



Journal of Enterprise Information Management
Emerald Article: Benefits and barriers of electronic marketplace participation: an SME perspective
Rosemary Stockdale, Craig Standing

Article information:

To cite this document: Rosemary Stockdale, Craig Standing, (2004), "Benefits and barriers of electronic marketplace participation: an SME perspective", Journal of Enterprise Information Management, Vol. 17 Iss: 4 pp. 301 - 311

Permanent link to this document:

<http://dx.doi.org/10.1108/17410390410548715>

Downloaded on: 07-10-2012

References: This document contains references to 65 other documents

Citations: This document has been cited by 40 other documents

To copy this document: permissions@emeraldinsight.com

This document has been downloaded 4423 times since 2005. *

Users who downloaded this Article also downloaded: *

Morteza Ghobakhloo, Daniel Arias-Aranda, Jose Benitez-Amado, (2011), "Adoption of e-commerce applications in SMEs", Industrial Management & Data Systems, Vol. 111 Iss: 8 pp. 1238 - 1269

<http://dx.doi.org/10.1108/02635571111170785>

Tom M.Y. Lin, Pin Luarn, Peter K.Y. Lo, (2004), "Internet market segmentation - an exploratory study of critical success factors", Marketing Intelligence & Planning, Vol. 22 Iss: 6 pp. 601 - 622

<http://dx.doi.org/10.1108/02634500410559006>

Sally Harridge-March, (2004), "Electronic marketing, the new kid on the block", Marketing Intelligence & Planning, Vol. 22 Iss: 3 pp. 297 - 309

<http://dx.doi.org/10.1108/02634500410536885>

Access to this document was granted through an Emerald subscription provided by UNIVERSITY OF SALFORD

For Authors:

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service. Information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

With over forty years' experience, Emerald Group Publishing is a leading independent publisher of global research with impact in business, society, public policy and education. In total, Emerald publishes over 275 journals and more than 130 book series, as well as an extensive range of online products and services. Emerald is both COUNTER 3 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Other papers

Benefits and barriers of electronic marketplace participation: an SME perspective

*Rosemary Stockdale and
Craig Standing*

The authors

Rosemary Stockdale and Craig Standing are based at the School of Management Information Systems, Edith Cowan University, Perth, Australia.

Keywords

Small to medium-sized enterprises, Electronic commerce, Trade barriers

Abstract

There are concerns that despite government initiatives to promote adoption of electronic commerce, SMEs still fail to realise e-commerce related benefits. It may therefore, seem premature to discuss electronic marketplaces in the context of SMEs. However, if SMEs ignore e-marketplaces a number of problems can result. E-marketplaces present a significant threat to SMEs since they increase competition and leave non-participants vulnerable to more e-enabled firms. This paper examines the barriers and benefits of e-marketplace participation by SMEs. The nature of e-marketplaces is addressed and the benefits of participation are examined. Drawing on the literature, the barriers facing smaller firms in this environment are discussed. Identification of these barriers, such as lack of standards, supply chain integration and global trading, enables a greater understanding of how SMEs can plan effective strategies to gain from e-marketplace participation.

Electronic access

The Emerald Research Register for this journal is available at
www.emeraldinsight.com/researchregister

The current issue and full text archive of this journal is available at
www.emeraldinsight.com/1741-0398.htm

Introduction

Small to medium-sized firms (SMEs) make substantial contributions to national economies (Poon and Swatman, 1999) and are estimated to account for 80 per cent of global economic growth (Jutla *et al.*, 2002). However, despite a wealth of initiatives from governments, significant concerns remain as to how smaller businesses can benefit from the electronic environment (van Akkeren and Cavaye, 1999; Korchak and Rodman, 2001; Lewis and Cockrill, 2002).

Although the availability and falling costs of personal computers have had a major effect on the ability of SMEs to compete in electronic commerce (Cragg and King, 1993; Poon and Swatman, 1999), the impact of this has been a mixed blessing for many firms. The breadth and speed of the changes brought by the Internet have radically altered the business landscape. Firms need to plan effective strategies to realise benefits from the dynamic and information rich environment (Downes and Mui, 1998). The electronic environment can be intimidating to many smaller firms and the development of information systems such as electronic marketplaces remain a mystery to many SMEs.

It may seem premature to discuss e-marketplace adoption by SMEs since many SMEs are not yet secure with other, perhaps simpler, applications of e-commerce. However, there are problems associated with a decision to ignore e-marketplace opportunities. Larger organisations, with their more extensive resources, are looking to e-marketplaces to take advantage of the significant trading benefits offered and anticipate that suppliers will be available through such marketplaces. The ability of such marketplaces to facilitate trading over regional and geographic boundaries at low cost and without regard to the size of the firm opens up all markets to broader competition. While this supports firms in seeking new markets, it also leaves traditional markets open to outside competition. In short, the problem for SMEs is not just one of lost opportunities but encroachment on their markets in a fiercer, competitive environment.

The contribution of this paper is to define the potential benefits that can be obtained by SMEs that participate in e-marketplaces and to examine the barriers that smaller firms need to overcome to benefit from participation. SMEs in the context of this paper are defined according to the Australian Bureau of Statistics as firms employing less than 200 full time equivalent workers and are not subsidiaries, public companies, or incorporated bodies (ABS, 2003). SMEs need to understand e-marketplace opportunities to

develop informed strategies (Brunn *et al.*, 2002). This will enable decisions regarding participation to be taken more effectively by smaller firms seeking to extend their markets, to retain contracts with larger organisations or to deal with competition from non-traditional competitors.

Electronic marketplaces

The existence of marketplaces in human society has a long history from before the Agora of Ancient Greece to the online trading places of the 21st century. Trading of goods and services for other goods or for money is central to the concept of human socialisation (McMillan, 2002). The advent of the electronic environment has not changed the principles of markets and marketplace trading, merely the way society goes about trading. In essence, the technology facilitates the business of the market, but it is not the reason for the market to exist. Online markets must offer an advantage over traditional markets if they are to succeed and encourage firms to overcome any difficulties arising from using the technology. Consequently, an online market must be as rich, complex and complete as a traditional market and must create extra value for its users (Kambil and van Heck, 2002).

