AN INVESTIGATION INTO ISSUES INFLUENCING THE USE OF THE INTERNET AND ELECTRONIC COMMERCE AMONG SMALL-MEDIUM SIZED ENTERPRISES

Mark Stansfield
School of Information and Communication Technologies
University of Paisley, UK
mark.stansfield@paisley.ac.uk

Kevin Grant
Division of Business Information Management
Glasgow Caledonian University, UK
kevin.grant@gcal.ac.uk

ABSTRACT

Since small-medium sized enterprises (SMEs) play a vital role within many major economies throughout the world, their ability to successfully adopt and utilize the Internet and electronic commerce is of prime importance in ensuring their stability and future survival. This paper highlights some of the important issues identified by SME managers relating to the adoption of Internet related technology that government policy makers will have to address if their initiatives aimed at increasing adoption among SMEs are to succeed. Initial findings will be reported of a study carried out by the authors into the use made of the Internet and electronic commerce and key issues influencing its use by SMEs among a sample of 484 businesses within West Central Scotland. The study has drawn upon a number of data collection techniques such as questionnaires sent to 2,500 small businesses, in-depth face-to-face interviews and telephone interviews. With a base response rate of 20% the data reveals interesting details relating to actual connectivity levels, attitudes with regard to how small businesses perceive the Internet and electronic commerce, as well as the impact of government policy on Internet connectivity and adoption. The results gained from the study will be compared with figures relating to businesses in the rest of Scotland and the UK, as well as the US, Canada and Japan, and European countries that include Sweden, Germany, France and Italy. The issues raised from this study will be compared with similar studies carried out in other countries such as Australia, New Zealand and British Columbia, as well as countries within the European Union in order to provide a wider international context for the results of the study.

1. Introduction

Today, it would be rather naïve to suggest that the Internet and Internet related technologies are not having a major impact upon the ways in which we work and live. Indeed, the emergence of the phenomenon known as electronic commerce is described by Kalakota and Robertson (1999) as being the most significant challenge to the business model since the emergence of information technology itself. Despite well publicised dot.com failures, the Internet is undoubtedly providing fresh opportunities to companies of all sizes in terms of expanding their marketplace, creating highly specialised businesses and improving the quality and speed of their processes, especially buying and selling. Within the context of smaller companies, with electronic commerce, size and location can become irrelevant in which smaller companies can, in theory, have access to the same global market places as large companies. However, for smaller companies, electronic commerce provides particular challenges if they are to survive and flourish in the face of competition from larger companies who have more resources, technical expertise and capital. A broad perspective with regard to electronic commerce is taken in this paper, in that electronic commerce will be viewed within the context of performing any business process electronically. This may utilize a wide range of technologies that include electronic data interchange (EDI), e-mail, the Internet, the World Wide Web, intranets and extranets.

2. Research Background and Motivation

Published literature (e.g. EBPG, 2002) confirms that business value from SMEs adopting the Internet and Internet related technologies is growing in importance and is at the heart of government level support in many countries. Since SMEs play such a vital role within most economies throughout the world, many governments have attempted to dismantle some of the barriers faced by SMEs in adopting electronic commerce by setting up various initiatives to try to stimulate business acceptance and use. These initiatives include electronic commerce training workshops, access to electronic commerce advisors, tax incentives to increase training budgets, and programmes to ensure that advisors working with SMEs are able to give high quality advice. In the UK, a public/private partnership brings together the Department of Trade and Industry, British Telecom, Compaq,

Intel and Microsoft to help train the full range of advisors working with SMEs to ensure that they have the latest information and communication advice.

This research study set out to find out what the main issues and barriers were with regard to the level of Internet and electronic commerce adoption and activity, particularly among micro and small businesses. These types of businesses play a vital role within many economies globally. For example, there are 19 million SMEs in the European Union (EU) alone in which they make up over 99% of enterprises in most EU member states (EBPG, 2002). The study described in this paper focus on small businesses in Lanarkshire, an area located within West Central Scotland where micro and small businesses play a vital role within the economy. The results and issues arising from the study are placed within an international context with comparisons made to similar studies conducted elsewhere.

