MSc RESEACH THESIS:

THE IMPLICATIONS OF INTERNET AUCTIONS FOR SMALL TO MEDIUM SIZED ENTERPRISES (SMEs) IN GREAT BRITAIN

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Abstract

This paper reports the results of an extensive web questionnaire and the resultant brainstorming of expert opinion in order to determine the degree to which eAuctions pose opportunities and threats to SMEs in Great Britain. The findings of the research are structured into five key stages. The first two stages of the research cover the broad topics of SME's acclimatisation to e-commerce (EC) and the development and growth of eAuctions. The third and forth stages of the research uncover and measure the considered probability of occurrence and in consideration of occurrence, the impact of the opportunities and threats posed by eAuctions to SMEs. This process enabled a ranking and prioritisation of key issues. In stage five, the highest ranking opportunities and threats were brainstormed by experts, this resulted in a list of recommended actions for the strategy makers of SME's.

The research project shows that the future of eAuctions is far from certain, however currently its use continues to proliferate. SMEs will be affected by eAuctions, although some more than others, dependent largely on their product grouping. The research summarises that those likely to be affected will need to be prepared. In producing a list of recommendations, it is hoped this research helps individual SMEs identify the actions they need to take to gain most benefit from this new technology.

Contents

1. Aim & Objectives

1.1 Aim

This research project's aim was to determine the degree to which the opportunities and threats posed by Internet auctions will affect SMEs in Great Britain. It was then intended to produce recommendations to help individual SMEs identify actions that they can take to gain most benefit from this new technology.

1.2 Objectives

To reach this aim the research project has been divided into five stages. These are listed below:

1. To provide an overview of SME's acclimatisation to e-commerce (EC).
2. To examine the development and growth of B2B eAuctions, especially where relating to SMEs.
3. To identify and measure the considered benefits and drawbacks of eAuctions to SMEs.
4. To rank and prioritise eAuction opportunities and threats.
5. To explore the actions SMEs can take to pacify threats and create advantage.

2. Methodology

2.1 Research strategy

It should be explicitly stated that a key objective of this research is to provide an unbiased, practical evaluation of eAuctions to the strategy makers of SMEs within Great Britain. It is argued that this industrious audience seeks deductive information, because it enables quicker, more decisive decision making. Gill and Johnson (1997), define deductive research as research which aims to disclose certainties, (i.e. a causal relationship).

2.2 Definitions

Throughout this research project a variety of abbreviations and e-business terms are used. For simplicity the definitions terms have been compiled in a glossary which can be seen in appendix 9.1.

2.3 Stages of the research process

2.3.1 Stage 1 - Overview of SME's acclimatisation to EC.

The first stage of the research project is intended to take an overall look at the key issues within EC relating to SMEs (SME attitudes, skills, technology usage and adoption). Due to the ongoing developments of all EC technologies, reviews of current literature were repeated continuously throughout the project. This was used to actively support and develop the primary research findings presented here, to provide a better context upon which to analyse and draw conclusions. Data was found through: journals, the Internet and broadsheet newspapers. Best endeavours were made at all times to validate and cross compare all data to ensure that that quoted is reliable.

2.3.2 Stage 2 - The development and usage of B2B eAuctions.

The purpose of the second stage is to bring much greater focus upon eAuctions. Exploration was largely through the secondary sources discussed above. However technology development was also tracked through visiting conferences and through use of the Internet. Here activity centred around visiting technology vendor's sites (e.g. Opensites.com & atkearney.com) and regularly visiting various B2B market maker sites (for links see VerticalZoom.com & InternetAuctionlist.com). Primary data has also been provided through presenting further results from a web questionnaire (see appendix 9.2) to help cross examine findings and bring a greater SME focus where it is relevant.

2.3.3 Stage 3 - The opportunities and threats posed by eAuctions to SMEs.

The purpose of this stage of research was to identify and measure the proposed benefits and drawbacks that eAuctions provide to SMEs. A comprehensive analysis of the most regularly purported benefits and drawbacks of eAuctions was made and documented. The results of the most important section of the web questionnaire is documented here. Respondents assumed a particular stance ranging from commodity to highly specialised products. Opinions were then given regarding the probability and potential impact of the identified benefits and drawbacks. Quantitative values were applied (i.e. very high impact = 5, very low = 1) and this enabled statistical investigation and

mean calculations. These are then discussed in comparison to secondary source data and commentary.

2.3.4 Stage 4 – Exploring the impact of identified opportunities and threats.

Stage 4 attempts to be both predictive, 'the forecasting of events and behaviours resulting from a phenomenon' Marshall (1994:41), and deductive (as discussed earlier) to provide what the research project's target audience seeks. This was completed through applying futures research, a method 'used fairly extensively in areas such as technology development and business trend analysis,' (Remenyi, 1998:54), thus suiting the exploratory needs here.

It does this through carrying out a risk analysis, adapted from Golding (1997). Having generated quantitative probability and impact data in stage 3, the data has been used to quantify benefits and drawbacks through ranking, creating a measured prioritisation of opportunities and threats. The rankings have been graphically mapped according to respondents stances (commodities - specialist). This brings to the fore that which it is hypothesized most SME strategists prefer, deductive information. These results have been mapped graphically, thus uncovering the most prominent opportunities and threats for discussion.

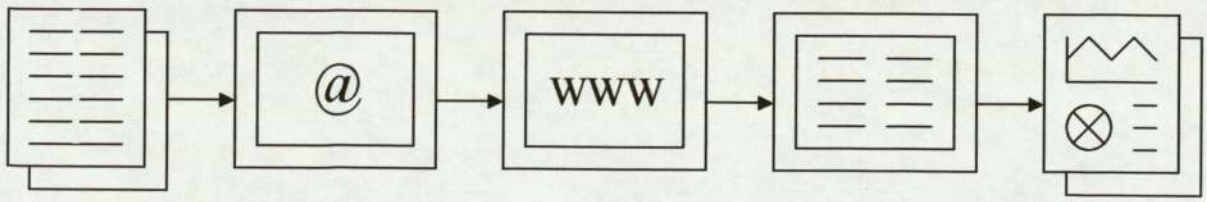
2.3.5 Stage 5 - Exploring what SMEs can do to pacify threats and create advantage.

The ultimate aim of this stage is to collect data that will enable the collation of a global outlook of participants' views from which predictive forecasts and recommendations can be drawn, thus providing predictive forecasts which Marshall (1995:111) argues 'greatly helps to filter unusual or ambiguous data that often hinders decisive evaluation.'

To achieve this, the most prominent opportunities and threats uncovered in stage four were brainstormed in an effort to determine what SMEs can do to take greatest advantage from eAuctions. The resultant brainstorm which can be seen in appendix 9.4, was then sent to a number of individually selected respondent experts who were asked to reflect upon and develop it. Widely used in business, brainstorming was utilised because it was felt it would enable the required questioning and exploration of uncertainty, needed to 'invoke data upon issues which may not have otherwise been considered', (Wycoff, 1991). This semi-standardised means of consultation was chosen because it is both predictive and explorative. A resultant analysis and discussion of the expert opinion about the initial brainstorm and an analysis of the additional recommendations then proceeds from which final conclusions are drawn.

2.4 The Internet Questionnaire

The web questionnaire (see appendix 9.2) was the key tool through which primary data for this research project was generated; its data is used throughout. The diagram below depicts the basic data collection process.



1. List of potential respondents
2. Potential respondents emailed
3. Email links to web questionnaire
4. Responses submitted to database
5. Data interrogated and presented

After an extensive search, all potential respondents were sent an email which included a hyperlink linking respondents directly to an internet form detailing the sections of the questionnaire. Here respondents gradually worked their way through, giving their responses after which they submitted the information automatically to the web database. A copy of the database was then downloaded to enable analysis.

2.4.1 An important consideration

To use the questionnaire respondents obviously had to have the skills to use Email and the Internet. It was decided that due to the technical nature of the B2B auctioning tool, this was vital to ensure a good quality of data. However, it must be explicitly understood that although the respondent group are primarily from SMEs, as intended, to a certain degree they have been picked according to the criteria of having basic Email and the Internet skills. Where pertinent, significant efforts have been made to cross examine findings made here with alternative sources. Careful consideration has also always been given when drawing conclusions and recommendations.

2.5 Questionnaire Respondents

2.5.1 Potential respondents

The e-mail used to direct respondents to the Internet questionnaire was sent to a total of 1644 potential respondents. Of these, a majority (1498), were gained through Shropshire Business Link at a small cost (kindly provided through University Research funds). Of these (97%) were composed of the project's target group, SMEs. Other potential respondent's contacts were gained through Aston University, trade and industry websites, e-business forums and Internet auctions & exchanges themselves. This group was composed specifically of people who through the initial research process were referenced to, quoted or otherwise involved in these organisations.

2.5.2 Actual respondents

142 completed responses were submitted to the questionnaire database. Of those e-mailed, 64 were returned undelivered (recipient addresses no longer existed). Therefore the response rate achieved was 8.99% (see figure 1). This was encouraged by two key factors. Firstly, added to the Internet site were some supporting texts/ commentaries found during the initial research stage (it was considered these would act as a show of goodwill as well as enhance respondents understanding of B2B technologies). Secondly, the email specifically stated that those who had responded would receive a copy of the projects findings, which will be sent in due course.

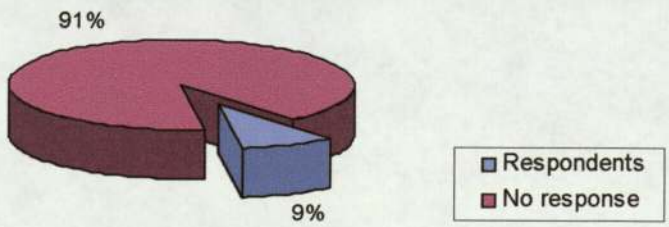


Figure 1 - Questionnaire response rate (total 1644)

2.5.3 Company Size Mix

Below in figure 2 is a pie chart depicting the mix of respondents from various company sizes. As can be clearly seen half of the respondents were from Micro organisations, this is unsurprising as

micro organisations form the vast majority of UK companies. Of the remainder, there is a noticeably smaller proportion of medium sized organisations, here there were 16 respondents, whilst obviously this was a slightly disappointing sample size, it is not considered so small that it may adversely affect findings.

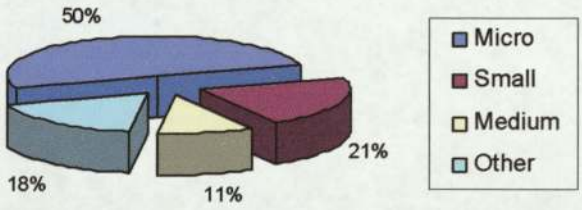


Figure 2 - Respondent Company Mix (total 142)

3. STAGE 1 – An overview of SME's acclimatisation to EC

3.1 Introduction

The development of EC technologies offers many new challenges and opportunities for companies to leverage economic benefits. Whilst a wealth of research generalises or concentrates on the developments of large organisations much less is known about SMEs acclimatisation. This stage now seeks to assess and fill some of these literary gaps. This section looks at SME respondent attitudes, technology adoption, skills and projected returns on investment. Wherever relevant comparative secondary sources have been used to support and enhance the analysis.

3.2 The considered importance of E-commerce

As one of the questionnaire's opening questions, the respondents considered the importance of EC. Hopefully this provides an immediate broad gauge of respondent opinion. Because of its fundamental nature this is further broken down and analysed by respondent roles and industry. As will now be discussed, opinion was largely positive.

3.2.1 How important do you consider e-commerce is to the long-term success of SMEs as a whole?

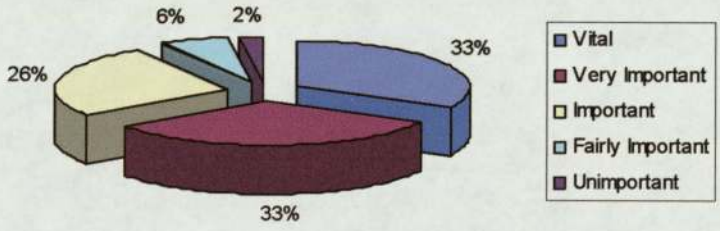


Figure 3 – The long term importance of EC to SMEs (all respondents)

As can be seen above in figure 3 the majority of respondents were very clear in showing they considered e-commerce was of great importance to SMEs as a whole, with a third of respondents classifying it as vital. This is only slightly lower than the DTI's study which found "73% of all businesses saw EC as very important to their competitive position in three years time," (Romtec, 2000)

3.2.2 The considered importance of e-commerce to long term SME success to people within differing roles

Below in figure 4 is a spread of respondent opinions grouped according to their daily role. Marketing, IT and consultancy positions are heavily favorable to EC's importance; it is company strategists who are least favorable to the importance of EC. Obviously this group is of greatest influence on business direction, investment and growth and so this finding is of particular importance as it shows a greater degree of caution than others.

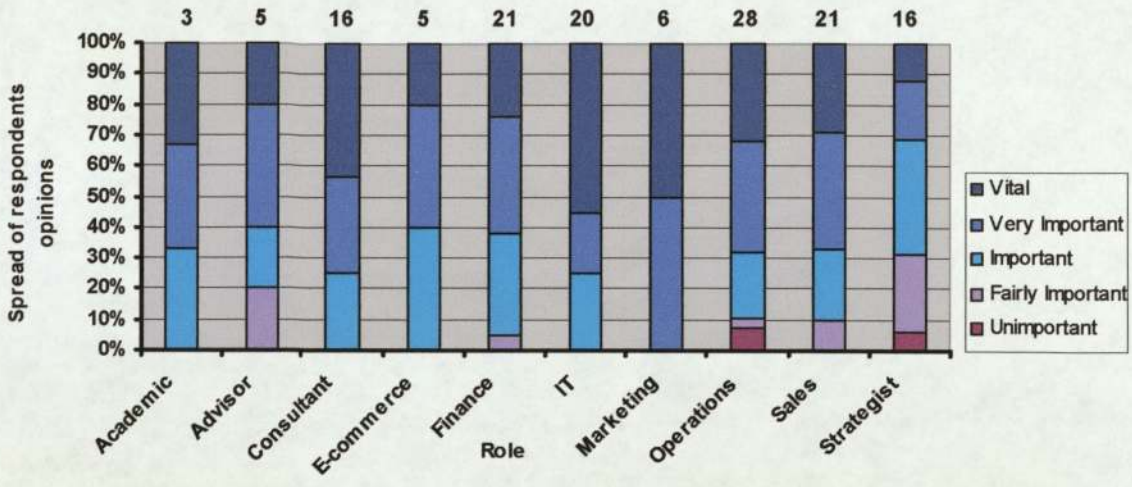


Figure 4 - The considered importance of e-commerce (by respondent role).

3.2.3 Considered importance of EC across industries

The same data spread across industry in figure 5 shows the highest levels of opinion in favour of EC are in Media, Consultancy, Education and Services. The 'products' of these industries are obviously well suited to the Internet, therefore this was not surprising. Manufacturing and Wholesale & Retail were both a little less supportive, but, as can be seen, a considerable majority (over 75% respectively) still considered EC important, very important or vital.

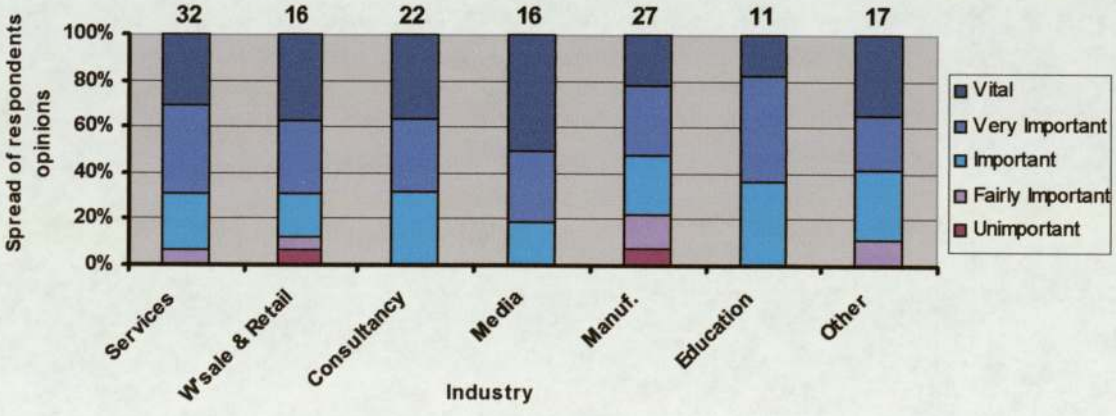


Figure 5 - Considered importance of EC across boundaries.

3.3 Technology Usage

This section examines the technologies that form the basis of EC, it measures their current usage and their likely future adoption by SMEs. Because the respondent group included Non-SME personnel these were filtered to ensure that all statistics within this section are purely those of SMEs, because it is this group that is being concentrated upon here.

The number of respondents for each SME sub-category were as follows:

Company Size	Micro	Small	Medium
No. of Respondents	72	30	15

Definitions of all the Internet technologies discussed can be found in the appendices.

3.3.1 Technologies that surveyed organisations had adopted.

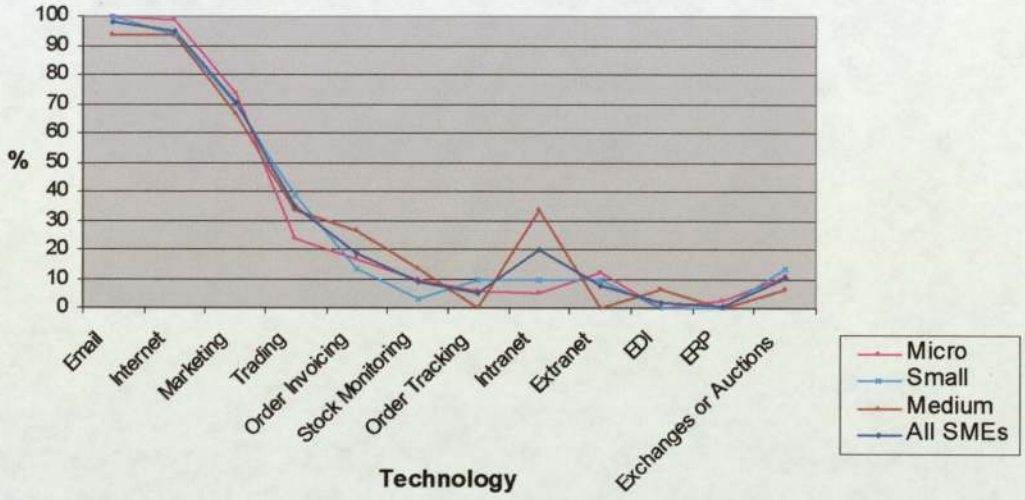


Figure 6 - Technologies that surveyed companies had adopted.

As can be seen in figure 6 above, the graph of technology usage very rapidly tails off. The most noticeable exceptions are Internet marketing (e.g. a website / Internet listings) and Internet trading usage which rank fairly highly (averages of over two-thirds and one-third respectively). Therefore a clear and largely unsurprising trend within this graph is the issue that the greater the tool complexity, the less SMEs are making use of them. In a comparative study of UK businesses as a whole (weighted by employment) provided by UK Online, it finds the following usage figures, marketing 61%, trading 27%, invoicing 9%, stock monitoring 21% & order tracking 33% (Sergeant, 2001). On taking into account that this research project's respondent companies have a higher than average email and internet connectivity (and therefore are assumed to have higher average EC technology usage) the figures are similar for the simple technologies but for the more complex technologies, i.e. order tracking & stock monitoring, this project's findings show that SMEs appear to be significantly behind.

It is also interesting that Intranet usage shows a marked contrast in use between micro and medium companies, this strongly suggests that companies with larger numbers of employees find this tool more useful. Noteworthy, is that larger companies are more likely to have multiple geographical sites where an Intranet can be very economical in overcoming this complexity.

3.3.2 Technologies that surveyed organisations considered they would be using within one years time.

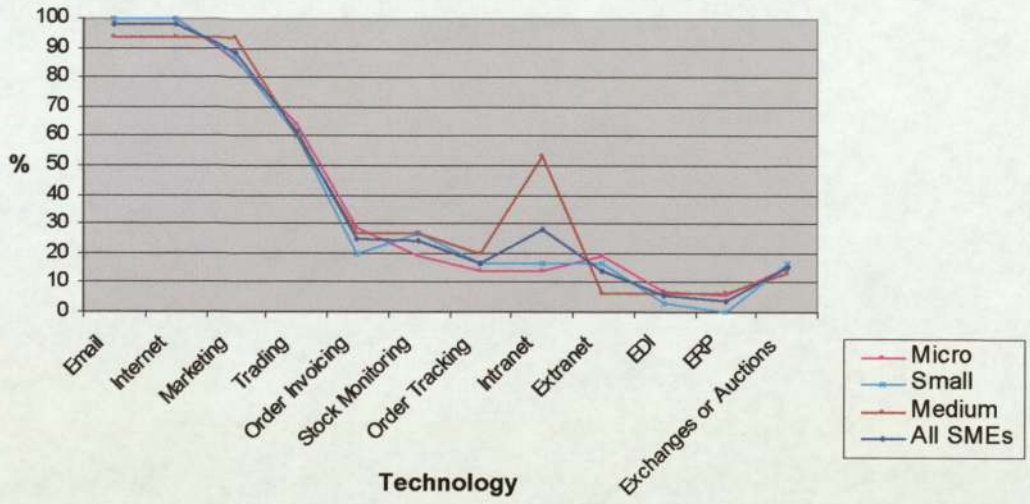


Figure 7 - Technologies that respondent companies are likely to use within one year.