The development of electronic marketplaces followed swiftly on the use of the Internet for business purposes. The initial proliferation of e-marketplaces proved to be unsustainable and a forecasted period of consolidation is now underway (Forrester Research, 2000). The number of marketplaces in any one industry sector has been considerably reduced and the methods of transacting business and generating revenue have matured. In addition, the scope of the value added facilities has increased and become more targeted to the market. In this evolving environment there is some confusion as to what constitutes an electronic marketplace. Bakos' (1991) early definition of "an interorganisational information system that allows the participating buyers and sellers to exchange information about prices and product offerings" has been widely accepted (Choudhury *et al.*, 1998; Clemons *et al.*, 1993; Forrester Research, 2000). This definition has been refined and updated to take account of the changes in the e-marketplace environment, and the terminology, that have arisen from developments of the World Wide Web. Terms such as e-hubs, portal, exchange and auction are used in different contexts with contradictory meanings assigned to them. To avoid confusion, but with due acknowledgement of the complexity of the environment, the paper incorporates key elements

of several definitions (Federal Trade Commission, 2000; Grieger, 2003; Raisch, 2001; Sculley and Woods, 2001; Weill and Vitale, 2001). Based on this an e-marketplace is defined as:

An interorganisational information system that allows multiple buyers and sellers, and other stakeholders, to communicate and transact through a dynamic central market space, supported by additional services.

The structure of electronic marketplaces

Despite the differences and wide variety in market makers' business models three main elements in the structure of an e-marketplace are identified by the literature:

- (1) the origins of the marketplace, who owns and operates it;
- (2) the transaction mechanisms that are offered by the marketplace; and
- (3) the additional facilities that a marketplace offers to its participants.

Ownership models

Ownership models have become more diverse as the number of marketplaces have increased and market makers have reviewed and refined their business models. Four identifiable marketplace structures have been recognised.

Intermediaries

Intermediary marketplaces, one of the earlier models of ownership, operate services across industry sectors concentrating on delivering generic services such as auction facilities or value add services (Skjott-Larsen *et al.*, 2003). They bring together buyers and sellers to allow trading to take place through a variety of mechanisms (Figure 1).

Consortia

The intermediary marketplaces were soon followed by large multinational organisations investing in partnerships to form unprecedented collaborations with competitors to launch industry specific marketplaces (Raisch, 2001). The structure of the consortium style marketplace gives advantages to the owners by providing a focal trading point to attract suppliers to a specific industry. Suppliers' advantage lies in access to supply chains of large organisations (Figure 2).

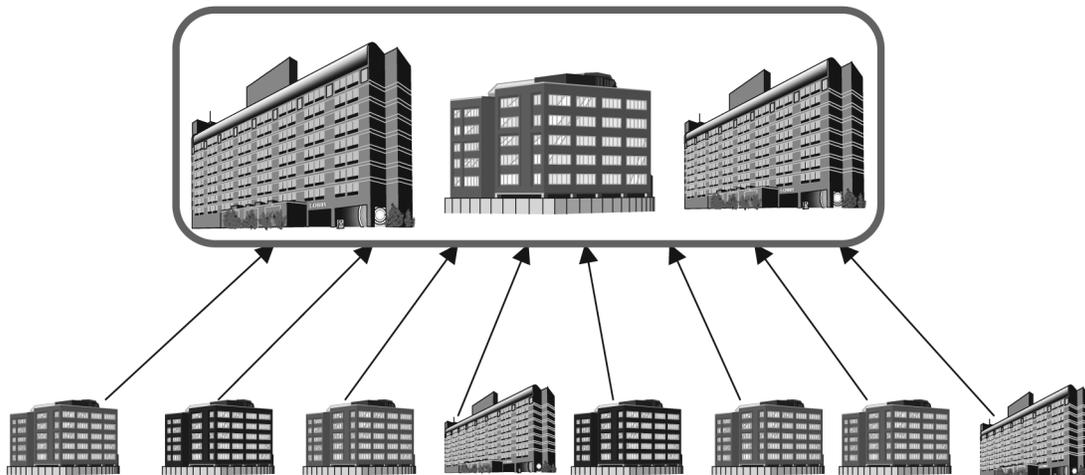
Hierarchies

A more recent development has been the increase in the number of private marketplaces or hierarchies. Large organisations invest in and host their own marketplaces thereby retaining control

Figure 1 Intermediary style structure for an e-marketplace



Figure 2 Consortia style structure of an e-marketplace



of the facilities they develop and offer to suppliers (Bar, 2002). Such marketplaces require a large investment of time, money and technical expertise and are beyond the scope of many organisations. However, the development of off-the-shelf software may enable smaller companies to launch less complex versions (Figure 3).

Included in the hierarchical model is the increasing number of government e-marketplaces. These fall into two categories: e-procurement hubs for government and government hosted sites to support and encourage e-commerce.

Cooperatives

The cooperative or large group ownership structure of e-marketplace is anticipated to arise in the near future. This model is based on a group of stakeholders cooperating as market makers for common interest. Common interest may lie within the type of industry, a geographic area, or a specific goal (Standing *et al.*, 2003) (Figure 4).

