Does This Site Deliver? B2B E-commerce Services for Developing Countries

Running Head: B2B E-commerce and Developing Countries

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Abstract

Many prognoses of B2B e-commerce and its potential for developing countries presume that it is a panacea enabling producer firms in these countries to sell their products and services more easily in external markets by reducing the transaction costs they must incur to participate in international trade. Drawing on data from a detailed analysis of 117 B2B e-hubs in the garments/apparel and agriculture/horticulture sectors, it is argued that the kinds of transaction-related support services available at these online trading platforms are more limited in their scope and functionality that is often assumed in the literature on B2B e-commerce development. The findings suggest that the mere application of, and access to, technologies such as the public Internet and the World Wide Web is not likely to enable a reduction in overall transaction costs that is sufficient to facilitate entry into new global markets by developing country producer firms.

Does This Site Deliver? B2B E-commerce Services for Developing Countries[1]

Internet-based market structures, and more broadly, the extension of global telecommunication networks, appear to offer producer firms in developing countries new exchange mechanisms that will enable them to compete on a more equal basis in world markets (Goldstein and O'Connor 2000; United Nations 2000). The new technologies, it is argued, enable cost reductions in infrastructure and service development, and potentially, substantial savings for firms that engage in business-to-business (B2B) e-commerce (Xie 2000). The received wisdom about B2B e-commerce is that its implementation has the capacity to enable producer firms in developing countries to sell their products and services more easily in external markets by potentially reducing the transaction costs they must incur to participate in international trade. It is expected that developing country producer firms will be able to achieve a previously unattainable international profile and that market barriers inhibiting the growth of developing country exports will be eliminated. B2B e-commerce also is seen as a means of reducing other trade-related transaction costs by providing opportunities to develop direct one-to-one trading relationships between buyers and sellers (Malone *et al.* 1987; Benjamin and Wigand 1995; Garcia 1995; Leebaert 1998; Malone and Laubacher 1998). Citing the rapid adoption of the Internet and World Wide Web, some analysts have even pointed towards the potential for 'leap-frogging' generations of information and communication technologies (Panagariya 2000). In this optimistic view, B2B e-commerce promises a radical shift in the way in which enterprises trade with one another.

Rooted in the neo-classical model where information asymmetries are seen to be the primary barrier to trade, this rose tinted view of B2B e-commerce rests on a technologically deterministic assumption; the application of, and access to, the Internet and the World Wide

Web, are sufficient to reduce the transaction costs associated with trading in international markets. There is little doubt that the public Internet[2] is a relatively inexpensive communication tool as compared to other communication services. When the telecommunication infrastructure is in place, its use can enable buyers in developed countries to have easier access to information about developing country producers. Its use also can expedite the ability of developing country suppliers, assuming that they have access to the Internet, to obtain knowledge of buyer requirements in developed countries. What is not clear is *whether access to the public Internet and the World Wide Web is providing a means of turning initial contacts between buyers and producers, or the wider availability of information about products and requirements, into completed transactions irrespective of whether these transactions are conducted or completed through electronic or non-electronic means*. Expanding the potential for completing transactions is crucial if the opportunities offered by the public Internet and World Wide Web are to be transformed into new business opportunities for firms in both developing and developed countries.

For B2B trading that occurs over the public Internet and World Wide Web, the primary spaces for transactions and interactions between firms are e-hubs.[3] Kaplan and Sawhney (1999: 2) define e-hubs as, "neutral Internet-based intermediaries that focus on specific industry verticals or specific business processes, host electronic marketplaces, and use various market-making mechanisms to mediate any-to-any transactions among businesses". To date, much attention has been given to the new types of business models adapted by the providers of these Internet-based trading platforms, or e-hubs, and to the ways in which they potentially add value to transactions between buyers and sellers (Benjamin and Wigand 1995; Wigand and Benjamin 1995; Wigand 1997; Kaplan and Sawhney 1999; Garicano and Kaplan 2000; Kaplan and Sawhney 2000).

In this paper, it is suggested that detailed consideration needs to be given to the e-commerce services offered at these trading platforms. It is hypothesised that the types of services available may limit and influence e-commerce implementation. In particular, it is argued that public Internet-based B2B e-hubs will only reduce transaction costs and facilitate international exchange if information provision is complemented by services that give buyers and sellers a low-cost means of acquiring confidence that transactions will be completed successfully. These complementary services are particularly important for trade between producers in developing countries and buyers in developed countries. Drawing on data from an exploratory study, this paper presents a snapshot of the B2B e-commerce services offered by e-hubs that were operational during the Spring and Summer of 2001 in two sectors: agriculture/horticulture and garments/apparel. The analysis indicates that the B2B e-commerce services available to user firms are influencing the structure and completion of transactions in ways that may not be as effective in opening the doors to global markets, for producer firms in poorer countries, as the rose tinted B2B e-commerce view suggests.

In Section II the analytical framework adopted for the study is set out. In Section III a review of the methodology used for the study is provided. The results are presented in Section IV. The last section draws out the implications of the research findings for policies geared towards the actual needs of producer firms in developing countries.

E-commerce and the Reduction of Transaction Costs

For developing country producer firms, the capacity to benefit from the diffusion of information and communication technologies (ICTs), and, in particular, from the implementation of e-commerce, requires both a reduction in the many facets of technological divides, and improved institutional arrangements to support commercial activities and increase international trade (Mansell and Wehn 1998; Patterson and Wilson 2000; Mansell 2001a). To date, most studies of 'e-readiness'[4] primarily have focused on the indigenous constraints with which firms

located in developing countries must contend (Bhatnagar 1999; Braga 2000; Hossain 2000; Mann 2000; McConnell International 2000; World Information Technology and Services Alliance 2000; McConnell International 2001). The interactions between such factors as connectivity, access, network security, capability/skills, and regulatory environments all, in important ways, influence whether firms can participate effectively in the global economy. However, these are not the only factors influencing the magnitude of the transaction costs facing developing country producer firms that seek to trade internationally by using B2B e-commerce. Very little attention so far has been given to the specific characteristics of B2B e-commerce services that are being offered to firms by e-hub providers.

According to transaction cost theory,[5] participating in a commercial exchange involves two types of costs (Milgrom and Roberts 1992; Garicano and Kaplan 2000). The first set is related to problems of co-ordination. These costs generally are perceived as "arising from the need to determine prices and other details of the transaction, to make the existence and location of potential buyers and sellers known to one another, and to bring the buyers and sellers together to interact" (Milgrom and Roberts 1992: 29). Costs of this kind can be divided into four categories (Wigand *et al*. 1997; Wigand 1997): (i) searching for products, services, sellers, and buyers; (ii) negotiating and fulfilling a contract; (iii) ensuring the contract terms are met; and (iv) adapting to changes during the tenure of the contract.