On viewing the graph of likely usage in one year's time above (figure 7) and comparing that to figure 6, the two are fairly similar. In most areas, proposed increases in adoption are fairly modest, however, it is more obvious in the areas of Internet marketing and trading. After a comparison of the difference between current usage (figure 6) and expected usage (figure 7), the chart below (figure 8) was produced which much more clearly shows the expected growth in the usage of individual technologies.

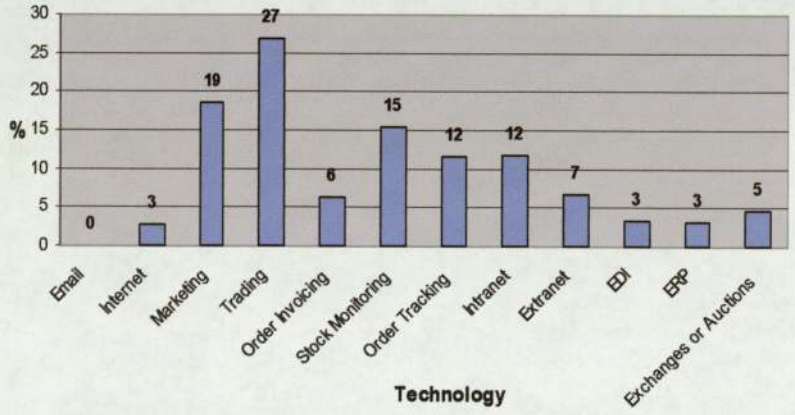


Figure 8 - The projected growth of EC technology usage over the forthcoming year.

This clearly confirms that Internet marketing and trading as key growth areas. Whilst ignoring email and internet access (they were already near virtual 100% usage), the more complex technologies EDI and ERP show least growth. The chart shows surprisingly high growth projections for stock monitoring and order tracking (in consideration of their implementation complexity), potentially this may have been exaggerated by a large number of respondents being from operational roles. Equally surprising was the low projected growth in exchange and auction growth, however this is to be discussed in stage two of this research project.

Unfortunately, no obviously comparable study separating individual technologies could be found, however the DTI's International Benchmarking Study (Romtec, 2000:46) which generalised the adoption of EC technologies as a whole, found that micro companies were least likely to adopt EC technologies with 20% saying they had no intention of adoption at all. Meanwhile for large companies only 3% stated that they had no intention of adoption.

3.3.3 The departments that make regular use of e-commerce technologies.

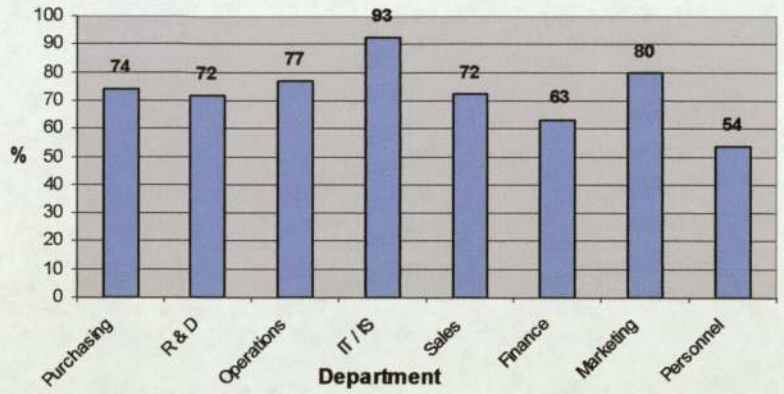


Figure 9 – Percentage of respondent company departments that used EC technologies.

Calculated as the number of times a department was marked as making use of EC technologies, a surprisingly high level of usage is being made, (it should be noted however that the intensity of usage has not been measured). Figure 9 clearly shows that in all cases over half of all departments were making at least some use of the technologies. Most abundant (unsurprisingly due to staff skills / responsibilities) were IT / IS personnel with 93% of departments registering EC technology usage, however this was closely followed by marketing, operations and purchasing departments, all having virtually three-quarters or more of respondents registering usage. A comparative study in E-commerce@its.best.uk in 1999 (P&IU, 1999:4) found that "63% of Internet connected employees made regular use of EC technologies". The P&UI report does not clarify its definition of regular usage, this report's findings are suggestive that the usage of these SMEs is at least comparable, if not possibly more widespread.

3.4 Skills

This section seeks to examine the skill levels companies feel they have with which to implement EC technologies, the amount of training that key IT staff are receiving and then goes on to question whether staff are not being trained because of the return on investment provided by EC technology implementation. Again, because the respondent group included non-SME personnel, these were filtered to ensure that all statistics within this section are purely those of SMEs.

The number of respondents for each SME sub-category were as follows:

Company Size	Micro	Small	Medium
No. of Respondents	72	30	15

Definitions of all the Internet technologies discussed can be found in the appendices.

3.4.1 Technologies that SMEs consider they have the skills to implement without further assistance.

Considering the complexity and the early stages of growth of many of the technologies, respondents were fairly confident of their company's ability to implement several of the EC technologies without external assistance (see figure 10). Of exception, such a high response was not expected for Internet trading and Intranet. Both these features require security features (credit card clearing and firewalls) and as pointed out by the AGB "smaller firms often struggle when it comes to the issue of security" (AGB, 1999:28). However it should equally be argued that increasingly ever-more sophisticated off-the-shelf packages are continually becoming available to ease these complexities.

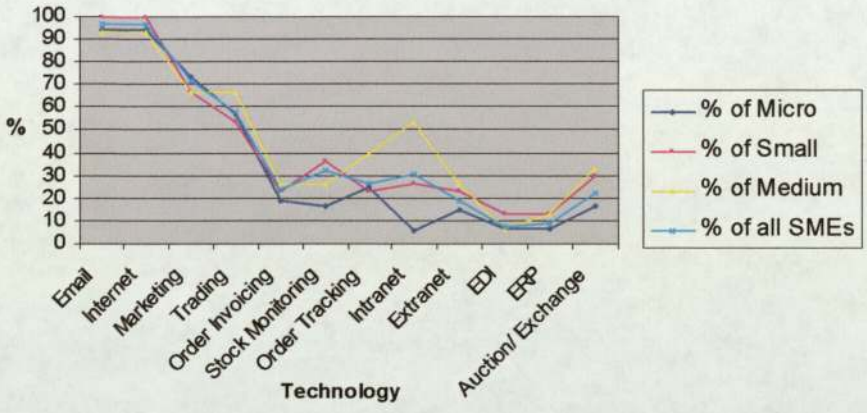


Figure 10 - Technologies that SMEs consider they have the skills to implement without assistance.

In nearly all cases medium sized companies appear to have greater confidence of EC adoption than small and micro companies. Assuming that these larger companies generally have more specialised staff, this higher level of confidence is understandable. However it should be noted that this finding does appear to contradict a finding in the International Benchmarking Study (Romtec, 2000:58) which summarised that "the perception of IT skills as a barrier seems to be higher in medium to large businesses where 48% of large business agreed or agreed strongly that skills were a potential barrier". These findings appear to be telling us the opposite.

3.4.2 The extent to which SMEs offer formal training to key IT staff. (Approx. days / yr / person).

Figure 11 below clearly shows a difference in investment in IT skills between companies of different sizes. Medium companies invested the most in training. Figure 10 above shows there was a greater level of confidence in medium companies that internal staff could implement EC technologies. It cannot help that Micro sized companies consistently invest the least in staff IT training, with clearly the highest percentage of staff (45%) being given negligible amounts of training, the only exception to this is in the group of 10+ days training, when they invest only slightly more than small companies but are still significantly lower than medium sized companies. In a similar study, Romtec (2000) found that micro businesses offered the least IT training, in fact it found that "only 34% of Micro companies and 50% of smaller companies offered any formal IT training" at all.

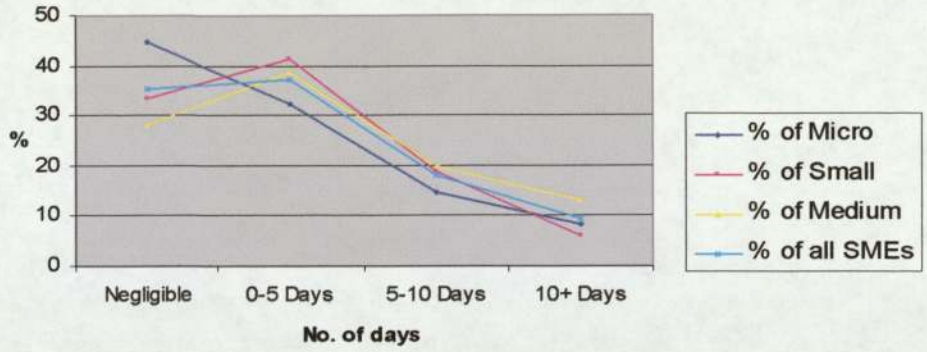


Figure 11 - Levels of investment in key IT staff training.

3.4.3 Technologies that are considered would undoubtedly increase SME profitability if they had staff with the right skills.

Having researched the levels of investment in staff skills, it was also felt pertinent to measure a company's considered confidence that the investment would provide profitability, to test whether there is any relationship between the two. Indeed as figure 12 shows there does appear a relationship that micro companies are less confident than small and medium sized companies that EC technologies will bring them profit, hence this would be a good reason not to invest so heavily in IT training (this also correlates closely with future technology adoption where Internet trading clearly shows the most growth, (see figure 7)). The key criteria for investment by any business must be assumed to be to generate greatest value added. Here it can clearly be seen that medium companies have greater confidence in EC technologies becoming profitable, followed by small companies, with micro companies having least confidence.

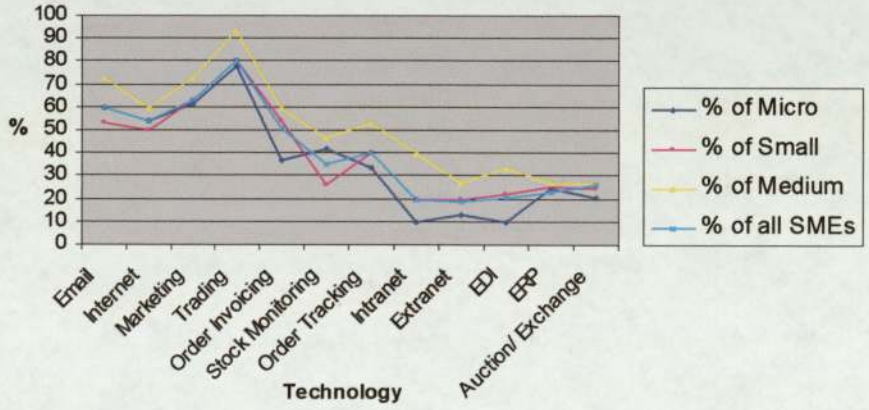


Figure 12 - Percentage of respondents who consider EC technologies would increase SME profitability.

3.4.4 Technologies not considered viable for the majority SMEs at this time, either due to skills or likely return on investment.

On combining the issues of profitability and skills in this way, figure 13 gives the clearest indication of the restrictions that small but especially micro companies feel they have. Over half of the micro organisation respondents felt that stock monitoring, order tracking, Intranet, Extranet, EDI, ERP and exchanges & auctions were simply not viable due to either cost or skill inhibitors.

There are many research papers that cite skills as an inhibitor to the adoption of EC (e.g. Romtec 2000, AGB 1999 & Wise 2000) which this research also undoubtedly shows, however in not focusing on SMEs and micro companies in particular too few appear to cite payback of the investment as an influential inhibitor. This seems an all too obvious point, one which requires greater research, but this is beyond the bounds of this project.

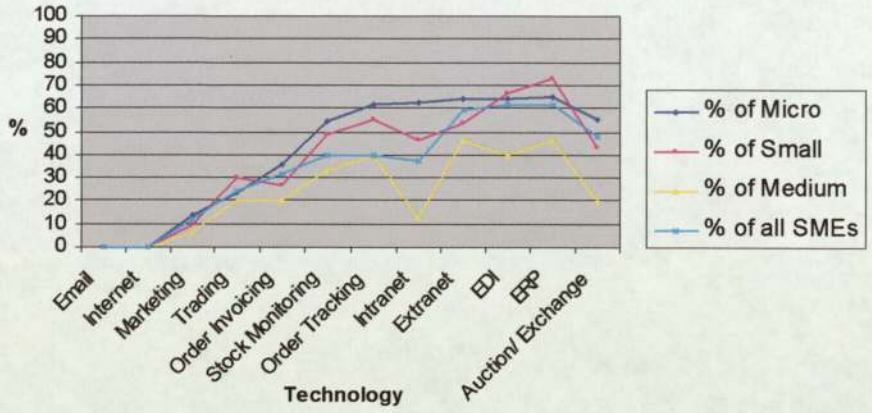


Figure 13 - Percentage of respondents that consider an EC technology is <u>not</u> viable due to a lack of the skills required or a poor return on investment.

3.5 Summary

Firstly this stage took a simple measure of opinion regarding the considered importance of EC to long term SME success. Analysing from both a respondent role perspective and from an industry perspective, the SME community are largely in agreement with the wider business community that EC is of great importance to long term success. However specific roles of lower optimism were company strategists and operations managers, meanwhile specific industries of lower optimism were manufacturing and wholesale & retail. Thus there may be certain parts of the SME community in need of greater support, e.g. strategists in the manufacturing industry (an industry in the UK already finding foreign competition tough). If group opinion is to be believed, EC development should be higher on their agendas.

This research has clearly shown that there are differences in usage and planned adoption of EC technologies depending on company size. The research strongly suggests that larger companies are more confident about implementing EC technologies, indeed medium companies show greatest usage amongst SMEs. However to support this optimism medium sized companies are also consistently investing more in training for key IT staff. Nevertheless, a finding which cannot be ignored is that micro companies especially, appear to be less confident that EC technologies will generate real financial value added, i.e. profit. This appears to be a very simple reason for not investing as heavily in staff IT training. This somewhat contradicts the initial highly positive attitude of a vast majority of respondents that EC is of high importance to long term SME success.

Whilst they see the need, many small companies, but especially micro companies, have showed that they feel many EC technologies are not viable at this time, either due to skill requirements or perhaps more likely, due to the primary need of any business, a good return on investment. If correct this factor must be seen as the key inhibitor affecting EC investment and thus SME acclimatisation to EC technologies.

4. STAGE 2 - The development and growth of B2B eAuctions.

4.1 Introduction

4.1.1 What is an eAuction?

Definition: *'A controlled Internet environment where an individual buyer or seller provides a tender upon which invited parties competitively bid against each other.'*

Due to the fact that a plenitude of definitions of eAuctions exist in various texts (for example see Ince, 2000; Busch, 1999:28; Klein, 1997:345), the above is a resultant culmination developed by the researcher. It is felt this emphasises the key facets of eAuctions; that on the one side of the auction is an individual organisation which has provided a tender, whilst on the other are multiple organisations that are bidding against one another. In a majority of eAuctions the primary bidding factor currently is price.

Having defined an eAuction there must also be an appreciation that there are various different models. Cope (2000) rightly suggests there are two main types of auctions, upward and downward. Most important is to understand that upward auctions (or 'ascending-bid' auctions) are where sellers offer goods to be bid upon and downward (often termed 'reverse auctions') is where buyers commit to make a purchase. In the B2C eAuction market, upward auctions are currently more common. Here "sellers take control of minimum bids from which prices are bid upwards" (Baatz, 1999). However, in the B2B market much more discussion is centred upon 'reverse' auctions. Here there are various models emerging, the three which appear most frequesntly in the literatures are playoff auctions, final price auctions and recurring auctions (these are defined in the glossary, appendix 9.1).

In consideration of differing products, industries and procurement strategies, not to mention variance in supplier/buyer numbers and individual preference, it is unsurprising that numerous models (and various half-breeds) are emerging that technology development has had to embrace.

4.1.2 How is an exchange different?

Definition: '*Exchanges are marketplaces in which multiple buyers and multiple suppliers come together to trade*,' (Tumolo, 2001).

Internet B2B commentary sources (e.g. InternetAuctionList.com, VerticalZoom.com and B2Business.net) confusingly discuss eAuctions and exchanges interchangeably. This is perhaps unsurprising as modern day Internet developments have led to an increasingly complex spectrum in which the boundaries are becoming clouded. The reason for this is that the current intense competition between the vast number of exchanges has forced them to expand their service offerings (e.g. forums, online notice boards, technical expertise (primarily XML to enable EDI transfers), catalogues, supplier/buyer findings services, consultancy, listings etc), but equally exchanges are also offering eAuction services, see for example BuyerZone.com, GlobalFoodExchange.com, Neoforma.com & TradeOut.com. Therefore, in summary, exchanges must be seen as one of the key platforms in which eAuctions are very often housed. But the two are not the same. As shall now be seen, the eAuction 'product' is ultimately a piece of software, as such it has been specifically designed to be installed and used in a variety of places and ways.

4.2 The development of B2B eAuctions

4.2.1 eAuction technology development

In the mid to late 1990s there were many calls for auction vendors to develop their technology to overcome its drawbacks (see for example Klein, 1997; Min, 1999). The emphasis then was on enabling 'real-time' bidding processes viewable across all browser platforms. The improvements and developments of Active Server Components (ASP) and Java (& J2EE) are key development tools which have led to the wealth of B2B sites accomplishing these goals. Also more recently suppliers such as Oracle, Commerce-One and Ariba have been adding eAuction functionality to their procurement platforms, thus providing packaged solutions, albeit at a price few SMEs could currently afford.

Over the past two years there has also been a lot of development to create functionality that will enable more than just price to be merited within a live eAuction. An example of such a 'multifactor' or 'multidimensional' auction is eBreviate, (taken from: www.atkearney.com) eBreviate's developers claim it;

'makes purchase decisions based not only on price, but also on multiple criteria such as quality, delivery time, and customer service. For the first time, buyers are able to compare competing bids online in real time and select a supplier based on a mix of priorities that together determine their total cost.' – (A.T.Kearney, Inc).

This technology development is intended to remove what has been criticised as the key flaw in the exchange model, its acute focus on price. It has been criticised because pure price focus "runs counter to the best recent thinking on buyer-supplier relations," (Wise, 2000), but it also "shrinks the target segment for auctions," (Bobowski, 2001). (Target segments are dealt with in the following section 4.2.2, 'eAuction target market development'). Issues of quality, warranty, lead times etc. can all adversely affect a company's long-term success, so this development could be very beneficial to ensure these do not suffer, however, the success of such technology is unproven and no research could be found to prove its effectiveness.

Little material was found to discuss technical developments taking place to help alleviate other drawbacks (the drawbacks themselves are dealt with in stage 3), but an appreciation of the adolescence of these technologies must be given. However, if eAuctions can indeed develop to overcome their drawbacks and create greatest value added by reducing direct procurement costs, it must be safe to assume online auctions will play a long term active role in B2B procurement.

4.2.2 E–auction target market development

Below in figure 14 is an illustration presented to the researcher during a conference hosted by consultants from CommerceOne of what they had learnt from their experiences with blue chip companies, regarding the key target market for eAuctions. As shown in figure 14 below they found the tool less effective for commodities (because limited product differentiation makes price comparison easier, & thus margins are low already) or for highly specialist items (because fitness-for-purpose becomes more important & there are less potential suppliers).

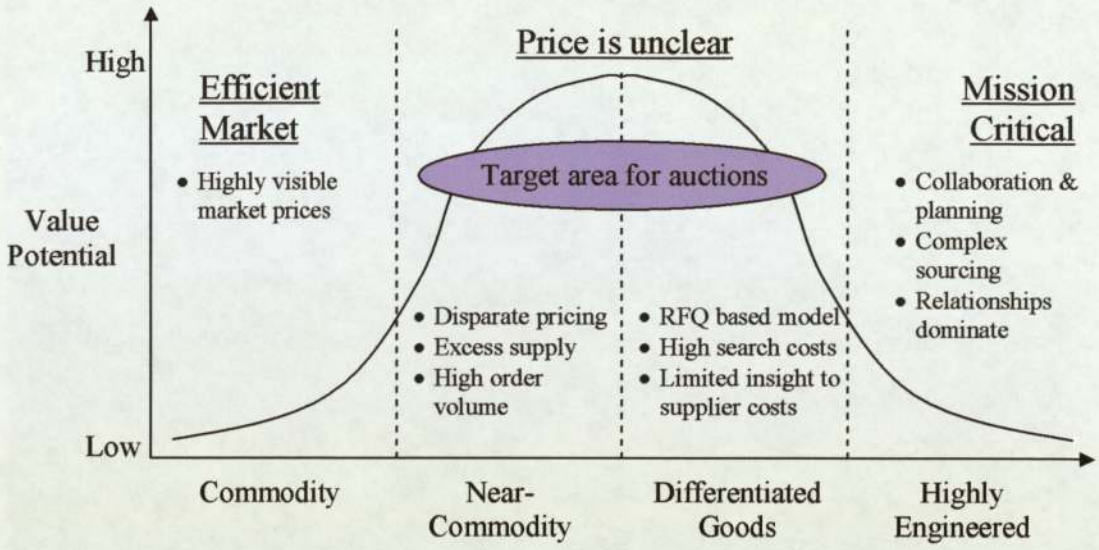


Figure 14 – Auction target segments

This makes good sense, but does it apply to SMEs? Currently there is no research available. However, figure 15 below does provide a good indication that it does. Stage 4 of this research project carries out a ranked risk assessment (probability **x** impact) of eAuction benefits and drawbacks. (The calculated figures used in this figure can be seen on the bottom rows of appendix 9.3). Figure 15 shows the overall averages of the eAuction benefits according to what product grouping respondents felt their company's products or services best represented.

