

FRAMEWORK FOR PARTICIPANTS' RECOGNITION OF KEY SUCCESS FACTORS IN ELECTRONIC MARKETPLACES

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Abstract: The development of electronic marketplaces has been prolific in the last five years and the pressure for companies to participate, before they have determined how to recognise the benefits and pitfalls, has been intense. This has left prospective participants facing a wide variety of choices in the selection of potential trading sites, in a marketplace that is both dynamic and immature. Although there are different drivers pushing companies towards participation, an appreciation of how electronic marketplaces are developing their trading models can support the selection process and enhance the trading experience of the participants.

Electronic marketplaces were selectively chosen and analysed against key success factors, previously identified in the literature, to examine how market makers are recognising the issues they need to address in developing their marketplaces. The analysis also highlights concerns that remain in regard to some of the key success factors, particularly in the areas of security, technological infrastructure and neutrality. The findings are used to provide a framework that facilitates recognition by prospective participants of the key success factors of an electronic marketplace and the issues surrounding them and thereby contributes to the selection of a trading site to meet a company's requirements.

1. INTRODUCTION

Electronic commerce has led to great changes in the way business to business trading has been conducted over the last few years, and enabled

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businesses to connect with each other in a way that requires new thinking in every area of commerce. The turnover from business to business e-commerce is anticipated to exceed \$800 billion by the end of 2002 (Bowles, 2002) and is forecast to rise further in the next five years. However, the problem of introducing a new mindset to cope with fundamentally new principles in the digital economy (Lee, 2001) is aggravated by the pressure for rapid involvement before companies have assimilated the demands and pressures of the new business environment.

This is evident in the development of electronic marketplaces and the impact these are having on complex procurement and supply chains. E-marketplaces have been developed in virtually every industry and service sector, offering participants the facility to buy and sell a vast variety of goods and services to a wider array of potential customers than ever before. The speed of development has led to a complex, dynamic and immature environment that is bewildering for many companies and there is a reluctance to participate on the part of both buyers and sellers (Aberdeen Group, 2001; Deeter-Schmelz, Bizzari, Graham, & Howdyshell, 2001; Wise & Morrison, 2000). Nevertheless, indications from industry groups are that an increasing share of procurement transactions are moving to the online environment and non-participation will therefore be damaging to individual companies as majority participation gathers pace (Aberdeen Group, 2001; Downes & Mui, 1998; Forrester Research, 2000; Gartner Consulting, 2000; Sculley & Woods, 2001).

The profusion of e-marketplaces, the speed of transition to the electronic environment, the variety of business models and the varying requirements of different industries and service sectors cloud an already confused marketplace picture. Despite the confusion, there is immense pressure on companies, not least from their shareholders and directors (Banham, 2000), to move quickly to the electronic marketplace. Often they do so without a full understanding of what benefits they can accrue from participation and how they should recognise the factors that contribute to the development and success of e-marketplaces.

Using previously identified key e-marketplace success factors (Standing, 2001), this paper analyses how selected marketplaces are recognising these factors to highlight issues that remain to be addressed in electronic marketplace development. This enables a framework to be offered to facilitate the identification of key success factors by prospective participants to support their choice of an electronic marketplace that meets their company requirements.

2. ELECTRONIC MARKETPLACES

Definitions of electronic marketplaces are very diverse ranging from Malone's 'information-technology based governance mechanisms' (Malone, Yates, & Benjamin, 1987) to Bakos's more buyer-seller orientated 'interorganisational information system that allows the participating buyers and sellers in some market to exchange information about prices and product offerings' (Bakos, 1997). More recently, the US Federal Trade Commission has defined them more broadly as 'a distinct system of suppliers, distributors, commerce service providers, infrastructure providers and customers that use the Internet for communications and transactions' (Federal Trade Commission, 2000).

The proliferation of these marketplaces in the last five years has resulted in a wide diversity of ownership and business models and many different classifications have been offered to provide some level of clarity to a dynamic environment (Kaplan & Sawhney, 2000; Lee, 2001; Piccinelli, Di Vitantonio, & Mokrushin, 2001; Raisch, 2001; Sculley & Woods, 2001). It is not possible to assess the number of electronic marketplaces on the Internet, although estimates of globally operating ones range from 800 to 1000 (Hurwitz, 2000; Tedeschi, 2001). This number cannot be maintained and there are forecasts of considerable consolidation taking place in the next two to three years (Forrester Research, 2000), which raises the question of which market makers are likely to continue to exist and what will contribute to their ability to survive.

