted reality, although not with the same shape or colour as the evangelical pundits originally described it. There is increasing use of information and communications technologies in everyday business activity (Australian Bureau of Statistics, 2003a). To at least some extent, the predictions that “the ‘e’ in e-business will soon be irrelevant” (Alsop, 1999) are coming true. But not for all businesses and a continuing priority for government is the promotion of the adoption of e-business by businesses in Australia (Accenture, 2003; National Office for the Information Economy, 2003a).

This paper briefly reviews the approach that the Australian Government is using to encourage more comprehensive e-business adoption among Australian businesses. The paper draws on case studies in the export industry to illustrate some specific characteristics of differently-sized businesses that influence the success of the government’s approach. Consideration of whether the government’s approach is suitable for small- and micro-businesses is framed in four questions:

- Is it realistic *not* to differentiate between large, medium-sized and smaller business in government-to-business (G2B) e-business initiatives?
- Does the lack of differentiation manifest in the current G2B rhetoric match the actual experience of government agencies and businesses with G2B e-business systems?
- Is the current non-differentiated G2B approach seen to work?

- Therefore, is the current approach appropriate?

The paper concludes with suggestions for an alternative approach for encouraging e-business adoption in small- and micro-businesses drawing on the government's approach to dealing with citizens in the information economy.

A Brief Review of the Australian Government e-Business Adoption Encouragement Approach

All of the indicators of the presence of the information economy continue to increase. Household access to and use of the internet is increasing (Australian Bureau of Statistics, 2003b). Government services are widely available and second-generation e-government services are starting to appear (Accenture, 2003). Business adoption is still increasing, albeit more slowly than earlier (Australian Bureau of Statistics, 2003a).

The Australian Government continues to develop and implement policies and programs aimed at increasing business adoption of information and communication technologies (ICTs), particularly those related to the internet and the information economy (National Office for the Information Economy, 2002). The range of activities that the Australian Government has put in place to encourage business adoption can be summarised into two main thrusts:

- Early government use and promotion of electronic G2B interactions, usually over the Internet
- Promotion of the benefits of participating in the information economy.

Examples of government adoption to promote electronic G2B interactions are:

- Initial forays such as Transigo, which failed at least in part because of the lack of the network adoption needed for 'critical mass' (Department of Communications Information Technology and the Arts, 2000a), and EXDOC (discussed in more detail later) and Tradegate ECA (www.tradegate.org.au) in the export area, both of which are moving into their second generations to accommodate new technologies and approaches
- The introduction of the Business Entry Point (www.business.gov.au) that centralised the government's information resources on business matters and offered some of the first integrated e-government services for business (National Office for the Information Economy, 2002)
- The government's e-procurement strategy released in 2000 that sought to pay all suppliers electronically and to use electronic procurement approaches with all suppliers able to participate (Department of Communications Information Technology and the Arts, 2000a)
- The introduction of the Goods and Services Tax compliance requirements, particularly the requirement for large businesses to interact with the Australian Taxation Office electronically
- The development of digital signature infrastructure with projects such as Gatekeeper, and the ABN-DSC (Australian Business Number Digital Signature

Certificate) (Department of Communications Information Technology and the Arts, 2000b).

Educational activities that promote awareness of the information economy and the benefits to business of adopting e-business approaches have been as explicit as a variety of ‘travelling roadshows’, the e-businessguide (www.e-businessguide.gov.au), and publication of various case study compilations (National Office for the Information Economy, 2003c). The government has also participated in substantial and targeted programs encouraging e-business adoption such as the ten rounds (to date) of the ITOL grants program in which \$9.4 million dollars has been used to catalyse 94 projects deliberately aimed at promoting adoption within industry sectors (National Office for the Information Economy, 2003b).

The government’s rhetoric has generally been aimed at encouraging small to medium enterprises (SMEs) to adopt e-business while largely assuming that the large enterprises in the economy will automatically, or have already, adopted these approaches. Indeed, in the arrangements for the new taxation system, the government adopted the position that large enterprises must use electronic reporting for compliance while SMEs were “encouraged to take the opportunity” (ATO ref). The government recognises explicitly the importance of SMEs to the overall economy and aims to encourage large proportion of businesses (by number) to adopt the ‘benefits’ of e-business for the betterment of the businesses and consequently the Australian economy (National Office for the Information Economy, 2003a). Furthermore, the government has an important role to play at a time when the global reach of e-business and the accelerating consolidation and integration of global supply chains threaten SME control of their traditional markets (Al-Qirim, 2004).

