

Retail Organizations in the Western Cape: Acceptance and Adoption of e-Procurement

E. Cloete (ecloete@commerce.uct.ac.za)

Department of Information Systems, University of Cape Town

S.C. Warden (wardens@cput.ac.za)

Faculty of Business Informatics, Cape Technikon

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Abstract

This paper reports on research that was conducted at the University of Cape Town to determine the level of e-procurement adoption by retailers in the Western Cape province of South Africa. A secondary goal was to identify and report on barriers preventing retail organizations from adopting e-procurement systems within their supply chains.

The methodology used in this research was based on a questionnaire that was distributed amongst retailers in the Western Cape, with follow-up interviews contacted at a number of leading retail companies to obtain more in-depth information about the level of e-procurement in the industry.

The analysis indicates that most retail organizations have not adopted e-procurement systems, although the organizations have clear perception and are aware of an industry-wide implementation of e-procurement in the near future. Recommendations are made to formulate a road-map for organizations planning to implement e-procurement systems in their supply chains, with special emphasis on the advantages it holds for small and medium enterprises (SMEs).

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Keywords

e-procurement, e-business, e-markets, e-hubs, e-readiness.

The acceptance of e-commerce

Research has established some benefits and models for e-commerce adoption by organizations, although a number of inhibitors of these business models still exist. The advantages e-commerce offers to SMEs are often not perceived to be

applicable to their particular businesses as only few success stories are available to convince owners of such businesses that e-commerce offers real benefits to their organizations (Cloete, 2002).

The objective of this study is to focus on the adoption criteria of e-procurement on small businesses operating in the Western Cape Province of South Africa. When moving to e-commerce, these criteria will assist to eliminate barriers that stifle the flow of information and goods to, and from developing nations, for example. SMEs play a vital role in most major economies throughout the world and their ability to successfully adopt and utilize the Internet for their businesses is of prime importance to ensure their survival (Williams & Warden, 2003). e-Readiness is considered to be a prerequisite for conducting successful e-business and enables many business opportunities (Courtney & Fintz, 2001).

This e-procurement focused research amongst retailers in the Western Cape has a number of relevant impacts on the industry. Firstly, it will serve to generate awareness amongst the firms surveyed as to the system itself and the potential benefits e-procurement adoption offers companies. Retail organizations with no previous knowledge of e-procurement will be made aware of such possibilities by participating in the survey. Secondly, by identifying those factors that are hampering the progression of web-enabled purchasing, steps could be taken to remove such barriers, either through education or by using and deploying more effective system design and techniques.

The use of the Internet as a procurement medium

Van Weele (1994: 8) describes procurement as “the process of buying.” A more precise definition is also given as describing procurement as “obtaining from external sources all goods and services which are necessary for running, maintaining and managing the company’s primary and support activities at the most favourable conditions.”

Cha (2000) defines e-procurement as “the use of Internet technology and services to improve efficiency in the purchasing function.” The use of the Internet as a medium for procurement can be broadly referred to as business-to-business (B2B) e-commerce. It encompasses transactions of a large variety of goods and services delivered offline, as well as many products that can be purchased and delivered immediately via the Internet, even in a digital form, such as software and information. For the purposes of this paper, only goods that are purchased by retail organizations are considered.

According to (Qizhi & Kauffman, 2001), the increasing popularity of the commercial use of the Internet, B2B e-commerce and e-procurement is moving corporate purchasing closer to the World Wide Web.

Businesses leveraging the advantages of the Internet are on the increase to automate and link their supply chain systems, with the purpose of ensuring maximum efficiency in business procedures. In 2002, B2B online transactions accounted for the major portion of e-commerce, making up 70%-85% of total transactions (Cooper & Brown, 2002).

This trend is destined to continue, with global B2B transactions reaching an estimated 53% taking place on the Internet by 2004. This equates to a four-fold increase in e-commerce over 2000 figures.

