

**A SURVEY OF ELECTRONIC COMMERCE UTILIZATION IN SMALL
AND MEDIUM SIZED ENTERPRISES IN SOUTH WALES:
[RESEARCH IN PROGRESS]**

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ABSTRACT

Electronic commerce or E-commerce is already causing fundamental changes to the traditional economic market place, affecting every aspect of how business is and will be conducted. The issue is whether or not Small and Medium Sized enterprises (SME's) will be able to take advantage of the opportunities afforded by E-commerce. The literature and research surrounding E-commerce activity has been dominated by an examination of its relevance to the large enterprise. This paper addresses its relevance to the small and medium enterprise. It describes research conducted on the awareness and uptake of E-commerce amongst the SMEs in the South Wales region, an area of the UK which is characterised by both extremes of economic prosperity and deprivation. Our research suggests that SMEs within this region are predominantly using the Internet as a communication and advertising medium. Little thought appears to have been given to how E-commerce can be used as an enabler of business change amongst this sector of the economy.

1. INTRODUCTION

This paper reports the initial results of the first round of a two round survey of small and medium sized enterprises (SMEs) in South Wales that was initiated by the Cardiff Chamber of Commerce. The research team has undertaken a second round of the research and the survey group has been extended to include companies in South West Wales. The aims of both surveys are outlined below:

1.1 To Gain a Precise Picture of the Awareness and Utilisation of E-commerce Amongst SMEs South Wales Region.

It is crucial that an overall picture of the current level of awareness, understanding and more importantly the level of utilisation of electronic commerce (E-commerce) is gauged amongst the SME sector. As the literature suggests, the role of SMEs is a key factor in the growth of economies in general and the emerging electronic marketplace in particular (Kalakota and Whinston 1997). The particular importance of SMEs to under-privileged regions of Europe such as South Wales assumes even more significance.

1.2 To Identify and Assess the Perceived Opportunities and Benefits of E-commerce Amongst SMEs.

The recent literature suggests that E-commerce offers a new paradigm for business (Curries 1998). It is suggested that “the Internet allows global trading and there are, potentially, few limits to growth” (Levy and Powell 1999). Our research examines the opportunities and benefits that SMEs perceive to be viable through the adoption of electronic commerce.

1.3 To Determine the Main Barriers Preventing the Adoption of E-commerce Amongst SME’s.

The literature identifies a series of barriers to the up take of electronic commerce (Poon and Swatman 1997) such as cost of investment, concerns about security and payment systems, cultural barriers, infrastructure issues and a general lack of understanding of how the technology could effect their business.

1.4 To Identify Any Sector Specific Issues That Directly Affect the Up Take of E-commerce Amongst SMEs.

It is inherently assumed that the hi-tech SMEs, particularly those in the IT Sector would be the most likely to utilise technology like E-commerce. However, SMEs occupy a vast number of sectors in the economy and it is important to investigate whether the up take of E-commerce is affected by the specific sector within which an SME operates.

1.5 To Identify the Main Critical Success Factors Amongst SMEs Users of E-commerce.

The literature suggests that the adoption of E-commerce requires a set of crucial factors to be in place within an SME to turn the initial investment into profit (Levy and Powell 1999). These factors include the presence of a product or service that is saleable over the Internet, a clear idea of objectives and the demonstration of strong motivation for using E-commerce, the ability to build a business base of customers, business partners and suppliers that will translate into cost savings/sales to cover initial investment outlay and the extent to which E-commerce is integrated with internal business processes.

2. ELECTRONIC COMMERCE

We define E-commerce as the application of information and communications technology with the aim of increasing the effectiveness of the business relationships between trading partners (Kalakota and Whinston 1997)

The literature identifies a large volume of potential benefits from the adoption of E-commerce. These may be divided into three main areas (Currie 1998):

- Cost savings, including lower logistic costs, lower postal cost, lower storage costs and lower personnel costs
- Time savings, including quicker response time to markets, customers, suppliers, higher flexibility and a reduction in the delivery time and processing of payments
- Quality improvements, such as access to new markets, new ways of marketing new products and services plus the general improvement in customer relations

The E-commerce market is conventionally divided into business-to-business, business-to –customer electronic commerce and intra-business:

- Business- to- business: the use of ICT to facilitate payment management, inventory management and distribution management. Business-to-business E-commerce concentrates on supply chain and procurement issues.
- Business- to- customer: the use of E-commerce to enable customer information interaction, personal finance management, purchasing products and the dissemination of after-sales information.
- Intra-business: the use of ICT to share information internally within the business

3. SMALL AND MEDIUM ENTERPRISES

Small or medium sized enterprise are defined by the European Community as companies employing fewer than 250 employees, having an annual turn over of less than 40m ECU. SMEs are seen to be crucial to the future prosperity of industrial economies. The role of information technology (IT) has been seen as increasingly important amongst companies as a mechanism to increase productivity, reduce costs and facilitate flexibility. As Troye-Walker suggests, the role of the SME is a key factor for the growth of electronic commerce on the Internet (Troye-Walker 1998).

Larger organisations have clearly been involved in E-commerce for several years, notably by trading electronically using electronic data interchange (EDI). Such large companies have had ample opportunity to assess the relative benefits of implementing such technology into their business process (Troye-Walker 1998).

However developments under the Internet umbrella are offering increasingly affordable technologies which permit E-commerce to reach smallest businesses as well. By doing so it has the potential to open up completely new opportunities for SMEs.

4. ELECTRONIC COMMERCE AND SMES

Currie indicates that Internet based electronic commerce can enable SMEs to (Currie 1998):

- Increase selling power by shortening procurement cycles through the use of online catalogues, ordering and payment.
- Provide the ability to cut costs on both stock and manufactured goods through competitive bidding.
- Provide new information and communication channels to keep a breast of new developments. This has the potential to reduce development cycles and accelerate time-to-market through collaborative product implementation.
- The ability to exploit a new global market at a fraction of traditional methods, through new forms of advertising and marketing.
- Ensure product, marketing information and prices are always kept up to date.
- Improve and increase communication with staff, supplier and customers via e-mail and document sharing.

A recent survey of the use of information technology in Welsh firms was conducted as part of the Welsh Information Society initiative. The report was commissioned to provide a measure of the progress made towards an information society within the private sector in Wales. (WDA 1998)

The uptake and usage amongst the smaller firms, micro businesses and SME's was much lower than for the larger organisations. Although the number of SME's is increasing across Wales, particularly in high tech sectors with the potential for many SME's to benefit from information technology, the penetration and use of information technology is lagging behind. In the long run this is bound to impact on the competitiveness of many firms and on our overall economy (WDA 1998).

The report concluded that the reasons for the low uptake and under-utilisation of emerging information technologies was due to a general lack of awareness of the benefits, the cost of existing services and solutions and a lack of expert assistance and support (WDA 1998). These findings have been mirrored by similar reports that suggest the rate of adoption of E-commerce among small firms has been slower than predicted (Cronin 1995).

5. RESEARCH METHOD

To achieve the aims discussed in section 1 a survey instrument was constructed. This survey was sent to all the members of the Cardiff Chamber of Commerce (approximately 2000 member organisations) along with a monthly newsletter. The Cardiff Chamber of Commerce covers a geographical area covering Cardiff, Bridgend, Newport and the Valleys area. The survey was designed to investigate the current experience of the membership in relation to E-commerce. Although we received only sixty completed questionnaires back from respondents to the initial survey, this was one of the highest responses to a Chamber survey achieved in recent times.

The survey was structured into the following sections:

5.1 Company

This section aimed at gathering general information regarding the SME in question. The questions also were directed at determining the position of the company in terms of their general use of IT.

5.2 Electronic Commerce and Current Business

This section focused on the specific area of electronic commerce and how the sampled companies utilise these technologies.

5.3 Drivers for Adopting Electronic Commerce

This section, by identifying the drivers for adopting electronic commerce, aimed to try to understand the individual company's perception and awareness towards electronic commerce.

5.4 Disablers to Adopting Electronic Commerce

The literature surrounding the adoption of E-commerce by SMEs has put forward a variety of possible explanations for SMEs not adopting electronic commerce. Many of these are listed in this section.

5.5 Benefits of Electronic Commerce

There has been a great deal of literature published concerning the potential benefits of electronic commerce, which are listed as alternatives in this section.

5.6 Problems of Electronic Commerce

The recent literature has also highlighted a number of concerns or perceived problems relevant to businesses regarding electronic commerce. This section of the survey highlights many of these core issues.