Importantly, the rhetoric has tended to be “all or nothing” in nature. The government encourages the adoption of ‘typical’ e-business approaches such as electronic markets, electronic supply chain integration, and online catalogues. While not inappropriate in itself, there are no alternatives discussed; businesses either go online, or they do not. And, to a large extent, the government’s approach of early adoption of electronic G2B activities has focused on Internet-enabled interaction. Different industry sectors have received different levels of and types of attention over time. However, there is no particular targeting of programs at specifically-sized businesses.

These are two characteristics of the current government e-business adoption encouragement policy that deserve more careful attention:

- The ‘one-size-fits-all’ rhetoric of SME adoption programs may not be effective for micro-businesses as the people involved in the business may not think of themselves as a business, or at least not be able to differentiate their personal preferences for information technology use from those that might constitute good business
- The tendency to advocate ‘all-or-nothing’ adoption, rather than presenting and encouraging a ‘multi-channel’ view of e-business similar to the approach that the government itself has adopted for government-to-citizen (G2C) activities.

EXDOC: An Example of Electronic G2B System Implementation

The importance of e-business uptake and its diffusion to smaller firms in the G2B context is evident to government agencies such as the Australian Quarantine Inspection Service (AQIS). AQIS undertook the phased implementation of EXDOC across a number of sectors. EXDOC¹ is an online G2B system designed to facilitate access to online documentation for producers requiring a health or phytosanitary certificate to export. First implemented in the Meat sector, EXDOC was gradually phased in for use by producers in other sectors including Dairy, Fish, Grains, Horticulture, Wool, and Skins and Hides.

The service anticipated immediate value-adding opportunities from the successful diffusion of EXDOC such as increased capacity to use existing infrastructure to accommodate the increase in productivity and output. An AQIS regional manager summed up the benefits: “EXDOC ... requires the same number of people in AQIS regional offices, they get information and they get it quicker before anything happens and most of it is done electronically without interference” (Wilkins, Swatman & Castleman, 2001).

Metcalfé’s law states that the value of a network increases with the diffusion of the technology (Shapiro & Varian, 1999). Industry leaders taking part in the EXDOC implementation were keenly aware that unless all members of a sector—especially the numerous smaller producers—took up online offerings, the G2B system would fail to deliver significant benefits.

Leading firms and professional associations in sectors such as Meat and Dairy exerted considerable pressure on AQIS to ensure deadlines for EXDOC take up were enforced. There is little doubt that the lobbying efforts of industry leaders were directed to gaining the value-adding network effects of Metcalfe’s Law. A post implementation review of EXDOC’s roll-out expressly refers to industry awareness of the critical importance of G2B cross-sectoral uptake to business outcomes from the EXDOC implementation:

“The industries that are well advanced with the uptake of EXDOC are aware that the maximum benefits of EXDOC will only be realised once all exporters in their industry are using the system. These industries are also critical of AQIS for not being stricter in enforcing cut off dates for the manual system; they also wish AQIS to increase the cost of the manual system to make it relatively expensive for non-users to encourage uptake” (Minter Ellison, 2002).

The EXDOC system implementation is substantial evidence that micro-business adoption of G2B technology is vital for sustainable diffusion of online systems and the resulting network effects industry seeks to gain.

A Brief Review of SMEs

SMEs make up a very heterogeneous group. The realm of SMEs encompasses organisations with between 0 and 200 employees, or an annual turnover of less than \$200 million (Australian Bureau of Statistics, 2003a). This presents a substantial

¹ (see <http://www.affa.gov.au/content/output.cfm?ObjectID=29486AD7-D0CB-463E-99FC73BBC61F36A0> for Frequently Asked Questions about EXDOC)

range of business types and attitudes. Typically, smaller firms have been included in the market only as part of the trading community rather than as an economic cluster (Brown & Lockett, 2001). Despite being poorly understood small and new enterprises are widely recognized as 'engines of employment creation' (Audretsch, 2002). Micro-businesses with five or fewer employees survive by continuously applying entrepreneurship to preserve their edge.

Considerable fragmentation in SME studies has led to a number of contradictory findings regarding drivers and barriers to uptake (Al-Qirim, 2004). What is emerging from larger longitudinal studies however, are clear indications that reasons for adopting e-business and the benefits realised from adoption differ significantly for SMEs from those of larger firms across a number of indicators. The idea that small businesses are miniature versions of large businesses rather than unique in their own right, is gradually giving way to recognition that e-business is a rather complex concept.

