

The Internet and Small to Medium-sized Enterprises: Research Notes

Japhet Eke Lawrence, PhD¹

Abstract

The growth of the Internet has opened up a vast arena, providing more opportunities for businesses, particularly small to medium-sized enterprises (SMEs) to sell their products and services to a global audience than they would have been able to afford to reach using the traditional methods. SMEs are extremely important to many countries and their contribution to economy cannot be over emphasized. They are socially and economically important, since they represent 99 % of all enterprises in the EU and provide around 65 million jobs and contribute to entrepreneurship and innovation. Given the strategic importance of the SME sector to growth and job creation and the large base of current Internet users as well as potential users, the success of SMEs gaining business leverage from the Internet is critical to the future of global economies (Lawrence, 2002). It could be argued that SMEs stand to benefit significantly from the opportunities and benefits that Internet offers to businesses. Therefore, the use of the Internet is widely seen as critical for the competitiveness of SMEs in the emerging global market.

Keywords

Internet, electronic commerce, World Wide Web, Information Communication Telecommunication, Information Technology, Small to Medium-sized Enterprises

Introduction

Businesses are looking to new technologies to meet their unique business requirements and position themselves to take advantage of global changes in business activities. Businesses both large and small need information to succeed in today's rapid changing environment, they need to be able to process data and use information effectively when conducting their day-to-day operations. The growth of the Internet has opened up a vast arena, providing more

¹ Assistant Professor, Department of Applied Computing and Information Technology, University of Kurdistan-Hawler, Erbil, Kurdistan Region of Iraq. Dr Lawrence previously taught at the Department of Mathematics and Computer Science, University of Port Harcourt, Nigeria. The author acknowledges the constructive input of ISJ's peer reviewers, but takes full responsibility for any error. Email: j.lawrence@ukh.ac; lawrenceje@yahoo.com

opportunities for businesses, particularly small to medium-sized enterprises (SMEs) to sell their products and services to a global audience than they would have been able to afford to reach using the traditional methods.

A search of literature reveals that many changes in organization today have been technology driven. Clarke (1996) notes that information technology (IT) is really changing the whole nature of business transaction between consumers and suppliers of goods and services. Pigneur (1996) points out that companies especially SMEs are confronted with a number of changes that require innovative answers. These challenges include the emergence of a competitive global economy; the trend towards an information based economy, and the shift from mass production to a customer-driven economy. He adds that to compete in today's global information-based and customer-driven economy, SMEs must be efficient, innovative and competitive: able to respond just in time, focus on quality, and implement mass-customisation. He suggests that in order to do this today, they must also be able to leverage the new information and communication technologies (ICTs) to fit better in their environment, establish more co-operative inter-organisational relationships and compete on the international markets (Pigneur, 1996).

There have been many studies and reports published in UK and overseas in the last few years on the Internet usage in business in general. This paper is not another examination of the general usage of Internet in business, rather it builds and summarizes the extensive and valuable research already completed in these areas and extracts the essential themes and messages being expressed by most SMEs. The paper aims to examine the perceived opportunities and benefits that Internet usage can offer to SMEs.

Small to Medium-sized Enterprises (SMEs)

SMEs make significant contribution to most economies of the World, they are socially and economically important, since they represent 99 % of all enterprises in the EU and provide around 65 million jobs and contribute to entrepreneurship and innovation. SMEs have been shown to contribute significantly to country and regional economic growth, increased employment levels and locally relevant product and service. SMEs are very important to the UK economy; they accounted for 99% of all enterprises and provide over 59% of private sector employment (BERR, 2008). They are also the source of future growth and innovation. Barnes et al., (2008) argue that the advent of the digital economy has made the adoption and use of Internet a significant issue for most SMEs. Yet, many SMEs find themselves in a difficult situation. They may be too small to be able to employ a dedicated IT expert and lack the resources to buy consultancy advice. They often have limited experience in selecting, implementing and evaluating suggested IT solutions (Barnes et al., 2008). Barnes et al., (2008) note that SMEs find themselves caught in a trap, lack of resources means that while there may be an aggregate demand for IT service and advice, individually, the varying nature of that demand makes it uneconomical for other firms to provide a service meeting that demand.

Businesses in this sector include those which are flexible to new working patterns and who are innovators in the adoption of new business practice. Although the definition of what constitutes small and medium enterprises (SMEs) varies from country-to-country, the benefits of growth in the SME sector are significant. There is no clear understanding of what SME is. The term Small to Medium-sized Enterprises (SMEs) incorporates two primary classifications i.e. small business and medium business. The Department of Trade and Industry (DTI, 2007) defined SMEs as a company employing between 1-249 employees. The current study based on DTI SME defines small business thus: as being independently owned and managed; being closely controlled by owners/managers who also contribute most, if not all, of the operating capital, having the

principal decision making functions resting with the owner/manager; with total number of employees less than 50; while Medium-sized enterprise is defined as business that is larger than small business and smaller than large business with total employees greater 50 and less than 250.

SMEs are extremely important to many countries and their contribution to economy can not be over emphasized. SME comprises firms that make up the significant proportion of UK industry (99.8%), and are therefore very important to the UK economy. They account for more than 59% of private sector employment in the UK and currently are contributing most of the private sector employment growth (BERR, 2008). According to the Observatory of European SMEs (2007), the average SME across all European enterprises employ 6.8 people. At both the European Union (EU) and national level, SMEs lie at the heart of policy making with the emphasis on encouraging enterprise and promoting business growth. SMEs are an important link to boosting the levels of innovation in the national economy and fostering greater competition both domestically and increasingly, internationally.