The second type of costs is related to problems of actor motivation. Information asymmetries and incompleteness, and imperfect commitment are the two primary categories of transaction costs associated with motivation. Costs relating to incomplete or asymmetrical information occur when potential trading parties "do not have all the relevant information needed to determine whether the terms of an agreement are mutually acceptable and whether these terms are actually being met" (Milgrom and Roberts 1992: 30). Similarly, costs associated with imperfect commitment arise from the "inability of parties to bind themselves to follow through on

threats and promises that they would like to make but which, having made, they would later like to renounce" (Milgrom and Roberts 1992: 29). Parties to a transaction incur motivation-related costs through the need to expend resources to monitor performance and to develop ways of enforcing compliance, such as contractual requirements and mechanisms of redress. They also must bear the costs of failing to enter into transactions that otherwise would have been mutually advantageous in the absence of information asymmetries and imperfect commitment.

Underpinning discussions about the potential for the public Internet and World Wide Web to globalise commerce, is the notion that B2B e-commerce offers the hope of significantly decreasing the transaction costs associated with trade across organisational and geographical boundaries. According to this view, the adoption and implementation of ICTs facilitates a "closer integration of adjacent steps in the value-added chain", thereby allowing firms potentially to reduce the costs associated with selecting suppliers, negotiating and fulfilling contracts, and ensuring that contract terms are met (Malone *et al.*, 1987: 484). This reduction in the 'unit costs' of co-ordination, it is claimed, will encourage firms to expand the number of transactions they conduct across both organisational and geographical boundaries (Malone *et al*. 1987; Davidow and Malone 1992; Benjamin and Wigand 1995; Malone and Laubacher 1998). Unfortunately, this view appears to overlook the importance of the procedures and processes, as well as the dynamics involved in transacting. It also is illustrative of a tendency, among some analysts, to discuss ICTs and 'the Internet' as artefacts or simple appliances, rather than as complex processes of inter-networking made possible by a series of inter-linked computer networks, a compendium of hardware and software, data flows, and human agents (Kling 1999; Paré 2000). The significance of the distortions that may arise from this techno-centric conception cannot be underestimated. The failure to consider the processes and rules that underpin B2B e-commerce can lead researchers and policy makers to overestimate the potential savings that may be

incurred while underestimating the new costs that firms in both developing and developed countries may experience from participating in electronic transactions.

To this end, recent studies have offered evidence challenging assertions about the potential for proprietary B2B networks and the public Internet to reduce transaction costs and to increase the scope for inter-organisational and international trading (Steinfield *et al.* 1995; Chircu and Kauffman 1999; Kraut *et al.* 1999; Chircu and Kauffman 2000; Steinfield *et al.* 2000). This highlights the need for detailed inquiries into the ways in which B2B e-hubs structure relationships between buyers and sellers. Clearly, e-commerce can drastically reduce the costs of making "the existence and location of potential buyers and sellers known to one another" (Milgrom and Roberts 1992: 29). In the simplest format, Internet-based B2B e-hubs may simply provide an e-commerce environment where 'strangers' can meet. In these instances, users are encouraged to participate in commercial transactions with one another but have direct access to very few, or no, transaction-related support services. However, for the other types of transaction costs discussed above to be reduced, B2B e-hubs would need to offer, or make available, packages of services such as payment/settlement mechanisms, insurance, logistic systems, inspection, certification of quality, and customs clearance. Without low cost access to such services, developing country producers might find it prohibitively expensive to arrange payment and the transportation of products. In addition, transactions would be facilitated by the provision of services related to actor motivation. This might include the screening of potential trading parties, the provision of secure payment systems, certification of parties with regard to aspects such as quality and environmental standards, verification of the accuracy and relevance of the information provided by trading parties, and the inspection of products offered for sale. The direct or indirect provision of these services might be particularly important for B2B e-commerce across national boundaries because information asymmetries (about both firms and their products) are likely to be higher, and other means of redress less effective and more expensive.

Therefore, B2B e-hubs may serve to increase the opportunities for developing country firms to conduct trade internationally, but the extent to which this will occur is a matter for empirical verification.

The foregoing discussion suggests the need for a cautious approach to assessing claims about the potential for a B2B e-commerce environment based on the public Internet and the World Wide Web to help developing country producer firms gain improved access to international markets. In order to provide a means for critically assessing some of the claims about the implications of B2B e-commerce for producer firms located in developing countries, the methodology developed in the next section was designed to assess the nature of the support services on offer for transactions that occur at B2B e-hubs.

Methodology

In order to assess the extent to which B2B e-commerce implementation has the capacity to assist developing country producer firms to secure improved access to new international markets it is important to clarify what B2B e-commerce entails. A variety of definitions of B2B e-commerce has been employed by researchers and policy makers (Wigand 1997; World Trade Organization (WTO) 1998; OECD 2000; UNCTAD 2000). In its broadest conception, B2B e-commerce includes any form of economic activity conducted over computer-mediated networks (Wigand 1997). Narrower definitions focus on the public Internet as the principal network involved in B2B e-commerce. In this study, the focus is on public Internet-based trading platforms that are intended to facilitate B2B e-commerce. This choice was made in order to ensure a manageable number of illustrations of B2B e-commerce related sites, and in the light of the increasing attention that is being given to commerce that uses an Internet platform to support some aspects of trade.

The study is based on an analysis of public Internet-based B2B e-commerce in two sectors: garments/apparel and horticulture/agriculture. The rationale for this focus was, first, that

these sectors are critical for employment and export growth for developing countries. In manufacturing, garments/apparel have been the most important export sector in South and South East Asia (International Labor Organization 1996). In agriculture, fruits and vegetables have been particularly significant for sub-Saharan African countries (Dolan and Humphrey 2000). Secondly, B2B e-hubs supporting the electronic exchange of these products were in operation in mid-2001. A detailed examination of the services offered at these exchange platforms was expected to provide new insights into how trading relationships are being constructed on the public Internet, and about the likely potential for producer firms in developing countries to establish such relationships.

Understanding how B2B e-commerce implementation is affecting firms in developing countries is relatively uncharted territory.[6] The core concern for this exploratory study was the way that transactions are structured and handled when some form of B2B e-commerce is introduced. To address this issue, the methodology was devised to focus on the way B2B e-hubs may be mediating exchanges between potential trading parties. The framework of analysis applied in this study was developed to give specific attention to the 'commerce' rather than the 'digital' or 'electronic' aspects of B2B e-commerce (Hawkins *et al.* 1999). This emphasis on 'commerce' is decisive for understanding how B2B e-commerce implementation might influence the prospects for international trade for producer firms in developing countries because it concentrates attention on the processes and rules that potential trading parties must grapple with to participate effectively in an exchange. The approach was designed to focus on two components of commercial trading that are common to all transactions:[7] transaction preparation and completion (Verhoest and Hawkins 2000). Transaction preparation involves marketing and advertising, and includes all the information exchanges that are associated with a transaction, as well as information related to problems of actor motivation. Transaction completion encompasses

ordering, billing and payment, as well as the transfer of products and services from sellers to buyers within supply chains, and to final customers.

The data collection strategy consisted of two phases. The first, search phase, took place over six weeks in April and May 2001. B2B e-hubs were randomly selected by conducting a keyword search using the *Google* and *Copernic2000* search engines and by visiting their Web-sites.[8] The goal was to identify no less than 50 B2B e-hubs for each sector that were providing user firms with the means to engage in B2B e-commerce using the public Internet.[9] This technique identified 177 B2B e-hubs in each sector. The total number of B2B e-hubs in the initial sample was thus 354.