The ability of micro and small businesses to harness Internet related technology, explore new markets and remain competitive will be an important factor in achieving future economic stability and success. The motivation behind this study was to raise awareness and provide empirical insight into important issues and barriers to the adoption and use of the Internet and Internet related technologies among SMEs so that government initiatives can become more targeted and effective. This paper hopes to show that despite government initiatives, there are still a number of key barriers to the successful adoption of the Internet and electronic commerce by SMEs. Such barriers and concerns expressed by SME managers will have to be addressed if initiatives developed by government policy makers and external support agencies are to be successful. A failure to do so will place many SMEs across the world under threat from those companies that have successfully utilised electronic commerce in order to take up new opportunities and remain competitive. In addition, a great deal of public money and resources is being used in developing and implementing these initiatives and it is important that such funds are put to optimum use and are not wasted.

This paper will develop a wider and more holistic view of Internet adoption and usage for SME's that seeks to explore the inter-relationships between key variables and to complement other studies carried out at national and international levels. It is through conducting studies such as this, that a greater understanding of the main issues surrounding Internet and electronic commerce adoption among SMEs can be achieved and empirical insights into the impact of government level support mechanisms assessed.

3. IT and Internet Adoption within an SME Context

In order to provide a context for the study reported in this paper, it is important to investigate work carried out elsewhere into issues relating to the successful adoption of IT and Internet related technologies. This will enable the findings reported in this paper to be placed within a wider setting and enable comparisons to be made.

In terms of the factors that influence the successful adoption Internet related technologies within SMEs, a number of authors (e.g. Chau, 2001; Mehrtens et al. 2001) identify three major factors, namely perceived benefits, organisational readiness and external pressure. In relation to perceived benefits, these include increased sales, improved communications with customers, vendors and employees, faster responses to customer inquiries and easier order tracking (Baldwin et al. 2000). However, SME managers need to be convinced of the benefits before fully adopting the technology, in which some managers do not feel that Internet technologies provide a significant improvement in service, compared with traditional methods (Marshall et al. 2000; Mehrtens et al. 2001; EBPG, 2002). Also highlighted in the literature, is the significant role regarding the attitude of the owner towards IT adoption (Levy and Powell, 2002; Chong, 2001). Often the more successful companies that embrace IT and Internet technologies are the ones where the owner takes on the role of the innovation champion of the IT adoption. In addition, such champions will have a reasonable level of knowledge and understanding regarding the specific technology.

Developing a clear and explicit strategy and careful planning is regarded as being an important step towards managers fully appreciating the potential of the Internet and maximising the benefits that it may provide (Lymer et al. 1999). For example, SME managers often find difficulties in appreciating the value of intangible benefits such as improved company image which can add to the feeling of uncertainty regarding the value and impact of the Internet (Marshall et al. 2000).

In terms of financial resources, whilst some studies highlight this as not having a major influence on the decision to adopt Internet technologies (Mehrtens et al., 2001), other studies highlight the situation that due to limited resources (e.g. financial, time, management personnel), SMEs cannot afford to experiment with these technologies and make expensive mistakes (EBPG, 2002). Consequently, this leads many SME managers to adopt a 'wait and see' attitude regarding the adoption of Internet technologies and electronic commerce models in order to minimize risks (EBPG, 2002).

Levy and Powell (2002) suggest that SMEs follow four stages of IT adoption. The first stage is efficiency where IT adopted is for control, primarily financial. The second stage is one of co-ordination to improve customer care through technological integration. The third stage is collaboration, and is the first to focus on relationships along the industry value chain, that is how SMEs communicate and exchange information with

customers using systems such as e-mail and the Internet. The fourth stage is one of innovation which is an integral and tightly woven part of business strategy. In order to get the most from IT adoption, companies must develop their IT capabilities and progress through the different stages of IT adoption. It is the extent to which SMEs ensure that the IT is fully integrated within all aspects of the business that is an important factor in achieving success in the area. To achieve this, many SMEs are concerned with the integration of their legacy IT systems with new IT systems and electronic commerce models (EBPG, 2002). Significant benefits may accrue to those small businesses that are willing to change their organisation and business processes to fully exploit the opportunities offered by electronic commerce (Baldwin et al. 2000). At the lowest levels of adoption, small businesses can use the Internet to surf and carry out basic market research. Having a virtual presence in the form of a web site is also within reach of most SMEs. However, studies have shown that there is little evidence of SMEs making the necessary internal changes needed in order to fully exploit these opportunities (Marshall et al. 2000).