Griffith (1993) points out that in Hong Kong, nearly 90% of companies are 'small', 88% of all companies employ fewer than 10 people and account for over 80% of Hong Kong's international trade. In US, he says SMEs are also an important part of the economy with some 3,800,000 businesses having between 5 to 99 employees (Griffith, 1993 cited in Behrendorff and Goldsworthy, 1996). Similar findings exist for Canada where SMEs account for 45% of GDP, much of the economy's growth, 60% of all jobs in the economy, and 75% of net employment growth. SMEs are an integral part of the country's economic fabric and are important to the economy. "The success of SMEs affects the well-being of the Canadian society as engines of job creation, economic growth and innovation" (CFIB, 2000). Another similar survey covering the United States, Japan, and Western Europe (IDC, 2009) revealed that SMEs make up nearly 86% of all business establishments.

In an increasingly global world, both information and information technology are of great significance to organization of all sizes. Businesses both large and small need information to succeed in today's rapid changing environment, they need to be able to process data and use information effectively when conducting their day-to-day operations. Fundamental changes are taking place in economies throughout the world that distinctly favours the SMEs. The downsizing and out-sourcing activity of large companies as they pursue restructuring and return to a core business and the emergence of a competitive global economy has created and continues to create many opportunities for SMEs.

However SMEs face several major challenges in their effort to maintain an important position in the global marketplace and meet the world-wide competition. In addition, SMEs particularly small business however, suffers from additional problem of limited resources such as financial, technological and human (Lawrence, 2008, 2002; Wymer and Regan, 2005). For this group of organisations, information technology and the direct use of information itself can be of crucial use, provided that they can be made use of readily, cheaply and without recourse to expensive expert assistance (Poon and Swatman, 1995). Behrendorff and Goldsworthy (1996) indicate that SMEs perceived the appropriate use of IT as an important factor to facilitate business growth and contribute to productivity and efficiency. Lymer et al (1997) point out that the use of IT is becoming increasingly important as a mechanism to increase productivity, reduce costs and facilitates flexibility in SMEs business.

Given the strategic importance of the SME sector to growth and job creation and the large base of current Internet users as well as potential users, the success of SMEs gaining business leverage from the Internet is critical to the future of global economies (Lawrence, 2002). It could be

argued that SMEs stand to benefit significantly from the opportunities that Internet can offer to businesses. Therefore, the use of the Internet is widely seen as critical for the competitiveness of SMEs in the emerging global market. The question that arises is how can SMEs benefit from the use of the Internet in their business? Before this question can be answered, a discussion of distinctive characteristics of SMEs that make them different from larger organizations, their IT and Internet usage will be provided

Characteristics of Small to Medium-sized Enterprises

SMEs possess specific attributes (Auger and Gallagher, 1997) that distinguish them from the large organisations most often studied in regards to information systems usage (Cragg and King 1993). It is argued that SMEs differ from large companies in the way they develop their corporate strategies and their technology policies. Large companies typically have well-defined processes for developing and implementing strategies through a corporate planning process (Pool et al., 2006). While SMEs often use less structured approaches, strategies and policies that may not be formulated but may "emerge" from a set of actions and experiments (Mason, 1997).

Research shows that SMEs have fewer resources and expertise in terms of management of new technologies (Barnes et al, 2008; Lawrence, 2008, 2002; Wymer and Regan, 2005; Raymond et al, 1989; Blili and Raymond, 1993; Cameron and Clarke, 1996; MacGregor et al, 1998; DeLone, 1988; Igbaria, Zinatelli, Cragg, and Cavaye, 1997). They are more vulnerable because of their lack of financial and human resources (Wymer and Regan, 2005; Auger and Gallagher, 1997) as well as information resources that are needed to sufficiently understand and master the organisation and its environment. Many SMEs do not possess the technological background, which would enable them to use and evaluate IT, or lack the time to explore it (Barnes et al, 2008). It is the skill and enthusiasm of the owner-manager that typically drives the business forward and shapes the character of investment decisions (Barnes et al, 2008). Yet the need to remain flexible and innovative are the criteria for survival and success for SMEs.

On the other hand, SMEs have their own particular advantages of being more flexible and adapt to changes more readily than larger enterprises. They are often innovative in new and different ways, for example in their approach to management and marketing, rapid implementation and execution of decisions, market proximity and their capacity for adaptation and short-term orientation (Poon and Swatman, 1995). They are less likely to suffer 'lock-in' with respect to existing plants, technologies or organisational structure.

The problems encountered by smaller firms are different from those encountered by large firms, and require different managerial approaches (Blili and Raymond, 1993). From a strategic and administrative point of view, SMEs are mainly 'organic' in nature and can be seen as an extension of the entrepreneur's own personality. Structurally, they are typically informal with minimal differentiation among units. They are often weak in terms of financing, planning, and control, training and information systems, due to a chronic lack of resources. Others may not perceive the ways in which the use of IT could enable them to operate their businesses more efficiently or cost-effectively.

However, this does not necessarily mean that IT is the exclusive property of big business. It would be wrong to think that SMEs are not concerned by it, just as it would be wrong to think that they have nothing to gain from it. In fact, while some of these firms are destined to be the first victims of this new competitive tool (Mason, 1997), others by being more innovative are able to profit from the many advantages offered by technological development. Availability of new ideas and the ability to seek opportunities are essential if small businesses are to remain

flexible and innovative.

Raymond et al (1989) identify several distinctive characteristics of SMEs, they argue that such firms are characterised by low levels of organisational maturity so that planning and control processes are generally less formalised. Decision-making is often the sole responsibility of the owner/manager, who because of his or her involvement in the day-to-day mechanics of the firm has neither the time, resources nor the expertise needed to evolve an analytical approach (Pavic et al., 2007). Time and resources are the major constraint for most small business operators (Mason, 1997). Similarly, MacGregor et al (1998) suggest that some of the following characteristics make up the organisational environment in which most SMEs operate: small management team; centralised power and control; informal and inadequate planning and control systems; lack of control over the business environment; lack of resources (limited ability to obtain finance); limited process and product technology; limited market share; heavy reliance on few customers and chaotic organisational structure. However, they added that SMEs have distinctive advantage of being responsive, flexible, flat structured, organic and simple.