Below a very clear relationship can be seen that agrees with Commerce Ones findings. SMEs within Intermediate and Standardised groupings quite clearly feel that overall they are more likely to be affected by eAuctions.

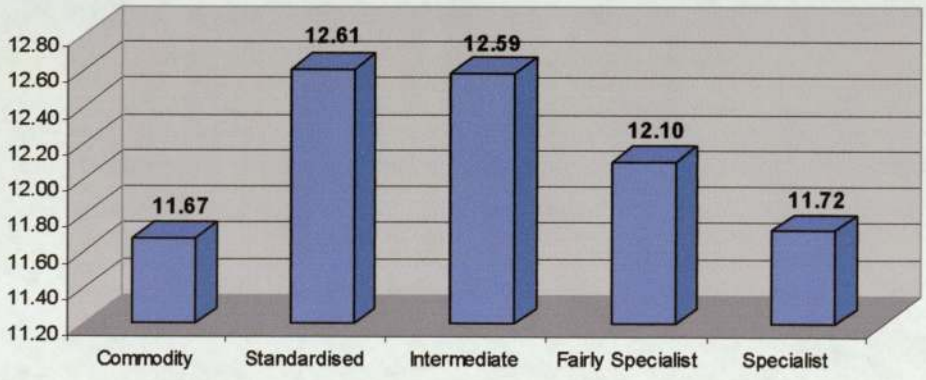


Figure 15 - Questionnaire risk assessment overall average for eAuction benefits & drawbacks.

Finally, an additional point which must be made is that current technology development trends (i.e. moving away from its acute price focus) are attempting to expand the size of the target market, i.e. to have greater impact upon fairly specialised and specialised products and services, naturally this increases their potential customer base. Therefore if the questionnaire were to be repeated in the future, it is likely that a greater averaged ranking would be gained for fairly specialist and specialist groupings.

4.2.3 eAuction role and positioning development

Merlino (2000) argues that, 'the majority of exchanges probably won't be around in 2004.' This point is agreed with. Current competition is intense and represents an almost 'Darwinian' selection process with rivalry, mergers and closures rife amongst the 500+ listed at VerticalZOOM.com alone. However, as discussed in section 4.1.2 such competition is encouraging the provision and expansion of a vast array of value adding technologies and services to gain the critical mass through which enough transactions can be made to generate profit.

Deise (2000:125), hypothesised that a wide scale amalgamation will take place between portal, exchange and eAuction technologies to provide e-commerce service centres. Deise hypothesised horizontal and vertical portals and industry-wide e-centres which she terms 'e-markets'. These are turning into reality. Tumolo (2001) agrees, terming them 'meta-exchanges', she discusses "combined vertical and horizontal markets that support a full range of mechanisms that include exchanges and auctions". Indeed VerticalZoom.com appears to have fully embraced this model, it sorts e-markets, exchanges and auctions according to vertical, horizontal or 'services' status's dependent upon their offerings. On visiting the website it can be clearly seen that verticals concentrate on direct supplies (i.e. core materials, machinery etc), whilst those classed as horizontals concentrate on indirect supplies (i.e. office supplies, transportation etc).

In supporting the model of Deise (2000:125), figure 16 below illustrates the descriptive explanation given above. Although still hypothetical, the model shows how vertical and horizontal portals provide EC technologies throughout the supply chain, with the various e-markets (it is agreed that "in most industries multiple e-markets will compete" Deise (2000:123)) supplying an industry as a whole. The analysis carried out has led the author to believe that eAuction technologies will be inherent throughout. In simple terms, eAuction technology is software, thus if it provides a valued service to business, all sizeable portals are likely to install and operate eAuctions.

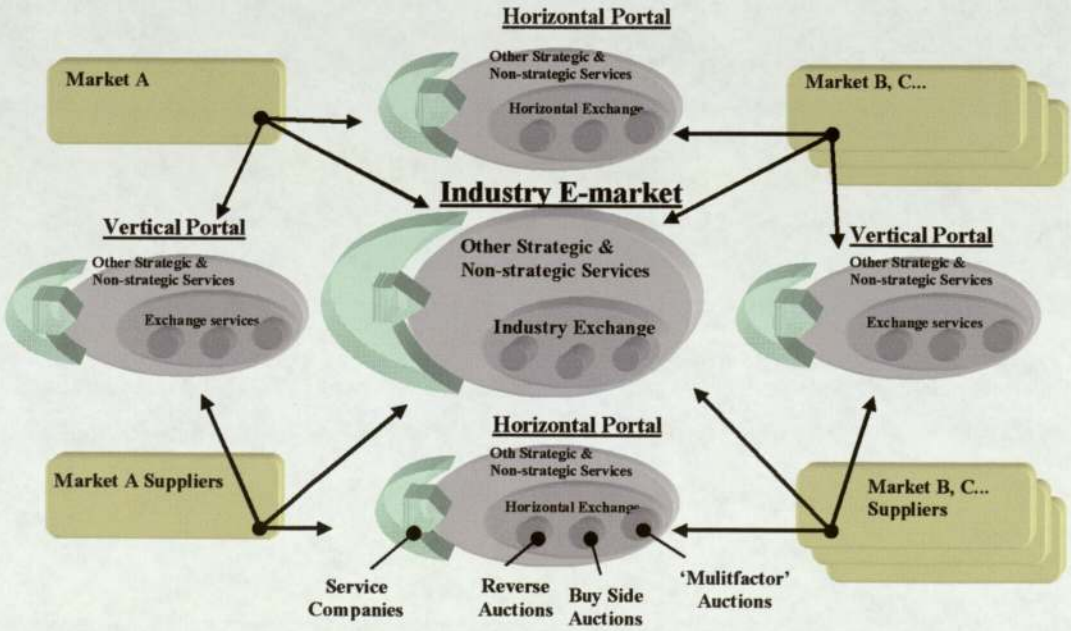


Figure 16 - An adoption to Deise's model of an evolved E-market, taken from Deise (2000:125)

Finally, it is worth noting that in a study by Bear Sterns (Shridharani, 2001) it is argued that the "higher tiers would equip themselves with e-business tools" leaving the key market for independent portals, exchanges and eAuctions inevitably being SMEs. It is assumed that the term 'higher tiers'

is referring to purchasing packages such as those developed by Oracle, Ariba and CommerceOne and bolting those onto their ERP systems.

4.3 Examining the growth in usage of B2B eAuctions

4.3.1 B2B eAuction usage growth

Before analyzing the growth projections of B2B eAuctions, one must first have an appreciation of the difficulties in merely estimating the market size and growth of EC as a whole. Of the seemingly infinite plenitude of means through which B2B EC is being measured globally, the most 'trusted' (i.e. that which appears to be measuring the same variables) is that of B2B purchasing in the United States. To this purpose, an eSteel white paper (2000) provides a comparison of past totals and future projections for the B2B market as a whole provided by three well respected institutions.

($ in millions)	1997	1998	1999	2000	2001	2002
Forrester Research	19	43	109	251	499	843
IDC	6	17	34	67	119	215
Estats	5	13	23	52	88	131

The data presented clearly shows not only significantly different projections, but they also show drastically differing results for previous years. Thus, although all sources claim to be measuring the same variable, all too obvious differences exist between studies less than a year apart, making the reliability of such findings very questionable. Addressing this issue, a study on behalf of the European Union suggests;

'The broad definition of e-commerce often leads to incompatible estimates of the size of the potential market,' (EU, 1999:14).

In considering these difficulties, it is unsurprising that few commentators or research institutions could be found to provide estimates of B2B auction trade and none went on to make projections that distinguished between the differing models or company sizes. In fact no trusted European or UK bodies provided any estimates of eAuction usage. Of those that were found, Bobowski (2001), Merlino (2000), Nelson (1998:12) and Vigorso (1999:85) made projections of $88.0b, $59.8b, $84.0b & $52.6b respectively for total online auction trade in 2002. However, all sources failed to first give their considered assumptions regarding what they defined as an eAuction, nor did they give any detail of how these figures were calculated.

It is perhaps these difficulties which have led to 'representative' indicators such as case studies, expert opinion and comparative reasoning. For example, Cope (2000) points to the growth in sales of online auction software,

'OpenSite Technologies' percentage of sales to the B2B auction arena has jumped in the last year from 15% to 35% of overall company sales.'

Unfortunately, without more significant historical data or validation of how growth projections have been measured, the reliability and validity of all quantitative data must be questioned. However, the fact remains that the vast majority of commentators support the notion that rapid growth in eAuction usage will continue for the foreseeable future. In a very recent study of e-markets researchers from Aberdeen Research Group "found that e-markets were experiencing an average growth rate of 36% in the number of monthly transactions" (Kaneshige, 2001), clearly this should be taken seriously.

4.3.2 B2B eAuction SME usage

Due to the continued difficulty throughout the project in finding only a few growth statistics and projections for eAuction usage, unsurprisingly none broke down those figures to look at SME usage. It remains a significant literary gap in need of further detailed exploration. Therefore to find estimates of usage and growth the following analysis instead looks at indicative results gained through the Internet questionnaire.

Clearly as figure 17 below shows, SMEs attitude toward B2B market making mechanisms is favorable. Whilst as expected, these results are not as highly favorable as EC as a whole, only 2.1% of respondents felt they were unimportant to long term success, with nearly a third considering them either vital or very important. Clearly respondent's general attitude to B2B is very positive, however on questioning respondents more specifically about appreciation and practical usage of exchanges and eAuctions, the response rate was significantly lower.

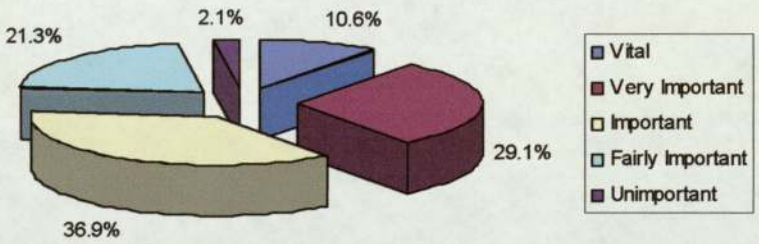


Figure 17 - The considered importance of B2B market making mechanisms to the long-term success of SMEs as a whole

In figure 18 below it can be seen that the actual practical usage of any B2B market making mechanism was only 10.9 % overall for SMEs, of which medium sized companies showed marginally more practical usage (4.1%). Nearly half of respondents considered they only had a basic appreciation of the technologies, with over 20% having no appreciation. In comparison to the above findings this was surprising and perhaps a little disappointing. However further examinations of current and intended usage confirmed these results as can be seen in figure 19.

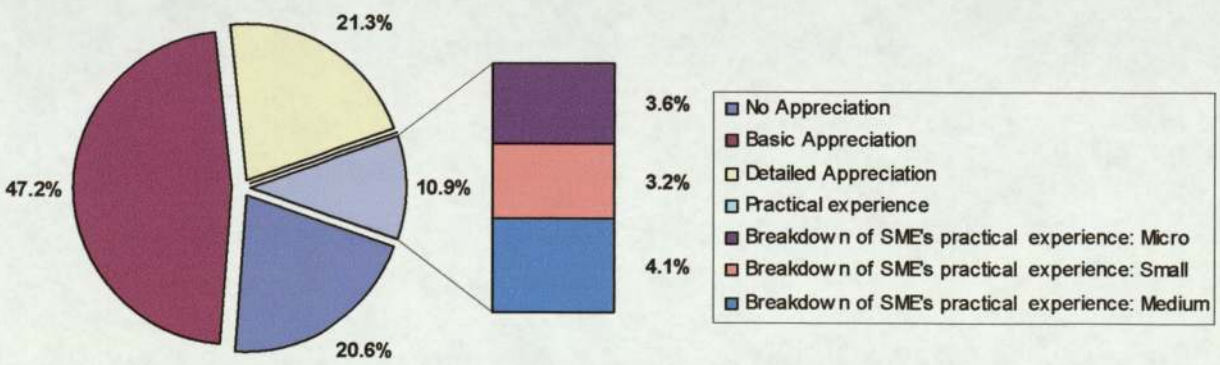


Figure 18 – SME levels of appreciation and practical experience of exchanges and auctions

Figure 19 below provides indicators that measured respondent's replies to three factors. These were current usage of exchanges and auctions, planned usage in one year's time and a measure of those

that consider skill availability or a lack of financial benefit make the tools unviable for the foreseeable future. These were then broken down amongst the three SME groups.

Again the figures do not reflect the initial positive response to B2B market making mechanisms. Current usage is low (averaging at 11.1%) and projected growth is especially low (at worst, 3.4% for small companies). There is a clear trend that shows smaller companies think these tools are less viable. Whilst a clear majority of medium companies appear to believe the tools are viable it is surprising intentions to use them are not higher. Potentially there may be misunderstandings of the skill requirements and costs required to engage in these technologies. eAuctions and exchanges only require Internet browsers (third party Internet vendors provide the tools, this removes the issue of technology complexity), therefore any SME could viably visit and use exchanges. Dependent upon selecting the correct product or service they could also actively use an eAuction to buy or sell products. Technical skill issues are erased. However, a secondary issue of course is adolescence. It is felt these low results may be a reflection of the small amounts of information and advice available to SMEs which would explain why their combined overall usage is little more than 10%. A final explanation is that these companies may simply be being cautious because of the newness of the technology, applying a wait and see approach. Ultimately there are a variety of potential reasons but further research would be needed to gain greater insight.

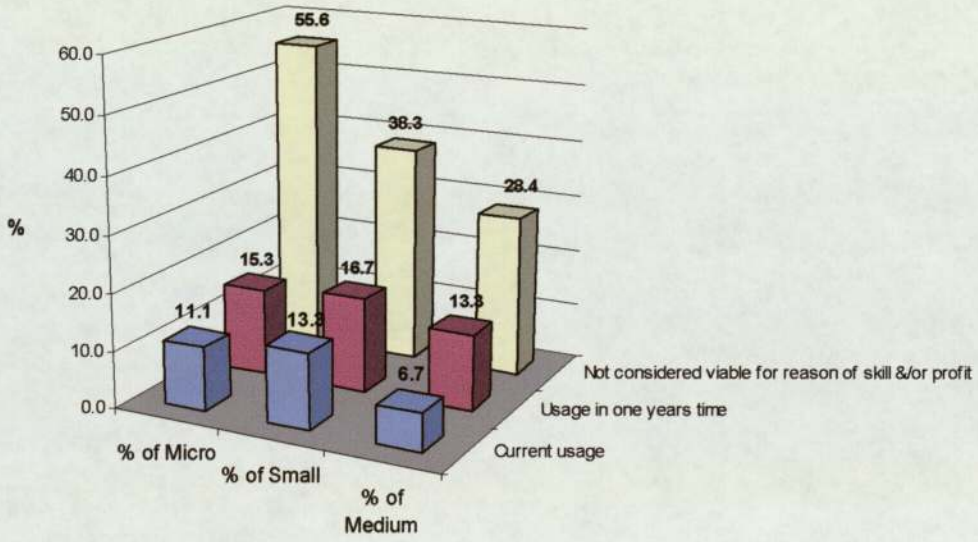


Figure 19 - Current & projected usage of exchanges/auctions by SMEs and measure of those considering the technologies unviable.

4.4 Summary

eAuctions are different from exchanges, however these entities are very often found housed together because many exchanges offer the eAuction tool along with other products and services. The market appears to be consolidating in terms technology provision and differentiation. E-markets, portals and exchanges all house multiple B2B tools, it is suggested that the primary difference between these entities is the size of their customer base and the levels of trade transactions with e-markets supplying whole industries.

It is these independent intermediaries that are making the full range of B2B tools available to SMEs. However it is suggested that SMEs should choose carefully before auctioning their business to suppliers. Fairly standardised and intermediate products are most well suited to eAuctions, whilst

eAuction vendors are attempting to make eAuctions viable for a wider range of increasingly specialist products and services, these tools are very immature.

Research companies and industrial bodies are obviously having difficulty measuring growth and usage of B2B generally, this is clearly shown by the wide variances in past statistics for actual B2B EC usage in the US. Taking this into account this is assumed to be the reason why very little measurement of B2B eAuction usage and growth is available (that which is available is largely unsubstantiated). However, the project's research does show that whilst supportive of B2B market making mechanisms and their implications on SMEs, few appear to be taking any decisive steps to make use of the technologies, instead it appears they consider the tools are not viable for their businesses or rather that it is better to 'wait and see'.

5. STAGE 3 - The identification of opportunities and threats posed by eAuctions to SME's.

5.1 Introduction

This stage begins by reviewing and discussing five literatures which provide significant commentary on eAuctions. The result of this review was a list of arguments upon which questionnaire respondents were asked to give their opinions in consideration of SMEs. The overall findings of this research are presented here through a distribution of benefits and drawbacks (in consideration of their likely probability and impact). These findings are discussed and intend to provide the foundation from which detailed analysis and discussion takes place in stage 4.

5.2 A literature review of perceived benefits and drawbacks

To review the perceived benefits and drawbacks of eAuctions, five key literatures were analysed in detail to collate all the points raised. These points were then added in a table, which is shown below in figure 20. Please note, full detail of the texts can be found in the references appendix 9.6.

For clarity the researcher has grouped the points according to their stance, i.e. customer facing, supplier facing or both (classed as 'non-specific'), the texts do not always clearly make this distinction. It should be stressed that the points raised include individual opinion and instances of presumptive reasoning. Taken at simple face value the overall reliability and validity of these points are poor, however the layout of figure 20 below is intended to enable an immediate comparison between the texts, but more importantly the result of this review and the following discussion was the list of points used in the questionnaire (this can be seen in appendix 9.2). As will be seen, this provides a much bigger sample group and an SME focus that current literature lacks.

	Key Literature Authors:	Baatz	Cope	Deise	Klein	Merlino
	BENEFITS					
	Customer Facing EC - "Through utilising eAuctions organisations will gain..."					
1	A direct reduction in the cost of selling.		√	√	√	
2	A channel to better sell idle assets.	√			√	
3	Access to a greater number of buyers.	√		√	√	√
4	A removal of the potential for personal biases towards favoured individuals.		√			
5	An additional sales channel.				√	
6	A means of competitor price comparison.				√	
	Supplier Facing EC - "Through utilising eAuctions organisations will gain..."					
7	Reduced purchasing costs.	√	√	√	√	√
8	Access to global supplier information.		√	√		√
9	Access to more sellers.	√		√	√	
	Non-specific - "Through utilising eAuctions organisations will have..."					
10	The ability to integrate this technology with ERP technologies.		√	√		
11	Extra new services made available to them.					√
	DRAWBACKS					
	Customer Facing EC - "Through utilising eAuctions organisations will..."					
1	Lose the ability to offer personalised customer service.				√	
	Supplier Facing EC - "Through utilising eAuctions organisations will..."					
2	Meet non-price order fulfilment problems (i.e. lead time, quality).	√				
3	Meet many suppliers who do not wish to use this purchasing tool.		√			
	Non-specific - "Through utilising eAuctions organisations will..."					
4	Lose their co-operative working relationships in the supply chain.				√	
5	Risk increased fraud / misrepresentation.	√			√	
6	Find a lack of critical mass of buyers / sellers at many B2B market makers.		√		√	√
7	Face varying commission / pricing policies and differing auction rules.	√			√	
8	Suffer from a reduction in personal contact.				√	
9	Meet people resistance to a new technology.			√		√

Figure 20 - The perceived benefits & drawbacks of eAuctions

5.2.1 A discussion of literature review benefits

All texts discussed direct and indirect cost savings. It is perhaps this facet, above all others, that makes eAuctions an attractive prospect to business stakeholders. Cope (2000) quoted Vakrat, a professor from Rochester University in the US, who had carried out research to validate the size of direct savings being achieved. His findings did not quote figures, however, in summarizing, Vakrat believed savings were being made, 'but the significance of which remains to be seen' (taken from Cope, 2000). Indeed few texts quote quantitative figures other than those of eAuction employees whose views must be assumed to be biased through personal interest, nonetheless, the message of the literatures were congruent. They believed savings were being made, but their true measure could not be validated.