2.1 Ownership of e-marketplaces

Many companies formed e-marketplaces to gain early mover advantage and to establish a critical mass of buyers and sellers to maintain a competitive edge in an increasingly fluid market environment (Bakos, 1991). Many of the early market makers were either intermediary companies, financed by venture capital, such as Freemarkets (<http://www.freemarkets.com>), or individual, technology companies such as IBM (<http://www.ibm.com>). More recently there has been an increase in industry consortia marketplaces, resulting from unprecedented cooperation between rival companies; for example the creation of Covisint (<http://www.covisint.com>) by a consortia of automobile companies including General Motors, Ford and DaimlerChrysler. Other sites have developed from associations between intermediaries, technology companies and industry participants such as Egreencoffee (<http://www.egreencoffee.com>).

The trend towards more industry coalition e-marketplaces is affecting the survival of some of the earlier dot.com businesses (Spiegel, 2001) and leading the latter to re-invent their presence in the market either as service

companies or consortia partners. Pressure is also caused by the unsustainable proliferation of e-marketplaces; for example over 17 major e-marketplaces were identified in the mining industry in January 2001 (Ludeman, 2001) and 28 in the forest and building products industry (Industry Canada, 2000). While monopolies of marketplaces in individual industries would not be tolerated by governments, an optimal number of sites is likely to emerge from the current situation. Forrester Research estimates that less than 200 e-marketplaces will survive within two years (Forrester Research, 2000). This underlines the need for prospective participants to have some awareness of the issues that may affect the likelihood of survival when selecting a potential marketplace.

2.1 Trading models

At the most simplistic level, e-marketplaces can be defined as either horizontal or vertical, although this is no longer such a clear cut separation. Some larger vertical marketplaces such as Quadrem (www.quadrem.com) have moved beyond mining and metals to a more 'complete solution' to the procurement needs of their customers. Also, a number of horizontal marketplaces enable the purchase of industry specific goods through such offerings as Freemarket's Quicksource facility. An understanding of the transaction mechanisms and the levels of services offered by electronic marketplaces therefore offers an insight into potential trading models.

2.1.1 Transaction Mechanisms

While some marketplaces offer a variety of transaction mechanisms, others offer only one or two. As electronic marketplaces evolve, changes in the way firms are sourcing goods take place as they adapt to market developments. There is a wide variety of transaction mechanisms, some of which are very complex while others offer very simple identification services. They fall within five groups as follows:

- Catalogues - Catalogues are either individual vendor or multi-vendor. In addition to the traditional catalogue tasks of product representation, classification and search, online catalogues offer information, the ordering of goods and services, payment facilities, customer support, feedback and participation in corporate activities (Stanoevska-Slabeva & Schmid, 2000).
- Auctions - Auctions are the most visible face of B2B e-marketplaces and there are more than 30 different auctions formats currently in use (Davis, 2001). The most common formats are the seller-driven auction, based on

the traditional auction house method, and the buyer-driven reverse auctions.

- Exchanges - The exchange mechanism closely resembles the offline trading exchanges for commodities and near commodities and hosts competitive, anonymous bidding between buyers and sellers.
- Storefronts - The storefront mechanism offers participants the opportunity to maintain an open Webpage within the marketplace site.
- Negotiation - In the negotiation model, the marketplace acts as an intermediary for transactions and supports the posting of bids or quotes and allows for responding businesses to make their offers. The e-marketplace may accept the full role of intermediary and thereby maintains anonymity between the participants.

2.1.2 Additional facilities

Market makers use facilities additional to the buying and selling mechanisms to attract participants to their marketplaces and value-add facilities have been identified as a key success factor in marketplaces (Standing, 2001). Choudhury et al., (1998) identified different levels of service that are offered by e-marketplaces, developing from trading hubs that support the identification of potential trading partners to more complex models offering selection and, increasingly, execution services. These transaction orientated execution services may range from payment services through to logistics, customs forms, insurance, tracking of goods, escrow and currency exchanges. A further range of facilities identified in e-marketplaces includes information services: for example industry events, research papers, tutorials and news. Some e-marketplaces offer a community site model which offer a full range of facilities relevant to a specific industry, the benefits of which are well documented (Downes & Mui, 1998; Hagel & Armstrong, 1997; Raisch, 2001).