According to Brutzel, (2002) reporting on e-procurement in the Airline Industry:

- e-Procurement is a step to overall process improvement, but lacks a turnaround focus,
- First targets are efficiency benefits,
- Internet has become a business improvement infrastructure,
- New supply models will be needed to achieve differentiation value.

B2B e-commerce, being a relatively new concept, has seen a number of models emerging for the implementation of e-procurement, mostly pertaining to the concept of an "e-hub". "e-Hubs" are defined by Kaplan and Sawhney (1999) as "neutral Internet-based intermediaries that focus on specific industry verticals or specific business processes, host electronic marketplaces, and use various market mechanisms to mediate any-to-any transactions among businesses."

Many of these models have the same fundamental characteristics that place them in one of three basic e-procurement models, outlined by Copacino and Dik (2001). Companies should refer to these models when considering online solutions for their online procurement needs, with the idea of possibly creating a "portfolio" using all models at varying levels of importance.

- **Independent Trading Exchanges (ITX)**

Independent trading exchanges are companies formed to derive revenues and profits from the facilitation of online commerce. They promise a single venue for conducting business, virtual management of business relationships and exposure of products to a global audience. These exchanges were initially created primarily to serve a particular industry, inviting all buyers and suppliers to enter the virtual marketplace and trade online. This single venue for worldwide trading allowed companies to discover new trading partners at a minimal cost. It also allowed the global economy to truly flourish by making products and prices around the world available to buyers.

- **Industry-sponsored market places / Consortium Trading Exchanges (CTX)**

CTXs are e-marketplaces, focused on an industry specific trading community, created and funded by large organizations that are dominant in a relevant industry. This model provides traditional industry leaders with an opportunity to capture the benefits of B2B. When a CTX is sponsored by companies focused on achieving these benefits through purchase aggregation, it becomes a buyer centric model, while a seller centric model seeks to enhance profits through controlling the buying process and optimizing the supply chain

The members of these market places represent a large portion of industry's total trading volume, such as Quadrem, a mining and metals marketplace whose founding companies hold two-thirds of the industry's market capitalization. It is difficult for this model to serve the needs of both industry, and the individual members simultaneously. In addition, Copacino and Dik (2001) claim that online trading demands speed and agility that is hard to achieve when decisions must be made by a number of powerful owners, thus losing out on valuable business opportunities. Furthermore, CTXs have found it difficult to attract companies with strong supply-chain management skills, for fear of making sensitive business information public. Building a supplier base in these marketplaces takes longer than initially expected, being representative of the entire industry, members must deal with governance issues, which are often slow and political.

- **Private Trading Exchanges (PTX)**

Private Trading Exchanges are e-business hubs formed by a company that enable integration between the company's key customers and trusted suppliers. They were first formed by organisations that were supply-chain management leaders, and saw PTXs as an opportunity to further leverage their competitive advantage. PTXs are hosted just outside of the organisations firewall, enabling integration between the organisation and outside stakeholders / trading partners. They have the further advantage of extending traditional ERP (Enterprise Resource Planning) capabilities. PTXs behave much like CTXs, with the notable difference of having only one key sponsor. This lack of competition in the market enables a more free flow of information and broader decision support to the exchange participants.

SMEs considering implementing an e-procurement system may select one model based on its compatibility with their business structure and strategy. Larger companies may use two or all of the models to cater for all their procurement needs. Furthermore, companies that harness the power of these models early and manage them effectively will reap benefits unobtainable without such a system, giving them a definite competitive advantage.