Four benefits were quoted three times; a reduction in the cost of selling, access to a greater number of buyers, access to more sellers and access to global supplier information. The reduced cost of

selling again had very little quantitative evidence to offer. However, areas of savings discussed by Cope (2000), Deise (2000) and Klein (1997) included; direct marketing, sales costs (travel and accommodation etc) and procurement (saved time). Klein (1997) went on to argue that eAuctions effectively provide a new sales channel, this point has been acknowledged. Ultimately, the same conclusion must be drawn for direct costs. Whilst literatures suggest indirect cost benefits are likely, research is needed to quantify them.

In arguing that organizations will have greater access to both more sellers and buyers Klein (1997) argues that the market makers, i.e. those running eAuctions, have interests in holding vast data warehouses of both buyers and suppliers in order to help gain critical mass. This point was supported by a comprehensive study of the difficulties faced by TradEx.com (see Internet URLs). This point makes good sense, critical mass is essential as it helps attract other users and will increase the revenues of eAuction providers through matching seller and buyer requirements. In matching these requirements and building their data warehouses, intermediaries will be in a position to provide large numbers of buyers and sellers. It is assumed that this data warehousing role will also lead to the provision of global supplier information through the transcendence of national boundaries that the Internet makes so simple.

Of the other benefits discussed were the selling of idle assets. This utilises the upward auction model that is proving successful for companies like Ebay.com (see Internet URLs) in the B2C market. For specialist equipment, which may otherwise be difficult to sell, again the Internet is likely to provide access to a global market that would otherwise be difficult to reach. ERP integration was raised by Cope (2000) and Deise (2000). This point appears to be turning to reality through the offerings of software developers such as Oracle, Ariba and Commerce One (see Internet URLs). Finally Cope discussed that vendor biases are removed through eAuctions, it is felt that this is dependent upon the eAuction model used. There are examples such as play-off auctions that would enable biases and also noteworthy is that two B2B market makers researched Ignite.com and Freemarkets.com (again see Internet URLS), both stipulate that in Reverse Auctions it is not compulsory that the buyer chooses the lowest bidder. Obviously this prevents restriction of buyer's supplier choice, but this policy enables potential prejudices to remain in the procurement process.

Ultimately, the majority of the benefits argued in these literatures seem feasible. However, taking into account the variances of differing industries, product types and company sizes it is unfortunate that few proposed benefits have been quantified.

5.2.2 A discussion of literature review drawbacks

The most often documented drawback, in the views of Cope (2000), Klein (1997) and Merlino (2000), was that of difficulty in achieving a critical mass of buyers or sellers at independent eAuctions. Without enough buyers and sellers the success of trades will be limited, potentially a fatal long-term problem for all independent B2B intermediaries this impacts directly on their revenues. As Cope points out, eAuctions are only 'one among many weapons in the e-procurement arsenals.' (Cope, 2000). Also pointed out by Cope (2000), is that powerful suppliers may simply refuse to use the eAuction tool and demand that procurement is made through other means. It is considered that the problems of critical mass are also likely to be further increased by the number of B2B market makers currently competing, diluting the market.

The following three most supported points were those of increased fraud / misrepresentation, varying commission / pricing policies / auction rules and people resistance to the new technology. These points all seem to make common sense, but equally it is felt all are likely to gradually reduce in frequency and impact once experience increases and security systems become more advanced.

Surprisingly, none of the texts explicitly pointed out that buyer savings were to the detriment of supplying companies, even though all did explicitly state that buyers were likely to make savings. There was no discussion of the likely effects of the lost margin that suppliers might otherwise normally expect to achieve. This also leads to the question of whether squeezed margins could take business away from smaller competitors who do not have the economies of scale of larger rivals. Such a symptom would be considered a direct result of most current eAuction's acute focus on price.

Also left unmentioned, is that having gained access to greater numbers of global suppliers means that suppliers in Great Britain face increased competition through customers having access to a greater supplier base, potential competitors who, if in undeveloped nations, will have lower labour and raw material costs. This threat again must surely become more acute for smaller companies who cannot leverage economies of scale, or those producing commodities or highly standardised products which are easily replicated.

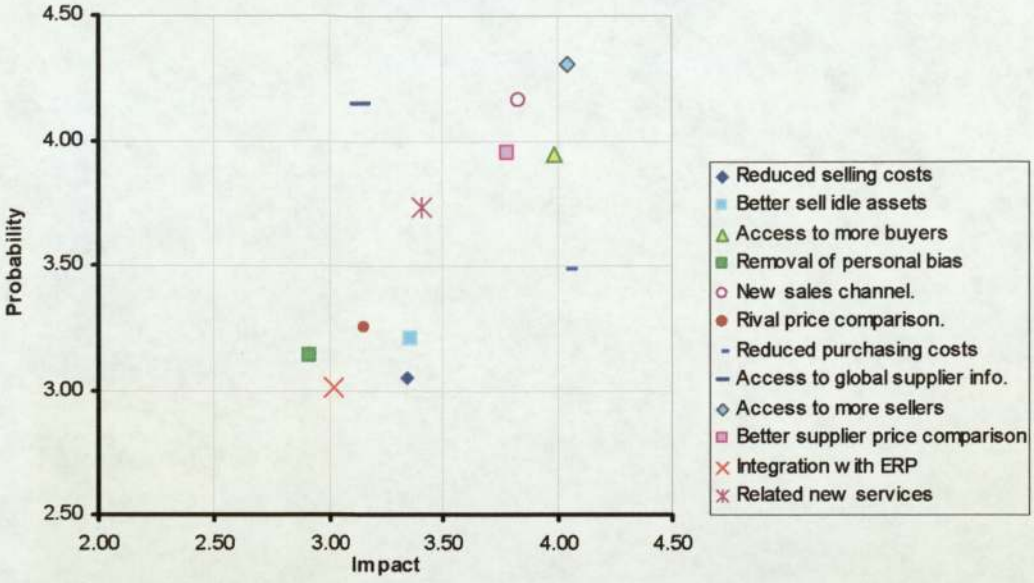
Overall, significantly fewer drawbacks were discussed than benefits. This is perhaps due to the adolescence of the technology and thus the limited number of people with the relevant practical experience. However, it is felt the literature review has showed the need for more research to determine the impact effects of eAuctions on SMEs.

5.3 Measuring the effects of drawbacks and benefits on SMEs

None of the literature review texts (or other commentaries on eAuctions) looked at the effects of eAuctions on SMEs; this point continues to be true at time of writing. A prime aim of the project's research questionnaire was to fill this literary gap. Therefore the questionnaire listed all the aforementioned drawbacks and benefits (including those drawbacks noted above that the texts did not appear to discuss) and asked respondents (having taken a stance, for more see stage 4) to rank all these proposed benefits and drawbacks in terms of likely probability and if they occurred, their likely impact.

The purpose of this was firstly to measure the degree to which the questionnaire respondents agreed or disagreed with the texts reviewed above. But more importantly to help prioritise the issues that SMEs feel are of greatest prominence to them. The following section presents and analyses the overall distribution of benefits and drawbacks (in consideration of their likely probability and impact). It is felt this supports and enhances the further detailed analysis in consideration of respondents' assumed stances in stage 4.

5.4 A distribution of the measured benefits of eAuctions to SMEs



Key:	Impact	Probability
	5 Very beneficial	5 Certain
	4 Beneficial	4 Likely
	3 Fair	3 Fair
	2 Low	2 Unlikely
	1 Very low	1 Very unlikely

Figure 21 – Averaged Probability Vs Impact distribution of benefits

As can clearly be seen in figure 21, *access to more sellers* is the benefit of highest combined probability and impact as it's overall distribution ranks as highly likely to occur and beneficial to SMEs. Only one benefit had a higher average impact, whilst the margin of difference was only slight, perhaps unsurprisingly, *reduced purchasing costs* was deemed to be the benefit with greatest impact, however respondents were much less certain of its probability to actually occur. Its overall probability average of 3.5 shows that whilst respondents felt it had a better than fair likelihood of occurring, they still felt that six other benefits were more likely to occur.

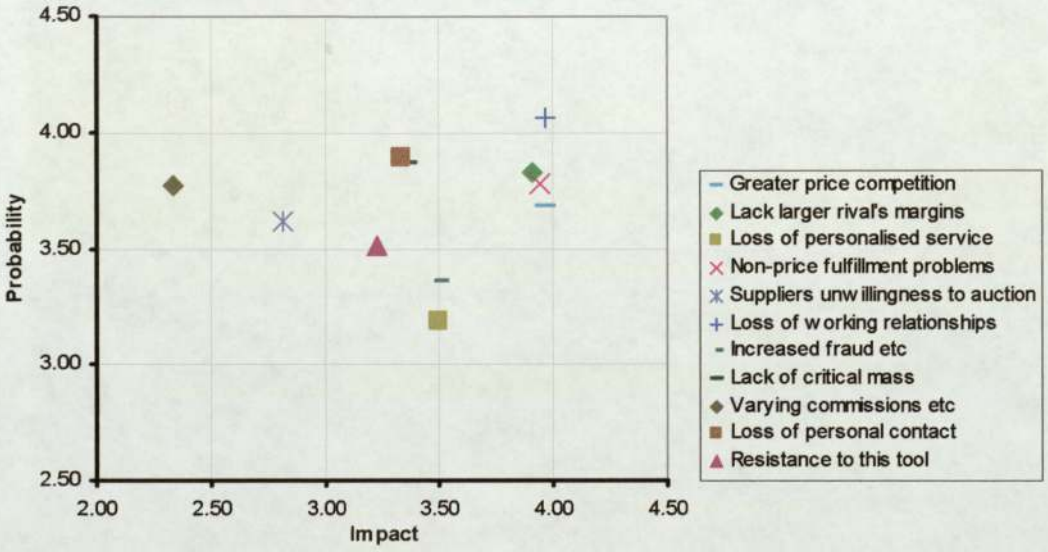
Alternately of higher probability but significantly lower impact was *access to global supplier information*. It ranked equal second most probable benefit (behind *access to more sellers*) but respondents felt that it was not very beneficial to SMEs (its impact being amongst the lowest). Reasoning may be that respondents felt new global suppliers would bring with it other costs and potential complexities (e.g. transportation costs, increased lead times, language barriers etc)

Of the other benefits with high probability, there is a cluster of three which also have equally high impacts. These are; *new sales channel*, *better supplier price comparison* and *access to more buyers*. It is understandable that a new sales channel is useful to any organisation as it is likely to mean potential new customers/ means of communication, respondents also felt this the second most likely benefit to occur which shows that it represents a good opportunity to SMEs. The high impact ranking of *a better supplier price comparison* was slightly surprising, this perhaps suggests respondents felt the eAuction tool would be effective in forcing the removal of excess margins when competing visibly. Less surprising is that respondents felt SMEs would benefit through *access to more buyers*. Its potential impact is amongst the highest, however, unlike *access to more*

sellers, it suffers from a slightly lower probability of occurrence. This seems to suggest respondents feel eAuctions are more likely to be used in an effort to sell rather than buy.

There is a significant cluster of five potential benefits which all have noticeably lower probabilities and projected impacts. Of these, *integration with ERP* and *removal of personal bias* are lowest, both only considered of fair probability and impact. The researcher feels that *integration with ERP* should perhaps have higher probability since integrated packages are becoming available, in the long term once costs decrease it is felt these will be available to SMEs. However, software developers should note that respondents still only felt that the benefit of integrated packages to SMEs would be no more than fair.

5.5 A distribution of the measured drawbacks of eAuctions to SMEs



Key:	Impact		Probability
	5	Very serious	5 Certain
	4	Serious	4 Likely
	3	Fair	3 Fair
	2	Low	2 Unlikely
	1	Very low	1 Very unlikely

Figure 22 – Averaged Probability Vs Impact distribution of drawbacks

Figure 22 shows the highest combined averaged probability and impact drawback is the *loss of working relationships*. This was a surprising result because few literatures discuss this drawback. There were three other drawbacks of equal impact but this was clearly felt to have a greater probability of occurrence. This point is important because it is suggestive that eAuctions are a significant threat to modern Japanese-style management thinking which places emphasis on building supply chain working relationships with suppliers and customers.

A cluster of three drawbacks can clearly be seen below *loss of working relationships*, these are of comparable serious impacts but of lower probability. This cluster comprises of SMEs *lacking larger rival's margins*, *non-price fulfilment problems* and *greater price competition*. Noteworthy is that the first and last of these points were not uncovered in the literature review, but added by the researcher when considering SMEs and eAuctions. This shows that whilst the averaged probability is slightly lower than the highest, the probability is still fairly likely (i.e. values between 3 & 4) and that if these actually occurred the impact on SMEs would be as serious as any other drawbacks. It is

assumed their impact is rated so highly because these both directly reduce profitability that might otherwise be achieved. Again it should be understood that squeezed margins could take business away from SMEs altogether due to the economies of scale of larger rivals. Finally, in consideration of SMEs gaining cost savings through using eAuctions, again the impact of *non-price fulfilment problems* is shown to be a serious threat to success. This point is perhaps more crucial for increasingly specialist products and services (dealt with in stage four).

Of the remaining drawbacks it was surprising that the impact of a *lack of critical mass* did not feature a little more highly. Whilst its probability of occurrence was considered fairly likely, SMEs considered its impact only fair. It is suggested that perhaps its real impact may only be more serious for the B2B intermediaries themselves, SMEs can simply return to previous channels of sales or supply.

5.6 Summary

Literatures more commonly discussed the benefits of eAuctions than the drawbacks, minimal consideration of SMEs is made. On the whole the most commonly quoted benefits in the literature were comparable with those that the questionnaire respondents felt were the most prominent; *access to more sellers*, *a new sales channel*, *access to more buyers* and *better supplier price comparison*. However, whilst respondents also agreed reducing direct and indirect purchasing costs did feature as having the most beneficial impact, respondents felt that the probability of that occurring was significantly lower than the aforementioned benefits.

In regard to drawbacks, relationships between the literature review and this research's findings were not forthcoming. The threats given highest prominence by this project's research respondents were; *loss of working relationships*, *SMEs lack of larger rival's margins*, *non-price fulfilment problems* and *greater price competition*. Of these the literature review only gave prominence to fulfilment problems, the effects of other's purchasing savings on SME profit margins were not considered and only minimal reference was given to the potentially detrimental effects on the supply chain's working relationships. In contrast these were all considered to have serious impacts on SMEs and were all considered of fair probability to take place.

6. STAGE 4 – Measured opportunity and threat likelihood and impact.

6.1 Introduction

In section C of the Internet questionnaire respondents were asked provide opinions in consideration of the product grouping (commodity - specialist) that most closely matched their own company's product grouping, (non-SMEs took the stance that they felt most qualified to provide opinions upon). Respondents then assessed the likelihood and, in consideration of actual realisation, the impact of drawbacks or benefits taking place. Values were then applied to data, (i.e. minor impact ranked a value of 1, very serious impact ranked a value of 5). Having quantified data, probabilities were multiplied by impact to create individual rankings of SME opportunities and threats. From this it was possible to quantitatively measure the overall degree of opportunity or threat posed by the potential benefits and drawbacks of eAuctions to SMEs.

This process was designed specifically to capacitate a quantitative 'measure of degree' between that which is inductive (of unknown/low probability) and that which is more deductive (of high probability). This has enabled a ranked prioritisation of key opportunities and threats for analysis in this and the subsequent stage.

Listed below is the number of respondents for each of the defined stances. Noteworthy is that there is one less response in total (141) than the total responses for prior findings due to the fact that one respondent submitted the web form without responding to section C of the questionnaire.

Stance	Commodity	Standardised	Intermediate	Fairly Specialist	Specialist
No. of respondents	2	28	36	34	41

The application of rankings in consideration of these stances has enabled a more in-depth analysis of eAuction implications on different product groupings. This further tests the hypothesis of the eAuction target market discussed in section 4.2.2, (p.17).

N.B. For the purposes here, when the eAuction target market is discussed, it is defined as the standardised and intermediate groupings (as per the findings in section 4.2.2, see figure 15).

Unfortunately because there were only two respondents for commodities the reliability of findings for this stance must be questioned. The commodities ranking for loss of working relationships in figure 28 (p.34) and for greater price competition in figure 26 (p.33) are two examples of results that seems out of balance with the other findings. Commodity findings presented here must therefore be considered carefully by the observer, something which has constantly been taken into account when making analysis here.

Finally for the purposes of this study ranking results should be interpreted as follows:

Total ranking value	Level of eAuction opportunity/ threat
20+	Very High
15– 20	High
10– 15	Moderate
5– 10	Low
0- 5	Very Low

6.2 A detailed analysis of SME opportunities and threats

6.2.1 SME opportunity analysis

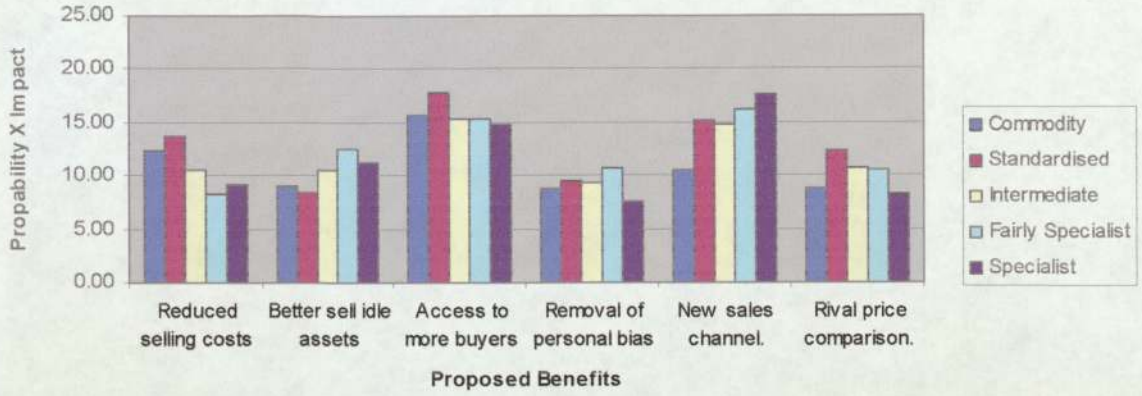


Figure 23 - A summary of ranked customer facing opportunities

Of the ranked customer facing benefits in figure 23 above it is clear that whilst *access to more buyers* and *a new sales channel* rank highest for nearly all stances, the *new sales channel* differs because it shows an apparent trend of greater opportunity to increasingly more specialist SMEs. Whilst they do acknowledge it is a moderate opportunity, the target market does not show an equal enthusiasm for eAuctions as a *new sales channel*, this is perhaps because, as is to be discussed in section 6.2.2 (p.33), they consider eAuctions of greater threat to their profit margins.

Three of the customer facing opportunities show apparent trends, of which a *new sales channel* has just been discussed. *Reduced selling costs* has a considerable trend showing greater savings for increasingly more standardised groupings, this seems credible because whilst the procurement negotiation process may be quicker for all, specialist products could not avoid the process of specification testing which is likely to take up the majority of their procurement personnel's time. The *selling of idle assets* appears to show greater affinity with intermediate to specialist groupings. However the result of the specialists seeing a lower opportunity than the fairly specialist bucks an otherwise clearer trend. Potentially the greatest extremes of the specialist market felt that even auctions would not find them a market for their specifically designed equipment, but more research would be needed to test this hypothesis.

The eAuction target market (specifically standardised) sees greater opportunity to make *rival price comparisons*. The specialists considered this only a low opportunity, assumed because there is a reduced likelihood of comparing like for like. Also *rival price comparisons* are more important for more commoditised products, as they are less differentiated, price and cost has a much greater significance on the customer's final purchasing decision.

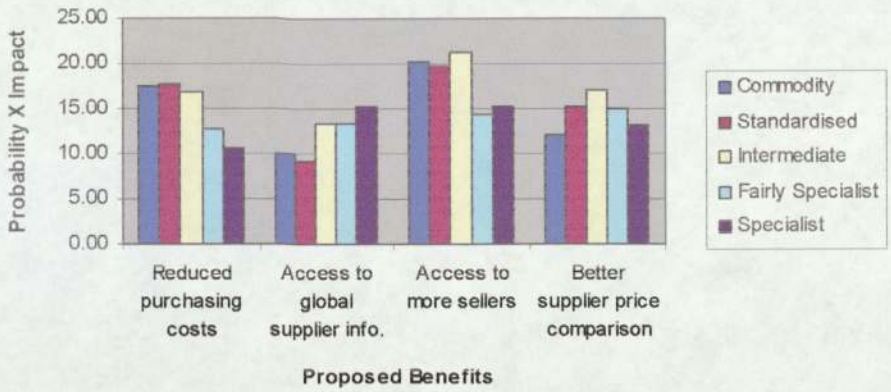


Figure 24 - A summary of ranked supplier facing opportunities

Of the ranked supplier facing opportunities in figure 24, the result of greatest intrigue is that of a *better supplier price comparison.* Again this supports the argument that the eAuction target market primarily comprises of the middle 3 stances because there is greater price uncertainty for the increasingly specialist, and because price is of lesser importance to this group than attributes such as quality. It is felt that these two factors have influenced intermediate companies to rank *better supplier price comparison* as a high opportunity, whilst commodity and specialist stances rank it only as moderate.