2.1.3 Benefits of e-marketplaces

The reported benefits to companies that are trading through e-marketplaces are compelling and suggest that cost savings being experienced by companies are considerable. Lucking-Reiley and Spulber (2000) report that online transactions could 'reduce costs by a factor of five or ten or more.' The following list of cost saving efficiencies was assembled from a search of current periodicals and journals:

- lower procurement costs
- lower search costs

- reduced administration costs
- reduced development time
- integrated global suppliers
- cuts in inventory holdings
- up-to-the-minute order tracking
- a strengthening of relationships with commercial partners
- exposure to a global market

The scope of the individual marketplace will determine how many of these benefits can be experienced by the participants of a particular marketplace. The element of choice in selecting an e-marketplace is often constrained by traditional partners or the positioning of major industry players. However, in open e-marketplaces where entry barriers are low, there are opportunities for smaller companies to bid for business with larger companies who were previously inaccessible.

3. KEY FACTORS OF SUCCESSFUL E-MARKETPLACES

The business press offers several factors which are believed to be key to the success of an e-marketplace (Standing, 2001) and these are summarized in Table 1.

4. METHODOLOGY

A detailed analysis of twelve electronic marketplace websites, representative of a wide variety of industries and marketplace models, was made to determine the extent to which key success factors, identified from the literature, are being addressed.

4.1 Selection of the websites

A list of e-marketplaces, trading on the Internet, was compiled from a search of the business press, academic journals and the use of the altavista (www.altavista.com) and yahoo (www.yahoo.com) search engines. Some industries are better served by electronic marketplaces than others and therefore a diverse range of industries was selected to give a broader view of how prevalent the recognition of key success factors is. The twelve sites were selected to represent a range of criteria as shown in Table 2.

Key Success Factor	Notes
Critical Mass	Sufficient number of participants to ensure effective running of an e-marketplace. Low entry costs, designed to attract new participants also encourage memberships of multiple e-marketplaces which has implications for income streams as it disperses the transactional value of suppliers' activities.
Income streams	Identified income streams include: transaction related fees membership/licensing fees sales of industry information value-add service fees advertising and marketing sales of accumulated marketing data.
Security	A secure environment in which to exchange commercially sensitive and financial information.
Level of independence	The ability to offer a neutral environment in which participants can trade without fear of compromise. The Federal Trade Commission reports that over-inclusive ownership by industry consortia could raise concerns of exclusion practices (FTC, 2000)
Technology infrastructure	Issues of: technological complexity resulting in additional costs to participants (e.g. hardware, software, training etc.) software standards
Relationship management: Trust Privacy	Trust can be signalled using criteria based on those outlined by Smith et al (1999) in relation to business-to-consumer e-marketplaces: Online community facilities allows interaction and the sharing of positive references (Kollock, 1999) Links from other trusted sites Unbiased product information from third parties Existing reputation (brand name) Commercial firms also offer authentication, validation and transaction services Privacy raises issues of maintaining industry relationships and safeguarding sensitive information.
Fulfilling participants' needs (value-add)	Market makers need to achieve a form of competitive advantage to attract participants and maintain profits (Bakos, 1991). In identifying and incorporating a relevant range of facilities to meet, or exceed, participants' needs, e-marketplaces can increase viability. The advantages of community sites are well-documented (Hagel & Armstrong, 1997) and the use of community site facilities has the capacity to create trust and enables the e-marketplace to act as a one-stop portal for industry participants.