Transaction mechanisms

There are several different transaction mechanisms evident in electronic marketplaces, the most common being online catalogues, auctions, negotiation facilities and exchange. There is a great variety within each of these mechanisms. For example, over 30 types of online auction have been identified (Davis, 2001) and the types and features of catalogues are numerous (Stanoevska-Slabeva and Schmid, 2000). Currently, there is little empirical evidence of the optimum type of mechanism for different goods and services, although categorisations of e-marketplace types have been made (Kaplan and Sawhney, 2000; Sculley and Woods, 2001). Some market makers specialise in one mechanism, for example, FreeMarkets (www.FreeMarkets.com) specialises in auctions while others offer a range of mechanisms. For example, Quadrem (www.Quadrem.com) offers negotiation, catalogues and auction. The exchange mechanism tends to be more

Figure 3 Hierarchical style structure of an e-marketplace

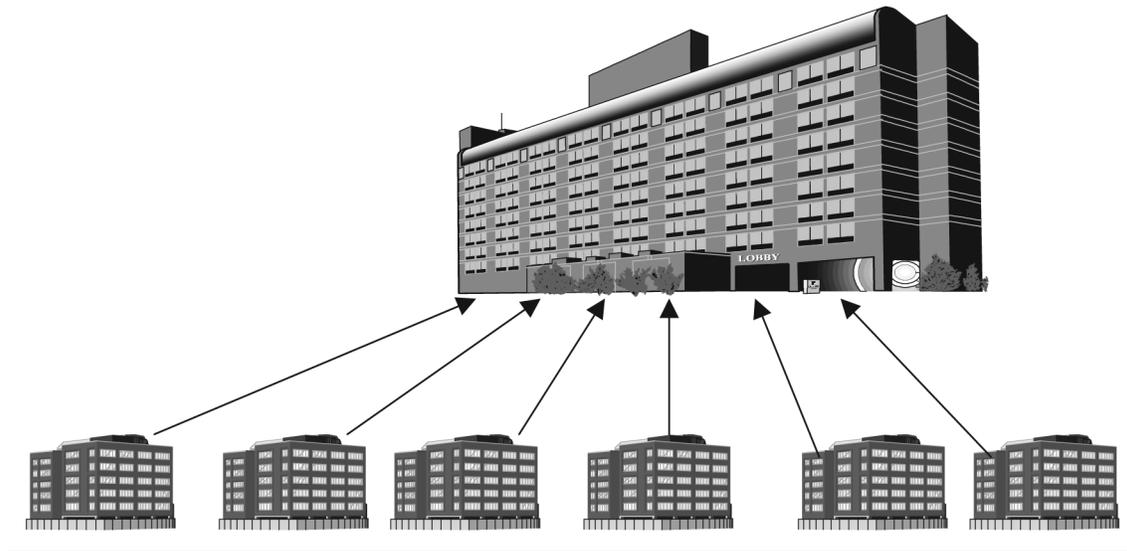
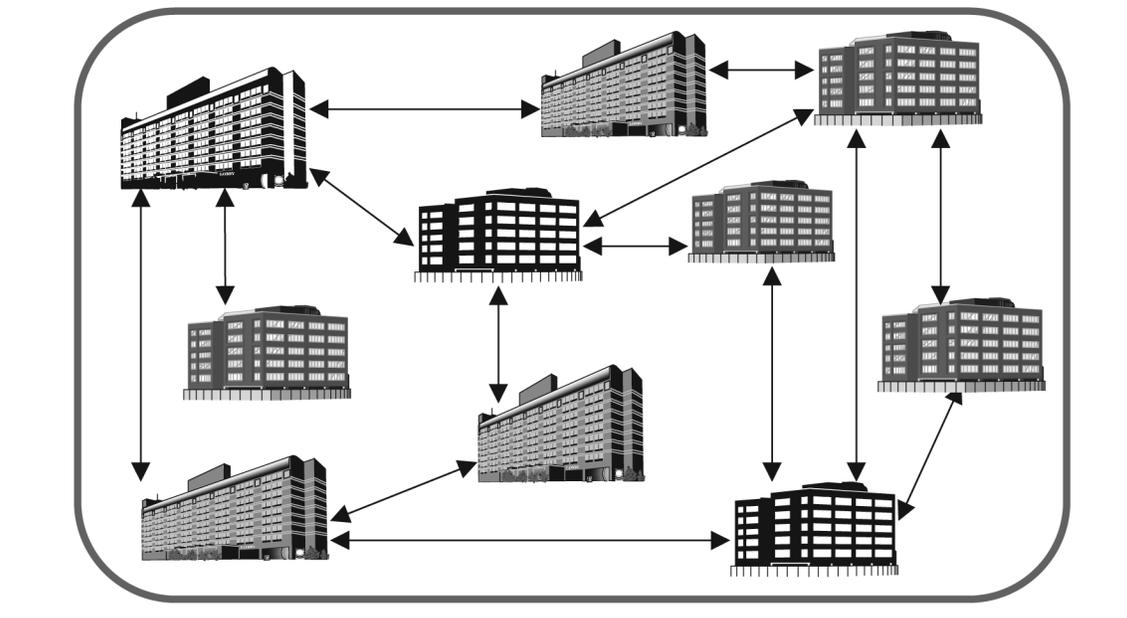


Figure 4 Cooperative ownership style structure of an e-marketplace



prevalent where established exchanges have established a Web presence, such as the London Metals Exchange (www.lme.co.uk).

Additional facilities

Market makers use value-add facilities to enhance the attractiveness of their Web sites in pursuit of the competitive advantage necessary to survive in the developing environment of e-marketplaces (Bakos, 1991). The facilities on offer range from information services, such as a listing of industry events, research papers, tutorials and news, to transaction orientated facilities. These include insurance, online payment, escrow, completion of

customs paperwork, data warehousing and tracking of deliveries. E-marketplaces can contribute to the enhancement of trust by offering verifications services and screening of potential trading partners (Choudhury *et al.*, 1998). Some market makers adopt the community site model, well described by Hagel and Armstrong (1997), offering a complete range of facilities relevant to a specific industry or regional area. Market makers who have a good understanding of their target participants develop market models to enhance the value proposition for marketplace members. Value-add facilities play an important role in creating such models.

Income models

An additional factor that may influence the selection of an e-marketplace by any prospective participant is the method of income generation. There are several methods of income generation including transaction fees, licence fees, advertising and the sale of marketing data. The most common method is the transaction related fee where buyers or suppliers pay a percentage of the transaction value to the market maker (Kambil and van Heck, 2002). Licence fees are less attractive to smaller firms who are reluctant to commit to an untested trading platform. These two methods of income generation are seen to deter buyers and sellers from entering marketplaces and this is influencing market makers toward generating income from service fees on value-add facilities where participants are seen to be more willing to pay (Federal Trade Commission, 2000; Kambil and van Heck, 2002).