The second phase of data collection involved visiting the Web-sites of the initially selected B2B e-hubs to conduct a 'content analysis' using a taxonomic instrument that was developed to operationalise the conceptual focus on transaction preparation and completion.[10] The first part of the taxonomic instrument focuses on specific attributes, and the corresponding variables, associated with the process of transaction preparation. Table 1 lists these, and provides a motive for their inclusion. The second part of the taxonomic instrument focuses on specific attributes, and the corresponding variables, associated with the process of transaction completion (see Table 2). As the mapping of the e-hubs proceeded, 118 B2B e-hubs were eliminated from the original garment/apparel sample, and 119 were eliminated from the agriculture/horticulture sample. These e-hubs fell into one of the following categories: (i) no longer trading; (ii) provider of network operation system; (iii) failure to meet the criteria established for inclusion (i.e. e-hubs that were found not to support trade in either fruits, vegetables, flowers, and/or agro-food products); and (iv) provider of a private proprietary B2B e-commerce network.[11] The research sample analysed using the taxonomic instrument consisted of 58 agriculture/horticulture and 59 garments/apparel B2B e-hubs designed to assist users with the sourcing and procurement of products.

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Insert Tables 1 and 2 about here

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The information in Table 3 shows the geographical distribution of the e-hubs included in the research sample. Nearly one half of the agriculture/horticulture B2B e-hubs were based in North America (49%), whereas, for the garments/apparel sector, slightly more were based in Asia (39%) than in North America (36%).

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Insert Table 3 about here

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The B2B e-hubs included in the research sample also were classified on the basis of the exchange structures that they appeared to support. In total, five types of exchange structures were identified as a result of the preliminary sorting of the total of 354 e-hubs:[12]

? ***e-Retail*:** E-hub provider sells products/services to users. Visitors to the e-hub, and/or a specific exchange within the hub, take on the role of a buyer, and the site provider assumes the role of a seller. These platforms parallel the exchange processes common on business-to-consumer (B2C) web sites.

? ***Direct Buyer/Seller Links*:** E-hub provider may offer a means for sellers to post direct links from the hub to their own company Web-sites. Potential buyers can follow these links to a

vendor's Web-site in order to participate in a transaction. Alternatively, there may be no link and only product and contact information about particular firms (e.g. electronic showrooms).

? ***Online Auctions:*** Transactions of this kind may take three forms: (i) *Listing-Agent Auctions* where the e-hub provider acts as an agent running Web-based auctions on the behalf of independent sellers who list their own auctions; (ii) *Merchant Auctions* where no independent sellers are identified, and the e-hub provider acts as a retailer which happens to conduct its transactions through an auction; (iii) *Hybrid Auctions* where various elements of the latter categories are combined (Lucking-Reiley 2000). The actual auctions may be structured as ascending-bid auctions, reverse auctions, time-delayed auctions, and real-time auctions (Klein and O'Keefe 1999).

? ***Request for Quotes:*** Transactions in B2B e-hubs offering this type of exchange mechanism consist of a seller or buyer posting a message to a forum within the hub, or to individual members, indicating a desire to buy/sell particular items. Buyers and sellers may be able to specifically select the firms to whom their quotes are sent, as well as the individual firms from whom they receive quotes. Messages generally include specific price information.

? ***Trade Leads/Classifieds:*** In this instance, buyers and/or sellers post messages to a forum within the B2B e-hub or to individual members indicating a desire to buy/sell particular items. Buyers and sellers do exert control over which individual user firms of the exchange can, or cannot, access messages posted to the forum. Messages generally do not include specific price information.

Results:

The analysis of the data set produced by applying the taxonomic tool described in the preceding section revealed the following characteristics about the B2B e-commerce services

being supported in mid-2001 by B2B e-hubs for the agriculture/horticulture and garments/apparel sectors.

Transaction Preparation

Some of the B2B e-hubs examined supported various combinations of the exchange structures listed above. Overall, the 58 agriculture/horticulture B2B e-hubs supported a total of 77 exchanges, and the 59 garments/apparel hubs supported 107. The data in Table 4 show that 28 per cent (N=16) of the agriculture/horticulture and 63 per cent (N=37) of the garment/apparel B2B e-hubs offered user firms access to more than one type of exchange structure.

Table 5 gives the frequency of observation of the exchange structures identified in the sample. By far, the most common exchange structure, in both sectors, was the posting of trade leads, or classified ads, by buyers and sellers. The 'e-commerce' element in these instances often was ambiguous. This is because 'transacting business online' in this context generally seems to refer to a process where potential parties to an exchange simply identify other parties with whom they may, or may not, attempt to enter into a trading relationship. These buyers and sellers rarely appeared to have direct relationships as far as could be detected on the basis of mapping Web-site attributes. This suggests that this particular type of exchange mechanism, or the B2B e-hubs supporting them, may be used by firms only to identify a potential trading partner with whom they may, or may not, subsequently seek to develop a longer term trade relationship that may, or may not, be conducted through the B2B e-hub.

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Insert Tables 4 and 5 about here

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The findings with respect to the likely ability of Internet and World Wide Web access to facilitate B2B e-commerce trade across international boundaries were mixed. The data in Table 6 seem to support the argument by Kraut *et. al.* (1999), and Kaplan and Sawhney (2000), that the types of goods that are exchanged in electronic marketplaces influence the extent to which exchanges occur. A greater propensity explicitly to accept international orders by exchanges in the garments/apparel sector was observed than for those geared towards the agriculture/horticulture sector. Some three-quarters, or 71 per cent (N=76), of the exchanges for garments/apparel accepted international orders. In contrast, only a third, or 34 per cent (N=26), of the exchanges for the agricultural/horticulture sector accepted such orders. For 36 per cent (N=26) of the agricultural/horticulture, and 21 per cent (N=22) of the garments/apparel exchanges, it was the buyers and sellers, rather than the providers of B2B e-hubs, that determined whether or not to accept international orders (see Table 6).

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Insert Table 6 about here

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The decision to enter into public Internet-based B2B trading requires a choice about which e-hub and exchange structure will be used. According to transaction cost theory, the decision outcome is dependent upon the option that provides the largest potential saving in transaction costs. For buyers and sellers alike, it was expected that this decision would be influenced, in part, by the focus of individual B2B e-hubs, the types of information - general and specific - that was available to user firms, the types of goods that were exchanged within the B2B e-hub, the types of exchange structures that were supported, and the support services available. Tables 7 and 8 provide a breakdown of the frequencies with which specific kinds of

general information resources were available at agriculture/horticulture and garments/apparel B2B e-hubs. The data reveal that the majority of B2B e-hubs were providing visitors with multiple 'general' information resources. In the research sample, 72 per cent (N=42) of the agriculture/horticulture and 58 per cent (N=34) of the garments/apparel e-hubs offered visitors access to two or more kinds of 'general' information resources.