Reduced purchasing costs and *access to global supplier information* show trends moving in opposite directions. Again, supporting the above argument of price sensitivity, specialists see *reduced purchasing costs* only as a moderate opportunity (ranking = 10.61), meanwhile commodity, standardised and intermediate groups rank it with high importance (averaged ranking = 17.36). This ranking difference is obviously very significant. Alternately increasingly more specialist groups value *access to global supplier information* much more highly. This is assumed to be due to the greater difficulties in sourcing specialist goods.

Finally it can be seen that *access to more sellers* is ranked higher than other supplier facing opportunities for nearly all groupings, however noteworthy is that fairly specialist and specialist groups value this of significantly lower opportunity than the other groups. This result still ranks as a moderate to high opportunity (combined ranking = 14.83) but it is felt shows a good reflection of a more complex sourcing process that auctions may be less well suited to.

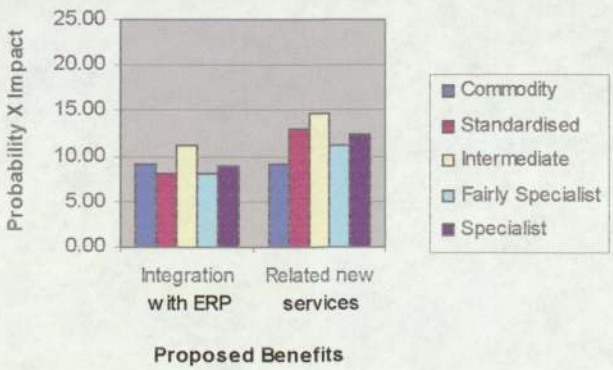


Figure 25 - A summary of ranked non-specific opportunities

There is noticeably less to be drawn from the above non-specific opportunities (figure 25), as there are no clear trends. Overall these both were of lower ranking than other opportunities whilst *integration with ERP* ranked the lowest overall for all eAuction opportunities. The target market perhaps appears to see very slightly greater opportunity in *related new service offerings*, however little can be reliably read into this finding as there is no clear trend.

6.2.2 SME Threat analysis

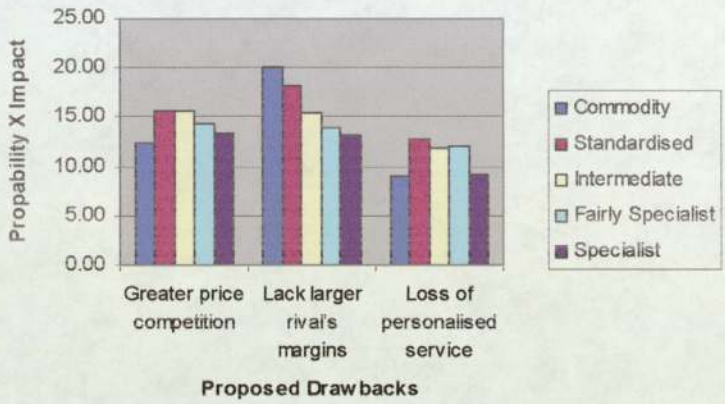


Figure 26 - A summary of ranked customer facing threats

The rankings of customer facing threats in figure 26 show some clear and informative findings. Of greatest overall threat is of SMEs *lacking larger rival's margins*. As previously discussed, this is likely to be due to reasons of economies of scale generating competitive advantages when under greater price scrutiny. The trend here is very clear, increasingly less specialised find this threat more acute. This group have less ability to differentiate and so are more sensitive to price. In considering greater price competition, it has already been stated that the low number of commodity respondents may have impacted its result, however there is also a greater fear for target market groups of *greater price competition*. Importantly if you combine the two above findings together, the threat to SMEs, especially in the target group, is magnified. At times of greater price competition, those with lowest unit cost have a significant competitive advantage.

Finally target market groups also showed a greater concern for *loss of personalised service*. This is felt to be a threat that applies to all companies (especially SMEs) when embarking on greater use of EC, however this suggests the target market groups feel more likely to lose this value adding service under eAuction conditions, further research would be of interest here.

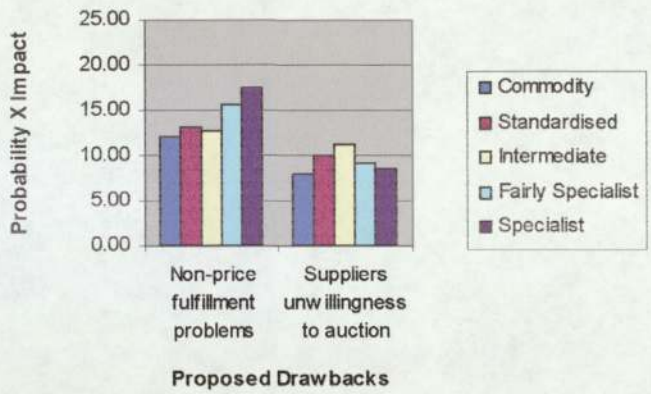


Figure 27 - A summary of ranked supplier facing threats

As has been discussed in earlier stages (see section 4.2.1, p.16), the supplier facing threat for *non-price fulfilment problems* especially for increasingly specialist groups is confirmed here for SMEs also (figure 27). There is a clear trend with the specialists considering this is a high threat to their usage of eAuctions.

Regarding *suppliers unwillingness to auction* the results for the fairly specialist and specialist groups are surprising, these were expected to continue in a left to right upwards trend. Instead it is the suppliers of the target market which are found to be most unwilling to auction. Again this threat is magnified in the consideration that if target market organisation's margins are lost through being asked to auction by customers, in recouping these lower margins they will find their suppliers more likely to refuse to auction. This must be yet further magnified for SMEs who have lower bargaining power over bigger customers and suppliers. Unfortunately this could potentially create a 'lose-lose' situation for target market SMEs.

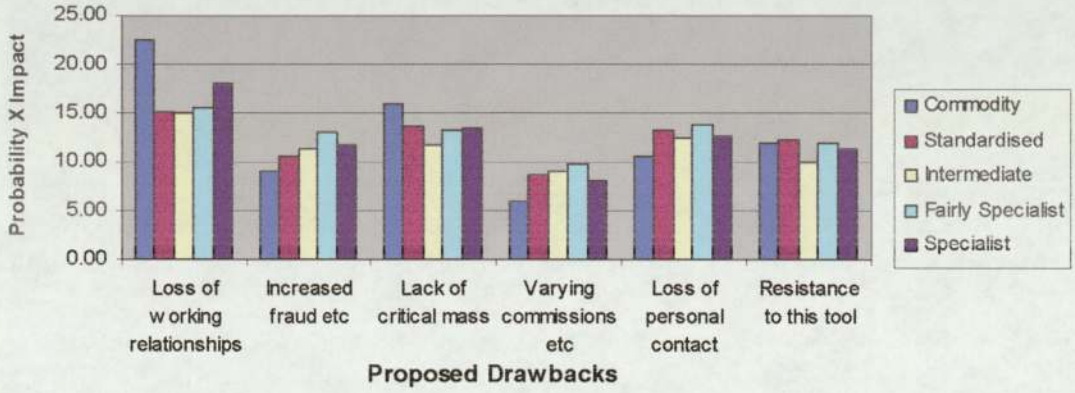


Figure 28 - A summary of ranked non-specific threats

Of the ranked non-specific threats the *loss of working relationships* is clearly greatest in figure 28. As already discussed (see section 5.4, p.17) surprisingly this ranks as the greatest threat of all with an averaged ranking of 16.13 (classed as high). Ignoring the commodity result because this appears to go against the trend (see section 6.1, p.30), specialist groups consider this a greater threat than target market groups. It is suggested that this is because higher product specifications require greater ongoing supply chain collusion.

The surprisingly lower threat of a *lack of critical mass* was also discussed in section 5.5, p.29, considered to be lower due to SMEs having alternative procurement options. Here we actually see that target market SMEs consider it of lower threat than commodity or specialist groups. In considering that it is the target market, it would be pertinent to expect a greater number of organisations (i.e. critical mass) to use eAuctions, this result perhaps reflects that.

Of the remaining threats it is hard to draw any firm conclusions. Whilst *increased fraud* and *varying commissions* do appear to show trends, the specialists in each case break those potential trends. However it is felt these threats will reduce naturally with time as the technology becomes more consistent and 'problem child' auctions get grounded.

Finally *loss of personal contact* and *resistance to the eAuction tool* both show a moderate threat which is fairly balanced across groupings, possibly loss of personal contact is of little greater threat for increasingly more specialist groups, but if so, this would only be a slight trend. Also ultimately both these threats are considered to be consistent to all organisations not just SMEs and as EC-wide issues not just relevant to eAuctions.

6.3 Summary

6.3.1 Overall findings

The product grouping analysis of opportunities and threats showed a wide variety of results. There are several examples of trends of which *lacking larger rival's margins* and a *new sales channel* are perhaps clearest, the former showing much greater threat to commodities and the latter resulting in a slightly surprising finding of being considered of greater opportunity to more specialist companies.

There was also a clear variance in levels of overall opportunity and threat. All groupings felt that both *ERP integration* and *varying commissions etc* were respectively of little opportunity and threat, whilst as will be discussed (see the next section, 6.3.2) there were some clear opportunities and threats of significantly higher ranking.

Two other particularly interesting findings were those of *better supplier price comparison* and *suppliers unwillingness to auction.* These both showed parity with the hypothesis of their being a target market for eAuctions as described in section 4.2.2, p.17. They both showed greater rankings for the intermediate grouping with lesser rankings for either increasingly commoditised or specialised product groupings (i.e. the effects on the target market are greater).

These findings show that it is important that individual organisations consider the opportunities and threats of eAuctions in consideration of their own products and services. Clearly the level of opportunity or threat posed by the various factors differs according to product grouping.

Finally, it is felt all organisations should consider and be aware of the impacts of potential double positives or negatives. Combined *reduced selling costs* and *access to more buyers* are opportunities that could potentially feed from one another (i.e. passing selling cost savings on to attract the custom of the new buyers). However, equally are also combined threats, for example, SMEs using eAuctions to sell; *lacking larger rivals margins* and *greater price competition* would potentially produce a dangerous double negative threat. Whilst these examples are hypothetical, the researcher believes they need to be considered seriously.

6.3.2 The most prominent opportunities and threats

Listed in appendix 9.3 are the ranking results generated from the questionnaire responses to section C. It is upon these results that the above charts in sections 6.1 & 6.2 have been based. Whilst overall rankings for opportunities were marginally higher than those for threats, both sets of results see the majority of opportunities and threats ranking from moderate to high. It is felt that all points falling into these categories should be taken equally seriously. However, as a result of analysing appendix 9.3 and also taking into account the distributions generated in stage 3 (see pages 27-28) there are four opportunities and four threats which consistently appear to have a greater significance than the others. The results tabulated below are the total combined averages of those four opportunities and threats sorted in descending order.

Chosen Stance:	Commodity	Standardised	Intermediate	Fairly Specialist	Specialist	Combined Averages
Opportunities						
Access to more sellers.	20.25	19.75	21.17	14.42	15.27	17.53
An additional sales channel.	10.50	15.08	14.71	16.24	17.68	15.96
Access to a greater number of buyers.	15.75	17.83	15.40	15.30	14.81	15.69
A means of supplier price comparison.	12.00	15.11	17.04	15.04	13.11	14.96
Threats						
Lose their co-operative working relationships in the supply chain.	22.50	15.11	15.01	15.56	17.98	16.13
Lack the margins of larger rivals needed when competing under acute price focus.	20.00	18.14	15.49	13.95	13.10	14.95
Meet non-price order fulfilment problems (i.e. lead time, quality).	12.00	13.20	12.74	15.60	17.53	14.90
Face increased price competition leading to reduced margins.	12.50	15.65	15.60	14.26	13.41	14.61

As a consequence of these results, stage five focuses on seeking to find out what specific actions SMEs can take to pacify the threats and take advantage of the opportunities of these eight most prominent factors.

7. STAGE 5 - Exploring what SME's can do to pacify threats and create advantage.

7.1 Introduction

As documented in the later part of stage four, there were four opportunities and four threats that are seen to be more prominent. Ultimately, based upon the opinion of selected respondents, this final stage aims to produce a list of recommendations that SMEs can take to pacify these key threats and create greatest advantage.

7.1.1 The respondents

The respondents for this final stage of research were selected individually because it was felt that those with direct experience of B2B eAuctions were in the best position to give advice. The search for respondents who had practical eAuction experience was a difficult task, however this was expected due to the adolescent nature of the tool. To encourage participation, firstly all respondents were offered a copy of research findings once complete, but also due to the difficulties in gaining responses, as a gesture of goodwill, later respondents were also sent some of the web questionnaire summary findings prior to response. After a considerable search, it is felt that the findings here provide a truly diverse spectrum of opinion. The respondents were as follows:

- 2 x eAuction Software Vendors (8over8)
- 2 x eAuction Service Providers (Portum, Bt Ignite/CommerceOne)
- 1 x B2B Consultant (Cap Gemini Ernest & Young [CGE&Y])
- 1 x Corporate Head of E-commerce (BT Ignite)
- 2 x Procurement Managers (Whitbread, TRW).
- 1 x B2B Analyst (Line56.com)

(All of these companies' activities can be viewed via their website URLs which are included in the appendices).

7.1.2 Brainstorming recommendations

A semi-standardised means of consultation was chosen because it is both predictive and explorative. Respondents were asked to reflect upon and add to the brainstorms which can be seen in appendix 9.4 and as can be seen, the front page of the appendix provided respondents with completion guidelines. Widely used in business, this method was utilised because it was felt it would enable the required exploration of uncertainties, needed to 'invoke data upon issues which may not have otherwise been considered', (Wycoff, 1991).

Discussion in this stage therefore centres upon two key aspects. Firstly respondent opinions toward the initial brainstorm provided to them and their and agreement/disagreement with the points raised. (The responses to all results can be seen in appendix 9.5). Of these results, those that showed greatest agreement / disagreement have been charted within the following sections to support discussion, although overall it should be noted that the points raised in the brainstorm were most often found to be agreeable to respondents rather than disagreeable.

The second part of the discussion of each opportunity and threat then concentrates on discussing the additional comments and recommendations made by respondents in their attempt to 'improve' the

brainstorms. Noteworthy is that all points and their ensuing discussion has taken into account the respondents job role, this was because in a limited number of cases this appears to have influenced respondent recommendations.

7.2 Opportunities

7.2.1 An additional sales channel

As can be seen below in figure 29 all respondents were agreeable to the recommendation that SMEs need to *find the relevant auction and exchange* to them, with 44% being strongly agreeable. As further pointed out by an 8over8 vendor, SMEs must also 'ensure it focuses on the relevant industry' this is also agreed with as there are vertical and horizontal auctions and exchanges for nearly all industries (see VerticalZoom.com for a good independent listing). Obviously this is where SMEs are most likely to find existing and new customers. Further to this, a point which is repeated later, is the need for a critical mass, here the CGE&Y respondent is simply of the opinion 'the bigger, the better!' Obviously without enough potential buyers or sellers, trading is made more difficult so this point may well be good advice.

Whilst one respondent did not specify an opinion, the *creation of links to your own website* from an auction or exchange was otherwise well supported. There were few comments made regarding this recommendation, but the Line56 respondent did recommend SMEs 'only pay for hits'. Obviously, this method of paying guarantees you are getting website exposure, however SMEs would need to investigate with individual sites regarding costs and charging methods, 'pay-per-hit' may not always be available.

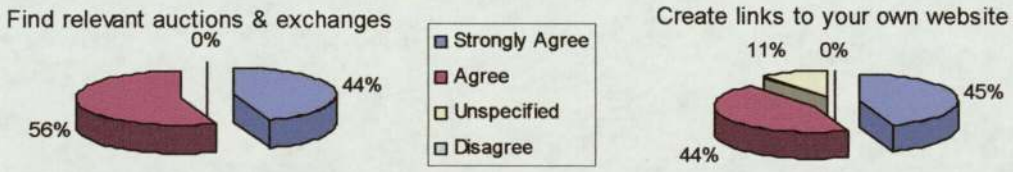


Figure 29 - Recommendations to take advantage of an additional sales channel

Listed below are other recommendations made regarding the opportunity of an additional sales channel:

- Set out measurable targets for new sales and plan how to get them (CGE&Y)
- View it as a means of gaining new customers primarily, then seek to build longer term relationships once you have won them (CGE&Y)
- Use it as a channel to fill up spare capacity (Portum)
- Develop marketing skills that move you away from the reverse auction trap (Line56)

The above recommendations all appear to reflect the need to carefully plan the use of eAuctions as an additional sales channel. The CGE&Y respondent clearly emphasised the need to set sales targets and measure performance. This also reflects the need for practicality and good business measurement and planning, (a notion which arguably has in the past been lacking in EC commentaries). The suggestion of eAuctions as a means of filling spare capacity is well published (and is also cited elsewhere here, see section 7.3.1), so is supported but obviously there would be a need for careful planning of the timing and quantities, so other sales are not affected. Line56's reference to the 'reverse auction trap' is obviously referring to reduced margins (discussed later),

however it is felt SMEs may need greater product differentiation not just marketing skill to avoid this trap.

Overall all the recommendations require taking positive action. Taken collectively there appears to be an over-ridding recommendation telling SMEs to actively start planning for and using eAuctions as a sales channel but to proceed with careful business planning and measurement.

Finally, both the service providers added comments to the brainstorm in general support of this opportunity. As commented by Portum, 'this is a highly cost effective channel to sell into, not least because client details are kept on a database and proposed to other buyers for other contracts'. As commented by BT/CommerceOne, there is the 'ability to market goods and services (including branding, enhanced communication of product information etc) as well as to reduce administrative costs.' It must be remembered that both these parties have a vested interest, therefore whilst the points are feasible, service providers often charge for additional services. A cost-benefits analysis is therefore recommended to determine whether these services will provide real financial benefits to SMEs.

7.2.2 Access to more sellers

As can be seen below in figure 30 respondents were largely agreeable to the recommendation that SMEs can *periodically reAuction key procurement items*, which would take advantage of there being more suppliers, with 89% being in agreement. It is argued that this will ensure that the raw materials of greatest percentage spend are being bought at fairer market prices, most experts appear to agree. However, the Line56 respondent did disagree recommending SMEs 'consider the added expense of auctioning'. This point is also agreed as an important consideration however there must necessarily be a degree of personal interpretation of both the terms 'periodic' and the number of items considered 'key'. It is recommended that SMEs apply common sense, (continually auctioning may also unnecessarily upset supplier relations). In light of the results for periodically reAuctioning, where spends are considerable and there is a significant number of potential suppliers, this is pertinent to SME interests.

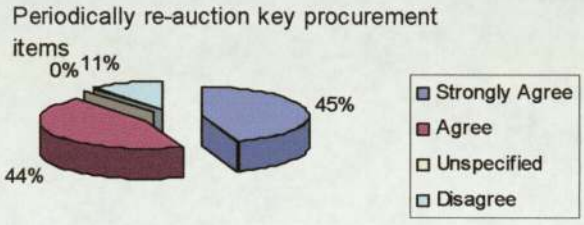


Figure 30 – A recommendation to take advantage of access to more sellers.

Listed below are further recommendations made regarding the opportunity of access to more sellers;

- Develop your procurement strategy to cater for eAuctions (TRW).
- Don't buy from unknown suppliers (Whitbread).
- Do some background reading/research on suppliers before buying (Whitbread).

Perhaps most appropriately it was the procurement managers who had most to recommend about this opportunity. The TRW respondent emphasises the need for strategy planning. Whilst it is felt that this is actually a more general point, it is considered highly valid. It is not known what percentage of SMEs actually have a procurement strategy, however eAuctions could potentially

have a significant impact on procurement spend. Without a procurement strategy (or at least some degree of planning) it could also have longer term detrimental affect (e.g. on quality of product/ service provision). Procurement strategy planning must be considered of high importance. The Whitbread respondent's recommendations are also considered valid but are of a more common-sense nature. As pointed out by the Portum respondent, 'negotiating online eradicates many boundaries, including country ones'. This is true but in doing so it is considered common sense for SMEs to heed Whitbreads advice before entering into contractual obligations with unknown suppliers.

7.2.3 Access to a greater number of buyers

As can be seen below in figure 31 respondents were agreeable to the recommendation that SMEs can *take up membership of key auctions/ exchanges*, overall 78% were agreeable. Many sites, especially eAuctions have member's areas (often this incurs a fee), here users have access to a greater range of market makers products and services. One of their key services (& probably most valuable!) is their provision of information databases from which they can then draw buyer details and introduce the parties.