The adoption of Internet related technologies is also characterised by increased competition and threats with SMEs needing to be responsive to customer needs, developing new opportunities and investing in networks and relationships. With regard to external pressures, customer expectations and demands for companies to have an Internet presence, as well as the actions of competitors are also cited as being an important influence in the Internet adoption process for SMEs (Marshall et al. 2000; Mehrtens et al. 2001; Chong, 2001). An important issue is the extent to which SMEs take part in this transformation through the adoption and development of electronic commerce strategies or as Levy and Powell (2002) call it the different stages of adoption in the IT adoption lifecycle.

4. The Role of Small-Medium Sized Enterprises in Scotland

For many years, small businesses have played an important role in the Scottish economy, particularly since the decline of traditional industries such as shipbuilding, coal, steel and textiles. Scottish Office figures in the Scottish Economic Bulletin No. 58 (1998) show that in 1997 there were 296,640 enterprises in Scotland of which, 98.2%, were small, between 0 to 49 employees. With regard to medium sized firms, those between 50-249 employees, in 1997 there were 3,311 enterprises in Scotland of this size that accounts for 1.1% of the total number of enterprises. Campbell and MacDonald (1999) highlight that small firms make a significant and consistent contribution to job creation whatever the trade cycle is.

4.1 The regional context

Lanarkshire extends over an area of 859 square miles situated between Glasgow and Edinburgh and supports a population of 633,000. 1.5 million people live within 30 miles of Lanarkshire and 3 million people live within 1 hour, which is approximately 60% of the total Scottish population. Within Lanarkshire, 193,00 people are employed with 28% employed in manufacturing and 30% employed in services. Lanarkshire has managed to diversify away from an economy traditionally based on coal and steel to a wide range of other sectors. The range of sectors within Lanarkshire includes services, engineering, electronics, food and drink, plastics, biotechnology, software and healthcare. Central to this commitment towards the building of a 'new post-steel Lanarkshire' (Livingstone, 1997. p2) is the attempt to develop a range of integrated strategies of which the focus on and support for electronic commerce is a central strand.

5. The Research Study

The study followed a number of stages involving the use of both qualitative and quantitative data collection techniques and approaches. For the purposes of this paper the main emphasis is on the quantitative aspects, regarding connectivity and integration levels.

The main data collection techniques included:

- Interviews

Interviews were carried out with 15 businesses in the area. The businesses were sampled on a convenience basis, however efforts were made to ensure as wide a spectrum as possible in terms of size and sector. The main purpose of interviews was to inform the questionnaire design for the survey stage of the research. Owners were given the opportunity to express their views on the issues surrounding the use of the Internet and electronic commerce within their businesses.

- The questionnaire

The questionnaire (see Appendix A) was designed and piloted with a sample of 20 businesses. In addition, peer evaluation was also undertaken to shape the final questionnaire design. The questionnaire was sent to a sample of 2,500 small businesses. The business information was drawn from existing databases for the area. After allowing for void returns (i.e. companies not known at address), the overall response rate stood at 20%.

- Telephone interviews

In order to test for non-response error bias and to simultaneously encourage response to the questionnaire a sample of almost 10% of the businesses were telephoned. The businesses were asked if they were prepared to complete the questionnaire and whether they used the Internet. Around 50% of the businesses said they were on-

line, which was a significant shortfall on the 70% of respondents to the questionnaire, suggesting that those companies not responding were less likely to be on-line than those companies responding to the questionnaire. This does represent a non-response bias which is a limitation of the study. The questions asked during the telephone interviews were based around the questionnaire.

- Analysis

The data from the questionnaire was coded and analysed using the SPSS statistical software package. The initial part of the analysis focused on the descriptives of the respondents. This was followed by details of actual Internet and electronic commerce usage and thereafter using cross tabulations to examine patterns within the data regarding factors, which might drive or act as a barrier to Internet and electronic commerce take-up. Factors distinguishing connected from non-connected businesses were also isolated as were prevailing attitudes.

5.1   Profile of the responding businesses

The vast majority of businesses in this study are classified as micro and small. Micro businesses (employing less than 9 employees) made up 69% of the respondents. A further 23% were small businesses employing between 10 and 49 employees. Business ownership tended to be highest in the middle age group, with 34% of owners being in the 35-44 age group and 31% were in the 45-54 age group. 15% of the respondents were female.

More than 80% of the businesses have been in existence for more than 3 years. Limited companies made up 48% of the sample while 30% of the businesses are registered as sole traders. 86% of the businesses are VAT registered and around a third reported a turnover between £100,000-£500,000. Businesses with a turnover of less than £50,000 made up 17% of the sample.