One of the small number of shared characteristics of the SME group is the role of the CEO, especially in micro-businesses. Most micro-businesses are virtually ruled by the CEO, who is the sole employee, or the founding entrepreneur, or the head of family (Mintzberg, 1992). This individual is typically the dominant strategy setter, and their enthusiasm for, or ignorance of, particular business ideas will make or break their adoption and success within the business, particularly in the areas of information technology adoption (Cragg & King, 1993; DeLone, 1988; Lefebvre, Mason & Lefebvre, 1997; Poon & Swatman, 1999).

There is little doubt that the CEO's recognition of the business value of the Internet combined with his/her attitude to business growth represent key factors in determining Internet adoption strategies in smaller firms (Cragg & King, 1993; DeLone, 1988; Lefebvre, Mason & Lefebvre, 1997; Levy & Powell, 2003; Poon & Huang, 2004; Poon & Swatman, 1999). Where the CEO takes on the role of local champion, s/he can play an important role in raising awareness, undertaking investment in the new technology, giving legitimacy and diffusing it through various mechanisms to other actors (Cragg & King, 1993; Lefebvre, Mason & Lefebvre, 1997; Norgren & Hauknes, 1999). The literature provides strong support for the finding that SMEs will aim for specific adoption strategies to satisfy the CEO's requirements. It is therefore important to take into account that while CEOs in smaller firms need to know more about e-business, they appear to be generally positive about e-business *per se* (Oliver & Damaskopoulos, 2002).

The pivotal role CEOs play in e-business adoption in smaller firms may explain recent studies which counter the generally pessimistic assessments of tardy and strategically limited adoption of e-business by SMEs. It now appears that small firms can be more proactive in their use of e-business applications than their larger counterparts. Daniel and Grimshaw (2002) found that whilst larger firms were more interested in e-business applications to improve operational efficiency, smaller businesses took a more strategic slant. These smaller firms looked to e-business to extend their ability to respond to competitors, provide enhanced customer services, and improve relations with suppliers. The study also found that smaller businesses believed that they had achieved greater benefits from their e-commerce services than had the larger firms in all areas explored.

Evidence of focused investment in e-business by SMEs emerged in another recent study of 27 firms. Contrary to the generally pessimistic literature, managers of SMEs were found to align their information systems and strategic contexts with the expectation of collecting significant benefits (Levy, Powell & Yetton, 2001)

Firm-level decision-making emerged as a key determinant of technology innovation uptake in the cross-case analysis of the EXDOC case studies (Wilkins, 2003). The EXDOC implementation revealed that adoption of innovative technology such as e-business occurs historically as a reaction to external pressure. However, adoption because of external pressure—often exerted in the form of mandatory adoption—tends to remain patchy until senior management see industry wide benefits translating to benefits for their individual firms (Wilkins, 2003). There is also evidence that even single small firms can play an important role in raising awareness, undertaking investment in new technology, giving legitimacy and diffusing it through various mechanisms to other actors and so acting as local champions for technology adoption (Norgren & Hauknes, 1999).

Our brief review illustrates some key points. SMEs are not homogenous and a ‘one-size-fits-all’ strategy is unlikely to be satisfactory. When focusing on micro-businesses, the CEO of the business is the key decision maker and is the person for whom adoption education and encouragement should be targeted. Finally, although SMEs are not yet vigorously adopting e-business, their adoption is crucial to industry/sector-wide benefits being realised. There is evidence that properly encouraged, micro-businesses will adopt e-business in a strategic and effective manner and that the influence of their adoption might ‘punch-above-their-weight’ in terms of industry-wide adoption.

A Review of the Australian Government’s e-Business Adoption Encouragement Approach

Earlier, we identified two key elements of the Australian Government’s current e-business adoption encouragement approach: a ‘one-size-fits-all’ view and an ‘all-or-nothing’ message. We will frame the consideration of these areas of attention through the lens of a number of questions. Firstly:

Is it realistic not to differentiate between large, medium-sized and smaller business in G2B e-business initiatives?

Current research provides significant evidence that a lack of differentiation leads to poor identification of business requirements. The role of the provider or vendor is a critical component in adoption of online technology. Smaller businesses differ from larger enterprises in their total reliance on the provider. The pivotal role of the provider plays a critical role in the firm’s overall level of satisfaction with the technology, their ongoing ability to implement new systems for specific users and their ability to manage their IT staff (MacGregor, Waugh & Baker, 1996).