Benefits versus costs of e-procurement

Spear (2002) details some of the direct benefits of an e-procurement system, being its ability to reduce both administration costs through fewer invoices and reduced time to purchase as well as the number of suppliers used. Furthermore it is proposed that e-procurement will cause the costs of materials and services to drop between 5-10% by facilitating more efficient communication between buyers and sellers and minimizing administration costs. Spear, finds a cost reduction of 5% to be equivalent to an increase of 30% in revenue. Inefficiencies within the supply chain can be removed while lowering input costs to the buyers and increasing supplier's margins. This is in agreement with (Qizhi & Kauffman, 2001) who cite Ovans (2000) in a study at the Texas-based business, Schlumberger, that e-procurement cuts down on the time and cost of purchasing by reducing the time employees spend ordering supplies, freeing them to tend to other important jobs and activities.

While some see only consider the direct benefits of e-procurement, others proposed by Fisher (2000), envisage a wider benefit whereby companies considering an e-procurement system will force them to rethink and reorganise the manner in which they operate to create a more effective buying strategy. It is a misconception that only large multinationals will benefit from e-procurement. While these companies may harness the true value of e-procurement in private exchanges, e-marketplaces are expected to provide a platform on which smaller companies can conduct business with each other, Online trading allows retail businesses to realise lower costs to obtain numerous trading partners and to enable the benefits previously associated only with large volume trading companies.

Cha (2000) claims that implementing an e-procurement system thereby giving a company access to numerous suppliers at low cost commodities, could sacrifice existing supplier relationships, particularly when those suppliers are not receptive to e-procurement themselves. If existing supplier relationships are strategic and account for a company's competitive advantage, then the movement towards online purchasing may be harmful.

The e-procurement system referred to, affords a buyer to gain cost effective access to a large number of suppliers and initially this characteristic seemed to be one of the primary benefits. A cost effective e-procurement system can also be costly to implement from an infrastructure point of view. Small companies in particular should consider the potential benefits of using such a system, compared to the cost of implementing computer equipment providing Internet access.

Spear (2002) states that the primary benefit of e-procurement is when companies order goods irregularly, such as MRO goods and commodities. These purchases are normally unplanned and that leads to significant manual time and sourcing costs. An automated online system eliminates these costs, frees staff to perform more productive tasks and allows management to focus on more strategic issues. The e-procurement system also shortens the procurement life-cycle allowing firms to carry lower inventory and minimize stock-outs. Strategic purchases such as, capital equipment, for example, requires investigation and testing. Spear (2002), therefore, does not predict significant benefits achieved by a system to purchase strategic goods online.

South African companies implementing e-procurement

South African companies have been slow to adopt e-procurement. According to Spear (2002) much of this caution has been a combination of the weakening local economy and the recent failures of many dotcom companies. While many of the larger South African firms have begun the switch from EDI to e-procurement, the main focus seems to remain the trading exchanges that facilitate cheap transactions between suppliers and buyers.

Miraculum exchange, (www.miraculum.com), offers e-procurement solutions to South African companies by facilitating online trading between buyers and sellers in a virtual market environment. Miraculum's promise is to reduce the costs of inputs and maintain, or even improve, quality, service and technology. Spear (2002) believes that through the levers and processes of e-procurement, South African companies can enter the global economy with a competitive advantage.

Webwarehouse.co.za is another South African online product procurement facilitator supported and subsidized by Netgate. It serves as a platform for South African companies to purchase electronically at a lower cost. The system offers sellers an opportunity to sell their products at no risk of bad debts, and buyers the opportunity to purchase goods at low prices and with zero sourcing costs.

Direct procurement is a fragmented market and Enterprise Resource Planning (ERP) vendors provide poor B2B connectivity. South African companies should look, at present, to purchase indirect and MRO goods online, but should maintain supplier relationships and allow their business units to purchase direct goods manually. The unique characteristic of many direct goods suggests that manual sourcing is required and an automated system would not be beneficial until the focus within South Africa moves from large trading exchanges to private ones.

Research problem

From the literature study it is evident that e-procurement is in its infancy, particularly by judging the confusion surrounding the use of terminology. There are many terms that are not widely understood and, often, two or more terms

have overlapping meanings. This general lack of clarity suggests that the discipline has recently and rapidly risen, allowing multiple terms for the same concept to arise and become widely accepted.