Table 1. Key success factors

E-market-place	Industry	Ownership Model	Entry Barriers	Geographical Range	Languages	Participants
Quadrem	mining, minerals and metals industry	Industry consortia	Open	global	English, French, Spanish, Portuguese	Industry-wide suppliers/ buyers
Covisint	automobile industry	Industry consortia	Open	global	English, Japanese	manufacturers and their suppliers
Con-verge	hi-tech goods	Industry consortia	Open	global	English	whole-sale distribution
Appliance-zone	consumer appliances	Intermediaries	Open	Europe	English, French, German	wholesalers/ high st. retailers
Paper Exchange	pulp and paper industry	Intermediaries	Open	global	English, French, German, Italian, Spanish, Finnish, Swedish	industry wide suppliers and buyers
Egreen coffee	coffee trade	Intermediaries	Open	global	English, Spanish, Portuguese	commodity traders
E-greenbiz	green industry products	Intermediaries	Open	USA	English	small/ medium wholesalers
Cargo finder	transportation (shipping)	Intermediaries	Open	Dutch based (global)	English	service sector
58K	printing	Intermediaries	Industry registered printers	USA Europe	English, French	medium to large scale service sector
Telemerc	telecomms	“vendor neutral”	Open	global	English	reselling products and services
Retailers Market Xchange	convenience stores and small business retailers	Intermediaries	Open	USA	English	small businesses
Ecfood	food and beverages	Intermediaries	Certified suppliers , invited buyers	global	English	‘large industry players’

Table 2. Selected electronic marketplaces

A preliminary examination of the websites was made to check the criteria in Table 2 and to further define the profile of each e-marketplace by clarifying their methods of transacting business.

4.2 Methods of transacting business

	Auctions	Storefronts	Negotiations	Catalogues	Exchange
www.quadrem.com	X		X	X	
www.covisint.com	X		X	X	
www.converge.com	X		X	X	X
www.appliancezone.com			X	X	
www.paperExchange.com	X	X	X	X	X
www.Egreencoffee.com			X		X
www.E-greenbiz.com	X			X	
www.cargofinder.com			X		
www.58k.com	X		X		
www.telemerc.com	X	X	X		X
www.RetailersMarketXchange.com	X			X	
www.ecfood.com	X	X	X	X	

Table 3. Methods of transacting business offered by the electronic marketplaces

All but one e-marketplace offered two or more methods of transacting business. The most common facility offered for transacting business was negotiation, closely followed by auctions (no distinction has been made with reverse auctions) and catalogues. The exchange facility, which is used for commodities and commodity-like products, was offered by only a third of the e-marketplaces and storefronts by a quarter.

All the sites had some level of value-add facilities. For transaction based facilities, four e-marketplaces offered identification and selection services with execution of transactions being completed externally, usually via email and five sites offered full execution services with financial and logistical support. Three marketplaces were unclear, but it is thought that they offered, or were developing, execution services. Other value-add facilities are discussed in the findings.

4.3 Analysis of the websites

Although the analysis of websites is a recent area of study, many disciplines have moved towards an examination of them particularly in regard to judging the purpose of specific websites and assessing the effectiveness of their design (Gibson and Ward, 2000). This study however,

is concerned with identifying the presence of specific factors on the websites and a content analysis approach was selected as the best method for identifying the presence of specific data. An awareness of both manifest and latent content analysis strategies (Berg, 2001, p243) enables a more interpretive approach to be taken, to account not only for the physical presence of elements, but also for an awareness of the underlying meanings that may exist.

Key success factors	Words and word groups sought
Critical mass	Names of major industry suppliers as participants, percentage growth rate, percentage of participant market, average transaction size, 'we have critical mass', number of participants, number of product lines
Income streams	Fees, transaction fees, licensing fees, commission, advertisements, percentage cut
Security	'highest levels of security', security statement, security guaranteed, security company participation (e.g. logo), secure environment/site
Level of independence	Statement of ownership, no affiliations, not affiliated to..., independent, neutral
Technology infrastructure	Technology standards, industry standards, technology partnerships, infrastructure
Relationship management: Trust Privacy	Community facilities, links to other trusted sites, third party endorsement, validation, feedback, maintenance of partner relationships Privacy statement
Fulfilling participants' needs (value-add)	Any words or word groups that relate to facilities offered in addition to buying and selling transactions e.g. news, chat rooms, what's new etc.

Table 4 Concept coding scheme

A coding scheme was developed using concepts as the unit of analysis; the key success factors were listed with groups of words that related to each factor (see Table 4) and the marketplace sites examined for the presence of these words or groups of words. The use of word groupings allows for verification of the analysis while not confining it to rigid constraints that ignore the apparent differences in the diversity of the various marketplaces. A coding form was used for each website to record the details found and to allow for comparisons to be made.