The benefits and barriers in E-marketplaces

SMEs seeking to develop a strategy to support participation in electronic marketplaces require an understanding of both benefits to be gained and barriers to be overcome. This section of the paper examines the literature to identify the benefits and barriers.

Benefits of E-marketplace participation

The advantages of e-commerce participation for SMEs relate to their ability to keep pace with a changing business landscape. Brought about by information technology (IT), these changes include facilitated access to global markets, changed production methods and costs, enhanced communication, reduced transaction costs and stimulated competition (Sculley and Woods, 2001; Timmers, 1999; Tumolo, 2001). The size of the firms enable SMEs to be more adaptable and responsive to changing conditions than large organisations (Walczuch *et al.*, 2000) and to benefit from the speed and flexibility that the electronic environment offers.

The new environment promises much to SMEs from e-commerce, but adoption levels remain low (Levy and Powell, 2003; Mehrtens *et al.*, 2001; Poon, 2000). This is partially due to lack of understanding of the benefits SMEs can achieve (Goode, 2002) and of unrealistic expectations of benefits and the difficulties of evaluating them (Poon, 2000). In contrast, the literature on electronic marketplaces does not differentiate between size of firm, but rather takes a “one size fits all” approach to benefits (Fariselli *et al.*, 1999).

Benefits that can be of relevance to SMEs are identified, and are given in Table I.

Overall, the range of benefits that can be achieved from participation in e-marketplaces is extensive, although not all will apply to every company. SMEs can realise benefits but it may take time for them to be recognised within the company. A steep learning curve will precede any benefit gain for many companies and it should not be expected that this can be achieved in the short-term. A longer, slower approach may be a more reliable way to achieve sustainable advantages from e-marketplace participation. Nevertheless, recognition of the advantages to be gained from e-marketplaces is desirable from an early point of developing e-commerce to enable business strategies for selection of suitable electronic marketplaces to be put in place.

Barriers to E-marketplace participation

Many SMEs are not achieving even minimal levels of e-commerce adoption raising concerns as to why adoption programmes, many of them government led, are not more successful (Jutla *et al.*, 2002; Korchak and Rodman, 2001; Van Beveren and Thomson, 2002). Major barriers to increasing adoption remain: lack of resources and knowledge (Cragg and King, 1993; Mehrtens *et al.*, 2001), the skill levels of business operators (Darch and Lucas, 2002; Duan *et al.*, 2002), lack of trust in the IT industry (van Akkeren and Cavaye, 1999; Bode and Burn, 2002), and the lack of e-commerce readiness in some industry sectors (Lewis and Cockrill, 2002). A further barrier is the lack of recognition of the potential to improve business appropriate to the effort and costs of adoption and lack of understanding of the realisable benefits (Goode, 2002; Poon, 2000).

Those SMEs that have overcome these barriers and started along the road to online business often remain reluctant to move into the electronic marketplace environment. The evidence for this is being increasingly reported in the business press (Erbschloe, 1999; Howarth, 2002), but remains largely anecdotal. However, research into the effects of global markets and supply chains is beginning to examine more aspects of SMEs’ involvement in e-marketplaces (Fariselli *et al.*, 1999; Gullede, 2002; Stockdale and Standing, 2003a).

The barriers to e-marketplace participation sometimes reflect the more generalised barriers of e-commerce adoption, but are discussed here specifically in relation to the marketplace.

Lack of support from market makers

Market makers often aim their marketing at the larger corporations and do not perceive

Table I Benefits to be gained from SMEs participation in e-marketplaces

Advantage	Benefits	Source
Access to a wider range of markets	<p>For suppliers there is the potential to broaden the company's target market globally by seeking out marketplaces with a global reach</p> <p>For buyers there is potential to widen the supplier base to find lower prices or new product line</p>	Brunn <i>et al.</i> (2002), Essig and Arnold (2001), Fariselli <i>et al.</i> (1999), Senn (2000) and Tumolo (2001)
Greater potential for partnerships	<p>Electronic communication enhances the ability to maintain geographically distant relationships through e-mail and multimedia programs, thereby widening support for the supply/seller base</p>	Hurwitz (2000) and Tumolo (2001)
Flexibility in administration and communication	<p>The use of the electronic environment enhances the flexibility and accuracy of administration procedures and facilitates communication within a company and across partnerships</p>	Brunn <i>et al.</i> (2002), Hermanek <i>et al.</i> (2001) and Hurwitz (2000)
Convenience (24/7 accessibility)	<p>Convenience in interaction with partners. For example, time zones are less problematic when communicating electronically and customers can submit orders in their own time.</p> <p>(It should be noted that a number of issues such as timing for global auctions require some concessions to normal working hours)</p>	Deeter-Schmelz <i>et al.</i> (2001), Hurwitz (2000) and Lin and Hsieh (2000)
Information	<p>An advantage of many e-marketplaces is the accumulation of information into one site. It is in the interest of both market maker and participants that all parties are well informed, although a level of trust in the marketplace must be established to maintain confidence in the sources of information. In addition, information exchange is enhanced through the offering of multimedia applications for marketing, tendering, and design purposes. Designs and plans can be presented via site for tendering purposes using software drawing packages. Some sites offer Web services to develop marketing for their participants</p>	Bakos (1998), Brunn <i>et al.</i> (2002), Burton and Mooney (1998), Essig and Arnold (2001), Lin and Hsieh (2000) and Weill and Vitale (2001)
Improved customer services	<p>The ability to tailor customer services to individuals is well supported as online and e-marketplaces facilitate this ability. For example, Ford anticipates that it will be able to supply car dealerships with special order models within 2 weeks through receiving online specifications</p>	Bakos (1998), Burton and Mooney (1998) and Tumolo (2001)
Updating of information	<p>Many marketplaces support instant updates of catalogues and price lists, product specifications and configurations. Traditional catalogues are expensive to print and distribute and require additional printing costs to update them. Cost of online updates are substantially lower</p>	Baron <i>et al.</i> (2000), Stanoevska-Slabeva and Schmid (2000) and Tumolo (2001)