Nearly 40% of the firms rely on local markets for 75% of their sales. Under 20% of the sample sell into the European market and for the majority, this constitutes less than 25% of their sales. Still fewer firms sell into non-EU overseas markets. The majority of respondents stated that their business objective was for either moderate or substantial growth. There was some evidence that younger business owners are more likely to favour substantial growth than older business owners.

5.2   Sectoral classification of businesses

Of the 484 responding businesses, 451 gave details of their main business activity. These were sorted according to the Standard Industrial Classification (SIC) system with the exception of the technology class, which was included to identify firms whose business activities are focused in this area. Table 1 shows the actual profile of the respondents as classified by sector. A third of the firms came into the service category (business or otherwise). Retail, repair and wholesale made up around 20%, while manufacturing made up 16% of the sample. Table 1 is useful as it gives support to the idea that the more information intensive the enterprise is the more likely impact and benefit Internet related technology may have.

Table 1: Sectoral classification of responding businesses

Sector	Number of Businesses	Valid Percentage (Rounded)
Retail, Repair and Wholesale	93	21
Business Service	93	21
Manufacturing	74	16
Other Services	60	13
Construction	39	9
Technology	22	5
Financial Services	19	4
Transport	15	3
Energy and Water	8	2
Other	8	2
Hotels, Restaurants and Pubs	7	2
Education and Training	7	2
Health and Social Services	4	1
Agriculture	2	1
Total	451	100
Invalid/missing details	33	
Total	484	

6.   Initial Results from the Research Study

6.1 Connectivity levels

Businesses were asked to state both their current and future plans in relation to the use of the Internet. Overall 70% of the responding firms indicated that their organisation currently use the Internet (Table 2). This

figure is favourable when compared to micro businesses that are connected to the Internet in other countries such as Japan (45%), Italy (46%), France (55%) and the UK (55%). Countries where the figure was higher included Sweden (60%), the US (61%), Canada (63%) and Germany (65%) (Scottish Enterprise Network, 2000).

The figure for e-mail use stands slightly higher at 73%, while 90% of the businesses use PCs. Use of Intranets and other electronic commerce related technology such as Local Area Networks (LAN) was unsurprisingly, much lower given the numbers of micro businesses that took part in the study.

Within an international context, for figures for all business in Scotland using LAN technology is high (73%) when compared to other countries such as Italy (64%) Germany (60%), Japan (68%), France (69%) and the US (72%). However, the figures for Intranet adoption is lower in comparison for all businesses in Scotland (46%) when compared with other countries such as Germany (51%), the US (56%) and Canada (59%), however this is ahead of France, Japan and Italy (Scottish Enterprise Network, 2000). In terms of e-mail adoption for all businesses, Scotland is positioned very favourably at 86% behind the US (93%), Canada (92%), Sweden (90%) and the UK (88%) (Scottish Enterprise Network, 2000).

Table 2: Current Internet related technology use of responding businesses (Within the data there were a number of firms who used more than one, if not all of the IRT listed)

Internet Related Technology	Number of Businesses	% of Respondents Using the Technology
Personal Computers	429	90
E-mail	348	73
Internet	334	70
Intranet	57	12
Other (e.g. LAN, EDI)	48	10
Total	476	
Invalid/missing details	8	
Total	484	

Table 3 provides details of how long responding businesses have been connected to the Internet. Nearly 40% of all the respondents using Internet related technology said that they had only gone on-line in the last year.

Table 3: Length of responding businesses have been connected to Internet

How long has the business been connected to the Internet?	Number of Respondents	Percentage
In the last 6 months	58	16.7
In the last 6-12 months	77	22.1
In the last 1-2 years	100	28.8
More than 3 years	95	27.3
No interest in the Internet	17	4.9
Total	347	71.7
Invalid/missing details	137	28.3
Total	484	100

Table 4: Current and planned web page development

Does the business have a web page?	Number of respondents	Percentage
Yes	182	51.7
No	55	15.6
Web Page Planned	115	32.6
Invalid/missing details	132	27.2
Total	484	100

6.2 Virtual presence

The first stage on the path to full adoption and integration of Internet related technology is the establishment of an on-line presence in the growth adoption module. The respondents were asked if they had, or planned to have a web site. Table 4 provides a detailed breakdown. 37% of respondents or nearly 52% of businesses connected to the Internet stated that they had a web page. In comparison the 2000 Scottish Enterprise