As can also be seen below, respondents were all agreeable to the recommendation that SMEs should *regularly revisit sites*, with 56% of respondents being strongly agreeable. Although this is perhaps a simple recommendation and a seemingly obvious point, where users have access to billboards, forums and chat rooms etc regular site visits will ensure they keep fully up to date with whatever opportunities there may be at any one time and means that they are more likely to get to potential customers first. Clearly the expert respondents agreed.

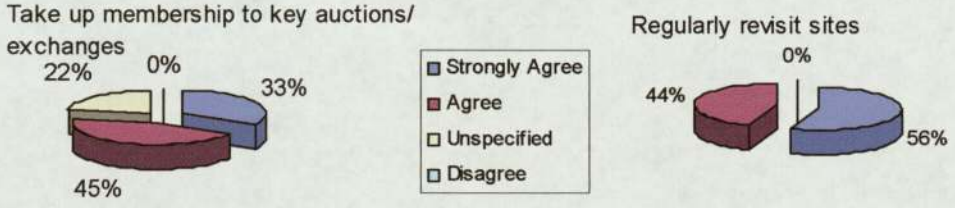


Figure 31 - Recommendation to take advantage of access to a greater number of buyers

Listed below are additional recommendations made by respondents regarding the opportunity of a greater number of buyers;

- Fill up spare capacity (CGE&Y).
- Set targets for new sales and measure performance (CGE&Y, BT/CommerceOne).
- View it as a means of gaining new customers primarily, then seek to build longer term relationships once you have won them (CGE&Y).
- Use eAuctions as an inexpensive process of gaining new customers. (8over8).
- Go to the biggest exchanges, these will have the greatest number of contacts (BT Ignite).

The respondent from CGE&Y re-iterated the recommendations made in section 7.2.1, this is understandable as these two opportunities (an additional sales channel and access to a greater number of buyers) are fairly similar, but for the fact that 'more buyers' obviously has greater emphasis on new as well as existing buyers. So this recommendation is again agreed with but SMEs need to assess their individual opportunity.

The BT/CommerceOne respondent recommended SMEs 'set new sales objectives and measure the results', this was felt very similar to the second recommendation noted above by CGEY&Y to 'set targets for new sales and measure performance', therefore these have simply been added as a single recommendation (the second item in the bullet list above!). Both of these points again emphasise the need for good business planning and so are an agreeable recommendation.

The 8over8 respondent recommended that SMEs can use eAuctions as 'an inexpensive process of gaining new customers,' this point is arguable, largely due to the significant variances in charging methods (a percentage of savings, up front fees or a combination of the two) this would need further investigation. However, in the context of an SME using an eAuction to transcend global boundaries, i.e. to gain oversees business, this point becomes much more plausible, indeed such a business transaction may not otherwise have taken place.

Finally, the BT Ignite respondent has repeated their referral to the need for critical mass. In recommending using the biggest exchanges SMEs can be given access to greater numbers of potential buyers, again this makes good sense, however noteworthy is that SMEs should also take into account that buyer information is a chargeable service (it is a source of revenue for market makers).

7.2.4 A means of supplier price comparison

As can be seen below in figure 32 respondents were surprisingly less agreeable to the recommendation of *providing eAuction feedback to suppliers*, overall 33% disagreed and 11% did not specify a preference. The 8over8 respondent in disagreeing commented that; 'prices have already been disclosed in the bidding process' this point is correct and does reduce the need for further feedback. Alternately the Portum respondent felt that 'this can provide an interesting insight into the pricing activity of competitors - valuable information'. Ultimately SMEs should perhaps consider their individual circumstances to determine whether they feel offering further feedback information to suppliers would be of benefit.

Alternately the recommendation to *keep a record for future reference* was equal to the most decisively supported of all the initial brainstorm's recommendations. Again this is perhaps a simple point but one the Whitbread respondent, a procurer, commented as 'invaluable'.

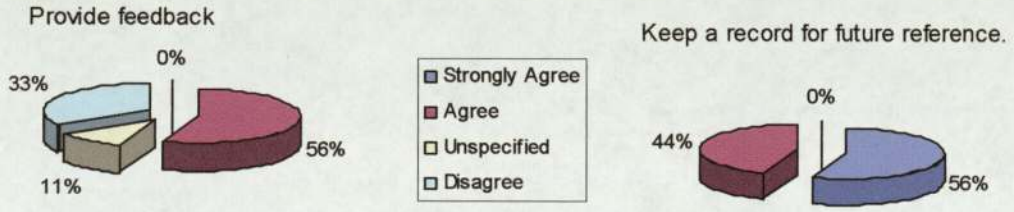


Figure 32 - Recommendations to take advantage of a means of supplier price comparison.

There were no further recommendations made regarding the supplier price comparison. It is felt that this is perhaps because it is a relatively simple opportunity for SMEs to gain advantage, but one which is also largely good business practice. Nevertheless it is an opportunity which the Whitbread respondent obviously feels strongly supports procurers in the eAuction process.

7.3 Threats

7.3.1 Face increased price competition leading to reduced margins

As can be seen below in figure 33, respondents were extremely agreeable to the recommendation that SMEs *use eAuctions to buy as well as sell,* more so than virtually all other recommendations with 78% being strongly agreeable. The respondent experts clearly show support for using auctions to generate savings as this would make increased price competition more sustainable. A further recommendation made by the BT Ignite respondent was to 'use to buy, before you are asked to use to sell', thus encouraging SMEs to proactively begin using eAuctions. The respondent further added a note of explanation 'this is the way the market will go, you cannot buck a market which delivers better prices for buyers, but you can get ahead.' If this is indeed 'the way the market will go', then this could well be good advice, however the researcher considers it is still too early to make such a definitive conclusion.

As can also be seen below in figure 33, respondents were largely agreeable to the recommendation that SMEs should *use eAuctions to fill spare capacity*, with 56% strongly agreeing and no parties disagreeing. This is something much discussed in literatures and so is a result which was expected. Where SMEs have periods of spare capacity it may be viable to offer low margin products that will help contribute towards business overheads, obviously individual SMEs would have to closely monitor where these opportunities may lie and the amount of capacity available.

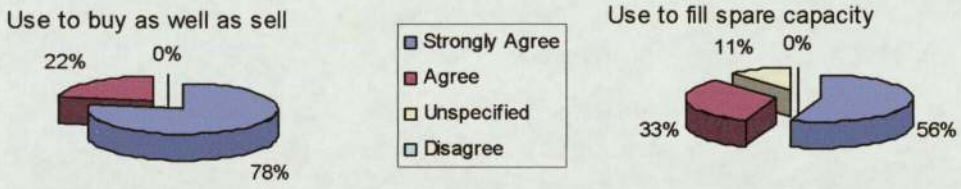


Figure 33 - Recommendations to pacify increased price competition leading to reduced margins.

As can be seen below in figure 34 there was some disagreement between respondents to the recommendation of *using eAuctions to drive down indirect costs*, whilst 33% strongly agreed, 22% disagreed. Again it was the software vendors and the service-providers which were in great support of the recommendation (see appendix 9.5). As an EC tool the ability to drive down indirect costs has been widely hypothesised because it utilises the advantages of the Internet. However, of those disagreeing the Whitbread respondent added that this 'may be harder for SMEs.' This is potentially a valid point, for example SMEs could not currently buy and run the auction software themselves or even 'bulk buy' auction services, these are increased savings opportunities for larger companies. This might be best summarised by saying that SMEs may well be able to drive down indirect costs, but to date there is no clear evidence. In attempting this, a close cost-benefit analysis and benefits realisation (see glossary in appendix 9.1) would be recommended.

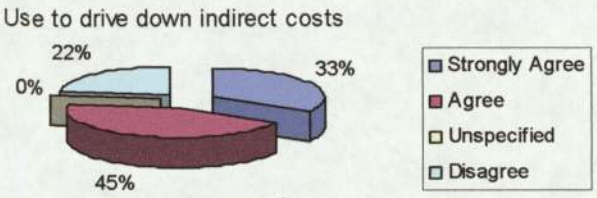


Figure 34 - Recommendations to pacify increased price competition leading to reduced margins.

Listed below are further recommendations made by respondents regarding the threat of increased price competition leading to reduced margins;

- You need to re-assess your business model if you are to survive (Line56)
- Develop a unique characteristic that isn't available elsewhere (Line56).
- Avoid reverse auctions (CGE&Y)

It is felt that both of the two recommendations made by the Line56 respondent are ultimately recommending SMEs carry out a strategic review. Firstly the respondent recommends a re-assessment of SME's business models (presumably in consideration of potential eAuction impacts). Whilst suggesting a threat to a company's 'survival' is hopefully extreme, it is one which it is suggested any SME would do well to contingency plan for. The respondent goes on to suggest SMEs 'develop a unique characteristic', a recommendation that is discussed later (see section 7.3.2) but greater differentiation is agreed to be a good means of pacifying this threat.

Finally, the CGE&Y respondent was much more forcible, recommending that SMEs simply 'avoid reverse auctions'. This is considered an extreme attitude but perhaps reflects the respondents feeling regarding the potentially damaging effects for SMEs of the acute price focus. Also of note, is that if a powerful customer were to insist an SME use a reverse auction the SME may have little choice, so again it is suggested SMEs contingency plan in case such an event were to take place.

7.3.2 Lack the margins of larger rivals needed when competing under acute price focus

As can be seen below in figure 35 respondents were highly agreeable to the recommendation that SMEs *set absolute price limits and stick to them,* more so than all but one other recommendation with 78% being strongly agreeable. Clearly this is a simple measure, but one which could be very harmful to any organisation if ignored. The Whitbread respondent perhaps best captures the heat of the eAuction and the way in which sellers can get carried away by recommending 'when the bidding gets too low, turn the computer off!' The CGE&Y respondent again repeated their previous forcible recommendation, that SMEs simply 'avoid reverse auctions'. Overall it is summarised that caution on the behalf of sales personnel is a must.

As can also be seen below, respondents were largely agreeable to the recommendation that SMEs should *differentiate from rival products*, with 89% overall being agreeable. For SMEs this is perhaps a continuation of what for many is likely to be an existing strategy to reduce competition through finding niche markets with more specialist products that larger companies cannot feasibly make. It is felt that eAuctions simply increase the need for SMEs to differentiate.

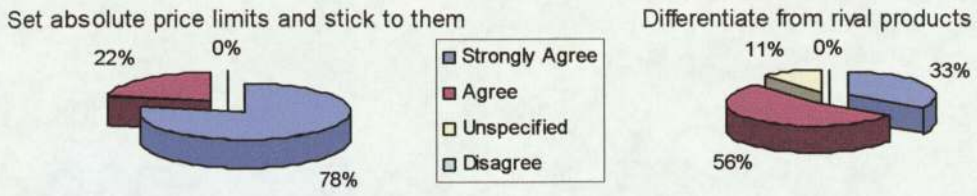


Figure 35 - Recommendations to pacify the lack of rival's margins.

Listed below are further recommendations made by respondents regarding the threat of lacking the margins of larger rivals needed when competing under acute price focus;

- Ensure you have a core competency (BT Ignite)
- Co-operate with larger players, but emphasise the need for a win-win (Line56)
- Ask large customers for help to reduce costs (Line56).
- Collaborate to get better prices on non-strategic items (CGE&Y).

A good recommendation was made by the BT Ignite respondent, SMEs should have a core competency. Such specialisms in business can lead to cost benefits through bulk buying and quality benefits through specialising. Arguing that eAuctions eradicate traditional methods of negotiation Portum suggests that 'small suppliers can often suddenly find themselves bidding for large contracts they had never dreamed of!' Obviously if such a contract falls within an SMEs core competency (i.e. they're a low cost producer) this would create a significant opportunity for an SME.

The Line56 respondent made two recommendations emphasising working with larger supply chain partners to overcome the threat of lacking rival's margins. Again, dependent upon the supply chain partner's attitude to working relationships, this could be a good means of ensuring business is not lost. They may have specialist skills they can offer and ultimately would be likely to gain from helping SMEs if they can reduce costs. These recommendations require fostering good working relationships, but could be very useful to both buyer and seller if co-operative working opportunities exist.

Finally, a recommendation made by the CGE&Y consultant is that eAuctions could be used collaboratively by SMEs in order to increase spend thus reducing their own product costs through bulk buying. This does appear to make good business sense, however no information could be found on auctions offering services that catered for these requirements. This would also require careful consideration by the individual SMEs involved and perhaps prior contractual agreement between themselves, other SMEs and the suppliers, but is a potential opportunity worthy of follow-up.

7.3.3 Meet non-price order fulfillment problems (i.e. lead time, quality)

As can be seen below in figure 36 respondents reacted indifferently to the recommendation that SMEs *use new auction non-price factor capabilities.* Whilst one of the 8over8 software vendors recommended their 'supplier qualification process', alternately the BT Ignite respondent added the advice that 'if there is significant engineering content, auctions are the wrong tool'. Clearly there are differences in opinion in an area of eAuctions still largely being developed, perhaps therefore SMEs are best recommended to be cautious in the short term until such a time when this technology has been more fully proven.

As can also clearly be seen below in figure 36 respondents were highly agreeable to the recommendation that SMEs should *set up precise requirements contracts*, with 67% being strongly agreeable. An additional note made by BT Ignite here is 'especially where there is greater technical content', this is agreed with. As products move away to the right of our eAuction target market model (discussed in section 4.2.2, p.17), the more care and attention needs to be given to non-price factors.

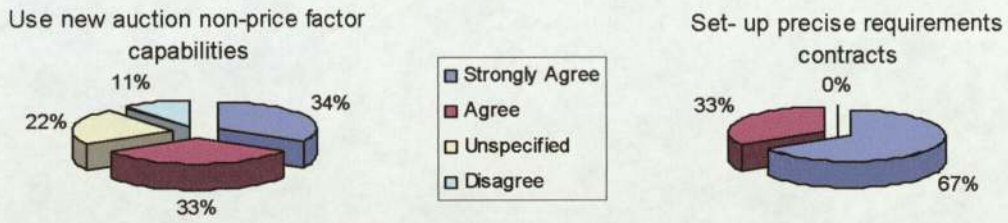


Figure 36 - Recommendations to pacify non-price order fulfilment problems.

Listed below are additional recommendations made by respondents regarding the threat of non-price order fulfilment problems (i.e. lead time, quality);

- Don't auction high specification parts (TRW).
- Use auctions sparingly! (Line56).
- Contractually agree these factors prior to auction (Whitbread).
- Don't necessarily choose the lowest bidder! (Whitbread).

Again in support of the above discussed target market model, the TRW respondent also recommends that high specification parts are not well suited to eAuctions. Equally the Line56 respondent recommends SMEs 'use auctions sparingly!' The researcher suggests that SMEs remember this is simply one tool of several that buyers and sellers have available to them, careful use could be very good advice to help avoid the problems of non-price fulfilment.

Further, considered would be good eAuction procurement practice for SMEs, the Whitbread respondent recommended setting out non-price agreements in a contract (this is a service often provided by market makers). Alternately SMEs could adapt existing procurement contracts for eAuctions but obviously existing contracts would have to be honoured. Overall this point is supported to ensure suppliers keep their non-price factor promises and will perhaps ensure they take these into more prominent consideration when bidding. Again another important recommendation made by the Whitbread respondent may be to not necessarily choose the lowest bidder, (especially for worryingly low bids), whilst a good short term saving it may have serious negative longer term impacts as an SMEs non-price factor needs are ignored. It is therefore further recommended by the researcher that any service providers that try to force buyers to choose the lowest bidder should be avoided.

7.3.4 Lose their co-operative working relationships in the supply chain

As can be seen below in figure 37 respondents reacted indifferently to the recommendation that SMEs *make sure some human contact is made.* In disagreeing the Portum respondent commented that 'there is not much room for co-operation' through eAuctions. Instead he suggests that 'SMEs must seek to embrace the other areas of sourcing collaboration, such as eTendering negotiation and other collaborative eCommerce.' In also disagreeing with this recommendation the 8over8 respondent commented that this 'reduces the potential savings'. This is likely to be concerning for those embracing Japanese style involved supplier management or the 'win-win', however a closer

look at the results, in this instance, suggests that there is divided opinion amongst the experts dependent upon their position. Apart from the non-developers and the service-providers others were much more favourable. Whilst this is agreed with for direct savings, it perhaps does not consider the long term costs of poor supplier relations. In suggesting this, the Line56 respondent made the recommendation to 'remember their quality, delivery and costs are also yours!'

As can be seen below respondents were much more agreeable to the recommendation that SMEs should *discuss with business partners beforehand*, with a surprising 89% being agreeable. As commented by the Whitbread respondent, 'it is important to make sure suppliers are comfortable with the process'. This makes good sense especially if suppliers have not used eAuctions before which is likely to be true for many SMEs. Clearly we see that no respondents disagreed with this, here the 8over8 respondent noted this as 'good practice' as part of the process to pre-register suppliers, a point which is agreed should perhaps be added to procurement procedures.

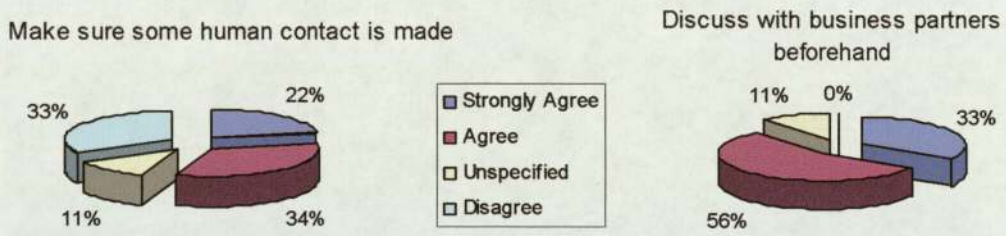


Figure 37 - Recommendations to pacify losing their co-operative working relationships in the supply chain.

Listed below are additional recommendations made by respondents regarding the threat of losing their co-operative working relationships in the supply chain;

- Don't focus purely on the technology (8over8).
- The reverse auction can be misused, there has to be a balance (Line56).

A comment made by David Manion a B2B Consultant from ICL (unfortunately he did not wish to participate in the fuller brainstorm of recommendations) commented that amongst other affects 'reverse auctions... damage unnecessarily customer/supplier relationships.' He quotes this as a primary reason why he believes 'it will not last as a valid business tool'. It is only more recently that this issue is being increasingly discussed in literatures. Somewhat surprisingly even the 8over8 respondent who represents software vendors recommended that SMEs 'don't focus purely on the technology', this must be agreed with. This in itself perhaps inadvertently adds support to the recommendation that SMEs continue to make human contact to ensure this does not happen.

Finally, in referring to reverse auctions the Line56 respondent recommended 'there has to be a balance'. It is assumed that this is referring to the effects of ignoring supplier's needs and focusing purely on reducing procurement spend. As this paper has shown, this would be a particularly acute problem for SMEs. Whilst significantly reduced procurement spend may be highly desirable, if this impacts supplier profits too heavily, non-price factors may suffer as suppliers try to save elsewhere, or it could even force suppliers out of business. Making sure to keep good partner relations and having a co-operative working relationship may well pacify this threat.

7.4 Summary and recommendations

As has been discussed in the findings where it was seen to be prominent, not all the opinion provided by expert respondents in this final stage was considered to be entirely impartial. This is natural as all experts have individual specialisms and some of the respondent's livelihoods even

depend on the future of eAuctions. However, it is argued this has provided for a wider base from which a more diverse range of discussions and recommendations have been drawn.

The discussions in this stage have primarily centered on specific sets of findings. Firstly those from the initial brainstorm, the recommendations that were discussed were; those the researcher found to be most widely agreeable, or those greatest indifference (none were found to be highly disagreeable). Fuller results can be found in appendix 9.5. Secondly, discussions then made analysis of the additional comments and more importantly the recommendations that the experts made for SMEs. Combined it is hoped these provide a wealth of detail which SMEs can use to gain greatest benefit from this new technology.

The overall response to the initial brainstorm recommendations was positive with a majority of respondents being very agreeable overall. Of those that were most agreeable five had majorities that were strongly agreeable. These were as follows; *keeping a record for future reference* for supplier price comparison (56% strongly agreed), *use eAuctions to buy as well as sell & use eAuctions to fill spare capacity* to help SMEs compete with increased price competition (78% & 56% strongly agreed respectively), *set absolute price limits and stick to them* to pacify the lack of larger rivals margins when competing under acute price focus (78% strongly agreed) and finally *setting up precise requirements contracts* to meet non-price order fulfillment problems (67% strongly agreed).

Of those where there was indifference (where more than one respondent disagreed); *providing feedback* as a means of supplier price comparison (33% disagreed) was largely due to some respondents believing the technology already provided all the feedback required and *using eAuctions to drive down indirect costs* to pacify increased competition leading to reduced margins (22% disagreed) was because two respondents doubt whether indirect cost savings are possible, especially for SMEs.