Providers that have adopted an undifferentiated approach to e-business—both in G2B and business-to-business (B2B) contexts—often discover the costly shortcomings of such an approach. One recent investigation of the criteria used in enterprise resource

planning (ERP) software investment, found an interesting mismatch between the perspective of e-business vendors and smaller firms. Whilst vendors had focused on promoting ERP package selection in the form of competitive weapons for SMEs, what the SMEs actually wanted were tools that could help them to better manage their day-to-day operations. Vendors had also underestimated the close attention smaller firms paid to local and continuing support for the product they chose (Hallikainen et al., 2002).

In cases where providers do identify and subsequently facilitate specific business requirements of smaller firms, the result can be surprisingly successful. In the case of the phased implementation of EXDOC, users came from agribusiness sectors comprised largely of very small firms lacking strong industry representation and often of a very fragmented nature (Peterson, Cornwell & Pearson, 2000). These barriers to e-business adoption were particularly evident in the Fish sector. Fortunately, the known problems stimulated careful preparation and close cooperation between AQIS and industry representatives in the EXDOC implementation process. Despite the known difficulties, the result has been a highly satisfactory outcome appreciated as such by both AQIS and Fish Industry representatives (Minter Ellison, 2002).

Based on both B2B and G2B experiences outlined here, differentiation between large, medium-sized and smaller business in G2B e-business initiatives appears to be a more realistic option for sustainable systems development.

A second question then follows from the current government approach:

Does the lack of differentiation manifest in the current G2B approach match the actual experience of government agencies and businesses with G2B e-business systems?

Accommodation of differences is a particularly important issue in the public sector where government agencies generally cannot choose their customers (Haque, 2001; Harris, 1999). The services they provide must be for everyone and equity issues must be taken into account. Consequently, government online services must be more flexible and facilitative than those provided by private enterprise firms who can pick their market segment more freely and exclude 'difficult' or less profitable customer segments (Haque, 2001; Quiggin, 1999). These issues are made explicit in the government-to-citizen (G2C) environment and there are many initiatives in place to address them, including that all citizen services will be multi-channelled; that is, available through a variety of communication media, not only the Internet. This same explicit recognition of diverse needs is not apparent in G2B initiatives.

The cross-case analysis of the EXDOC case studies support the need for differentiation in facilitating uptake of G2B e-business across sectors. In implementing EXDOC, AQIS staff in each sector had to take equity issues into account and accommodate the service to the capabilities of smaller firms. Equity issues clearly had an impact on the speed at which each sector could be moved online. For example, many smaller firms—especially in the Fish and Horticulture sectors—export irregularly and only in small amounts and have little extra cash to invest in new procedures. The limitations of smaller producers in the meat industry also had to be taken into consideration during the initial implementation of EXDOC. An AQIS-

accredited software supplier to the industry noted that, in 2000 after a long period of preparation and even though the majority of producers had gone online, the smaller 'meaties'—many of whom were not computer literate—could ill-afford the cost of purchasing software and hardware (Wilkins, Swatman & Castleman, 2001).

Sustainable EXDOC take-up and diffusion within and across the relevant business sectors depended on resolving such firm-level issues. Firm-level considerations *had* to be taken into account if whole sectors were to benefit from this new online system for accessing AQIS documentation (Wilkins, Swatman & Castleman, 2002). AQIS practice therefore did *not* reflect the lack of differentiation manifest in the current G2B approach.

A third question then arises:

Is the current G2B non-differentiated approach seen to work?

Case studies cited in this paper indicate that where government agencies such as AQIS have successfully implemented a G2B system, they have *not* followed an undifferentiated G2B approach in practice. In fact, we suggest that the lack of differentiation evident in G2B offerings may well be a contributing factor to the significantly lower e-business adoption rates of SMEs (Australian Bureau of Statistics, 2003a).

Incentives for SMEs to adopt G2B e-business are most evident in the area of compliance with legislative regulations (Chaplin, 2002). Government agencies fail to engage with the real needs of SMEs where smaller firms see only increased costs and more regulatory interference as the only tangible outcomes of such changes.

Smaller firms are unlikely to follow industry-level promotion of e-business unless they see clearly how take-up will address small business issues in ways that are targeted to their specific business needs. A sole proprietor in the meat industry and long-term exporter to the Russian republics voiced a common micro-business perspective on regulatory compliance requirements:

“The EXDOC system is simply one of the processes involved in getting myself from point A to point B and recovering the money that I need to get for it so I don't pay too much attention to the details ... I look at what do I have to do and I do it ... I just accept that's the basis I've got to follow ... simply a function that needs to be performed” (C.M. personal communication, 2000).

A fourth and final question then follows:

Is the current approach appropriate?