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Insert Tables 7 and 8 about here

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In terms of the specificity of the information content, for 85 per cent (N=49) of the agriculture/horticulture B2B e-hubs it was sector specific, with 47 per cent (N=27) offering only information with a region-specific orientation (i.e. information relating only to the country and/or continent where the e-hub provider was based). Of the 59 garments/apparel B2B e-hubs in the research sample, 84 per cent (N=49) offered only sector specific information content, with 29 per cent (N=17) offering only information with a region specific orientation.

Another aspect of the information component of an exchange relates to the product and partner-related information to which a firm has access prior to deciding whether or not to place an order with another firm. These factors directly influence the exchange related co-ordination and motivation costs associated with negotiating and fulfilling a contract, and ensuring that contract terms are met. When it comes to the amount of product and partner information that buyers and sellers immediately have at their disposal before entering into an exchange, '*user beware*' appears to be the norm within the B2B e-hubs analysed here. Tables 9 and 10 provide a classification of the kinds of product and trading partner information that were made available to firms seeking to participate in B2B e-commerce in the agriculture/horticulture and garments/apparel sectors. The data provide the frequency of observation of product specification

related information, product quality assurance mechanisms, and buyer/seller related assurance mechanisms. The data are stratified on the basis of the exchange structures supported by the B2B e-hubs in the sample. With regard to product specification information, the most common practice, regardless of the exchange mechanism, was to allow buyers and sellers to determine for themselves the amount and type of product information made available to potential trading partners. This included deciding whether or not to provide product photos, product grading information, and certification information. This approach was identified in 74 per cent (N=57) of the agriculture/horticulture and 84 per cent (N=90) of the garments/apparel exchanges. In other words, information asymmetries persist.

The evidence from the research sample suggests that providers of agriculture/horticulture exchanges play almost no direct role in assisting buyers and sellers to assess *a priori* the quality of the goods they may wish to purchase from a potential trading partner. Referring to Table 9, it can be seen that the ability of buyers to obtain product samples and/or lab reports about the products they wished to purchase was specifically referred to at an exchange site only in three instances. The data in Table 10 suggest that such information may be somewhat more accessible for traders in the garments/apparel sector. In this group, 10 per cent (N=11) of the exchanges specifically referred to the ability of buyers to acquire lab reports, while in 17 per cent (N=18) of the exchanges, the provision of product samples was mentioned. When such services were offered, it was unclear whether they were provided at prices that would be affordable for developing country producer firms.

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Insert Tables 9 and 10 about here

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Facilities inspection services and information about product certification often did not appear to be readily accessible to potential trading parties. When available, such information did not tend to be furnished directly by B2B e-hub providers. Rather, these services primarily were accessible by contacting third parties or 'strategic partners' such as Société Générale de Surveillance (SGS) that, in some instances, are linked to individual B2B e-hubs. The data in Table 9 show that, within the research sample, user firm access to facilities inspection services was specifically referred to in only 10 per cent (N=8) of the 77 exchanges serving the agriculture/horticulture sector. Product certification was mentioned in only 13 per cent (N=10) of the 77 exchanges in this group. The data in Table 10 indicate that user firms of garments/apparel exchanges are more likely to have access to facilities inspection services than their counterparts in the agriculture/horticulture sector. Specific mention of this service was observed in 38 per cent of the 107 garments/apparel exchanges in the research sample. However, access to, or mention of, product certification information were virtually non-existent in this sector, and were alluded to only in two instances.

As was noted above, the amount and type(s) of information that can be obtained about a potential trading partner may also influence the criteria a firm uses to decide whether or not to engage in B2B e-commerce with an unknown party. To this end, the kinds of membership criteria that users of B2B e-hubs are required to meet may influence the ability of firms to engage in public Internet-based B2B e-commerce. In order to participate in online trading, the vast majority of exchanges examined in both sectors required users to register with the B2B e-hub provider (see Tables 9 and 10). There was a high degree of variation in the types of information required from firms in order to register successfully. For example, to gain access to some trading platforms it was necessary to do little more than submit a name and some basic contact information. At the opposite end of the spectrum, there were B2B e-hubs, and/or specific exchange structures,[13] where the registration requirements ranged from the provision of

letters of reference from existing and/or previous trading partners to the submission of confidential corporate profiles. There also appeared to be a high degree of variation in the extent to which registration-related information is scrutinised by B2B e-hub providers. Only 32 per cent (N=25) of the agriculture/horticulture hubs in the sample appeared to employ some form of screening procedure to assess potential members. The amount of participant screening activities was more than twice this for the garments/apparel sector, with 65 per cent (N=70) of hubs undertaking this procedure (see Tables 9 and 10).

When potential trading partners have no prior relationship with one another, the registration requirements and the intensity of the screening procedures applied by the a B2B e-hub provider may, or may not, be considered sufficiently stringent to generate trust between 'strangers'.[14] Before entering into an exchange arrangement with a 'stranger' access to, among other things, information about credit history, annual turnover, and previous trading associates, is likely to be necessary to evaluate the party that the firm will deal with if it engages in a transaction. In view of the data obtained from the B2B e-hubs in the research sample, it seems that the degree of partner specific information directly available to potential trading parties is rather limited. For instance, data in Tables 9 and 10 show that explicit mention of the ability to access information about a potential trading partner's credit and/or trading history was made in only nine per cent (N=7) of the agriculture/horticulture and 22 per cent (N=24) of the garments/apparel exchanges. It should be noted that, in all cases, member credit rating information was available only by contacting a third party or 'strategic partner' that was linked to the B2B e-hub (i.e. Dun and Bradstreet, The CIT Group). Similarly, in each sector the number of exchanges in which participants had access to buyer and seller reputation statements based on the experiences of other members of particular exchanges was negligible; five in the case of agriculture/horticulture, and seven for garments/apparel (see Tables 9 and 10).

In terms of the ability of potential trading parties to obtain information about one another, the extent to which firms appear to be left to their own resources is highlighted by the fact that virtually none of the B2B e-hubs in either sector accepted liability for the information posted on their web-sites, for the quality of the goods exchanged between trading parties, or for the transactions taking place through the exchanges they were providing. Moreover, 57 per cent (N=33) of the agriculture/horticulture and 37 per cent (N=22) of the garments/apparel B2B e-hubs explicitly noted on their Web-sites that they did not mediate business communications and/or the transactions between trading parties. In the 'terms and conditions of use' of these public Internet-based trading platforms the providers stated that it was the user's responsibility to evaluate whether they might enter into an exchange agreement with another party.

Transaction Completion

Once the parties to an exchange decide to engage in a trade, the processes associated with the second aspect of a transaction -'completion'- become operational. These processes relate to the ability of trading partners to carry through with the claims they make. Specifically, these claims involve the ability to provide a particular product or service at a mutually agreed price, the capacity to ensure the delivery of a product or service, and the ability of the purchaser to pay for it. Transaction completion can be divided into two components: trade settlement and product delivery.