(continued)

Table I

Advantage	Benefits	Source
Lower transaction costs	Search costs for new buyers/suppliers are substantially lower. Additionally, electronic transaction processing such as order entries, online payment options and order tracking are seen as more efficient and less expensive	Bakos (1998), Clemons <i>et al.</i> (1993), Malone <i>et al.</i> (1987), Modahl (2000) and Tumolo (2001)
Differentiation of products and services/customisation	The transparency of information in e-marketplaces enables companies to identify where they can differentiate their products and services from competing companies within the same marketplace	Brunn <i>et al.</i> (2002), Burton and Mooney (1998) and Korchak and Rodman (2001)
Ability to enter supply chain for larger companies	Large companies have broadened their supplier bases through the use of e-marketplaces. The advantages of cost and speed that can be gained from trading on online are available to companies of all sizes and reduce the barriers that have hindered smaller companies attempting to enter the supply chains of larger companies	Erbschloe (1999) and Korchak and Rodman (2001)

the difficulties of smaller companies and their differing needs (Howarth, 2002; Stockdale and Standing, 2003b). Although some marketplaces carry statements that they support smaller businesses, they may charge initial fees that are beyond the resources of many or require an understanding of, and commitment to, specialist software. SMEs are unlikely to commit resources without a recognisable return of benefits for the investment of time and money (Korchak and Rodman, 2001).

Lack of standards

The lack of a common framework for buyers and sellers hinders the development of many marketplaces. Currently, e-marketplaces often adopt their own platforms without regard to any industry or technological standards. Gulledge (2002) reports that over 120 standards that extend XML have been identified. Such variety can deter participation by large and small firms, unwilling to commit to software and training before they can identify returns on their investment (Howarth, 2002; Lucking-Reiley and Spulber, 2001).

Understanding of the environment

SMEs often do not have an understanding of the nature of the Internet and how it interacts with other methods of trading (Stockdale and Standing, 2003b), although this is not confined to smaller businesses (Porter, 2001). It is important for SMEs to understand that the Internet is not a substitute for established methods of trading except for companies that are created specifically for the Internet environment such as Amazon.

For the majority of business the Internet is a complementary tool that can enhance their current business.

Supply chain integration

Smaller companies do not often see themselves as part of a large supply chain. They underestimate how e-commerce can facilitate interaction with larger firms within a supply chain by enabling the sharing of information, electronic ordering (thereby dispensing with a paper system), electronic fulfilment, tracking, and efficiencies in cost and time (Korchak and Rodman, 2001). If SMEs do not understand that e-commerce competencies will support their ability to function within the larger supply chain they will lose out to other firms which can operate in the electronic market.

Industry environment

Many SMEs operate within a relationship environment that does not encourage innovation and there is little incentive to be the first mover in the transition to e-marketplaces. For example, while small companies that supply Ford or Renault must go to the major automobile marketplace, Covisint, to maintain that relationship, there is little incentive for publishers to go online as few of their buyers (bookshops) are sophisticated e-commerce users.

Identification of benefits

The perceived instability of the electronic environment hinders the progress of e-marketplace adoption. SMEs rarely benefit from being first movers unless action is in response to innovations

in their external networks (North and Smallbone, 2000) and therefore, there is no incentive to undertake risk. There has to be some realistic immediate benefits to encourage the first move, before longer-term benefits become an issue (Korchak and Rodman, 2001).

Global trading

The ability to trade globally is often associated with the electronic environment. While e-marketplaces can support many of the processes required to achieve global purchases and sales through offering customs advice, currency exchange and shipping services, many pitfalls remain (Ives and Jarvenpaa, 1991; Peppard, 1999). These can include language difficulties, cultural differences and import/export legislation. These are not insurmountable obstacles, but require recognition and understanding.

Financial constraints

There may be an adverse effect on credit lines from trading through e-marketplaces for SMEs that do not have the financial backup to appreciate any differences in the trading environment. There is some anecdotal evidence that SME credit lines are not geared to frequently changing buyer/supplier relationships and financial institutions may be wary of extending credit for Internet-based trading.

There is a wide variety of potential benefits and barriers to e-marketplace participation for small and medium sized businesses and there is no easy recipe for overcoming the challenges and realising the benefits. Some barriers relate to recognised problems common to SME e-commerce adoption, such as connectivity, while others are more specific to the individual company such as lack of resources. In contrast, the realisation of the benefits of participation generally rests with the ability of individual SMEs to identify opportunities and to plan their online trading effectively within the constraints of their industry environment. Effective planning of a participation strategy is therefore of critical importance if an SME is to realise benefits.

Strategies for e-marketplace participation

SMEs' participation in e-commerce is not often characterised by formal strategic planning (Hall, 1995), although by using a broader definition of strategy, Chau (2003) found wide evidence of some element of strategic planning in SMEs in Australia. His definition included businesses that have made significant alterations to business