This study used a two-page questionnaire, involving seven questions, sent to 453 retailers within the Western Cape. The data used in the analysis were collected from opinions of the interviewees and factual information about the company and its business processes. Following the initial questionnaire, 26 companies were selected for follow-up interview. This selection was done based on the size of the company, the knowledge and understanding of e-procurement they possessed and their willingness to participate further in the study. Of these companies, 50% agreed to take part in the study and they were approached for personal interviews taking approximately thirty minutes to conduct. As there were a small number of target respondents, the information required was detailed and technically complex. As such, interviews were chosen as the best research technique. This method allowed interviewers to explain potential confusing terms and to ask questions related to the respondent's circumstances.

Research results

A summary of the main research findings is listed below. For statistical analysis and more detailed information regarding the methodology used, the reader is referred to the original thesis of Hilburn, Prior and Walker (2002).

It was found that:

- The majority of respondents dealt with between 2 and 5 suppliers. This is a relatively small amount of suppliers and raises questions about the viability of implementing an e-procurement system to service so few suppliers. (Appendix; Figure 1)
- The results of the questionnaire indicate that the majority of retailers contact their suppliers via the telephone. (Appendix; Figure 2)
- The majority of respondents stated that they used the Internet for e-mail purposes and that the second largest use was for Internet browsing. Of those that selected "Other", the majority cited online banking as their reason for Internet use. (Appendix; Figure 3).

The remaining general part of the questionnaire indicated that there still exists some confusion with the use of terminology. For example, only 10.47% of the respondents chose the most widely accepted definition of e-procurement by professionals in the field. This must be seen in the light that just over half of the respondents indicated that the Internet would prove beneficial to enhance supplier relationships.

During the interviews, more defined information was revealed, for example:

- The majority of respondents, discounting those who chose not to answer, identified cost reduction, reduced lead times and increased delivery timeliness as important perceived benefits. Customer satisfaction, greater scientific inventory management, reduced staff requirements, closer supplier relationships and better internal communication were highlighted as benefits, which were not seen too important to retailers (Appendix; Figure 4).
- The analysis clearly indicates the perceived barriers to e-procurement. The two largest barriers were that respondents felt that expected benefits did not outweighing costs and a lack of management support were discouraging the adoption of e-procurement. Secondly, the lack of cooperation on the part of suppliers, as well as the costs associated with adapting such a web-enabled purchasing system became evident (Appendix; Table 1).

Conclusion

Although the literature indicates that there are perceived benefits adopting e-commerce and using the Internet for purchasing, some confusion exists in organizations as to where and how to slot e-procurement into their operations. This might be due to selection of an appropriate business model, costs involved and the reluctance of management to engage fully in e-procurement. Furthermore, old business processes, change management support and cost (said) are factors preventing adoption and acts as barriers to adopt e-procurement.

Coupled with the above, user adoption and compliance factors need to be addressed. For example, many users only use e-mail and therefore strategies to use the Internet as an enabling e-procurement infrastructure needs to be developed.

Awareness of e-procurement does exist paving the way to introduce such systems in the near future, but the overwhelming majority of retail organisations within the Western Cape have not adopted an e-procurement solution within their business. It is evident that the dominant barrier of adoption is cost of implementing an e-procurement system and firms, which already contacted their suppliers via electronic means, were more comfortable with the concepts of e-procurement.