Benchmarking Study put the Scottish figure at 65% for all businesses with a marketing web site. The Benchmarking Report puts the number of micro businesses in Scotland with marketing web sites at 41%. The comparable unadjusted figure in this study is around 45%. To place the results within an international context, figures produced by Scottish Enterprise Network (2000) for all businesses with a marketing web site, show that Sweden is the leading nation with 76%, followed by the US (68%), the UK (66%), Germany (66%) and Canada (65%). However, what is surprising is given all the marketing of Scottish Enterprise's Connect Scotland initiatives is that a third of the sampled SMEs did not yet have a web presence. Thus, a third of the SMEs surveyed have not moved on to stage 1 of Levy and Powell's stages of IT adoption which is concerned with using IT for efficiency and greater financial control. If Scottish SMEs are going to complete equally on the international stage then they must quickly achieve stage 1 and move quickly to the other stages of collaboration and innovation.

Table 5 outlines the breakdown of businesses with web sites against size of business as defined by number of employees. A pattern emerged which links increased firm size (as defined by employee numbers) to a virtual presence. What is surprising is the enterprises with the least staffing resources, and therefore knowledge base, are more likely to have a web page as a means of promoting their goods and services to the outside world. Companies with less than 50 employees appear to be the ones which have made the greatest strides with regard to Internet related technologies. This would suggest that the government should refocus their policies and assistance packages by targeting those companies with less than 50 employees and moving them onto the next stages of IT adoption.

Table 5: Current and planned web page development by size of business

Has the business got a web page?	Less than 10 employees	10-49 employees	50-99 employees	100+ employees	Total	%
Yes	90	55	8	0	168	51.9
No	37	9	0	1	49	15.1
Web Page Planned?	75	25	2	0	107	33
Total	202	89	10	1	324	100

6.3 Utilisation and integration

Establishing levels of connectivity and presence is only the first part of understanding how small businesses are utilising Internet related technology. In order to gain a clearer picture about actual levels of integration and penetration of the technologies into the businesses, the respondents were asked a number of specific questions about what they were currently using the Internet for, and what they intended to do so in the future. Table 6 gives a detailed breakdown of both current and planned usage of various aspects of Internet related technology.

For the majority of the firms, increasing their utilization of the technology is part of their overall business strategy. Over 84% of all the respondents either have or plan to have a web presence. Overall however, the data paints a picture of businesses that currently use the technology mainly as a research tool for finding out information about competitors, customers and alternative supply sources. Passive surfing for information is the predominant feature. Market research related activities remain among the more popular uses of the Internet and at the most active level the majority are supplying product information and using the medium as a communication device (particularly e-mail) to build up business connections. Searching for on-line suppliers was mentioned by 57% of firms as one of their main uses for the technology.

In terms of utilization for trading purposes almost 51% (178) of businesses said they bought goods or services on-line; only 26% (92) reported that they sold goods and services in the same way. Only a small number of firms, nearly 9% (30) bid for contracts on the Internet. In total, nearly 7% (24) reported having a separate on-line subsidiary. Some evidence of the lack of impact that the technology has had on internal organisational processes comes from the small number of businesses, 8% who report having made any staff changes as a result of using the Internet.

When set against the wider international context, 29% of all Scottish businesses can be classified as trading online, compared with Japan (8%), France (9%), Italy (11%), Sweden (20%), Canada (24%), the US (26%) and the UK (27%) (Scottish Enterprise Network, 2000). Just over 44% of all Scottish businesses order supplies online, whereas only 27% pay online. In Japan 15% order supplies online and 6% pay online, in the US 53% order supplies online and 19% pay online, in Sweden 50% order supplies online and 23% pay online and in the UK 44% order supplies online and 28% pay online (Scottish Enterprise Network, 2000).

The rapid uptake of the technology by small businesses has not been matched by a similar rush to provide training support. For many of the respondents, most of the training that takes place is informal 'on the job'. This is a finding that reinforced the results from the initial interviews. Most of the respondents were unwilling to commit staff time to a technology in which the returns were uncertain. Formal training on using the Internet is given by less than 24% of the companies actually using the technology. This figure is lower than for micro businesses in Scotland as a whole (33%). Set within an international context, the figure for Scotland in terms of

offering formal IT training is quite low (58%) when compared to Sweden (75%), France (73%) and Germany (71%), but higher compared with Japan (41%), Italy (47%) and the US (50%) (Scottish Enterprise Network, 2000).