In the light of claims about the potential of B2B e-commerce as a platform for online settlement, it was surprising to find that relatively few of the B2B e-hubs in the research sample explicitly stipulated, that once trading parties had agreed to enter into an exchange, payment would take place through the use of electronic payment mechanisms (see Table 11). This arrangement was observed only in 12 per cent (N=9) of the agriculture/horticulture and three per cent (N=3) of the garments/apparel exchanges that the B2B e-hubs supported. In line with the high degree to which user firms appeared to be left to their own resources during the transaction

preparation phase of an exchange, the evidence in this study suggests that, in the majority of the sector exchanges examined, it also was left to the trading parties to decide for themselves, the terms and payment mechanism to be used to successfully complete a transaction. For 73 per cent (N=56) of the agriculture/horticulture exchanges, the B2B e-hub provider played no role in the transaction settlement process. It was the parties to the exchange that appeared to establish the payment conditions under which remuneration would proceed. This was similarly so for 85 per cent (N=91) of the garments/apparel exchanges. Further analysis of the data set resulting from the Web-site attribute mapping exercise suggests that this 'hands-off' approach was not influenced by the geographical location of the firm providing the B2B e-hub service.

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Insert Table 11 about here

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The data in Table 12 suggest that B2B e-hub providers seldom play a direct role in making arrangements for the delivery of goods between trading partners. For 75 per cent (N=58) of the agriculture/horticulture and 84 per cent (N=90) of the garments/apparel exchanges, it was the trading parties that appeared to assume responsibility for arranging the delivery of the goods once they had been purchased. However, potential trading parties are not left to their own devices entirely. Statements explicitly referring to the availability of, or links to, logistical support services offered by third parties associated with the B2B e-hub provider were observed at 36 per cent (N=21) of the agriculture/horticulture and 50 per cent (N=30) of the garments/apparel B2B e-hubs.

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Insert Table 12 about here

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The kinds of support services that users could access included shipping and delivery services, facilities inspection services, financial services, customs brokering, insurance services, and travel services (see Table 13). For example, shipping and/or delivery support services were accessible to trading parties in 34 per cent (N=26) of the agriculture/horticulture and 53 per cent (N=57) of the garments/apparel exchanges supported by the B2B e-hubs in the research sample.

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Insert Table 13 about here

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The data collected from this exploratory study also suggests that the vast majority of B2B e-hub providers do not view the issue of dispute resolution as falling under their remit. Of the 58 agriculture/horticulture hubs examined, only five indicated that they would assist trading parties in the event of a dispute; only one of the 59 garments/apparel B2B e-hubs did so. In fact, a mention of dispute resolution was observed at only 29 per cent (N=17) of agriculture/horticulture, and at 37 per cent (N=22) of the garments/apparel B2B e-hubs. It should be noted that, with the exception of the six cases noted above, the data indicate that when this issue was mentioned, the common practice in both sectors was for the service provider neither to mediate nor to arbitrate disputes that may arise between members of an exchange. Buyers and sellers were urged to use 'due diligence' to ensure that items represented at the exchanges are true to their claims and to assess the risks and conditions carefully before transacting.

The application of the taxonomic instrument to map Web-site attributes demonstrates that a wide variety of characteristics were present at the B2B e-hubs in the research sample. In spite of the differences that exist in terms of types of exchange structures supported by B2B e-hubs, overall, the evidence suggests that the dynamics of public Internet-based B2B e-commerce in the sectors considered here have barely evolved beyond the provision of 'match-maker' services. However, in line with other recent studies (Senn 1998; Threlkel and Kavan 1999; Johnston and Mak 2000; Mansell and Nioras 2001), there is some evidence from the garments/apparel sector, that B2B e-hubs were supporting the operation of Electronic Data Interchange-like systems in the form of 'Request for Quotes' exchange structures. In these

instances, buyers and sellers could select the firms to whom their quotes were sent, as well as those firms from whom they could receive quotes.

The results of this Web-site attribute mapping exercise also point to another related observation about the characteristics of the B2B e-commerce services being offered to firms by B2B e-hub providers. Namely, that the public Internet-based B2B e-commerce services available in mid-2001 appeared to focus primarily on the reduction of transaction costs associated with the search by firms for products, services, sellers, and buyers. In contrast, direct access to affordable services that help to reduce the transaction costs associated with negotiating and fulfilling contracts and with ensuring that contract terms between trading parties are met, appear to be rarely accessible. This observation challenges assumptions about the potential savings that firms in developing countries can incur by entering into Internet-based B2B e-commerce relationships in mid-2001. Although cost reductions associated with the search for potential trading partners may accrue to developing country producer firms as a result of their access to the B2B e-hubs, the evidence from this exploratory study suggests that the same may not be true for the other co-ordination and motivation related costs associated with transaction preparation and completion. Overall, these findings appear to support the hypothesis that the kinds of B2B e-commerce services available on the public-Internet to user firms in mid-2001 do not facilitate the preparation or completion of transactions across international boundaries as easily as most of the e-commerce rhetoric suggests, at least for the sectors examined here.

Conclusions

How, whether, and on what terms producers in developing countries will benefit or lose out as a result of technological and organisational changes induced by B2B e-commerce is likely to vary geographically and to depend upon the economic resources and capabilities of different firms and countries. This exploratory study examined whether Internet-based B2B e-commerce is likely to help developing country producer firms to secure improved access to international

markets by potentially reducing the transaction costs associated with participating in international trade. The results of this detailed analysis of 117 B2B e-hubs cast doubt on the view that the application of, and access to, technologies such as the public Internet and the World Wide Web are likely to enable a reduction in overall transaction costs that is sufficient to facilitate entry into new global markets by developing country producer firms. In seeking to participate in international B2B e-commerce, producer firms in developing countries must not only contend with domestic resource constraints but also with B2B e-hub providers that do not yet appear to be providing the types of services that these firms would need to engage more efficiently and effectively in transaction preparation and completion.

The B2B e-hubs examined here primarily focus on sourcing and procurement by creating public Internet-based commodity exchanges, or spot markets, within specific settings. The evidence from this exploratory study shows that the norm within a large number of B2B e-hubs primarily was to offer a means of minimising information search costs. Identifying potential trading partners is clearly a core element of any exchange process. However, it is unclear whether merely bringing 'strangers' together into an on-line environment is sufficient to achieve a substantial reduction in overall transaction costs, at least one that produces real long-term economic gains. The evidence from this study suggests that, for the sectors examined here, the dominant ethos for transactions that take place in B2B e-hubs, regardless of the exchange structure used by potential trading parties, is '*buyer and seller beware*'. Information about product certification, product quality, or trading partner reputation generally is not readily or directly accessible at the hubs.

Although the increased visibility of a firm's products and the potential for a reduction in information asymmetries are likely to be viewed as a positive development by most firms, there are additional obstacles that producer firms in developing countries must overcome to ensure the successful completion of a transaction once a potential trading partner has been identified

(Maitland 2001). Physical infrastructure barriers, and particularly inadequate telecommunication systems, also impede the ability of producer firms in developing countries to participate in global B2B e-commerce relationships. In addition, other barriers to international trade such as a limited skills base, the weakness of domestic regulatory regimes, as well as inadequate transportation and distribution networks, further limit the capacity of firms in poorer countries to benefit from the implementation of e-commerce (Nielson and Morris 2001). Consequently, the establishment of a public Internet-based B2B e-commerce environment that succeeds in helping developing country producer firms to gain access to international markets requires the provision of complementary services that reduce the transaction costs associated with negotiating and fulfilling contracts and with ensuring contract terms between trading parties are met. Moreover, these e-commerce services must be readily accessible at prices that are affordable to user firms.