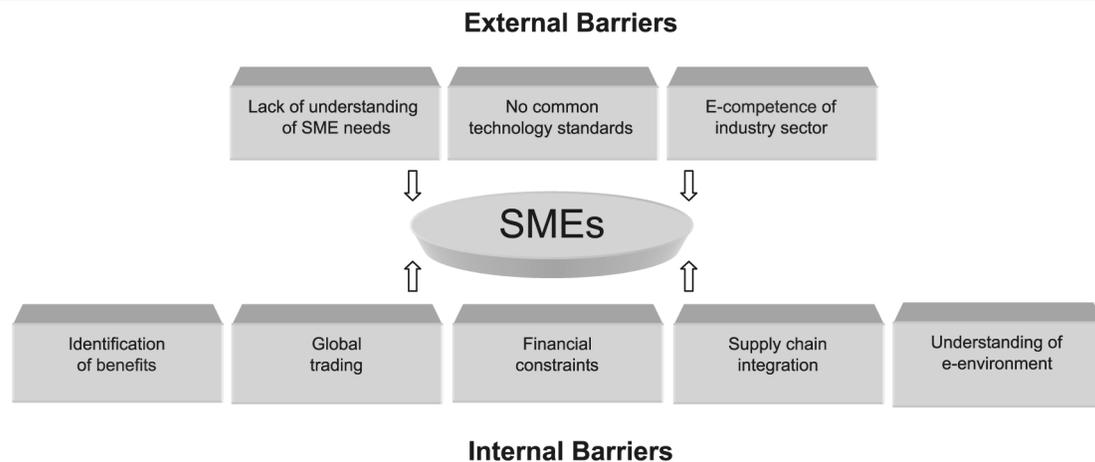
processes to incorporate e-commerce components. Chau (2003) further found that business planning and strategic goals enable SMEs to establish their businesses at a desired level of participation, thereby by-passing the stages of growth models (McKay *et al.*, 2000; Poon and Swatman, 1997) familiar to researchers in this area.

There are different motivations for SMEs to move into online trading through e-marketplaces and this may have an influence on the level of strategic planning achieved by a firm. It is only recently that motivations for e-commerce adoption in smaller businesses have been addressed (Levy and Powell, 2003; Mehrrens *et al.*, 2001). Stockdale and Standing (2003b) identified two groups of SMEs that have overcome the barriers to e-marketplace participation. The first group are recognisable in Chau's (2003) description of firms that have made some changes to business practices to benefit from a recognised level of e-commerce participation. These firms identify a need to participate either because their industry sector is active in online or because they recognise an opportunity to grow their business through e-marketplace activity. The second group are those SMEs that follow trading partners online in order to retain a relationship. Where the larger partner has moved to an e-marketplace, smaller trading partners are forced into the electronic environment, often at a sophisticated level. Strategic planning in these cases is less evident.

The eight barriers to e-marketplace participation identified in this paper fall into two groups (Figure 5). Three of the barriers are generally specific and not within the capability of individual firms to overcome, although knowledge of them will contribute to a more effective strategy. These are lack of understanding of SMEs' needs, the lack of a common technological standard and the level of e-competencies within industry sectors. Nevertheless, an understanding of these barriers will enable SMEs to more effectively select an e-marketplace to participate by researching the way a prospective marketplace supports individual firms, the technology required to participate and the types of marketplace servicing a particular industry. An SME in an industry sector that is slow in e-commerce uptake may still choose to seek out a marketplace that will enable it to source goods or extend its market. Conversely, a smaller firm in a technologically advanced industry sector will need to research the different types of marketplace available and have an understanding of what each offers.

The remaining five barriers constitute elements that require a measure of strategic planning if participation is to bring benefits to the firm. For example, SMEs require an understanding of

Figure 5 SME barriers to e-marketplace participation



the environment in which they intend to operate. This includes consideration of: where use of the e-marketplace sits within the business processes of the firm and how use of it can contribute. Use of an e-marketplace in itself will not enable realisation of benefits if there is no understanding of the environment and what benefits are available. This is particularly true of SMEs that have been forced into a marketplace to retain a trading partnership. With an understanding of the environment and the potential benefits to be gained, the e-competencies forced on them can be used to further explore the marketplace and gain the advantages of new partners and markets. In essence, if the SME is proactive rather than reactive in the enforced situation then much can be gained from the skills they have learned. These firms are often within the supply chains of large organisations, but may fail to recognise that, with e-competencies, they are attractive to other organisations seeking to broaden their supplier bases. SMEs moving online to enhance their businesses can also benefit from studying the supply chains of large organisations, many of which are e-enabled. There may be financial constraints on smaller firms extending their business to non-traditional markets and consideration of credit lines, payments and even currencies is a vital part of the planning process. Electronic marketplaces that support financial services can be of great value to smaller firms that have limited resources. However, technology advances in e-money and e-payment systems are predicted to overcome many of the financial constraints facing smaller firms (Fariselli *et al.*, 1999).

For SMEs seeking to move into global markets, seen as a major benefit of electronic marketplaces, careful selection of an e-marketplace that can facilitate payment, logistics and other such services

can be a major advantage. An understanding of the complex social, cultural and economic issues and the advantages to be gained will contribute to the planning process and the realisation of benefits. The perception that operating in a global market is an extension of operating within regional boundaries may hold true in the short-term, but sustained benefit realisation requires greater understanding (Peppard, 1999). This will be particularly true for SMEs with their limited resources, although the flexibility and innovation that characterises many SMEs (North and Smallbone, 2000) can be of particular advantage in the global market.

Conclusions

Although many SMEs are struggling with e-commerce adoption, understanding of the e-marketplace environment is important. The opportunities to extend trading beyond traditional market boundaries make all firms vulnerable to new sources of competition. Many smaller firms that supply large organisations are being forced into the e-environment to retain their trading partners, while other firms seek to extend their markets or to enhance their businesses by trading beyond their traditional customer bases. A recognition of both benefits and barriers that firms face in entering the e-marketplace environment will enable SMEs to more effectively plan their participation and realise the benefits of e-marketplace trading. Where firms follow an established partner online, they can gain further benefits and seek new relationships if they understand the environment in which they find themselves and use their e-competencies to actively participate in what the e-marketplace has to offer.

Implications for future research

It is beyond the scope of this paper to determine the reasons for low e-commerce adoption levels, but they are a serious hindrance to the use of e-marketplaces and challenge the ability of SMEs to compete effectively in a global market. The literature shows that there is good understanding, at least at academic and government levels, of the benefits and barriers to e-commerce. Therefore, empirical research into SMEs' motivations to adopt and use e-commerce will enhance initiatives to encourage participation in e-marketplaces.