Cameron and Clarke (1996) further suggest that some of the features of SMEs' made information technology use ideal for their businesses. These include flexibility and their ability to change and adapt quickly to innovations compared to large organisations, which are very slow to respond to change. They are generally less formal in their organisational and managerial practices; they have less sophisticated IT capabilities and expertise than larger organisations. They tend to exhibit more informal communication and a less bureaucratic mode of operation and less rigid functional divisions. They tend to have a shorter focus on medium-term survival rather than on long-term profit, which is prevalent in large organisations. SMEs commonly have fewer resources available, both financial and intellectual (and especially managerial, Caldeira and Ward, 2002), to invest in major initiatives, and are dubious about the benefits of committing those resources to the painstaking planning, data gathering, reporting and analysis that larger organisations would consider essential to such undertakings. Blili and Raymond (1993) identify other characteristics which are specific to SMEs as: environmental specificity, organisational specificity, decisional specificity, psycho-sociological and information systems specificity. Some aspects of this specificity may have a particular effect on the development, introduction and use of strategic information systems.

Small to Medium-sized Enterprises and Information technology usage

Large number of SMEs and very small companies use computer primarily to perform tasks such as designing spreadsheet and word-processing; these have traditionally been the extent of SME IT usage (Lawrence, 2008). The use of IT to reduce costs is something that more SMEs are embracing to improve communication and increase overall productivity. Levy and Powell, (1998) concur that IT is used in SMEs to reduce costs and administrative activities. They argue that the emphasis on cost reduction suggests a limited perspective in SMEs on using ICTs to improve growth and competitiveness.

Research shows (Lymer, Johnson and Baldwin, 1997) that many SMEs have been unable to trade on a global basis due the high costs associated with the Value-Added-Networks (VANs). The resulting high costs and the necessary lead times frequently create barriers to investment and widespread use of electronic commerce applications, and this inhibits the expansion of electronic commerce beyond large companies and their major trading partners (R Neches, A Neches, Postel, Tenenbaum and Frank, 1994).

SMEs have traditionally implemented and used information technologies in their business as a reactive measure in response to request by larger organisations that are customers and therefore

provide the business imperative for them to become IT compatible (Iacovou, Benbasat, and Dexter, 1995; Behredorff and Goldworthy, 1996; Tuunainen and Saarinen, 1997; Levy and Powell, 1998; Poon and Swatman, 1998). These large companies have access to resources and investment capital, which are not generally available to SMEs. Iacovou, Benbasat and Dexter (1995) examine the adoption of electronic data interchange (EDI) in small firms. Their findings indicate that outside pressure from trading partners to be the main reason small companies become active in EDI. Tuunainen and Saarinen (1997) show in their studies that usually small businesses have used electronic data interchange (EDI) in a way that was originally established by their (large companies) customers and they have not used the technology because of the opportunities it offers them or as part of their business strategy.

According to Lawrence (2002), one of the barriers to the introduction and use of new technologies in SMEs include the difficulties in quantifying future benefits when assessing the business case for using these technologies. The uncertainty about technology and threat to render current technology (in which they have a substantial investment) obsolete and lack of knowledge and resources to implement technology.

Small to Medium-sized Enterprises and Internet usage

The rapid expansion of the Internet for electronic communication has emerged as an important phenomenon for organizations, particularly for SMEs, by providing cost effective and universal access to the global economy. The primary feature of the Internet is that it is based on non-proprietary technology and that it is distance, location and time independent.

The use of the Internet offers a suitable platform for SMEs to participate in global market, thanks to the flexibility of Internet and the nature of SMEs businesses. The potential of the Internet and the WWW as a universal infrastructure to facilitate global communication and transfer of data holds great promise for SMEs, particularly to the extent that it enables total interconnectivity between disparate systems.

Through the Internet technology, SMEs can communicate, share and retrieve information on a global basis at low cost. They may be able to gain more access to customers and suppliers, government agencies, networking agencies and their competitors. It has been suggested that the use of Internet opens up new markets and new opportunities to otherwise geographically constrained businesses (Cameron and Clarke, 1996). One of the Internet's attractiveness to business stems from its flexibility, low cost, and its global reach. The Internet provides a low cost infrastructure that offers new opportunities for SMEs to introduce electronic commerce into their business activities in a low risk environment. With the ability of the Internet to perform commerce anywhere at anytime, SMEs may be able to enter and participate at less cost and more efficiently in new markets, and larger firms may be able to evaluate, select and work with other companies more readily.

The Internet and its related technologies allow businesses to transmit and receive data in an inexpensive, simple and easy manner. Apart from supplying needed information, companies can also market and sell products and services more easily. The Internet carries an underlying promise of being a great equaliser exposing SMEs to a number of novel and cost-effective ways to promote their goods and services on a global level. The prospect of a seamless, interconnected global marketplace of goods and services is stimulating unprecedented interest in the business community as well as among various national governments.