In spite of the apparent need for direct access to affordable services that support transaction preparation and completion, most B2B e-hub providers in the agriculture/horticulture and garments/apparel sectors do not appear to be prepared to assist producer firms in developing and developed countries directly with logistics, or to oversee the settlement process. Instead, it is the users of these trading platforms that generally must decide on the settlement mechanisms that are used.[15] They also must decide whether to employ third parties that offer support services in order to make assessments about whether or not to engage in trade with another firm, and to arrange for delivery of the product.

Given the potential technological, economic, and legal risks for B2B e-hub providers, they appear to have little incentive to directly facilitate the provision of support services to the users of their trading platforms. However, for many developing country producers, there are two reasons that the inability to access these services directly through a B2B e-hub at the first contact may diminish the potential to achieve reductions in the overall transaction costs which with they must contend when engaging in international trade. First, the prices charged for

services by third parties to whom producer firms must have recourse to ensure that the terms of an agreement they may enter into with a trading party are mutually acceptable, and that the terms are met, may not be sustainable for developing country firms.[16] The cost of obtaining these services directly influences the potential level of transaction cost savings that may be accrued. Second, the transaction costs that developing country firms must contend with are influenced by the overall structure of costs within the value chain and the way in which each of the components of transacting is specifically altered by cost reductions, and increases, associated with the particular components of trading in the on-line and off-line world. All told, the extent to which merely having access to public Internet-based B2B e-commerce that is mediated by B2B e-hubs is likely to succeed in reducing the overall transaction costs of developing country producer firms appears to be very limited.

The evidence in this exploratory study also suggests that public Internet-based B2B e-hubs for both the agriculture/horticulture and garments/apparel sectors are ill-prepared to facilitate trade of labour intensive products such as garments and apparel, and agriculture/horticulture produce. It is well known that, the extent to which firms can benefit from participating in e-commerce is related, in part, to the degree of standardisation, the complexity of valuation, and the ease of describing goods or commodities being exchanged (Schmitz 2000). The commercial buyers of garments and apparel, and agriculture/horticulture products present a challenge for providers of B2B e-hubs because they do not purchase solely on the basis of price. They are also concerned with factors such as reliability, product variety, and product quality (Dolan and Humphrey 2000). In spite of this, the B2B e-hubs studied here did not generally appear to be able, or willing, to directly provide the types of information needed to allow buyers to make judgements about these characteristics.

Discussions of e-commerce ‘readiness’ that focus primarily on the resources available to trading parties located in developing countries need to take into account the specific

characteristics of the B2B e-commerce services that are being provided at public Internet-based trading platforms. The evidence presented here suggests that these services are more limited in their scope and functionality than is often assumed in the literature on B2B e-commerce development. Greater attention needs to be given to establishing specifically how, and at what cost, producer firms in developing countries can obtain supporting services required to enable them to enter into global trade on more favourable terms. Insofar as these services are not being bundled directly into the new trading platforms, policy makers would benefit from careful assessments of the availability of indirect on-line service access or of off-line service alternatives. The costs, skills, organisational, and other features of the provision of services that are essential for the successful conduct of international trade must be considered if policies to promote e-readiness are to have a chance of succeeding on terms that are beneficial to developing country firms.

Further research on the motivations of the firms that are developing Internet-based B2B trading platforms and on the experiences of traders in developing countries is likely to clarify the potential benefits of B2B e-commerce and its influence on the performance of firms in developing countries that seek to trade internationally through the use of this medium.[17]

Table 1: Elements of Transaction Preparation for Internet-based B2B E-commerce

Attribute	Motivation	Variables
Content and Type of Goods Exchanged	These features may act as promotion and marketing tools, as well as play a role in assisting a potential user to decide whether to use a specific e-hub, and/or specific exchange structures within an e-hub. The information that is available may also play a role in influencing what a user orders, and from whom. Likewise, the specific types of goods/products available at a particular e-hub plays an important role in attracting potential clients.	1. Sector focus of the e-hub. 2. Type(s) of information provided. 3. Type(s) of goods exchanged.
Ordering	The decision to participate in an electronically mediated transaction is likely to be influenced by concerns about security and trust. E-hubs may confer a high level of added-value to users by giving them the confidence to participate in trade with 'strangers'. Organisations are unlikely to gravitate towards e-marketplaces if they cannot have some degree of assurance that the products they wish to purchase meet certain specifications, and that those with whom they are dealing (both the service provider and other members) are reputable.	1. Product specification information. 2. Product related quality assurance mechanisms. 3. Buyer/Seller related quality assurance mechanisms.

Table 2: Elements of Transaction Completion for Internet-based B2B E-commerce

Attribute	Motivation	Variables
Logistics	Delivery of goods to a buyer is a key element of an exchange. When deciding whether to make a purchase, a buyer must have a reasonable degree of confidence that the good will be delivered. E-hub providers may elect to offer members varying degrees of logistical support as part of their overall value chain.	1. Extent to which e-hub participates in delivery of product/goods. 2. Types of logistical support available.
Settlement	Parties to an exchange in an e-commerce environment have an array of settlement mechanisms at their disposal. The types of mechanisms used may limit the ability of producer firms in developing countries from participating effectively in transactions supported by the exchange venue.	1. Types of settlement mechanism employed in the venue. 2. Redress mechanisms

Table 3: Geographical Dispersion of E-hubs in the Sample

	Agriculture/HorticultureB2B e-Hubs (N = 58)	**Garments/Apparel B2B e-Hubs (N = 59)**
Location of Portal	**Percentage of Hubs**	**Percentage of Hubs**
North America	28 *(49%)*	21 *(36%)*
Asia	11 *(19%)*	23 *(39%)*
Europe	10 *(17%)*	8 *(16%)*
Africa	5 *(9%)*	2 *(3%)*
Middle East	*0*	3 *(3%)*
Oceania	2 *(3%)*	0
Unknown	2 *(3%)*	2 *(3%)*
Total	**100%**	**100%**

Table 4:Exchange Structure Combinations Available at B2B e-Hubs

	Agriculture/Horticulture e-Hubs (N = 58)	**Garments/Apparel e-Hubs (N = 59)**
One Exchange Structure Only	**Number of Hubs**	**Number of Hubs**
Trade Leads/Classifieds	29	9
Request for Quotes	5	1
Online Auction	2	3
e-Retail	3	2
Direct Buyer/Seller Link	1	4
Unknown	2	3
Sub-Total	42 *(72%)*	22 *(37%)*
Two Exchange Structures	13 *(22%)*	28 *(48%)*
Three Exchange Structures	3 *(6%)*	7 *(12%)*
Four Exchange Structures	0	2 *(3%)*
Total	**100%**	**100%**

Table 5: Frequency of Exchange Structures Supported by B2B E-Hubs

Type of Exchange Structure	**Agriculture/Horticulture Exchanges (N=77)**	**Garments/Apparel Exchanges (N=107)**
Trade Leads/Classifieds	43 *(56%)*	39 *(36%)*
Request for Quotes	10 *(13%)*	18 *(17%)*
Online Auction	8[A] *(10%)*	20[B] *(19%)*
e-Retail	7 *(9%)*	3 *(3%)*
Direct Buyer/Seller Link (includes link to seller web page, storefronts, showrooms)	7 *(9%)*	24 *(22%)*
Unknown	2 *(3%)*	3 *(3%)*

[A] Of these, five were listing-agent auctions, two were merchant auctions, and one had insufficient information to make a categorisation.