Table 6: Current and planned use of the Internet and electronic commerce

What is your Current and Planned Use of the Internet?	Yes	No	Planned	Total
To find out about competitors	234 (66.7%)	105 (29.9%)	12 (3.4%)	351 (100%)
To find out about customers	214 (61%)	127 (36.2%)	10 (2.8%)	351 (100%)
To find out about suppliers	201 (57.4%)	129 (36.9%)	20 (5.7%)	350 (100%)
To provide product information	189 (53.8%)	66 (18.8%)	96 (27.4%)	351 (100%)
To set up web page	182 (51.7%)	55 (15.6%)	115 (32.7%)	352 (100%)
To purchase goods/services	178 (50.7%)	137 (39.1%)	36 (10.2%)	351 (100%)
To build customer connections	163 (46.6%)	148 (42.3%)	39 (11.1%)	350 (100%)
To monitor hits on web site	117 (33.6%)	164 (47.2%)	67 (19.2%)	348 (100%)
To sell goods/services	92 (26.2%)	168 (47.9%)	91 (25.9%)	351 (100%)
To give staff formal training on the Internet	83 (23.7%)	217 (62.0%)	50 (14.3%)	349 (100%)
To bid for contracts	36 (10.3%)	280 (80.4%)	32 (9.3%)	348 (100%)
To make staff changes as a result of using the Internet	30 (8.6%)	312 (89.4%)	7 (2.0%)	349 (100%)
To have a separate online subsidiary	24 (6.9%)	309 (89.4%)	13 (3.7%)	346 (100%)

This undervaluing of training is worrying since without the skills to employ the technology efficiently and effectively. The government agencies responsible for connecting Scotland must encourage SMEs to train their staff appropriately. Perhaps one idea would be to encourage and reinstate the popularity of day and block release schemes for staff to attend local further and higher education providers. Over the years there as been a steady decline in this type of attendance and study pattern. The government needs to look at the funding of day release for educational institutions and more importantly how they reward and provide incentives to SMEs to train their staff. Such measures could include, individual learning accounts for technological training and free technological training packages at local educational providers.

6.4 Perceptions and attitudes

In common with businesses in the rest of the UK, the firms in the Lanarkshire area are embracing Internet related technology. Only 4% of respondents for this survey stated that they thought their business would probably never go on-line. Overall perceptions of, and attitudes towards the technology are strongly positive. When respondents were asked about the relevance of the Internet for their businesses and whether it was a valuable business tool there was agreement, even among those firms not currently using the technology, that it was both relevant and valuable (Tables 7 and 8). A typical response from an SME manager who was interviewed was *"The Internet is here and it's here to stay, I've no doubt it's going to help us in lots of ways and possibly provide new opportunities"*.

Within an international context, in terms of the importance of electronic commerce to competitiveness in the short to medium term, 72% of all Scottish companies considered it to be very important which compares favourably with France (52%), Japan (53%), the US (60%), Canada (63%) and Germany (71%) (Scottish Enterprise Network, 2000).

Table 7: Attitudes to the Internet as a valuable business tool

Do you consider the Internet to be a valuable business tool?	Using Internet	Not using Internet	Total	Percentage
Strongly disagree	5	2	7	1.5
Disagree	17	15	32	6.7
Neutral	49	48	97	20.2
Agree	129	65	194	40.5
Strongly agree	135	14	149	31.1
Total	335	144	479	100

Table 8: Attitudes to the Internet having no relevance

Do you consider that the Internet has no relevance?	Using Internet	Not using Internet	Total	Percentage
Strongly disagree	176	20	196	40.6
Disagree	99	56	155	32.1
Neutral	46	47	93	19.2
Agree	12	16	28	5.8
Strongly agree	4	7	11	2.3
Total	337	146	483	100

Respondents using Internet related technologies were asked to give their overall assessment of the impact of the technology on their businesses. Tables 9 and 10 outline the results.