An understanding of the benefits and barriers of e-marketplaces is the first step for SMEs in the move to online trading. There is a significant need for smaller firms to trade online either to follow existing partners, compete effectively for their traditional markets or to enter new markets. Although research into e-marketplaces is underway it is mainly confined to the activities of large organisations and the impact on SMEs has yet to be addressed. Empirical evidence is required to determine why SMEs trade through e-marketplaces, and their levels of use and competency in doing so. Studies of the threats to SMEs in regional areas from outside competition and the ability of SMEs to extend their markets are needed to inform frameworks to encourage more participation.

References

- ABS (2003), *Business Use of Information Technology*, Bureau of Statistics, Canberra.
- van Akkeren, J. and Cavaye, A.L.M. (1999), "Factors affecting entry-level Internet technology adoption by small business in Australia – evidence from three cases", *Journal of Systems and Information Technology*, Vol. 3 No. 2, pp. 33-48.
- Bakos, J.Y. (1991), "A strategic analysis of electronic marketplaces", *MIS Quarterly*, Vol. 15 No. 3, pp. 295-310.
- Bakos, J.Y. (1998), "The emerging role of electronic marketplaces on the Internet", *Communications of the ACM*, Vol. 41 No. 8, pp. 35-42.
- Bar, F. (2002), "The construction of marketplace architecture", available at: www.stanford.edu/~fbar/Publications/Brookings-e-marketplace.pdf, (accessed 23 May 2002)
- Baron, J.P., Shaw, M.J. and Bailey, A.D. (2000), "Web-based e-catalog systems in B2B procurement", *Communications of the ACM*, Vol. 43 No. 5, pp. 93-100.
- Bode, S. and Burn, J.M. (2002), "Strategies for consultancy engagement for e-business development – a case analysis of Australian SMEs", in Burgess, S. (Ed.), *Managing Information Technology in Small Business: Challenges and Solutions*, Ideas Group, Melbourne.
- Brunn, P., Jensen, M. and Skovgaard, J. (2002), "E-marketplaces: crafting a winning strategy", *European Management Journal*, Vol. 20 No. 3, pp. 286-98.
- Burton, A.F. and Mooney, J.G. (1998), "The evolution of electronic marketplaces: an exploratory study of Internet-based electronic commerce within the American independent insurance agency system", *Australian Journal of Information Systems, (Special ed.)*, pp. 20-42.
- Chau, S. (2003), "The use of e-commerce amongst thirty-four Australian SMEs: an experiment or a strategic business tool?", *Journal of Systems and Information Technology*, Vol. 7 No. 1, pp. 49-66.
- Choudhury, V., Hartzel, K.S. and Konsynski, B.R. (1998), "Uses and consequences of electronic markets: an empirical investigation in the aircraft parts industry", *MIS Quarterly*, Vol. 22 No. 4, pp. 471-507.
- Clemons, E.K., Reddi, S.P. and Row, M.C. (1993), "The impact of information technology on the organization of economic activity: the 'move to the middle' hypothesis", *Journal of Management Information Systems*, Vol. 10 No. 2.
- Cragg, P.B. and King, M. (1993), "Small-firm computing: motivators and inhibitors", *MIS Quarterly*, Vol. 17 No. 1, pp. 47-60.
- Darch, H. and Lucas, T. (2002), "Training as an e-commerce enabler", *Journal of Workplace Learning*, Vol. 14 No. 4, pp. 148-56.
- Davis, B. (2001), "Under the hammer", *Professional Engineering*, Vol. 14 No. 3, pp. 45-6.
- Deeter-Schmelz, D.R., Bizzari, A., Graham, R. and Howdyshehl, C. (2001), "Business-to-business online purchasing: suppliers' impact on buyers' adoption and usage intent", *Journal of Supply Chain Management*, Vol. 37 No. 1, pp. 4-10.
- Downes, L. and Mui, C. (1998), *Unleashing the Killer App: Digital Strategies for Market Dominance*, Harvard Business School Press, Boston, MA.
- Duan, Y., Mullins, R., Hamblin, D. and Stanek, S. (2002), "Addressing ICTs skill challenges in SMEs: insights from three country investigations", *Journal of European Industrial Training*, Vol. 26 Nos 8/9, pp. 430-45.
- Erbschloe, M. (1999), "Working with SMEs in the supply chain", *Digital Systems Report*, Vol. 21 No. 4, pp. 22-3.
- Essig, M. and Arnold, U. (2001), "Electronic procurement in supply chain management: an information economics-based analysis of electronic markets", *Journal of Supply Chain Management*, Vol. 37 No. 4, pp. 43-9.
- Fariselli, P., Oughton, C., Picory, C. and Sugden, R. (1999), "Electronic commerce and the future for SMEs in a global market place: networking and public policies", *Small Business Economics*, Vol. 12 No. 3, pp. 261-76.
- Federal Trade Commission (2000), "Entering the 21st century: competition policy in the world of B2B electronic marketplaces", The Federal Trade Commission B2B Public Workshop.
- Forrester Research (2000), "The e-marketplace shakeout", available at: www.forrester.com/ER/Baseline, (accessed 19 April 2001).
- Goode, S. (2002), "Management attitudes toward the World Wide Web in Australian small business", *Information Systems Management*, pp. 45-8.
- Grieger, M. (2003), "Electronic marketplaces: a literature review and a call for supply chain management research", *European Journal of Operational Research*, Vol. 144, pp. 280-94.
- Gulledge, T. (2002), "B2B e-marketplaces and small and medium sized enterprises", *Computers in Industry*, Vol. 49 No. 1, pp. 47-58.
- Hagel, J. and Armstrong, A.G. (1997), *Net Gain: Expanding Markets Through Virtual Communities*, Harvard Business School Press, Boston, MA.
- Hall, G. (1995), *Surviving and Thriving in the Small Firm Sector*, Routledge, London.