5. FINDINGS

The twelve e-marketplaces discussed displayed a wide diversity of approaches in developing their sites and the range of facilities offered was

very broad. The findings are given under the individual key success factor headings to clarify the issues:

5.1 Critical mass

Market makers recognised the need to achieve critical mass if their sites were to function effectively and were aware that a degree of transparency was required to persuade prospective participants that their marketplace was attracting other suppliers and buyers. A majority of the e-marketplaces showed figures indicating the number of registered buyers/sellers, the growth rate of transaction turnover or the number of product lines available. For example, 58K.com in which 3,680 printers participate, has a 'growth rate of 3% daily' and E-greenbiz.com has over 4,000 companies with 46,000 product lines. Only three e-marketplaces did not give figures or directly address the subject of critical mass, although each of them gave details of the size of the market they were addressing.

5.2 Income streams

Prospective participants need to consider the issues of costs when entering a marketplace and whether they wish to be tied in by licensing fees or prefer the pay-per-transaction methods of some marketplaces. Examples of five of the identified income streams were found, although four sites did not explain how income was raised and it was not possible to ascertain what income model they used. Table 5 shows where multiple income streams were found. It is likely that other forms of income generation are being developed and used, but these cannot be identified without fuller access to the e-marketplaces (for example, income from hosting storefronts for suppliers).

Details of income generation through the sales of accumulated market data was not available, although it is evident from the privacy statements given on a number of sites that market data is accumulated in this way.

	Transaction fees	Licensing Fee	Advertising	Value-add service fees	Sales of Industry Information
www.quadrem.com					
www.covisint.com	X	X			
www.converge.com	X			X	X
www.appliancezone.com					
www.paperExchange.com	X			X	
www.Egreencoffee.com	X				X
www.E-greenbiz.com					
www.cargofinder.com	Currently free		X		
www.58K.com	X				
www.telemerc.com	Currently free		X		
www.RetailersMarketXchange.com	X			X	
www.ecfood.com					

Table 5. Income streams identified in the e-marketplaces

5.3 Security

The structure of the marketplace had an influence on how the security of the sites was addressed by the companies. E-marketplaces that offered only identification and selection processes (and therefore did not carry information on financial transactions) addressed the question of privacy rather than security. However, the larger industry consortia sites had strong statements assuring participants that security was 'paramount' and two offered security help for 'company IT desks'. Several sites relied on strategic partnerships with expert security companies to indicate their commitment to security issues. Two e-marketplaces carry the Verisign logo (<http://www.verisign.com>) although it is interesting to note that the status of one is 'revoked' and the other is 'expired', which raises concerns about the commitment these marketplaces really have towards security or the stability of the marketplace itself.

5.4 Level of independence

Only three sites did not carry statements asserting their independence as an e-marketplace. The remaining nine companies all carry statements ranging from 'E-greenbiz.com does not own any products nor is affiliated to any industry participant' to Appliancezone's statement that they are an independent, neutral company funded by venture capital. Industry consortia

sites were particularly clear in stating that, although ownership is shared amongst industry players the e-marketplace companies were completely independent.

5.5 Technology infrastructure

Four marketplaces mentioned technological infrastructure or addressed the question of standardization, three of which gave statements regarding the latter. One smaller company showed an awareness of the technical complexities that might concern its less technologically advanced customers, while two of the largest state that their sites are standardized on XML. One consortia company is developing its own technology standards.

5.6 Relationship management

Two facets of relationship management were considered: trust and privacy.

i. *Trust*. Evidence of the awareness of the need to engender trust in prospective participants was based on criteria previously identified by Smith et al., (Smith, Bailey, & Brynjolfsson, 1999) and Kollock, 1999 as indicated in Table 1. Three sites were found to have incorporated an online community aspect to their marketplaces. Two marketplaces incorporated links to websites of organisational bodies that were established within the relevant industries, although it was not possible to trace links back from other sites to the e-marketplaces. Two marketplaces requested feedback from visitors, encouraging unbiased product information. Five marketplaces had no identified criteria for signaling or engaging trust, although two sites recorded other aspects that could signal a measure of trust (validation of suppliers through an existing industry register and participation in community-based initiatives). No direct use of existing reputation was discernible although all the e-marketplaces gave lists of their strategic partnerships to give credence to their sites.

ii. *Privacy* statements were given on all the sites relating to protection of data. Four e-marketplaces included a facility to enable buyers and suppliers to maintain relationships (both new and established) by communicating and transacting in private within the market site. While several of the e-marketplaces gave assurances that information accumulated on participants would not be disclosed to a third party, there were few assurances that amalgamated data would not be collated. Indeed, at least two of the major industry consortia sites have statements that visitors will be blocked from their sites if they disable the cookies that allow data collection.