6. RESULTS

The main results of the survey are presented below:

- 71% of companies had staff using information technology in their daily work
- 92% of companies had Internet Access
- Over 50% of companies have a Web site
- Companies are mainly using the Internet for electronic mail (87%), finding information (77%) and advertising (50%)
- Only a small percentage of companies are using the Internet for purchasing (32%) or on-line sales (15%)
- 68% of companies saw E-commerce as part of their long-term strategy
- 38% of companies are using E-commerce because they need to keep up with their competitors
- The main difficulties experienced with E-commerce are not having sufficient time to devote to it (27%) and not having sufficient financial resources (33%)
- The main current benefit experienced by companies using E-commerce is reduced costs of communication with customers (50%)
- The benefit expected in the future is the ability to open up new markets (57%)
- The main problem currently experienced with E-commerce is the lack of security associated with E-commerce transactions. This issue is expected to be of more and more concern in the future.

7. CONCLUSION AND DISCUSSION

We review our specific research objectives here:

7.1 To Gain a Precise Picture of the Awareness and Utilisation of Electronic Commerce amongst SMEs in South Wales.

The current literature on the topic of E-commerce is considerable, suggesting that it is a growing phenomenon, that it will facilitate global trading with few limitations to growth (Levy and Powell 1999) and that it will provide a new paradigm for business (Currie 1998). However, there is a real concern as to whether the potential opportunities can be exploited by SMEs.

This concern is echoed in the results of our survey. Our respondents indicate that whilst the introduction of emerging technologies underlying the Internet allows E-commerce to potentially reach even the small business community, the general level of utilisation is relatively low. Most use also appears to be in the early phases of investigation by companies.

7.2 To Identify and Assess the Perceived Opportunities and Benefits of Electronic Commerce amongst SMEs

The results from our survey indicate that SMEs currently perceive two main sets of opportunities applicable to their business: the ability to enhance communication and reduce costs via e-mail; the ability to be more competitive and have access to new global markets by developing a web presence. However, our survey also indicates that SMEs feel that potential opportunities and benefits will be more apparent within the future and that they need help in understanding how E-commerce can enhance their competitive position.

7.3 To Determine the Main Barriers and Problems Preventing the Adoption of Electronic Commerce amongst SMEs

Our results indicate that SMEs in the South Wales area are constrained in their adoption of electronic commerce by a lack of financial resources, insufficient time and not having sufficient information/education.

7.4 To Identify Any Sector Specific Issues that Directly Affect the Up Take of Electronic Commerce amongst SMEs

The responding companies were from a variety of sectors suggesting that either the nature of the Welsh economy is changing, or that the companies that took part in the survey were those with a valued interest in electronic commerce.

The only notable sector-specific result was the above average use of EDI links by the manufacturing firms. This suggests that this sector of the economy is relatively more sophisticated but dependent and strained by the pull from larger suppliers to meet the technological demands placed upon them as first tier suppliers.

7.5 To Identify the Main Critical Success Factors Amongst SME Users of Electronic Commerce

The literature surrounding electronic commerce identify the most critical issues effecting the uptake of electronic commerce use within small businesses are management commitment and the perceived advantages of technological adoption (Poon and Swatman 1997). Our research indicates that the success of adoption of electronic commerce project will depend upon other factors such as having a product or service well-suited to E-commerce, being flexible to continually innovate and integrate electronic commerce into existing business activities and being able to manage the growth that may result from the investment in electronic commerce.

8. FURTHER WORK

We recognise that there are other factors that impact on the utilization of E-commerce by SMEs that we have not covered in our survey. A number of issues have arisen within the context of our research which demand further investigation:

- Our electronic commerce survey needs to be developed and expanded upon. Our data collection was limited in terms of time and coverage.
- Triangulation with other data collection methods such as interviews and the development of case study material would add greater validity to our conclusions.
- A substantial area within South Wales Area has been given objective 1 status. Initiatives to encourage the take-up of E-commerce amongst SMEs are already being planned. Such planning must however incorporate findings such as been discussed here if they are to prove effective. To this end the findings of this survey have been requested by the Welsh National Assembly and will be used to assess Objective 1 projects that aim to support E-commerce in the SME sector.

The survey has been repeated to the original survey group and, through the offices of the West Wales Chamber of Commerce to SMEs in South West Wales. The research team are currently analysing the results of this second survey and the results will be reported in due course.

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