Significant discussion of the recommendations and advice provided by experts has been made in the text, much of which has been discussed and very often agreed with. In summary, whilst throughout this stage there has been continual discussion and lists of recommendations made by the expert respondents, it was felt by the researcher that some were especially helpful in enabling SMEs to take a step back and adopt a wider approach to pacifying the threats of eAuctions and taking advantage. Hence they have been listed here. Whilst these could be considered the opinions of the researcher it is hoped readers agree these more fundamental recommendations are applicable to all SMEs. It is must also again be stressed that the fuller recommendations and their discussion must be drawn from the main text within this stage. These wider SME recommendations are as follows:

- Re-examine your sales and procurement strategy in consideration of eAuctions.
- Develop your sales and procurement processes and procedures to cater for eAuctions.
- Contingency plan for the adverse affects of reverse auctions.
- Have a core competency.
- Differentiate your products and services from those of competitors.
- Be proactive in using eAuctions and exchanges.
- Continue to use sound business planning and measurement in all decisions.
- Seek collaboration with supply chain partners to gain mutual advantage.

It is hoped that these and all other recommendations included in this stage will help individual SMEs identify actions that they can take to gain most benefit from this new technology.

8. Conclusions

This research project's aim was to determine the degree to which the opportunities and threats posed by Internet auctions will affect SMEs in Great Britain. After achieving this it was then intended to produce recommendations that would advise and help individual SMEs identify actions that they can take to gain most benefit from this new technology. To do this the project set out five main objectives which developed into the five key stages of the report. In order to conclude the project it was felt pertinent to consider each of the objectives in turn and conclude their key findings.

8.1.1 An overview of SMEs acclimatisation to EC.

In achieving this objective the researcher selected the three areas to measure considered most relevant to the needs of SMEs, their attitude towards EC, technology usage and skills.

Whilst the research uncovered specific areas of lesser agreement (e.g. strategists in the manufacturing industry) the SME community as a whole do believe EC is of great importance to their long term success. However, whilst virtually all areas of EC technologies showed projected growth, the research does clearly show that there are differences in the usage and planned adoption of EC technologies depending on company size. Medium companies are and will continue to make most use. The research pointed to two reasons for this, firstly, larger SME companies are more confident about implementing EC technologies and secondly larger SME companies were also shown to consistently invest more in training for key IT staff.

Further to this is that smaller companies (micro sized companies especially) appear to be less confident that EC technologies will generate the ultimate financial value added measure, profit. Whilst this is a good reason for not investing as heavily as larger companies, this does somewhat contradict the initial highly positive attitude that EC is of high importance to long term SME success. This research concludes that whilst they appear to see future need, many micro companies feel a lot of EC technologies (especially the more complex) are simply not viable at this time.

8.1.2 The development and growth of B2B eAuctions, especially relating to SMEs.

This stage combined both a mix of information from secondary sources and the web questionnaire's primary research to help fill literary gaps.

The market appears to be consolidating due to the proliferation of B2B software technology. E-markets, portals and exchanges are all making the full range of B2B tools available to SMEs. This includes eAuction services available via Browsers. Whilst standardised and intermediate products appear to be most well suited to these eAuctions, software vendors are attempting to make eAuctions viable for more specialist products, but little can be concluded because these tools are still immature.

Research companies and industrial bodies are obviously having difficulty measuring the growth and usage of B2B, wide variances exist even in past statistics for actual B2B EC usage. This is assumed to be the reason why very little measurement of B2B eAuction usage and growth is available, that which was found is largely unsubstantiated. However, the projects research shows that whilst supportive of B2B market making mechanisms and their implications, few SMEs appear to be taking any decisive steps to make use of the technologies, instead it appears they consider the tools are not viable for their businesses or rather that it is better to 'wait and see'.

8.1.3 Identifying and measuring considered benefits and drawbacks of eAuctions to SMEs.

This stage of the research again combined secondary source and primary web questionnaire data. A literature review was used to uncover the most commonly projected benefits and drawbacks of eAuctions, these where then considered by the 142 respondents of the web questionnaire.

More commonly literatures discussed benefits than drawbacks, generally with no regard for SMEs. Research findings showed that literature review benefits were comparable with those respondents felt were most important to SMEs. These were; *access to more sellers*, *a new sales channel*, *access to more buyers* and *better supplier price comparison*. Whilst respondents also agreed *reducing direct and indirect purchasing costs* did feature as having the most beneficial impact, respondents felt that the probability of that occurring was significantly lower than the aforementioned benefits. This is a significant conclusion compared to the opinions projected by literatures.

In regard to drawbacks, a relationship between the literature review and this research's findings were not forthcoming. The threats given highest prominence by this project's research respondents were; loss of working relationships, SMEs lack of larger rival's margins, non-price fulfilment problems and greater price competition. Of these the literature review only gave prominence to fulfilment problems, the affects of other's purchasing savings on SME profit margins was not considered and only minimal reference was given to the potentially detrimental effects on the supply chain's working relationships. In contrast this research concludes that these are to be considered of serious impact on SMEs and of fair probability to occur.

8.1.4 The ranking and prioritisation of eAuction opportunities and threats.

Having measured impacts and probabilities these were used to rank findings and create a prioritisation of the opportunity or threat that they pose to SMEs.

This research showed a wide variety of results with varying trends. Of these, *lacking larger rival's margins* clearly showed much greater threat to commodities and *a new sales channel* resulted in the slightly surprising finding of being considered a greater opportunity for the increasing specialist. A slightly differing trend was that *better supplier price comparison* and *suppliers unwillingness to auction* both showed parity with the hypothesis of their being a target market for eAuctions. They showed greater rankings for the intermediate grouping with lesser rankings for increasingly commoditised or specialised groupings.

Further, the researcher's analysis discusses the impact of potential 'double-negatives' for SMEs. Primarily SMEs using eAuctions to sell may *lack larger rival's margins* and at the same time are exposed to *greater price competition*. Whilst hypothetical the researcher believes this is a potential problem for SMEs especially with the reverse auction model. This needs to be considered seriously.

Overall rankings for opportunities were marginally higher than those for threats. However, both sets of results see the majority of opportunities and threats ranking from moderate to high. Therefore most factors tested should be taken seriously, (potential exceptions are *ERP integration* and *varying commissions*). Ultimately however, four opportunities and four threats consistently showed greater significance than the others, (results can be seen in appendix 9.3). The four opportunities were; *access to more sellers*, *an additional sales channel*, *access to a greater number of buyers* and *a means of supplier price comparison*. The four threats were; *losing their co-operative working relationships in the supply chain*, *lacking the margins of larger rivals needed when competing under acute price focus*, *meeting non-price order fulfilment problems (i.e. lead time, quality)* and *facing increased price competition leading to reduced margins*.

Finally, whilst the above opportunities and threats were used for analysis in the final stage of the research, this report must conclude that individual SMEs still need to consider the opportunities and threats of eAuctions in respect of the own circumstance. The research has clearly shown that the level of opportunity or threat posed by individual factors differs according to product grouping.

8.1.5 To explore the actions SMEs can take to pacify threats and create advantage.

The final stage of research took the main identified opportunities and threats and sought to generate recommendations through the help of B2B experts. Respondents here came from a wide variety of backgrounds and included vendors, providers, procurement managers, a commentator, consultants and a senior department head. These experts were provided with a brainstorm of potential recommendations and asked to improve it. Results were collated and discussed at length; this is recommended reading material for any SME strategist.

In concluding this stage the researcher felt that there were some recommendations that were especially helpful in supporting any SME in pacifying the threats of eAuctions and taking advantage of the opportunity. These are listed below:

- Re-examine your sales and procurement strategy in consideration of eAuctions.
- Develop your sales and procurement processes and procedures to cater for eAuctions.
- Contingency plan for the adverse affects of reverse auctions.
- Have a core competency.
- Differentiate your products and services from those of competitors.
- Be proactive in using eAuctions and exchanges.
- Continue to use sound business planning and measurement in all related decisions.
- Seek collaboration with supply chain partners to gain mutual advantage.

It must also again be stressed that the fuller recommendations and their discussion must be drawn from the main text within this stage.

8.1.6 Summation

The long term future of eAuctions is still far from certain. This report hopes to have encapsulated a full spectrum of opinion between two extremes. Firstly those heavily against them, 'auctions always favour buyers, erode the margins of suppliers, will encourage (illegal) price fixing, will propagate supplier churn which will ultimately add cost and will damage unnecessarily customer/supplier relationships. Because of this it will not last as a valid business tool,' - David Manion, ICL B2B Consultant*. Secondly, those heavily in favour, 'this is the way the market will go, you cannot buck a market which delivers better prices for buyers...'' – Courtenay Inchbald, Head of EC & Industry Platforms, BT Ignite*.

* - Contributors to the research project.

Ultimately, this tool is still developing but currently is continuing to grow rapidly in use. To some degree the SMEs of Great Britain will be affected by eAuctions although some more significantly than others depending on their product grouping. The opinion of the researcher tends towards the belief that if the eAuction tool continues to deliver better prices whilst managing not to erode the non-price factors of quality and delivery, its use will continue to proliferate. In such circumstances, those SMEs in the target group outlined in this project will need to be prepared. It is hoped that the findings of this report supports SME preparation to pacify the threats and take full advantage of eAuction opportunities.

9. APPENDICES

9.1 GLOSSARY

Benefits realisation: The process of measuring results to ensure that projected tangible and intangible benefits have achieved their targets.

Business to Business (B2B): Inter-business electronic commerce.

B2B Market Makers: Intermediary organisations seeking to enable B2B.

E-auction: A controlled Internet environment where an individual buyer or seller provides a tender upon which invited parties competitively bid against each other.

Exchange: Internet environments in which multiple buyers and multiple suppliers come together to trade.

Electronic Commerce (EC): any business process carried out over an external network such as exchanging files, having a website, using other businesses' websites or buying and selling goods online.

Extensible Markup Language (XML): Supporting protocol for the enabling of Internet EDI transactions.

Final-price auction: A buyer negotiates to select a small number of suppliers, they the use the e-auction to award the business.

Internet: The world-wide network of connected computers

Internet Electronic Data Interchange (Internet EDI): The automated electronic exchange of forms, such as invoices and orders, through use of the Internet and supporting protocols (primarily XML).

Intranet: An internal computer network of interconnected computers using Internet protocols.

Playoffs auction: Used to reduce the number of suppliers, from which non-price factors are considered before awarding business.

Recurring auction: Where there is unknown future demand, suppliers are regularly invited to auction under the assumption when suppliers have spare capacity they will bid more aggressively.

Small to Medium Sized Enterprises (Organisations): for the purposes of these studies SMEs are considered to be in three categories: micro (Less than 20 employees), small (20-49 employees) and medium-sized (50-250 employees), (taken from Voss, 1998:17). Wherever possible SME data will distinguish between these categories.

The Alliance for Global Business (AGB): A global thinktank comprising of various multinational organisations

9.2 THE QUESTIONNAIRE - INTERNET AUCTION RESEARCH

Thank you for agreeing to complete this questionnaire. Please simply work through this form making your responses before clicking the 'submit' button at the bottom of the page.

PERSONAL DETAILS - The following fields are essential:

Your Name(s):

Your Organisation:

Your E-mail Address:

Are you employed by / owner of an SME?* ☑

* This study defines an SME (small to medium sized enterprise) as any company with less than 250 employees.

SECTION A - INFORMATION ABOUT ORGANISATION & SELF

1. What is your main area of expertise?

Please select

2. How many employees are there in your organisation?

Please select

3. Which industry does your organisation primarily operate in?

Please Select If other: N/A

4. Please indicate your level of appreciation/ experience of the following web technologies & capabilites:

E-mail	No appreciation	Extranet	No appreciation	Online Invoicing	No appreciation
Browser	No appreciation	Web Catalogue	No appreciation	Online Payment	No appreciation
The WWW	No appreciation	Online Procurement	No appreciation	Web EDI	No appreciation
Intranet	No appreciation	Online Sales	No appreciation	Web ERP	No appreciation

5. Please indicate your level of appreciation / experience of the following business to business (B2B) market making mechanisms:

E-markets	No appreciation	Auctions	No appreciation	Offer to sell	No appreciation
Exchanges	No appreciation	Request for quote	No appreciation		

6. How important do you consider e-commerce is to the long-term success of SME's as a whole?

Please select

7. How important do you consider the role of B2B market making mechanisms will be to the long-term success of SME's as a whole?

Please select

SECTION B - ACCLIMATISATION TO E-COMMERCE

Technology Usage

1. Which of the following web technologies does your organisation have or use?

☐ E-mail	☐ Website Trading	☐ Order Tracking	☐ Online EDI
☐ Internet	☐ Order Invoicing	☐ Intranet	☐ Online ERP
☐ Website Marketing	☐ Stock Monitoring	☐ Extranet	☐ Exchange or Auction

2. Now please indicate those technologies your organisation is likely to have or use in one years time:

☐ E-mail	☐ Website Trading	☐ Order Tracking	☐ Online EDI
☐ Internet	☐ Order Invoicing	☐ Intranet	☐ Online ERP
☐ Website Marketing	☐ Stock Monitoring	☐ Extranet	☐ Exchange or Auction

3. Please number in order the departments that make most use of e-commerce technologies, where 1 = most (NB. 0 = no usage).

0	Purchasing	0	Operations	0	Sales	0	Marketing
0	Research & Devel.	0	IT	0	Finance	0	Personnel

Skills

4. In your opinion, which of the following web technologies does your company have the skills to implement without external assistance?

☐ E-mail	☐ Website Trading	☐ Order Tracking	☐ Online EDI
☐ Internet	☐ Order Invoicing	☐ Intranet	☐ Online ERP
☐ Website Marketing	☐ Stock Monitoring	☐ Extranet	☐ Exchange or Auction

5. Please indicate the extent to which your company offers formal training to key IT staff. (Approx. days / yr / person).

Please select

6. Which of the following do you think would undoubtedly increase SMEs profitability if they had staff with the right skills?

☐ E-mail	☐ Website Trading	☐ Order Tracking	☐ Online EDI
☐ Internet	☐ Order Invoicing	☐ Intranet	☐ Online ERP
☐ Website Marketing	☐ Stock Monitoring	☐ Extranet	☐ Exchange or Auction

7. Which of the tools do you consider are not viable for the majority SMEs at this time, either due to skills or likely return on investment?

☐ E-mail	☐ Website Trading	☐ Order Tracking	☐ Online EDI
☐ Internet	☐ Order Invoicing	☐ Intranet	☐ Online ERP
☐ Website Marketing	☐ Stock Monitoring	☐ Extranet	☐ Exchange or Auction

8. Please indicate your level of agreement with the following statements:

a. Software development is rapidly reducing the skills requirements to implement many web technologies.

Please Select

b. Staff actively want to learn these new skills because they know they are beneficial to their career prospects.

Please Select

c. Most SMEs cannot afford to employ dedicated e-commerce staff.

Please Select

d. The more complex web technologies will not be financially viable for SMEs even in the long term and so are not needed anyway.

Please Select

SECTION C - THE BENEFITS AND DRAWBACKS OF E-AUCTIONS

Having reviewed the majority of current literature on B2B auctions , the considered benefits and drawbacks have been listed and categorised into customer facing, supplier facing and non-specific groupings.

You are asked to consider all benefits and drawbacks from a particular stance. Therefore if from an SME please choose that product grouping which most closely matches your products and services, all others please select a category that you feel most qualified to provide opinions on. Now select your chosen category below, but please remember, it is fundamental to the accuracy of the research that all responses are made only in consideration of your chosen stance.

Please Select

Now you have selected your stance, you will be asked to assess the likelihood of each drawback or benefit and then, in consideration of actual realisation, you are asked to estimate the degree of impact. This process enables the application of ranking procedures so that data can be quantitatively analysed, (i.e. higher rankings for greater certainty and impacts).

Finally, this is a study of the likely impact of B2B auctions on SMEs . Assume you have fairly low purchasing and sales power / influence, so it will often be suppliers or buyers that determine the auction model to be used. Therefore assume that buyers wanting lower prices will more often favour 'reverse' auctions, whilst sellers wanting best possible margins will more often favour 'offer to sell' auctions.

BENEFITS

Customer Facing E-commerce - "Through utilising Internet auctions SMEs will gain..."

1. A direct reduction in the cost of selling.

Likelihood: Please select

Impact: Please select

2. A channel to better sell idle assets.

Likelihood: Please select

Impact: Please select

3. Access to a greater number of buyers.

Likelihood: Please select

Impact: Please select

4. A removal of the potential for personal biases towards favoured individuals.

Likelihood: Please select

Impact: Please select

5. An additional sales channel.

Likelihood: Please select

Impact: Please select

6. A means of competitor price comparison.

Likelihood: Please select

Impact: Please select

Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will gain..."*

7. Reduced purchasing costs.

Likelihood: Please select

Impact: Please select

8. Access to global supplier information.

Likelihood: Please select

Impact: Please select

9. Access to more sellers.

Likelihood: Please select

Impact: Please select

10. A means of supplier price comparison.

Likelihood: Please select

Impact: Please select

Non-customer / supplier specific - *"Through utilising Internet auctions SMEs will have..."*

11. The ability to integrate this technology with ERP technologies.

Likelihood: Please select

Impact: Please select

12. Extra new services made available to them.

Likelihood: Please select

Impact: Please select

DRAWBACKS

Customer Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*

1. Face increased global competition leading to reduced margins.

Likelihood: Please select

Impact: Please select

2. Lack the margins of larger rivals needed when competing under acute price focus.

Likelihood: Please select

Impact: Please select

3. Lose the ability to offer personalised customer service.

Likelihood: Please select

Impact: Please select

Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*

4. Meet non-price order fulfillment problems (i.e. lead time, quality).

Likelihood: Please select

Impact: Please select

5. Meet many suppliers who do not wish to use this purchasing tool.

Likelihood: Please select

Impact: Please select

Non-customer / supplier specific - *"Through utilising Internet auctions SMEs will..."*

6. Lose their co-operative working relationships in the supply chain.

Likelihood: Please select

Impact: Please select

7. Risk increased fraud / misrepresentation.

Likelihood: Please select

Impact: Please select

8. Find a lack of critical mass of buyers and sellers at many B2B market makers.

Likelihood: Please select

Impact: Please select

9. Face varying commission charges / pricing policies and differing auction roles.

Likelihood: Please select

Impact: Please select

10. Suffer from a reduction in personal contact.

Likelihood: Please select

Impact: Please select

11. Meet people resistance to a new technology.

Likelihood: Please select

Impact: Please select

Thank you! The questionnaire is now completed, all that remains is to 'submit' this form at the bottom of the page. Can I take this opportunitiy to thank you for providing your opinions. In return I will be happy to offer you a copy of my results and conclusions if you leave the tick in the checkbox below.

☑ Thank you, I would like to recieve a copy of your results and conclusions once complete via e-mail.