[B] Of these 20 auctions, 19 were listing-agent auctions, one had insufficient information to make a categorisation.

Table 6: Acceptance of International Orders

	Agriculture/Horticulture Exchanges (N=77)	**Garments/Apparel Exchanges (N=107)**
Accept	26 *(34%)*	76 *(71%)*
Do not Accept	6 *(8%)*	0
Buyer/Seller Decides	26 *(36%)*	22 *(21%)*
No Information	19 *(24%)*	9 *(8%)*

Table 7: Information Content at B2B Agriculture/Horticulture e-Hubs

One Type of Information Resource Only	**Number of Hubs (N=58)**
Industry News	2
Commodity Prices	0
Weather Reports	0
Country Reports	0
Business Directories	3
No Information Resources Available	11
Sub-Total	16 *(28%)*
Two Types of Information Resources Available	12 *(21%)*
Three Types of Information Resources Available	21 *(36%)*
Four Types of Information Resources Available	6 (10%)
Five Types of Information Resources Available	3 (5%)
Total	**100%**

Table 8: Information Content at B2B Garments/Apparel e-Hubs

One Type of Information Resource Only	**Number of Hubs (N=59)**
Industry News	5
Links to Trade Associations	0
Events Announcements	2
Import/Export Policy Information	1
Business Directories	5
No Information Resources Available	12
Sub-Total	25 *(42%)*
Two Types of Information Resources Available	7 *(12%)*
Three Types of Information Resources Available	15 *(25%)*
Four Types of Information Resources Available	7 *(12%)*
Five Types of Information Resources Available	5 *(9%)*
Total	**100%**

Table 9: Product and Trading Partner Information in Horticulture/Agriculture B2B Exchange Structures

Type of Exchange Structure (N=77)	**Product Specification Information**		**Product Quality Assurance Mechanisms**					**Buyer/Seller Assurance**			
	User Decides	No Info about terms	Product Photos[A]	Samples Offered[A]	Lab Reports[A]	Facilities Inspection[A, C]	Certification Mentioned?	Registration Required	Participant Screening	Credit Rating Info[F]	Buyer/Seller Reputation Statements[G]
Trade Leads (N=43)	42	1	18	1	1	4	2[B]	29	9	5	3
Request For Quotes (N=10)	6	4	3	0	1	3	5[D]	10	8	2	1
Auction (N=8)	3	5	4	0	0	0	2[E]	6	3	0	1
e-Retail (N=7)	0	7	4	0	0	0	1[H]	6	1	0	0
Direct Buyer / Seller Link (N=7)	6	1	6	0	0	1	0	7	3	0	0
Unknown (N=2)	0	2	0	0	0	0	0	1	1	0	0
Total	**57**	**20**	**35**	**1**	**2**	**8**	**10**	**59**	**25**	**7**	**5**

	(74%)	***(26%)***	***(45%)***	***(1%)***	***(3%)***	***(10%)***	***(13%)***	***(77%)***	***(32%)***	***(9%)***	***(6%)***

Table 9 - Continued

[A] The data indicate only the number of exchange structures where specific mention is made of users having access to such quality assurance mechanisms.

[B] For one of these exchanges 'certification' relates to a specific type of service. In this case, the e-hub provider helps companies obtain registration, quarantine certificates, and permits and licences that the Chinese government requires for the selling of foreign agricultural products in China.

[C] Trading partner facilities inspection only available by contacting third party, or *strategic partner*, linked to B2B e-hub.

[D] For two of these exchange, 'mention of certification' is related to the selling of agri-chemicals. The terms and conditions of these exchange structures stipulate that: *products must be properly labelled in compliance with all Federal and applicable State regulations. Compliance is the responsibility of the seller.* At the third exchange users have access to on site vendor ratings provided by the Société Générale de Surveillance (SGS). After SGS inspection, vendors given trust factor rating that can be displayed in vendor's "seller info". Vendors encouraged to get internationally recognised quality certification (ISO9000). Buyers using the fourth exchange may request inspections of sellers' facilities and/or testing of products. The providers of the fifth exchange are currently working on integrating certification and inspection services.

[E] 'Certification' is related to the selling of agri-chemicals. The terms and conditions of these two exchanges stipulate that: *products must be properly labelled in compliance with all Federal and applicable State regulations. Compliance is the responsibility of the seller.*

[F] Member credit rating information only available by contacting third party, or *strategic partner*, linked to B2B e-hub (i.e. Dun and Bradstreet).

[G] E-hub Provider offers a service whereby after a negotiation and/or transaction, involved parties may rate each other. This rating accessible by other members of the exchange venue.

[H] E-hub Terms and Conditions stipulate that Product Specification Sheet and Product Material Safety Data Available for Chemicals Sold.

Table 10: Product and Partner Information in Garments/Apparel B2B Exchange Structures

Type of Exchange Structure (N=107)	**Product Specification Information**		**Product Quality Assurance Mechanisms**					**Buyer/Seller Assurance**			
	User Decides	No Info about terms	Product Photos[A]	Samples Offered[A]	Lab Reports[A]	Facilities Inspection[A,C]	Certification Mentioned?	Registration Required	Participant Screening	Credit Rating Info[F]	Buyer/Seller Reputation Statements[G]
Trade Leads (N=39)	35	4	14	4	2	13	1[B]	34	25	6	3
Request For Quotes (N=18)	16	2	7	7	4	8	0	17	11	6	2
Auction (N=20)	17	3	8	3	1	12	0	19	15	8	2
e-Retail (N=3)	0	3	2	1[D]	1[D]	1	0	3	3	1	0
Direct Buyer / Seller Link (N=24)	22	2	20	3	2	7	1[E]	23	13	3	0
Unknown	0	3	3	0	1	0	0	3	3	0	0
Total	**90** ***(84%)***	**17** ***(16%)***	**54** ***(50%)***	**18** ***(17%)***	**11** ***(10%)***	**41** ***(38%)***	**2** ***(2%)***	**99** ***(93%)***	**70** ***(65%)***	**24** ***(22%)***	**7** ***(7%)***

Table 10 - Continued

[A] The data indicate only the number of exchanges where specific mention is made of users having access to such quality assurance mechanisms.

[B] Registration application form at this specific exchange asks potential registrants if they are ISO certified, and if so, to what standard - 9001, 9002, 9003, 14000. Also asks date certified, and the certification body.

[C] Trading partner facilities inspection only available by contacting third party, or *strategic partner*, linked to B2B e-hub.