Traditionally, time, territory, and technology define an organization; however, using the Internet to conduct business has made these barriers become irrelevant. The Internet allows companies

of different sizes to be in contact with suppliers and customers all over the world. It levels the playing field, enabling just about any company irrespective of size or location to participate and compete in the global market. The levelling of playing field allows SMEs to compete with larger companies at equal terms. The elimination of time zones, natural barriers, and country borders offer SMEs to participate in a 24-hour trading. It offers an open platform for exchanging information among all kinds of organisations as well as individuals

The Internet and its technologies have more to offer SMEs than the established traditional environment for communication and information processing. It allows SMEs to implement effective globalization strategies, which would be otherwise impossible due to the complexity of doing business in foreign countries. its use enables SMEs to maintain full-scale after sale customer service at relatively cheap cost and to maintain contact with customers, for all aspects of business activities on a seven-day around the clock basis. It allows SMEs to establish an effective inter-business collaboration; this is particularly useful for SMEs that normally lacks the technical expertise to maintain online communication with their business partners but is desperately in need of establishing such expertise (Hsieh and Lin, 1998).

The explosive growth of the Internet has led to widespread usage of online services and being connected to the Internet has become a priority for both large and SMEs companies (Lawrence, 2008; Burgess and Cooper, 1999). The flexibility of Internet potentially provides a unique opportunity for SMEs to participate in a global market and an efficient way of exposing their companies, products and services to a wide range of global audience. The Internet has the potential to enable SMEs to compete on a more even footing with their large overseas competitors (Lawrence, 2008).

However, despite the identified benefits, opportunities and the success stories of the Internet, it still suffers from hype and other problems such as security of information and content control. A large number of authors and researchers including (Clarke, 1996, 1997; Neches et al, 1994; Schofield, 1997; Cerf, 1998; Lane, 1998) have expressed their concern regarding security issues in transacting business on the Internet. Clarke (1997) argues that the question of trust may be even more prominent in the virtual world than it is in the real world.

The opportunities and benefits available to Small to Medium-sized Enterprises

The versatility and capability of the Internet technology makes it an ideal platform for SMEs to participate in global market, its use particularly suits the type and the nature of SMEs businesses. The use of Internet opens up new markets and new opportunities for SMEs, which enables them to access global markets by eliminating the constraints previously, imposed by geographic boundaries. Michalski (1996) explains that businesses are compelled to use the Internet for several reasons; first, the Internet provides global access to large audience at a relatively inexpensive price. Second, it offers SMEs the ability to connect with millions of users worldwide. Third, the Internet allows firms to have a virtual front door to a large audience through a home page as well as creating useful interactions with customers, suppliers or stakeholders (Michalski, 1996 cited in Riemenschneider and McKinny, 1999).

Organisation can use information and/or information technology to improve competitive and strategic well being (Levy et al, 2005). Poon and Swatman (1995) point out that the Internet offers a readily available and cost-effective way in which both large and small businesses can make the most of today's information technology infrastructure, as well as making use of information itself. The Internet with its open and extendible network structure provides many

small businesses with an opportunity to compete on level terms with larger and more sophisticated competitors and trading partners.

Although most small businesses are flexible and adapt to changes readily, however, most of them also suffer from a lack of resources of various kinds (Lawrence and Hughes, 2000; Lawrence, 2009). Many do possess the technological background, which would enable them to use and evaluate the Internet, but lacks the time to explore it (Harindranath et al, 2008). Others may not perceive the ways in which such an information infrastructure could enable them to operate their businesses more efficiently or cost-effectively (Poon and Swatman, 1995). Fuller and Jenkins (1995), for example, reported that technical problems concerning connectivity and owner/operator commitment were an important, if not actually critical factor for success. These technical problems can become potentially insurmountable barriers for small businesses wishing to use the Internet for business activities and operations.

The hype and buzz surrounding the Internet is phenomenal, behind the hype however, the Internet could offer SMEs real business benefits and opportunities to improve efficiency, reduce costs and increase productivity and profits (Levy et al, 2005; DTI, 1999). The DTI survey shows how SMEs can utilise the Internet to improve their business through the use of email and web. Email offers a fast, inexpensive way for SMEs to communicate both internally and externally. It allows SMEs to send and receive messages and data world-wide quickly and cheaply. Distance is no object when it comes to email communication, it has several advantages over posting, faxing or courier, it's cheaper, quicker, and it's convenient and flexible. SMEs can send the same e-mail to numerous people simultaneously and it doesn't matter where you are in the world. The use of web gives SMEs access to pages of business information and it lets SMEs to promote and sell their products and services to the global audience. Customers can browse through SMEs' catalogue; email enquires to help-desk, and place orders online. It's a real opportunity for SMEs to compete in a global market by offering: low operating costs, the ability to do business round the clock and the chance to foster better customer relationships.

Advertising and marketing

Marketing on the Internet has received substantial attention (Schofield, 1997; Jeoffrey, 1997). Ranchhod and Hackney (1997) consider the opportunities for global marketing strategies offered by the growth of information technology. They highlight the changing pattern of marketing through the development and exploitation of the Internet technology. They point out that businesses are not only able to reach a wider audience but also reduce marketing cost. The Internet provides business with a 24 hour a day, 7 days a week global sales outlet. As a result, business on the Internet can reach new markets they could not previously access with an in-person sales force (Burgess and Cooper, 1999). The potential for customer interaction facilitates relationship marketing and customer support to a greater degree than ever possible before with traditional media (Burgess and Cooper, 1999). Most SMEs have developed online sales functionality for their web sites, which is seen as a good way to reach and test new international markets. This is one of the benefits that the Internet can offer to smaller companies that cannot afford to develop their business abroad through traditional channels (Lawrence, 2002; Spectrum, 1998).

Poon and Swatman (1995) agree that effective advertising and marketing campaigns can be expensive and requires marketing experts with a profound understanding of the industry involved. For small businesses access to such expertise is demanding of resources and potentially unattractive, given the available budget of majority of SMEs. On the other hand, localized marketing campaigns are effective in broadcasting the image and products of a small business,

but coverage is limited and such campaigns do not necessarily reach their target audience. However, through the use of the Internet scanning newsgroups, small business can provide important leads to potential customers. The difference between such exercise and traditional marketing campaigns is that it is a 'demand pull' approach as opposed to 'supply push'. Poon and Swatman note that in this exercise, customers go looking for information, rather than waiting for information to be pushed out to them by suppliers.