- Hermanek, M., Schlemmer, C., Hope, B. and Huff, S.L. (2001), "Critical success factors in business-to-business e-commerce: the view of IS managers", paper presented at the PACIS, Seoul.
- Howarth, B. (2002), "E-survivors: get 'e' or get out", available at: www.aconex.com.au/Aconex/news/brw_ecommerce, (accessed 28 October 2002)
- Hurwitz (2000), "E-marketplaces: Issues, risks, and requirements for success", White Paper, Hurwitz Group Inc., Framingham, MA.
- Ives, B. and Jarvenpaa, S.L. (1991), "Applications of global information technology: key issues for management", *MIS Quarterly*, Vol. 15 No. 1.
- Jutla, D., Bodorik, P. and Dhaliqal, J. (2002), "Supporting the e-business readiness of small and medium-sized enterprises: approaches and metrics", *Internet Research: Electronic Networking Applications and Policy*, Vol. 12 No. 2, pp. 139-64.
- Kambil, A. and van Heck, E. (2002), *Making Markets. How Firms can Design and Profit From Online Auctions and Exchanges*, Harvard Business School Press, Boston, MA.
- Kaplan, S. and Sawhney, M. (2000), "E-hubs: the new B2B marketplaces", *Harvard Business Review*.
- Korchak, R. and Rodman, R. (2001), "E-business adoption among US small manufacturers and the role of manufacturing extension", *Economic Development Review*, Vol. 17 No. 3, pp. 20-5.
- Levy, M. and Powell, P. (2003), "Exploring SME Internet adoption: towards a contingent model", *Electronic Markets*, Vol. 13 No. 2, pp. 173-81.
- Lewis, R. and Cockrill, A. (2002), "Going global – remaining local: the impact of e-commerce on small retail firms in Wales", *International Journal of Information Management*, Vol. 22, pp. 195-209.
- Lin, B. and Hsieh, C-T. (2000), "Online procurement: implementation and managerial implications", *Human Systems Management*, Vol. 19 No. 2, pp. 105-10.
- Lucking-Reiley, D. and Spulber, D.F. (2001), "Business-to-business electronic commerce", *Journal of Economic Perspectives*, Vol. 15 No. 1, pp. 55-68.
- McKay, J., Prananto, A. and Marshall, P. (2000), "E-business maturity, the SOG-e model", paper presented at the 11th Australasian Conference on Information Systems, December, Brisbane.
- McMillan, J. (2002), *Reinventing the Bazaar. A Natural History of Markets*, W. W. Norton and Company Inc., New York, NY.
- Malone, T.W., Yates, J. and Benjamin, R.I. (1987), "Electronic markets and electronic hierarchies", *Communications of the ACM*, Vol. 30 No. 6, pp. 484-97.
- Mehrtens, J., Cragg, P.B. and Mills, A. (2001), "A model of Internet adoption by SMEs", *Information and Management*, Vol. 39, pp. 165-76.
- Modahl, M. (2000), *Now or Never. How Companies Must Change Today to Win the Battle for the Internet Consumer*, Orion, London.
- North, D. and Smallbone, D. (2000), "Innovative activity in SMEs and rural economic development: some evidence from England", *European Planning Studies*, Vol. 8 No. 1, pp. 87-106.
- Peppard, J. (1999), "Information management in the global enterprise: an organising framework", *European Journal of Information Systems*, Vol. 8, pp. 77-94.
- Poon, S. (2000), "Business environment and Internet commerce benefit – a small business perspective", *European Journal of Information Systems*, Vol. 9, pp. 72-81.
- Poon, S. and Swatman, P. (1997), "Determinants of small business Internet usage: a multimedia investigation of perceived benefits", paper presented at the 10th International Bled Electronic Commerce Conference, Bled, June.
- Poon, S. and Swatman, P. (1999), "An exploratory study of small business Internet commerce issues", *Information and Management*, Vol. 35, pp. 9-18.
- Porter, M.E. (2001), "Strategy and the Internet", *Harvard Business Review*, pp. 63-78.
- Raisch, W.D. (2001), *The e-marketplace. Strategies for Success in B2B ecommerce*, McGraw-Hill, New York, NY.
- Sculley, A.B. and Woods, W.A. (2001), *B2B Exchanges. The Killer Application in the Business-to-Business Internet Revolution*, Harper & Collins, New York, NY.
- Senn, J.A. (2000), "Business to business e-commerce", *Information Systems Management*, pp. 23-32.
- Skjøtt-Larsen, T., Kotzab, H. and Grieger, M. (2003), "Electronic marketplaces and supply chain relationships", *Industrial Marketing Management*, Vol. 32, pp. 199-210.
- Standing, C., Sims, I., Stockdale, R. and Wassenaar, A. (2003), "Can e-marketplaces bridge the digital divide?", paper presented at the Organizational Information Systems in the Context of Globalization. IFIP TC8 and TC9 Working Conference, Athens.
- Stanoevska-Slabeva, K. and Schmid, B. (2000), "Internet electronic product catalogs: an approach beyond simple keywords and multimedia", *Computer Networks*, Vol. 32, pp. 701-15.
- Stockdale, R. and Standing, C. (2003a), "The effect of B2B online reverse auctions on buyer-supplier relationships", paper presented at the 14th Australian Conference on Information Systems, Perth.
- Stockdale, R. and Standing, C. (2003b), "Increasing the adoption of electronic commerce by SMEs: reflections from an empirical study", paper presented at the 4th International We-B Conference, Perth, 24-25 November.
- Timmers, P. (1999), *Electronic Commerce*, Wiley, Chichester.
- Tumolo, M. (2001), "Business-to-business exchanges", *Information Systems Management*, pp. 54-62.
- Van Beveren, J. and Thomson, H. (2002), "The use of electronic commerce by SMEs in Victoria, Australia", *Journal of Small Business Management*, Vol. 40 No. 3, pp. 250-3.
- Walczuch, R., Van Braven, G. and Lundgren, H. (2000), "Internet adoption barriers for small firms in The Netherlands", *European Management Journal*, Vol. 18 No. 5, pp. 561-72.
- Weill, P. and Vitale, M. (2001), *Place to Space. Migrating to e-business Models*, Harvard Business School Press, Boston, MA.

Further reading

- Standing, C. and Stockdale, R. (2003), *Electronic Marketplaces and SMEs*, Rural Industries Research and Development Corporation, Perth.