Many of the premises upon which e-business is both designed and disseminated to small businesses appear to have been based on untested assumptions concerning the nature, implementation and use of e-business technologies in smaller firms (MacGregor, Waugh & Baker, 1996). The fundamental issue of how SMEs *actually* benefit from implementing e-Business as against the *perceived* benefits and costs has only recently come under scrutiny (Poon & Huang, 2004).

The case studies and surveys we have referred to in this paper testify to the rich diversity in SME network management practice and use of e-business (Al-Qirim, 2004; Nilsson, Magnusson & Enquist, 2003). The simplistic nature of an undifferentiated approach appears to be not only inappropriate but increasingly difficult to justify.

Discussion and Conclusion

The evidence that all SMEs are not all the same, and that for micro-businesses, in particular, the CEO has a critical role leads to the thrust of our argument. The government needs to 'speak' to the CEO/owner of the micro-business because of their essential control of technology policy, ICT adoption, and the purse-strings of the business. The message that the government sends must address the scepticism that appears to still exist in the majority of micro-business managers of the benefit of adopting e-business. As the micro-business is often a person trading as a business, or a small family concern where the sense of family overrides the sense of 'a business', strategies that are focused on real people rather than corporate entities are likely to be more sympathetically received. This does not mean that the message should not address real business issues; indeed they must, as micro-business-people take their business efforts very seriously. But it does mean that the messages must be framed to appeal to the humanity of the recipient.

The government already has a rhetoric that is aimed at individuals and families that demonstrates that kind of 'humanity'—the current G2C rhetoric of multi-channel approaches. In the G2C sphere, the government readily acknowledges that not everyone is comfortable using Internet and other information technologies, and that these people have a legitimate expectation that e-government adoption does not preclude them from benefiting from the new technology introduction. This same framing of the extent of e-business should be turned to the micro-business end of the G2B rhetoric.

This idea has two aspects. One is that the government should more actively adopt and promote multi-channel approaches to its G2B initiatives. It is important to demonstrate that e-business is more than the Internet; it is a whole approach to business that includes Internet but also involves other communication media (eg, telephone) and operational approaches (eg, greater use of business support software). The other is that by demonstrating that the multi-channel approach is a legitimate e-business strategy, micro-businesses that might be resource-constrained and/or sceptical (or even frightened) of information technology can start thinking about e-business from a perspective that is more comfortable to them. They can see their own business in terms of already having some (perhaps many) of the characteristics of a robust e-business and the remaining element (Internet and information technology) is a natural step forward with further benefits both in the new approaches and in the refinement of their existing approaches.

One argument that might be raised to the introduction of a more multi-channel approach to micro-businesses is that G2B interactions are inherently bureaucratic and promoting interactions in non-electronic channels will not realise the benefits of e-government. However, this misses the point of encouraging a holistic view of e-business. Although many potential benefits lie in (fully) electronic interactions, there

are positive benefits from thinking about the way business is conducted in light of the potential for an electronic channel being added. By making these elements explicit as part of a multi-channel e-government offering to micro-businesses, the individuals that are the key decision makers of those businesses can come to understand at a personal level how the idea works.

Another view of a multi-channel approach to micro-businesses is to emphasise the advisor/intermediary role. That is, reinforce the intermediary as the face-to-face or over-the-counter channel that reticent e-business adopters are familiar with and then work hard on connecting these intermediaries, which are dominantly small and medium businesses, to the government electronically. It is exactly this strategy that has Australia as a leader in electronic tax lodgement (Rimmer, 2001).

In this paper, we have briefly reviewed the current approach used by the Australian Government to promote adoption of e-business by SMEs. We noted that it was a 'one-size-fits-all approach' with an 'all-or-nothing' emphasis. We have then reviewed the appropriateness and efficacy of that approach in light of the literature on the nature of SMEs and their adoption of information technology and e-business. The literature findings are supplemented and supported by case studies from a significant and successful program of encouraging e-business adoption. The literature and the evidence from the case studies indicate that the current approach is sub-optimal; SMEs are not all the same and their motivations and approaches to adopting new technologies are varied. With particular reference to micro-businesses, this paper adopts the view that the government must introduce approaches in future electronic G2B deployments that draw more heavily on the rhetoric used in the G2C arena; that of adopting multi-channel approaches to accommodate personal preferences. Finally, we note that two competing pressures might be addressed through the use of intermediaries. The government's interest in increasing electronic interactions with business can be balanced against the reticence for adoption among very small and micro-businesses by promoting the adoption of electronic channels by the advisors to these small firms.

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