Advertisement on the Internet can include colour graphics, sound and photo and it can be tailored to fit the need of small business owner or any size company. SMEs can use Internet to produce a colour catalogue every day and send it out to thousands of people all over the world without ever printing a page or buying a stamp. Space is unlimited to the extent that it can be easily increased, although there are limitations to what one can place on a single web page. In this new world of marketplace, presence is not achieved by purchasing limited physical space as with newspapers, magazines or billboards.

Organisations and people are no longer confined by physical infrastructure like plant and office buildings. Newspapers, for example, are no longer bound by traditional publishing economies of scale; the unique characteristic of business on the Internet is its unconstrained physical space (Butler and Peppard, 1997). Being on the Internet lessens one's sense of where a company is located; regardless of size, a business can have the same on-line profile as larger companies. Internet is one place where small businesses are able to effectively compete with their bigger rivals. Hsieh and Lin (1998) point out that 'all the sites on the Internet are equal and small businesses can launch complex sales programs and implement effective globalisation strategies on the Internet just like the bigger companies'. A number of researchers (Schofield, 1997; Ranchhod and Hackney, 1997) have made a compelling case for using Internet for effective marketing. Schofield (1997) discusses how web can be used as marketing medium to improve the effectiveness of marketing.

The Internet medium challenges not only the traditional theories of marketing but also the very practice of marketing itself. It renders obsolete the traditional one-to-many model of mass marketing communication. Hoffman and Novak (1996) argue that the one critical aspect of Internet marketing that all businesses must understand is the Internet's shifting paradigm from traditional media channels. Traditional media view marketing as a one-to-many process whereby a firm communicates its message through a medium to a large group of consumers. While the Internet presents a different model in which a many-to-many process exists, and more importantly, consumers can actually interact with the media, unlike television or radio. This means that consumers actively choose whether or not to access a company's web site and "exercise unprecedented control over the management of the content they interact with" (Hoffman and Novak, 1996).

One-to-one communication between seller and buyer is now easily achieved. They assert that the web heralds an evolution in marketing concepts. They argue in order for marketing effort to succeed in this new medium, a new business paradigm is required in which the marketing function is reconstructed to facilitate electronic commerce in the emerging electronic society underlying the web. The many-to many communication model of the web turns traditional principle of mass advertising inside out (Hoffman and Novak, 1996). The application of advertising approaches, which assumes a passive, captive consumers are redundant on the web.

Research and development ideas

Time and resources are the major constraint for most small business operators and yet the needs

to remain flexible and innovative are the criteria for survival and success for SMEs. Poon and Swatman (1998) suggest that availability of new ideas and the ability to seek opportunities are essential if small businesses are to remain flexible and innovative. The sources of new ideas and opportunities are often freely accessible on the Internet with little time delay, which in turn allows small businesses sufficient time to react to business situations and exploit such opportunities.

Internet as a medium of communication

The growth of email access opens up opportunities for companies to look at different ways of direct marketing or communicating directly with customers through email. Research shows (Shape the Future, 2008; Lawrence, 2002; Lawrence and Hughes, 2000; Poon and Swatman, 1997) that email is the Internet service used most in business. In their study of small business use of the Internet both in Australia and the UK, Poon and Strom (1997) report that the reasons to use Internet in UK businesses were external email (89%), browsing for information (82%) and advertising and promoting business (50%). Their results are similar to Abell and Black (1997)'s findings, in which 94% of their respondents use the Internet to communicate with outside companies.

Clarke (1996) says one aspect of the Internet is its ability to greatly enhance communication channels and is available for consumers to access supplier information, for consumers and their representatives to share information among themselves, and for consumers and their representatives to communicate with suppliers. The studies on the emerging issues of small business use of the Internet conducted by Poon and Swatman (1997), shows that most small businesses are predominantly using Internet as a communication medium and to a lesser extent, as a document transfer and advertising channel.

Communication with customers for documents exchange purposes can be significant overhead for small businesses. The expenses of postal and courier services vary according to business sector but are increasing in line with the ever-increasing volume of information exchange. In order to shorten turnaround time for the decision making process, interactive negotiation and group knowledge are essential. The Internet provides an electronic medium for relatively low-cost communications compared with the cost of a courier and it is much speedier delivery compared with postal services. This ability is particularly important for small businesses, which need to exchange information in digitized form.

However, Howcroft (1998) warns that whilst the availability of large amounts of information may seem appealing, it often has the unintended consequence of information overload. With email systems, the ability to copy and forward messages from one person to many recipients provides the opportunity to increase demands on people's attention. With increasing commercialisation of the Internet the usefulness of email is seriously threatened because of the ease and simplicity in collecting address lists and the lack of expense incurred in the mass distribution of messages (Howcroft, 1998). While this is of tremendous benefit to marketing companies, it is annoying, costly, and distracting for the recipients of these types of messages. While email can serve to reduce social isolation for people who are relatively remote or not in frequent contact with others who share similar interests, it can also have an adverse effect on people with adequate levels of contact (Howcroft, 1998).

Geographic reach/general accessibility

This is particularly important for small businesses, which are heavily involved in business

activities with clients who are geographically dispersed. Apart from using the public network services offered by telecommunications and postal services, the Internet is an effective and viable means of information exchange with business partners and customers. It is a versatile medium which has general accessibility and vast geographic reach, coupled with the ability to ignore political barriers and bureaucratic frameworks. The medium is an essential tool for small businesses that engage in market globalisation activities.