5.7 Fulfils participants' needs (value-add)

The ability to address individual customer requirements and thereby build loyalty-enhancing relationships is seen as a major contribution to e-marketplace success (Lee, 2001). The range of facilities identified in the marketplaces under review indicated that market makers were moving towards enhancing the basic buying and selling functions with facilities likely to enhance the benefits realisable by participants. Of the wide range of facilities identified some occurred in a number of sites (e.g. industry news) and others (e.g. completion of customs paperwork) in only one site. E-marketplaces that incorporated an online community site had the largest range of added facilities such as tutorials, book sales, chat rooms and industry information. The larger companies offered more value-add in respect to transaction-related facilities: for example, data warehousing, logistics and financial services, transaction tracking and virtual project workspace. The more specialised sites had industry-related value-adds. For example a commodities site offered futures quotes both in real-time (paid for) or delayed time (free) while the food industry orientated its value-add towards requirements in the food industry relating to health and safety, ingredient listings and standardized ingredients.

6. DISCUSSION

The findings from the website analysis provide a view of how market makers are addressing the key success factors in their marketplaces. The findings are visible through the website and are therefore available to prospective participants enabling them to make more informed decisions about which marketplace may suit their individual needs. The findings are discussed with regard to their relevance to prospective participants, and then summarized into a framework to facilitate businesses' determination of whether the market makers' approach to key success factors is appropriate for their own requirements.

6.1 Recognition of key success factors

The key success factors are all addressed in a variety of ways across the range of e-marketplaces, with greater levels of awareness being shown to some factors. For example, a high level of awareness of the importance of critical mass is shown by all the e-marketplaces. They demonstrate the need to show that they have sufficient participants for an effective trading site by

such methods as citing the number of participants or product lines. They are encouraging new participants through a range of initiatives, including an initial 'try before you buy' phase, free transactions, site tours and lengthy FAQ sections. The factor of security was also strongly addressed by all the sites with the use of strategic partnerships with security companies as the favoured method of showing commitment to the issue. Whether this approach to security is sufficient to secure confidence in participants is uncertain.

Another area that was keenly addressed by all the e-marketplaces was the issue of ownership. All declared their independence notwithstanding their ownership, although in the case of the industry consortia it remains an open issue subject to close scrutiny by government bodies (FTC, 2000). One dominant ownership model may emerge as the most enduring, but in the current dynamic environment the issue of neutrality remains ambivalent.

In contrast to these well-addressed factors, the factor of technology is approached in a piecemeal way with a third of the marketplaces mentioning standardisation, but only one displaying real concern that participants' questions on the subject should be addressed. The lack of a common technological standard has switching cost implications if participants need to invest in diverse technologies to access different trading sites, so reducing flexibility in the electronic environment. The impact of fragmentation will be stronger if the larger consortia marketplaces move towards establishing their own standards and thereby locking in smaller participants. However, commitment to one marketplace may become more common if the anticipated consolidation of e-marketplaces is as concentrated as forecast.

Income generation was another factor that is addressed in a more fragmented way. Although the most common model remains the charging of transaction fees it is not possible to ascertain which income streams are viable sources of revenue. For example, it is not clear if the sale of futures quotes generates profit or is a value-add facility. Advertising revenue, a potentially valuable income, must be weighed against any negative images of neutrality or quality. One marketplace charged a one-off licensing fee that could have switching cost implications for small suppliers, reducing their ability to participate in several e-marketplaces.

Differences also remain between the marketplaces on how they approach the issue of signaling trust. The smaller companies utilise user friendliness and community orientation, while the larger companies use guided tours and presentations to display openness. None of the e-marketplaces used feedback from customers to promote trust with new participants. Overall, there is potential for developing more effective strategies for engaging the trust of marketplace participants and broadening the opportunities to promote loyalty

amongst them. The issue of privacy between buyers and sellers, however was well recognised and the e-marketplaces all displayed privacy statements.