Table 9: The impact of the Internet on the responding businesses

What kind of impact do you consider the Internet to have had?	Number of respondents	Percentage	Percentage of those using the Internet
A positive impact	192	39.7	57.3
No impact	109	22.5	32.5
A negative impact	2	0.4	0.6
Don't know	32	6.6	9.6
Don't use the Internet	17	3.5	
Total	352	72.7	
Invalid/missing details	132	27.3	
Total	484	100	100

Table 10: The impact of e-mail on the responding businesses

What kind of impact do you consider e-mail to have had?	Number of respondents	Percentage	Percentage of those using e-mail
A positive impact	263	54.3	76.2
No impact	64	13.2	18.6
A negative impact	1	0.2	0.3
Don't know	17	3.5	4.9
Don't use e-mail	5	1.0	
Total	350	72.3	
Invalid/missing details	134	27.7	
Total	484	100	100

Only a very small percentage, less than 1% report a negative impact for either the Internet or e-mail, but a much larger number report 'no impact' or are unsure of just what the impact has been. These figures may stem from the relatively short time that many firms have been on-line but allowing for this, investment in the technology is clearly an uncertain gamble for many. The evidence from the initial interviews suggested that Internet adoption is often for reactive reasons e.g. fear of being left behind, rather than proactive reasons i.e. to use the technology to do business differently. A typical response from an SME manager was *If we don't get to grips with the Internet and all this new technology, I can bet you that many of our competitors will and then it's a case of losing customers and playing catch-up. We can't afford to be in that position*.

Within the context of the UK as a whole, the main competition drivers among electronic commerce users include customer demand (68%), improving the range and quality of services offered (70%) and avoiding losing markets share to competitors already using electronic commerce (71%) (Scottish Enterprise Network, 2000).

53% of all Scottish businesses believe that electronic commerce is very important or essential to developing foreign markets. This compares with other countries such as Japan (44%), the US (49%), Sweden (41%), Germany (51%) and France (53%). Countries where this figure was higher included Canada (54%) and the UK (55%) (Scottish Enterprise Network, 2000).

6.5 Barriers to Internet and electronic commerce take-up

The questionnaire was designed to allow those businesses currently not connected the opportunity to rate a number of factors in terms of their importance in influencing the decision not to take-up the Internet and electronic commerce. Table 11 outlines the percentage of respondents who rated these factors as being important or very important.

Overall, the strongest factor to emerge in terms of barriers to take-up appears to be a lack of knowledge about the Internet and electronic commerce (52%). Other factors which could be linked to this lack of knowledge include a lack of advice and support (45%) and a lack of staff with IT skills (46%). Some of the responses of the SME managers to this barrier included *"All of this Internet stuff sounds great, but I just don't know where to start, basically I don't have the knowledge"* and *"When you don't have the knowledge, making the leap into the unknown is a real fear for me"*. Related to the lack of IT skills was the fear that if they invested in their staff gaining these skills they would demand more money or leave to go and work elsewhere for more pay or better prospects. One SME manager commented *"I'm not paying for one of my staff to get trained up only to find that 6 months later they go and leave to get a better job for more money than I can afford to pay them"*.

Table 11: Barriers to Internet and electronic commerce take-up for companies not currently connected to the Internet (Multiple answers were allowed in answer to this question)

Factors Influencing Decisions **NOT** to take-up the Internet and electronic commerce	% Response who considered Factors Important or Very Important
A lack of knowledge	52
Lack of time	47
Lack of staff with IT skills	46
A lack of advice and support	45
Too expensive	39
Too complex	38
Few customers are on-line	33
Not relevant to business	33
A fear of being 'ripped off'	31
Business too insecure	28
Few suppliers are on-line	27
Business too slow and disorganised	26
Few competitors are on-line	23
No wish to expand	18

Further research would be needed to investigate the exact nature of this knowledge gap and how much of a barrier it really is. Expense and complexity were viewed as being 'important' or 'very important' barriers by around 40% of respondents. A fear of being 'ripped off' and concerns over security were mentioned by around 30% in terms of their importance. One of the SME managers commented *"I don't particularly trust consultants, they charge too much money and I've no guarantee that I'll actually gain any real benefits at the end of the day"*

Within an international context, figures from Scottish Enterprise Network (2000) show that IT skills shortage was considered to be a barrier by 40% of non electronic commerce users in the UK, 15% in the US and 30% in Scotland as a whole. Lack of management commitment accounted for 39% in the UK, 47% in the US and 50% in Scotland as a whole. No tangible benefits accounted for 60% in the UK, 50% in the US and 63% in the whole of Scotland. High technology costs accounted for 54% in the UK, 74% in the US and 60% in the whole of Scotland.

7. Issues Influencing the Use of Internet and Electronic Commerce among SMEs

Overall the main use for the Internet related technology is for undertaking research activities, in particular, looking for new suppliers and customers and finding out about the activities of competitors. Whether this is part of a natural trend towards electronic commerce is debatable. Firms who had been on-line for more than two years were only marginally more likely to buy or sell via the Internet than firms who had gone on-line more recently. These findings appear to be in keeping with other studies carried out elsewhere in the world. For

example, MacKay et al. (2001) who carried out a study of the impact of electronic commerce on SMEs in British Columbia, found that most SMEs (82.4%) reported using websites for information sharing with external shareholders.