Internet as competitive tool

The use of Internet to gain competitive advantage is represented by a sizeable body of literature (including Bloch and Pigneur, 1995; Chesher, 1997; Pigneur, 1996; Bloor, 1998); they have argued in favour of Internet potential to gain competitive advantage. Tuunainen and Saarinen (1997) say that the Internet is commonly seen to carry a huge potential for businesses to expand their operations and gain competitive advantage. From SMEs point of view, trading on the Internet provides an unparalleled opportunity to reach distance markets (Abell and Black, 1997). Spectrum (1999) survey shows that most SMEs in the UK see ICTs as having a 'key impact' on competitiveness and 86% of employees in the UK now recognize that the use of ICTs is important for competitiveness. The Spectrum survey notes that effective use of information and communication technologies (ICTs) is likely to be a major determinant of competitive advantage in the global market.

Bloch and Pigneur (1995) discuss how Internet can be used to create new services, for example by providing competitive advantage, redefining the competitive position of the company. Chesher (1997) discusses the impact of emerging technologies on companies in sustaining competitive advantage. Pigneur (1996) shows how companies can derive competitive advantage by the use of Internet technology. Bloor (1998) notes that one of the main reason companies use the Internet is to remain competitive. Spectrum (1999) identifies three ways that the use of ICTs can have a positive impact on competitiveness: (1) ICTs can improve efficiency and allow processes to be streamlined by reducing the time and effort required for communicating and processing information. (2) It can improve responsiveness and shorten delivery times by enabling the transformation of business processes and by assisting in organisational change. (3) It can allow the development of new products and services, opening up new business opportunities.

However, Riggins and Rhee (1997) argue that the complexity and rapidly changing dynamics of using these technologies makes it unclear whether or not long term competitive advantage can be achieved. Ambrose et al (1997) argue that it is often difficult for organisation to gain and sustain competitive advantage through the use of the Internet, because of the nature of the technology. Internet is a non-proprietary network, which can be used to clone strategy by competing organisation to achieve the same results. A competing organisation could wait for an organisation to test the water or implement a successful process and then clone or copy the exercise. This might be a better strategy as the following organisations can learn from the first mover's mistake, and pick and choose only the successful components. Ambrose et al (1997) cite an example using business process reengineering (BPR), they point out that BPR cannot be expected to provide an organisation with sustained competitive advantage. This is because BPR is a transparent operation, which can be cloned by competing organisations to achieve the same results. Spectrum (1999) concur that the use of the Internet in relation to electronic marketing can be a competitive threat to SMEs, in their survey it shows that SMEs exhibit some fear that their products and services may be easily copied and perhaps more cheaply produced by an overseas competitor if they are advertised on a global basis to the world at large.

Poon and Swatman (1998) note that loss of competitiveness from the use of the internet was due more to the fact that competitors had also gone on-line, with the result that Internet commerce had become a competitive necessity, rather than a matter of competitive advantage. Reynolds (1997) argues that having an Internet presence is not a source of sustained competitive advantage as the technology can be easily copied. He suggests that there is two strategic use of the Internet: as information medium for new products and services and it can be used to provide value-added services that cannot be easily provided otherwise. Most companies use it as a means to advertise and in the best case get customers to make order through this channel. Many businesses use their web presence more for image building reasons than for financial reward. While a great majority use it to distribute pricing and products information.

Conclusion

The paper has reviewed the opportunities and benefits of Internet usage in SMEs. It began by discussing SMEs and its importance to many countries and their contribution to job creation. SME comprises firms that make up the significant proportion of UK industry, and are therefore very important to the UK economy. A discussion of the distinctive characteristics of SMEs that make them different from larger organizations, their IT and Internet usage was presented.

The versatility and capability of the Internet technology was demonstrated as an ideal platform for SMEs to participate in global market. The literature would seem to suggest that the use of the Internet particularly suit the type and the nature of SMEs businesses. The availability of universal and low cost access to the Internet and World Wide Web and non proprietary technology, was widely seen as providing the basis for development of major global business opportunities and enabling the widespread use and implementation of cost-effective electronic commerce for SMEs.

The Internet delivers a low-cost 24 hours a day/ 7 days a week access to a global IT infrastructure, which provides SMEs with on-line information sources on a global basis. It allows small businesses to gain increase market share and attract prospective customers in a way equal to or better than those which large organisations have been able to access, but with only a fraction of the cost. SMEs can gain substantial benefits by using this open and relatively low-cost information infrastructure to gain competitive advantage against their less entrepreneurial competitors.

Literature suggests that the potential of the Internet to be exploited by SMEs is enormous and the benefit to be gained is only limited by the imagination of the business users. Although it has been suggested that the use of the Internet present exciting opportunities to companies of different sizes, however, for Internet to be deemed suitable for commerce, many technical and economic barriers must be overcome, including security and the limitation of infrastructure. The major issues, facing SMEs is how to manage this changing technology in such a way as to realise the opportunities whilst avoiding the risks.

Bibliography

- Abell, W., and Black, S., (1997), *Business use of Internet in New Zealand: A Follow-up Study*, <http://www.lincoln.ac.nz/ccb/staff/abell/webnet.htm>
- Al-Qirim, N. (2006), *Personas of E-commerce adoption in small businesses in New Zealand*, *Journal of Electronic Commerce in Organizations*, Vol. 4, No.3, pp.17-45
- Angell, I.O. and Smithson, S., (1989), *Managing Information Technology: A crisis of Confidence?* Department of Information Systems, London School of Economics and Political Science,