SUBMIT

9.3 Probability Vs Impact Rankings in order of highest combined average

	Chosen Stance:	Commodity	Standardised	Intermediate	Fairly Specialist	Specialist	Combined Averages
	Number of respondents:	2	28	36	34	41	141
	OPPORTUNITIES						
9	Access to more sellers.	20.25	19.75	21.17	14.42	15.27	17.53
5	An additional sales channel.	10.50	15.08	14.71	16.24	17.68	15.96
3	Access to a greater number of buyers.	15.75	17.83	15.40	15.30	14.81	15.69
10	A means of supplier price comparison.	12.00	15.11	17.04	15.04	13.11	14.96
7	Reduced purchasing costs.	17.50	17.62	16.96	12.78	10.61	14.24
8	Access to global supplier information.	10.00	9.21	13.24	13.37	15.23	13.00
12	Extra new services made available to them.	9.00	13.01	14.60	11.08	12.49	12.74
2	A channel to better sell idle assets.	9.00	8.43	10.50	12.49	11.24	10.76
1	A direct reduction in the cost of selling.	12.25	13.78	10.64	8.28	9.16	10.29
6	A means of competitor price comparison.	8.75	12.32	10.76	10.60	8.26	10.28
4	A removal of the potential for personal biases towards favoured individuals.	8.75	9.51	9.27	10.77	7.55	9.17
11	The ability to integrate this technology with ERP technologies.	9.00	8.12	11.24	8.01	8.85	9.11
	THREATS	11.89*	13.31*	13.79*	12.36*	12.02*	
6	Lose their co-operative working relationships in the supply chain.	22.50	15.11	15.01	15.56	17.98	16.13
2	Lack the margins of larger rivals needed when competing under acute price focus.	20.00	18.14	15.49	13.95	13.10	14.95
4	Meet non-price order fulfilment problems (i.e. lead time, quality).	12.00	13.20	12.74	15.60	17.53	14.90
1	Face increased price competition leading to reduced margins.	12.50	15.65	15.60	14.26	13.41	14.61
8	Find a lack of critical mass of buyers and sellers at many B2B market makers.	16.00	13.57	11.64	13.21	13.46	12.99
10	Suffer from a reduction in personal contact.	10.50	13.18	12.45	13.78	12.69	12.96
7	Risk increased fraud / misrepresentation.	9.00	10.49	11.44	13.00	11.81	11.70
11	Meet people resistance to a new technology.	12.00	12.40	10.05	11.91	11.29	11.35
3	Lose the ability to offer personalised customer service.	9.00	12.72	11.87	11.93	9.07	11.20
5	Meet many suppliers who do not wish to use this purchasing tool.	8.00	9.98	11.33	9.19	8.62	9.71
9	Face varying commission charges / pricing policies and differing auction roles.	6.00	8.60	9.02	9.71	8.16	8.81
		11.45*	11.91*	11.38*	11.84*	11.42*	
		11.67**	12.61**	12.58**	12.10**	11.72**	

* - denotes averages used for analysis in stage 2 where ** are combined averages

9.3 cont... Impact Results

	Chosen stance	Commodity	Standardised	Intermediate	Fairly Specialist	Specialist	Combined Averages
	Number of respondents:	2	28	36	34	41	141
	BENEFITS						
	Customer Facing E-commerce - *"Through utilising Internet auctions SMEs will gain..."*						
1	A direct reduction in the cost of selling.	3.50	3.88	3.38	2.88	3.33	3.35
2	A channel to better sell idle assets.	2.00	2.68	3.47	3.65	3.57	3.36
3	Access to a greater number of buyers.	3.50	4.63	3.79	3.74	3.94	3.99
4	A removal of the potential for personal biases towards favoured individuals.	3.50	2.85	3.06	3.09	2.65	2.91
5	An additional sales channel.	3.00	3.54	3.58	3.94	4.21	3.83
6	A means of competitor price comparison.	2.50	3.45	3.00	3.36	2.95	3.16
	Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will gain..."*						
7	Reduced purchasing costs.	5.00	4.56	4.21	3.98	3.56	4.05
8	Access to global supplier information.	2.00	2.22	3.13	3.39	3.63	3.14
9	Access to more sellers.	4.50	4.48	4.47	3.61	3.73	4.05
10	A means of supplier price comparison.	4.00	4.00	3.94	3.82	3.45	3.78
	Non-customer / supplier specific - "Through utilising Internet auctions SMEs will have..."						
11	The ability to integrate this technology with ERP technologies.	3.00	2.96	3.32	2.70	3.05	3.02
12	Extra new services made available to them.	3.00	3.44	3.68	3.15	3.38	3.41
	DRAWBACKS						
	Customer Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*						
1	Face increased price competition leading to reduced margins.	5.00	4.22	4.05	3.86	3.75	3.96
2	Lack the margins of larger rivals needed when competing under acute price focus.	5.00	4.33	4.05	3.75	3.58	3.91
3	Lose the ability to offer personalised customer service.	3.00	3.81	3.74	3.52	3.10	3.50
	Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*						
4	Meet non-price order fulfilment problems (i.e. lead time, quality).	4.00	4.07	3.64	3.76	4.25	3.94
5	Meet many suppliers who do not wish to use this purchasing tool.	2.00	2.67	2.94	2.33	2.83	2.81
	Non-customer / supplier specific - *"Through utilising Internet auctions SMEs will..."*						
6	Lose their co-operative working relationships in the supply chain.	5.00	3.78	3.86	3.98	4.12	3.96
7	Risk increased fraud / misrepresentation.	3.00	3.37	3.38	3.69	3.50	3.48
8	Find a lack of critical mass of buyers and sellers at many B2B market makers.	4.00	3.59	3.29	3.32	3.28	3.36
9	Face varying commission charges / pricing policies and differing auction roles.	2.00	2.44	2.36	2.41	2.19	2.33
10	Suffer from a reduction in personal contact.	3.00	3.15	3.21	3.39	3.55	3.34
11	Meet people resistance to a new technology.	3.00	3.37	2.97	3.36	3.25	3.23

9.3 cont... Probability Results

	Chosen Stance:	Commodity	Standardised	Intermediate	Fairly Specialist	Specialist	Combined Averages
	Number of respondents:	2	28	36	34	41	141
	BENEFITS						
	Customer Facing E-commerce - *"Through utilising Internet auctions SMEs will gain..."*						
1	A direct reduction in the cost of selling.	3.50	3.55	3.15	2.88	2.75	3.05
2	A channel to better sell idle assets.	4.50	3.15	3.03	3.42	3.15	3.20
3	Access to a greater number of buyers.	4.50	3.85	4.06	4.09	3.76	3.94
4	A removal of the potential for personal biases towards favoured individuals.	2.50	3.33	3.03	3.48	2.85	3.14
5	An additional sales channel.	3.50	4.26	4.11	4.12	4.20	4.16
6	A means of competitor price comparison.	3.50	3.57	3.59	3.15	2.80	3.25
	Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will gain..."*						
7	Reduced purchasing costs.	3.50	3.86	4.03	3.21	2.98	3.49
8	Access to global supplier information.	5.00	4.15	4.24	3.94	4.20	4.15
9	Access to more sellers.	4.50	4.41	4.74	4.00	4.10	4.30
10	A means of supplier price comparison.	3.00	3.78	4.32	3.94	3.80	3.95
	Non-customer / supplier specific - "Through utilising Internet auctions SMEs will have..."						
11	The ability to integrate this technology with ERP technologies.	3.00	2.74	3.38	2.97	2.90	3.01
12	Extra new services made available to them.	3.00	3.78	3.97	3.52	3.70	3.73
	DRAWBACKS						
	Customer Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*						
1	Face increased price competition leading to reduced margins.	2.50	3.71	3.85	3.69	3.58	3.69
2	Lack the margins of larger rivals needed when competing under acute price focus.	4.00	4.19	3.82	3.72	3.66	3.83
3	Lose the ability to offer personalised customer service.	3.00	3.33	3.18	3.39	2.93	3.18
	Supplier Facing E-commerce - *"Through utilising Internet auctions SMEs will..."*						
4	Meet non-price order fulfilment problems (i.e. lead time, quality).	3.00	3.24	3.50	4.15	4.13	3.78
5	Meet many suppliers who do not wish to use this purchasing tool.	4.00	3.74	3.85	3.94	3.05	3.62
	Non-customer / supplier specific - *"Through utilising Internet auctions SMEs will..."*						
6	Lose their co-operative working relationships in the supply chain.	4.50	4.00	3.89	3.91	4.37	4.06
7	Risk increased fraud / misrepresentation.	3.00	3.11	3.38	3.53	3.38	3.36
8	Find a lack of critical mass of buyers and sellers at many B2B market makers.	4.00	3.78	3.54	3.98	4.11	3.87
9	Face varying commission charges / pricing policies and differing auction roles.	3.00	3.52	3.82	4.03	3.73	3.77
10	Suffer from a reduction in personal contact.	3.50	4.19	3.88	4.06	3.58	3.89
11	Meet people resistance to a new technology.	4.00	3.68	3.38	3.54	3.48	3.52

9.4 The Brainstorm Questionnaire

An ASTON BUSINESS SCHOOL Postgraduate Research Project

My name is David Hopkinson,

Having web-surveyed over 140 small businesses to find the most prominent benefits and drawbacks of B2B auctions, **I now intend to identify specific actions SMEs can take to minimise the threats and take advantage of the opportunities** that this exciting new tool presents us with.

Attached are two sheets depicting 'first-off' brainstorms of recommended actions for SMEs to take concerning the four most prominent opportunities and threats. The task I ask of you is relatively straightforward:

 Cross out what you disagree with.

 Add any new points you have.

 Tick once if you agree.

 Tick twice if you strongly agree.

Treat this as a working document...it needs improving! Having filled it out please post it back to me, or if preferred, fax it back on: 0121 359 5271.

In return for your valued time I will send you a summary my research. This will include:

- A fully ranked probability V's impact analysis of e-auction opportunities and threats.
- A review of multiple vendors' e-auction software capabilities.
- A summary of the recommendations made by industry experts and key small business stakeholders.

Assuming you have agreed, thank you for agreeing to be part of the final stage of my research. As a gesture of goodwill you will see I have included the summary of my initial probability V's impact analysis. **Please note that all individual respondent details and opinions are strictly confidential.**

Your details

Name:

Position & Company:

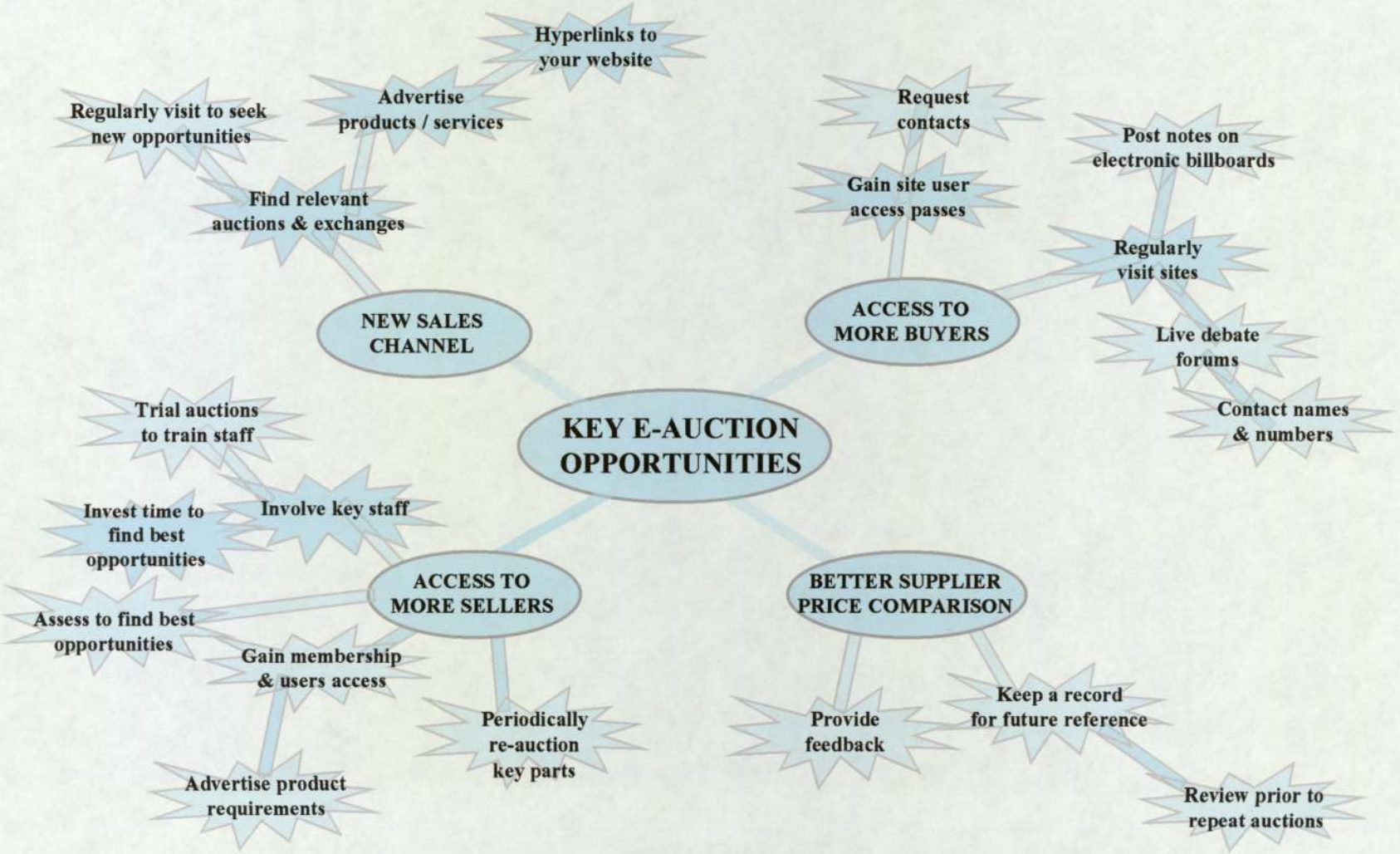
Daytime Contact No.

E-mail Address:

☐ Yes please send me a summary of your research!

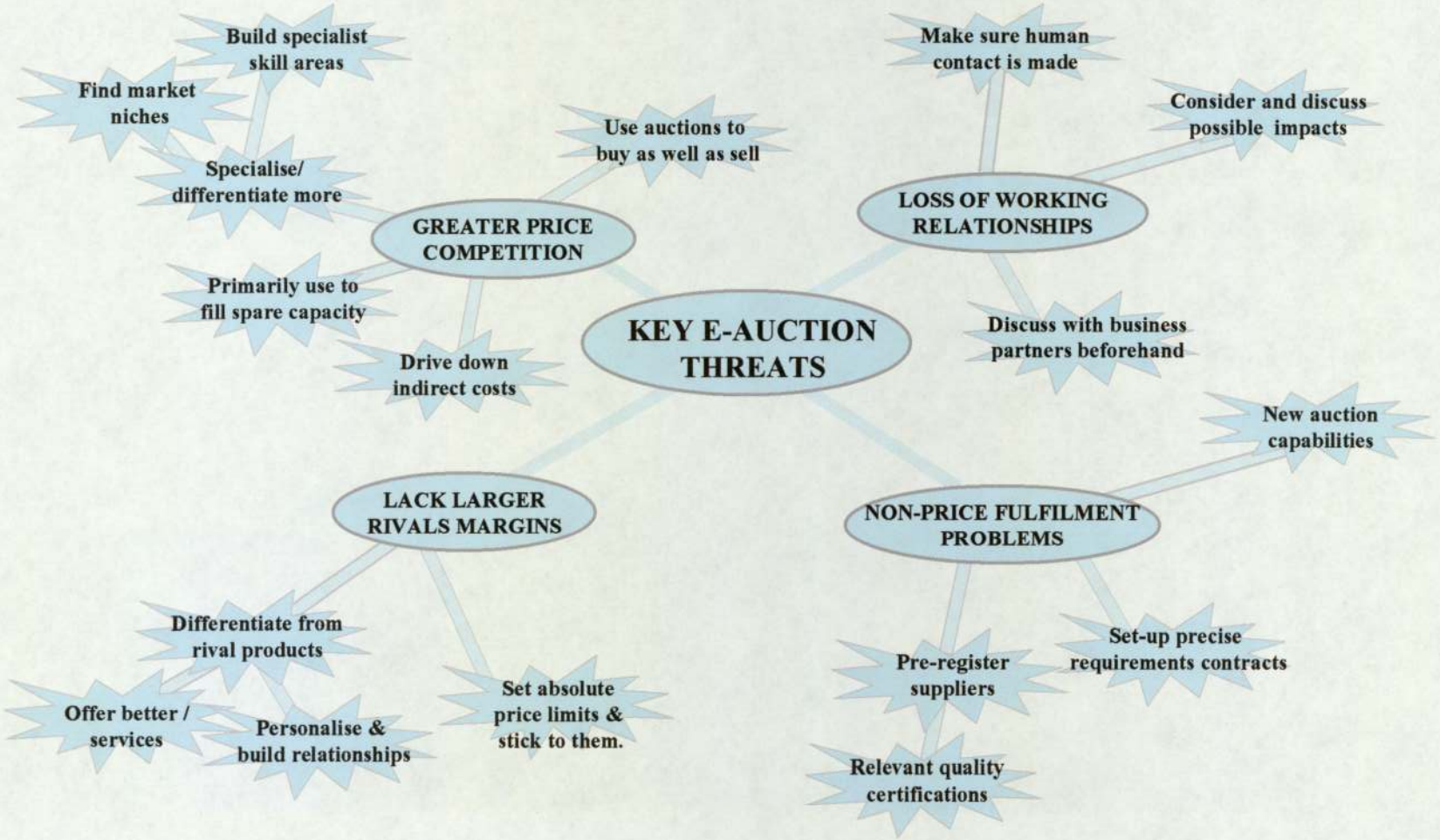
9.4 cont… The Brainstorm Questionnaire – Opportunities

Recommended actions for SMEs to take to create advantage.



9.4 cont… The Brainstorm Questionnaire - Threats

Recommended actions for SMEs to take to minimise threats.



9.5 Brainstorm Questionnaire Results

Recommendations Summary	Vendor 1	Vendor 2	Provider 1	Provider 2	B2B Consultant	Head of EC	Procurer 1	Procurer 2	B2B Analyst
Threats	8over8	8over8	Portum	BT/Commerce1	CGE&Y	BT Ignite	Whitbread	TRW	Line56
Greater price competition									
Use to buy as well as sell	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree
Use to drive down indirect costs	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Disagree	Agree	Disagree
Use to fill spare capacity	Unspecified	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree
Specialise/ differenciate more	Unspecified	Agree	Agree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree
- Build specialist skill areas	Unspecified	Agree	Agree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree
- Find market niches	Unspecified	Agree	Agree	Disagree	Agree	Strongly Agree	Agree	Agree	Agree
Loss of working relationships									
Make sure some human contact is made	Disagree	Disagree	Agree	Disagree	Unspecified	Strongly Agree	Agree	Strongly Agree	Agree
Consider and discuss possible impacts	Unspecified	Disagree	Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree
Discuss with business partners beforehand	Agree	Unspecified	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree
Non-price fulfilment problems									
Use new auction non-price factor capabilities	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Agree	Disagree	Unspecified	Agree	Unspecifie
Set- up precise requirements contracts	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Pre-register suppliers	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Agree
- ensure they meet required standards	Unspecified	Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree
Lack larger rivals margins									
Set absolute price limits and stick to them	Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Differentiate from rival products	Unspecified	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree
- Offer better services	Unspecified	Agree	Agree	Agree	Agree	Strongly Agree	Agree	Unspecified	Agree
- Personalise & build relationships	Unspecified	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree

9.5 cont… Brainstorm Questionnaire Results

Recommendations Summary	Vendor 1	Vendor 2	Provider 1	Provider 2	B2B Consultant	Head of EC	Procurer 1	Procurer 2	B2B Analys
	8over8	8over8	Portum	BT/Commerce1	CGE&Y	BT Ignite	Whitbread	TRW	Line56
Opportunities									
New sales channel									
Find relevant auctions & exchanges	Strongly Agree	Agree	Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Strongly Agree
- Regularly visit to seek new opportunities	Agree	Strongly Agree	Agree	Agree	Agree	Agree	Agree	Agree	Strongly Agree
- Advertise products and services	Agree	Agree	Agree	Agree	Unspecified	Unspecified	Agree	Disagree	Agree
- - Establish links to your own website	Agree	Strongly Agree	Agree	Strongly Agree	Unspecified	Agree	Strongly Agree	Agree	Strongly Agree
Access to more buyers									
Take up membership to key auctions/ exchanges	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Unspecified	Agree	Agree	Unspecified	Agree
- Use to gain new contacts	Agree	Agree	Strongly Agree	Agree	Unspecified	Agree	Agree	Unspecified	Strongly Agree
Regularly revisit sites	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Agree	Agree
- Use billboards to post notes	Agree	Agree	Agree	Disagree	Agree	Agree	Unspecified	Unspecified	Agree
- Enter forums & discussions	Unspecified	Agree	Agree	Agree	Agree	Agree	Agree	Unspecified	Agree
- - Use to gain new contacts	Agree	Agree	Unspecified	Agree	Agree	Agree	Strongly Agree	Unspecified	Strongly Agree
Access to more sellers									
Periodically re-auction key procurement items	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree	Agree	Strongly Agree	Agree	Disagree
Take up membership to key auctions/ exchanges	Unspecified	Agree	Strongly Agree	Strongly Agree	Agree	Agree	Agree	Unspecified	Agree
- Advertise product requirements	Unspecified	Disagree	Agree	Agree	Disagree	Unspecified	Agree	Unspecified	Unspecifi
Involve key staff	Agree	Unspecified	Strongly Agree	Agree	Agree	Strongly Agree	Agree	Strongly Agree	Agree
- Stage 'mock' auctions to train staff	Agree	Agree	Strongly Agree	Agree	Unspecified	Strongly Agree	Strongly Agree	Strongly Agree	Agree
- Carry out assessments of to find key opportunities	Unspecified	Agree	Strongly Agree	Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
Better supplier price comparison									
Provide feedback	Unspecified	Disagree	Agree	Agree	Disagree	Agree	Disagree	Agree	Agree
Keep a record for future reference.	Strongly Agree	Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree
- Request bidding reports from auctioneers.	Unspecified	Unspecified	Strongly Agree	Agree	Agree	Agree	Strongly Agree	Unspecified	Agree

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9.6.2 Internet URLs

www.Ariba.com – eProcurement Systems Software Vendor

www.ATKearney.com – E-auction Software Vendor

www.Brint.com - EC Commentator Site

www.BearStearns.com – US Research Group

www.CommerceOne.com – EC Systems Software Vendor

www.eBay.com - B2C & B2B e-Auction Specialist

www.Ignite.com – EC Services Provider

www.InformationWk.com – Business Commentator Site

www.Freemarkets.com – Independent e-Auction Specialist

www.HBSP.Harvard.edu – Harvard Business School Publications

www.InternetAuctionList.com – E-auction Commentator Site

www.Line56.com - EC Commentator Site

www.Oracle.com/b2b - Oracles B2B Portal

www.Purchasing.com – Purchasing Commentator Site

www.Tradeex.com - Independent E-auction Specialist

www.TRW.com –Automotive, Aerospace & Defence Industry Manufacturer

www.Upsidetoday.com – Information Technology Forum.

www.UKOnline.gov.uk – UK Government Information and Services Portal

www.Verticalzoom.com – B2B Commentator Site

www.Whitbread.com – UK-based Leisure Industry Provider

www.8over8.com - eProcurement Systems Software Vendor

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