[D] Users in this type of 'closed' exchange at this particular e-hub do not know the identity of their counterparts. Essentially, buyers sourcing textile products this way buying from the site provider. Similarly, sellers are selling to the site provider (i.e. Reseller Model)

[E] Manufacturers can register with exchange provider for assessment confirming that the firm complies with the apparel commerce code of professionality - adhere an ethical policy and meet specified environmental standards.

[F] Member credit rating information only available by contacting third party, or *strategic partner*, linked to B2B e-hub (i.e. Dun and Bradstreet).

[G] E-hub provider offers a service whereby after a negotiation and/or transaction, involved parties may rate each other. This rating accessible by other members of the exchange venue.

Table 11: Exchange Settlement Mechanisms

Payment Mechanisms	**Agriculture/Horticulture Exchanges (N=77)**	**Garments/Apparel Exchanges (N=107)**
Off-line Settlement (Letter of Credit, Cheque)	4 *(5%)*	4 *(4%)*
Online Settlement (Direct Debit/Deposit, Credit Card)	9 *(12%)*	3 *(3%)*
Trading Parties Determine	56 *(73%)*	91 *(85%)*
No Information	8 *(10%)*	9 *(8%)*

Table 12: Access to Delivery Mechanisms

	Agriculture/Horticulture Exchanges[A] (N=77)	**Garments/Apparel Exchanges[A] (N=107)**
Marketplace Provider Determines Delivery Mechanism	11 *(14%)*[B]	2 *(2%)*[C]
Trading Parties Responsible for Arranging Delivery of Goods[D]	58 *(75%)*	90 *(84%)*
No Delivery Related Information Offered	8 *(11%)*	15 *(14%)*

[A] For some B2B e-hubs the type of delivery mechanism employed is contingent upon the exchange structure used by trading parties engaging in a transaction. Therefore, to ensure continuity the total number of exchanges is used to calculate the percentage rather than the total number of B2B e-hubs examined.

[B] In four exchanges the shipping/delivery of goods is 'double blind'. The buyer and seller remain anonymous to one another throughout the entirety of the transaction process. The remainder of exchange venues are based on an e-Retail business model.

[C] Each of the exchanges is based on an e-Retail business model

[D] Trading parties may have access to a third party, or *strategic partner*, linked to B2B e-hub in order to arrange delivery of goods.

Table 13: Buyer/Seller Access to Logistical Support Services[A]

Type of Support Service	Agriculture/Horticulture Exchanges (N=77)[B]	Garments/Apparel Exchanges (N=107)[B]
Shipping/Delivery Support Offered	26 *(34%)*	57 *(53%)*
Facilities Inspection	8 *(10%)*	42 *(39%)*
Financial Services (e.g. Escrow agents - allows buyers to inspect merchandise before paying, and insures that sellers receive payment for good even if buyer commits fraud)	11 *(14%)*	40 *(37%)*
Customs Brokering	2 *(3%)*	12 *(11%)*
Insurance[C]	4 *(5%)*	26 *(24%)*
Travel	7 *(9%)*	6 *(6%)*

[A] Support services offered either directly by the provider of the exchange structure, or by contacting a third party, or *strategic partner*, linked to B2B e-hub.

[B] For some B2B e-hubs the level of support service is contingent upon the exchange structure used by trading parties engaging in a transaction, or the level of service they have contracted with the service provider. Therefore, to ensure continuity the total number of exchange is used to calculate the percentage rather than the total number of e-hubs examined.

[C] Information provided at the B2B e-hubs examined did not distinguish between insurance for transportation and insurance against default/fraud.

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Notes:

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[2] In order to avoid confusion, a distinction is drawn here between e-commerce that occurs on private digitalised, and/or proprietary networks, and the digital space available, even for a fee, specifically on the Internet, see Sassen (2000).

[3] These intermediaries also are often referred to as 'portals' or 'market-makers', see Wilson (2000), and Mahadevan (2000).

[4] Defined as the capacity to participate in the global digital economy, see McConnell International (2000).

[5] Transaction costs have been described as the "costs of running the system" (Williamson 1985: 18), and are seen as the "economic equivalent of friction in a physical system" (Wigand 1997: 8).

[6] Initial research in this domain includes: Moodley, Morris, and Barnes (2001), and Maitland (2001).

[7] It must be emphasised that this division is somewhat artificial and is adopted primarily for purposes of achieving some analytical clarity. This conceptualisation disguises the recursive and dynamic elements of the exchange process, see (Granovetter 1985; Gulati 1995; Jones *et al*. 1997; Das and Teng 1998).

[8] The keywords used in these searches included: For agriculture/horticulture B2B e-commerce sites - *agricultural portal; ag portals; B2B agriculture; B2B+horticulture; agriculture+ecommerce; B2B+agriculture+portal.* For garments/apparel B2B e-commerce sites - *garments+portal; apparel+portal; B2B+apparel; B2B+garments; garments+ecommerce; apparel+ecommerce.* Search returns not selected for inclusion in the sample generally were in one of the following categories: (a) business-to-consumer sites; (b) dead link; (c) job advert; (d) press release; (e) news/press report; (f) academic or government report; (g) double listing (i.e. identified in another keyword search); (h) personal CV; (i) non-English. In those instances where the links provided by the returned search engine results was to a directory web site page(s), the links listed in the directory were followed-up.

[9] In the agriculture/horticulture sector, the search was limited to B2B e-hubs concentrating on the exchange of fruits, vegetables, flowers, and agro-food products.

[10] A pilot exercise involved mapping the attributes indicated by the taxonomic instrument of seven B2B e-hubs from each sector. This provided a basis for some minor modifications to the initial version of the instrument to refine the coding of variables, and to include services that were offered by particular e-hubs.

[11] Among the limitations of the data presented here is that information was not obtainable for private proprietary B2B e-commerce networks, nor was it possible to judge the efficacy of the services offered some B2B e-hub providers.

[12] Other examples of attempts to classify Web-based trading platforms include, (Timmers 1999; Kaplan and Sawhney 2000; Mahadevan 2000; Wen *et al*. 2001).

[13] The distinction between e-hubs and exchange structures reflects the fact that some B2B e-hub providers impose differing member registration requirements and levels of information scrutiny according to the kind(s) of exchange structures in which a potential member wishes to participate.

[14] Mansell (2001b: 8) argues, “Users - consumers and businesses alike - must be confident that they will get what they order, that their personal information will be protected, that the transaction will be secure and they can obtain redress if something goes wrong”.

[15] This may, to a limited extent, facilitate the ability of producers from developing countries to participate in e-commerce. However, this assertion depends on the extent to which the domestic regulations and the banking institutions of the country with which a producer firms is based support international transfers of capital (Maitland 2001).

[16] Once potential trading parties have engaged in, and successfully completed, a transaction their dependence on support services designed to foster trust and confidence (i.e. credit rating agencies, facilities inspection, product sampling, lab reports) may decrease thereby reducing overall future transaction costs (Gulati 1995; Jones *et al*. 1997; Nooteboom *et al*. 1997; Das and Teng 1998).

[17] The project on which this paper is based is continuing with in-depth interviews with producer firms in Kenya, South Africa, and Bangladesh. The results of these interviews will be considered in a future paper together with the actual results discussed here.