- working paper series 20
- Auger, P., and Gallagher, J., (1997), *Factors affecting the adoption of an Internet-based sales presence for small businesses*, *The information society*, 13, pp. 55-74
- Barnes, D., Dyerson, R., Harindranath, G., (2008), *If it isn't broken, don't fix it*, <http://www.rhul.ac.uk/Management/Research/PRISM/index.html>
- Behrendorff, G. and Goldsworthy, M., (1996), *Electronic commerce for Small to Medium Sized Enterprises*, Centre for Electronic Commerce, Monash University, Australia
- BERR (Business Enterprise and Regulatory Reform), (2008), <http://stats.berr.gov.uk/ed/sme>
- Bharadwaj, P.N. and Soni, R.G., (2007), *E-Commerce Usage and Perception of E-Commerce Issues among Small Firms: Results and Implications from an Empirical Study*, *Journal of Small Business Management*, Vol.45, No. 4 pp.501-521
- Blili, S., and Raymond, L., (1993), *Information technology: threats and opportunities for small and medium enterprises*, *International journal of information management*, vol. 13, pp. 439-448
- Bloch, M., and Segev, A., (1996), *The Impact of Electronic Commerce on the Travel Industry: An Analysis Methodology and Case Study*, <http://www.hec.unil.ch/mbloch/docs/travel/travel.htm>
- Bloch, M., Pigneur, Y., and Segev, A., (1996), *On the Road of Electronic Commerce A Business Value Framework, Gaining Competitive Advantage and Some Research Issues*, <http://www.hec.unil.ch/mbloch/docs/roadtoec/ec.htm>
- Bloor, R., (1998), *Internet to become dominant medium*, *Computing*
- Burgess, L., and Cooper, J., (1999), *A Model for Classification of Business Adoption of Internet Commerce Solution*, Twelfth Bled Electronic Commerce Conference, Global Networked Organisations, Bled, Slovenia
- Caldeira, M.M. and Ward, J. M. (2002), *Understanding the successful adoption and use of IS/IT in SMEs: an explanation from Portuguese manufacturing industries*, *Information Systems Journal*, Vol. 12, pp 121-152.
- Cameron, J., and Clarke, R., (1996), *Towards a Theoretical Framework for Collaborative Electronic Commerce Projects involving Small and Medium-Sized Enterprises*, Proc. 9th Int'l Conf. EDI-IOS, Bled, Slovenia.
- Cerf, V.G., (1995), *Computer Networking: Global Infrastructure for the 21st Century*, <http://cra.org/research.impact>
- CFIB, (2000), *Internet Use among Small and Medium-sized Firms* www.bcstats.gov.bc.ca/pubs/sbq/sbq01q1.pdf
- Clarke, R., (1997), *Promises and Threats in Electronic Commerce*, <http://www.anu.edu.au//Roger.Clarke/EC/Quantum.html>.
- Clarke, R., (1996), *Issues in Technology-Based Consumer Transactions*, <http://www.anu.edu.au//Roger.Clarke/SOS/SCOCAP96.html>
- Craig, P., King, M., (1993), *Small-firm computing: Motivators and Inhibitors*, *MIS Quarterly* (March), pp. 47-59
- DeLone, W.R., and McLean, E.R., (1992), *Information systems success: the quest for the dependent variable*, *Information systems research*, vol. 3, no. 1, pp. 60-95
- DTI (Department of Trade and Industry), (2009), <http://www.dti.gov.uk>
- DTI (Department of Trade and Industry), (1997, 1998, 1999), *moving Into the Information Age: An International Benchmarking Study*.
- Deschoolmeester, D., and Hee, J. V., (2000), *SMEs and the Internet: on the strategic drivers influencing the use of the Internet in SMEs*, 13 International Bled Electronic conference, Bled, Slovenia
- Eriksson, L.T. and Hultman, J. (2005), *One digital leap or a step-by-step approach? – An empirical study of e-commerce development amongst Swedish SMEs*, *International Journal of Electronic Business*, Vo 3, No.5, pp.447-460.