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Appendix

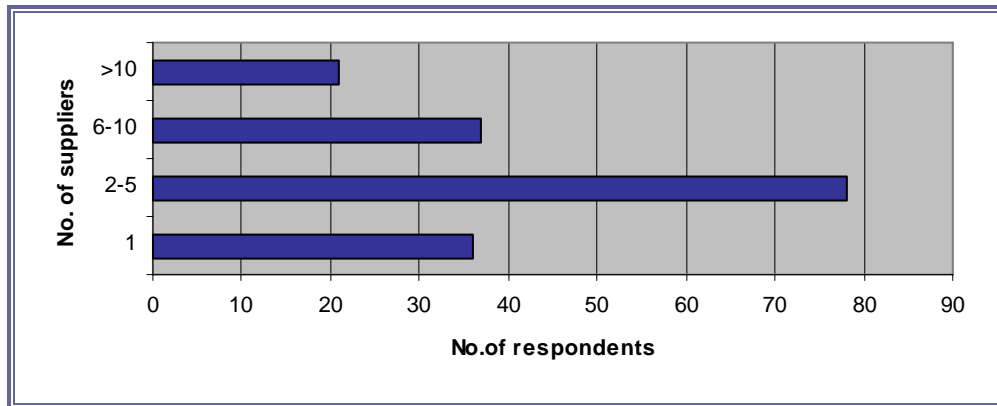


Figure 1: Number of suppliers

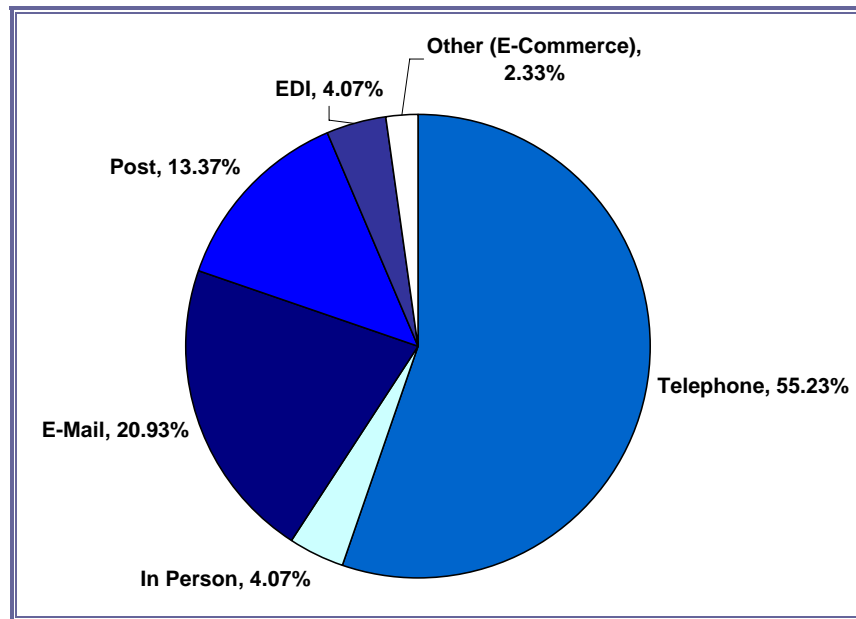


Figure 2: Means of communication with suppliers

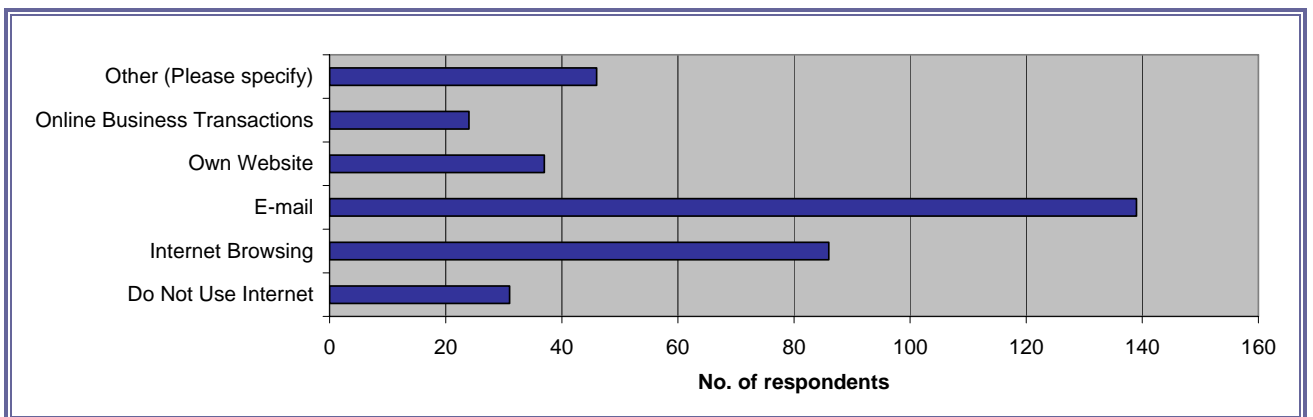


Figure 3: Use of the Internet

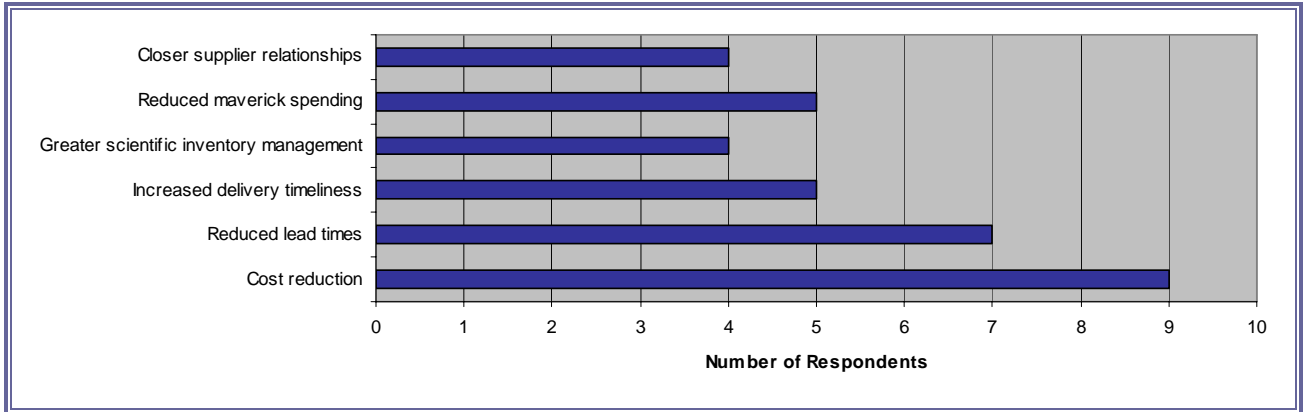


Figure 4 : Perceived benefits of an e-procurement system

Table 1: Factors discouraging the adoption of e-procurement

	Low Relevance	Average Relevance	High Relevance	Didn't Answer	TOTAL
Lack of information	38.46%	23.08%	30.77%	7.69%	100.00%
Too costly	15.38%	61.54%	15.38%	7.69%	100.00%
Lack of infrastructure	46.15%	30.77%	23.08%	0.00%	100.00%
No management support	0.00%	30.77%	61.54%	7.69%	100.00%
Lack of suppliers willing to cooperate	15.38%	23.08%	53.85%	7.69%	100.00%
Hesitant to embrace new technology	38.46%	53.85%	0.00%	7.69%	100.00%
Waiting for general industry adoption	30.77%	46.15%	15.38%	7.69%	100.00%
Lack of technical expertise within company	23.08%	53.85%	7.69%	15.38%	100.00%
Too few suppliers to make it worthwhile	38.46%	7.69%	0.00%	53.85%	100.00%
Expected benefits don't outweigh costs	0.00%	61.54%	30.77%	7.69%	100.00%
Caution in current economic environment	53.85%	38.46%	0.00%	7.69%	100.00%
No appropriate model exists	46.15%	0.00%	0.00%	53.85%	100.00%
Still in the planning stages	46.15%	0.00%	0.00%	53.85%	100.00%