The remaining success factor is the e-marketplaces' ability to fulfil participants' needs and they are all very aware of the need to provide more services than purely transactional ones. Some companies were developing the online community model where the value-add covers a much wider range of facilities than more functional sites, which offered minimal value-add. This is perhaps a reflection of differing customers' needs within complex, fast moving industries and the greater functionality required by others. Additional value-add facilities are being introduced as e-marketplaces gain experience and participants and there are many examples of innovative approaches to value-add, supporting the more transactional mechanisms of the marketplaces.

6.2 The Participants

In the confused and dynamic environment of electronic marketplaces there are a wide variety of sites for prospective participants to consider. Their initial selection may be dictated by several factors including the level of service required, following established trading partners onto their selected site, the geographic reach of the marketplace or the brand name of the market makers.

These factors may influence decisions and replace an in-depth appraisal of the marketplace particularly in a climate where the pressures to participate in the electronic environment are immense. Identification of the key success factors from a preliminary inspection of a website can support the decision to participate in a particular marketplace, especially where the competition amongst them is strong and the environment is uncertain.

Table 6 summarizes the findings above to provide a framework that enables prospective participants to ascertain what key success factors can be determined from a website. This can be used to support the choice of an electronic marketplace that has awareness of the factors contributing towards its own success and that also matches a participant's specific requirements. Where access to the e-marketplace is restricted, preventing an assessment of the key success factors, this in itself raises the question of openness to prospective participants.

Key success factors	Issues
Critical mass	<ul style="list-style-type: none"> - Is the e-marketplace aware of the need for critical mass? - What visible evidence is there? - How large a segment of the market do they have?
Income streams	<ul style="list-style-type: none"> - What revenue streams are evident? - Do the payment methods indicate switching costs? - Who pays any transaction fees (buyer/seller)? - Are there any up-front licensing fees? - Is there advertising on the site? - What types of companies are advertising? - Are there service fees for value-add facilities?
Security	<ul style="list-style-type: none"> - What statements about security are evident? - What strategic security partners do they cite? - If a security service provider is used is the service valid?
Independence	<ul style="list-style-type: none"> - Who owns the marketplace? - If this is not clear, what implications could there be?
Technical information	<ul style="list-style-type: none"> - Is technical support offered? - Does the site have common technological standards? - Is any commitment to integration required? - What switching costs may be incurred through meeting technological standards?
Relationship management	<ul style="list-style-type: none"> - Trust - How does the e-marketplace signal its commitment to establishing and maintaining trust? - Privacy - What evidence of commitment to privacy is available?
Fulfills participants needs (Value-add)	<ul style="list-style-type: none"> - What value-add facilities are useful/attractive? - What do they cost? - Are they current and reliable? - What value do they add to participation in the e-marketplace?

Table 6. Framework to enable identification of key success factors in an e-marketplace

7. LIMITATIONS

The analysis of a diverse range of electronic marketplace websites has, necessarily, certain limitations. This research has studied the websites in the role of an external visitor, accessing the information that is available to prospective participants, before they register as a buyer or seller. This enables an examination of the level of recognition for the key success factors by marketplaces and highlights issues that arise from success factors that are not being adequately addressed. Further research is needed to test the issues and questions raised above against different e-marketplaces within the same industry and to ascertain the full decision making process of businesses seeking to participate in electronic marketplaces.

8. CONCLUSIONS

Using the seven key success factors, previously identified, in this study it has been possible to see that e-marketplaces are recognising many of the issues they need to address if they are to develop their potential. While some of the key success factors are being well addressed by the e-marketplaces, there remain areas of concern in the future development of marketplaces, particularly in the areas of security, technology infrastructure and ownership.

Although there are different drivers pushing companies towards participation, an appreciation of how electronic marketplaces are developing their trading models can support the selection process and enhance the trading experience of the participants. The proposed framework facilitates recognition by prospective participants of the key success factors and the issues surrounding them and can contribute to the selection of an e-marketplace that meets their company requirements.

Once the key success factors have been addressed more fully and participants have gained experience in the electronic marketplace environment, it is perhaps the value-add facilities offered that will encourage participants to favor one e-marketplace over another. The level of innovation already evident in marketplaces and the diversity of offerings show that this key success factor is the one that enables the greatest degree of differentiation to be achieved by market makers. If this is the case, the value-add facilities will play a greater role in contributing to marketplace survival when the consolidation of the marketplaces occurs.

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