- Fuller, T., and Jenkins, A., (1995), *Public Intervention in Entrepreneurial Innovation and Opportunism: Short Cuts or Detours to the Information Superhighway?* Babson Entrepreneurship Conference, London Business School, London, UK
- Harindranath, G. Dyerson, R. and Barnes, D., (2008), *ICT Adoption and Use in UK SMEs: a Failure of Initiatives? The Electronic Journal of Information Systems Evaluation* Volume 11 Issue 2, pp. 91 - 96
- Hoffman, D.L., and Novak, T.P., (1996), *A New Marketing Paradigm for Electronic Commerce*, Paper submitted for the Special Issue on Electronic Commerce for the Information Society.
- Howcroft, D., (1998), *spanning the Spectrum from Utopia to Dystopia: An Interpretive Field Study of the Nature and Characteristics of Internet Usage*, Unpublished PhD thesis, UMIST, UK.
- Hsieh, C., and Lin, B., (1998), *Internet Commerce for Small Business*, Industrial Management & Data Systems, Volume 98, Issue No. 3
- Iacovou, C., Benbasat, I, and Dexter, A., (1995), *Electronic Data Interchange and Small Organisations: Adoption and Impact of technology*, MIS Quarterly, 19(4): 465-485
- Igbaria, M., Zinatelli, N., Cragg, P., and Cavaye, A., (1997), *Personal computing acceptance factors in small firms: A structured equation model*, MIS Quarterly, September
- International Data Corporation, *Internet Commerce and Usage in Australia 1997-2002*, <http://www.idc.com.au/PR-ecom.htm>
- Jeoffrey, M. and Roberts, R., (1997), *The Challenge of Exploiting Electronic Commerce*, 7th BIT Conference, Manchester Metropolitan University, UK
- Lawrence, J.E., (2009), *The Utilization of E-Commerce by Small to Medium-sized Enterprises: A U K Perspective*, IADIS International Conference Information Systems, Barcelona, Spain
- Lawrence, J.E., (2008), *The Challenges and Utilization of e-Commerce: The Use of Internet by Small to Medium-sized Enterprises in the United Kingdom*, Information, Society and Justice Volume 1 No. 2
- Lawrence, J.E., (2002), *The Use of Internet in Small to Medium-Sized Enterprises*, PhD thesis, University of Salford, UK.
- Lawrence, J.E., and Hughes, J., (2000), *Internet usage by SME's: A UK perspective*, 13th International Bled Electronic Commerce Conference, Bled, Slovenia
- Levy, M., Powell, P. and Worrall, L., (2005), *Strategic intent and e-business in SMEs: Enablers and inhibitors*, Information Resources Management Journal, Vol. 18, No. 4, pp 1-20.
- Levy, M., and Powell, P., and Yetton, P., (1998), *SMEs and the gains from IS: From cost reduction to value added*. In proceedings of IFIP 8.2/8.6, Helsinki, Finland, December
- Lymer, A., Johnson, R. and Baldwin, A., (1997), *The Internet and the Small Business: A study of impacts*, <http://www.isoc.org/inet98/proceedings>.
- MacGregor, R.C., Bunker, D.J., and Waugh, P., (1998), *Electronic Commerce and Small/Medium Enterprises (SMEs) in Australia: an Electronic Data Interchange (EDI) Pilot Study*, Eleventh International Bled Electronic Commerce Conference, Bled, Slovenia.
- Mason, R.M., (1997), *SME adoption of electronic commerce technologies: Implication for emerging national information infrastructure*, Systems sciences, Proceedings of the thirtieth Hawaii international conference on information systems, pp. 495-504
- Neches, R., Neches, A., Postel, P., Tenenbaum, J.M., Frank, R, (1994), *Electronic Commerce on the Internet*, <http://info.broker.isi.edu/fast/articles/EC-on-Internet.html>
- Observatory of European SMEs (2007), *Competence development in SMEs*, 2008, European Commission
- Oftel, *Internet use among small and medium enterprises* (2002), <http://www.ofcom.gov.uk/static/archive/oftel/publications/research/bint1000.htm#3>
- Pavic, S., Koh, S.C.L. Simpson., M. and Padmore, J. (2007), *Could e-business create a competitive advantage in UK SMEs? Benchmarking: An International Journal*, Vol.14, No.3 pp.320-351.
- Pigneur, Y., (1996), *A Framework for designing new information systems*, <http://inforge.unil.ch/vp/pub/toFUNDP.htm>
- Pool, P.W., Parnell, J.A., Spillan, J.E., Carraher, S. and Lester, D.L. (2006) *Are SMEs meeting the*

- challenge of integrating e-commerce into their businesses? A review of the development, challenges and opportunities*, International Journal of Information Technology and Management, Vol. 5, No 2/3, pp 97-113.
- Poon, S., and Swatman, P., (1998), *Small Business Internet commerce Experience: A Longitudinal Study*, Eleventh International Bled Electronic Commerce Conference, Bled, Slovenia
- Poon, S., and Strom, I., (1997), *Small Businesses' Use of the Internet: Some Realities*, <http://www.isoc.org/inet97/proceedings/C2/C2.1.htm>
- Poon, S., and Swatman, P.M.C., (1997), *Emerging Issues on Small Business Use of the Internet: 23 Australian Case Studies*, in Galliers, R., Murphy, C., Hansen, H.R., O'Callaghan, R., Carlsson, S., and Loebbecke, C., (Eds.), Proc. ECIS, Cork.
- Poon, S., and Swatman, P.M.C., (1997), *In-depth understanding on issues facing small business Internet use: A case study approach*, working paper series, Swinburne University of technology, Australia
- Poon, S., and Swatman, P., (1996), *Small business alliances: A frame-work for Internet-enabled strategic advantage*, Proceedings of the 29th Hawaii conference in systems science, Hawaii
- Poon, S., and Swatman, P., (1995), *The Internet for small businesses: Opportunities, government policies and implications*, Proceedings of the 5th Internet society conference, INET'95, Hawaii
- Ranchhod, A. and Hackney, R., (1997), *Global Marketing through Information Technology*, 7th BIT Conf. Manchester Metropolitan University, UK
- Raymond, L., (1985), *Organisational characteristics and MIS success in the context of small business*, MIS Quarterly, March, 9(1), pp. 37-52
- Reynolds, J., (1997), *The Internet as a strategic resource*, In Willcocks, L, Feeny, D, and Islei, G, (eds.), *Managing IT as a strategic resource*, McGraw Hill
- Riemenschneider, C. K., and McKinney V. R., (1999), *Assessing the Adoption of Web-based E-Commerce for Business: A research proposal and preliminary findings*, The International Journal of Electronic Commerce and Media, volume 9, (1/2): pp. 9-13.
- Riggins, F.J. and Rhee, H., (1997), *Toward a Unified View of Electronic Commerce*, <http://riggins-mgt.iac.gatech.edu/papers/unified.html>
- Schofield, P. A., (1997), *The World Wide Web: Marketing Communications and Improving Effectiveness*, 7th BIT Conf. Manchester Metropolitan University, UK
- Shape the future, (2008), *UK Small Medium Enterprises*, http://files.shape-the-future.com/reports/Zen/SME_ISP_Survey.pdf
- Tuunainen, V.K. and Saarinen, T., (1997), *EDI and Internet-EDI: Opportunities of Effective Integration for Small Businesses*, in Galliers, R., Murphy, C., Hansen, H.R., O'Callaghan, R., Carlsson, S., and Loebbecke, C., (Eds.), Proc. ECIS, Cork.
- Wymer, S.A. and Regan, E.A., (2005), *Factors influencing e-commerce adoption and use by small and medium businesses*, Electronic Markets, Vol. 15 No. 4, pp 438-453.