Within West Central Scotland, while some electronic commerce activity is taking place, this is mainly in the form of buying. Selling on the other hand is less common. Whether this is a local phenomena remains open to question. However, evidence for the regionality of this issue comes from a recent national survey of over 1000 business across the UK. In this study almost the exact opposite results emerged with twice as many firms in the national study selling as buying (Carter and Anderson, 2001). It is possible that a regional e-trade gap is emerging with West Central Scotland losing out to other regions.

There is truth in the on-line cliché that 'your competitors are only a couple of clicks away'. More distant on-line competitors may displace local suppliers. Clearly this is a simplification, but it could help explain this emerging e-trade gap. Evidence from the interview stage of the research reinforces these findings. It was noted that these on-line suppliers were often based at a considerable distance. For example, one company commented that they had ended a 20-year relationship with a local supplier in favour of sourcing materials on-line from a company based in Scandinavia. Thus, small businesses who are failing to sell their goods and services on-line may be failing to make the strategic changes required to become e-businesses. Fenby (2000) states that "the sheer speed with which companies now move on the Internet requires faster decision-making and an adaptability which some, naturally, may find foreign to the way they have been used to doing business".

Given the implications of Internet based technology upon businesses, one might expect to observe significant organisational impact on internal structures and staff. However, only a small percentage of businesses reported making staff changes as a result of using Internet related technology. Similarly only a small number of respondents said that the technology had had any impact on their internal operations. A study of SME car dealerships in Western Australia by Marshall et al. (2000) found that there was little evidence of internal changes taking place in response to the opportunities offered by electronic commerce. This appears to be symptomatic of organisations that are 'bolting' the technology onto their existing structures and practices. The use of Internet related technology is mostly 'front end', i.e. typically static sites providing product information and contact details. This approach may be seen as the only option for many small firms who are uncertain about risking scare resources to a technology where the returns might be uncertain. Certainly the current high profile coverage of dot.com failures is scarcely likely to encourage small firms to take the electronic commerce road, particularly if it means major change and investment.

The risks associated with electronic commerce (i.e. mistakes due to limited experience and knowledge of the area) may lead to a lack of commitment necessary to move up the adoption ladder. This failure may jeopardise local firms as they lose out to more adventurous on-line competition. A study by Chau (2001) of small businesses in Hong Kong found that the lack of knowledge and skills and unsatisfactory internal IT support were important reasons why small businesses decided not to adopt Internet related technologies such as EDI. A study carried out by Chong (2001) of SMEs in Australia and Singapore found that the main barriers to electronic commerce before adoption were the initial set-up costs and the lack of in-house expertise or competence. Furthermore, the same study reported that the main barriers while adopting electronic commerce were lack of managerial time and shortage of skills. The study by MacKay et al. (2001) in British Columbia also found that SME managers were very concerned about the risks associated with doing business on the Internet. A similar situation was found by Marshall et al. (2000) in Australia who found that the situation regarding the Internet and car retailing seemed to be characterised as one of great uncertainty and some anxiety.

In broad terms, the pattern that emerged from the study was that larger businesses, whether defined by numbers of employees or turnover were more likely to utilise Internet related technologies and applications than smaller businesses. However, this is distorted by sectoral variations. For example, in the business services sector there were a large number of micro businesses who were more likely utilise Internet related technologies and applications than in other sectors were it was low such as retail, repair and wholesale. Thus, in some respects, business type and activity were strong determinants with regard to the utilisation of Internet related technologies and applications than size of business alone. The study carried out by MacKay et al. (2001) into SMEs in British Columbia also found that the highest level of adoption was in the business services sector such as financial services and the technology sectors, with the lowest being found in the repairs and maintenance industry sector.

Local and national policy makers may have to face up to the reality that the Internet, far from creating the so called 'level playing field' in which local small businesses can compete cost effectively with their larger rivals, is simply exacerbating the old economic problems that underlie areas such as West Central Scotland. The worst-case scenario is that the technology destroys many local businesses as their on-line competitors can now more easily and cost effectively reach into the local market. Local businesses that previously were protected because their niche was too small and localised to be attractive to competitors may now find that their markets are now open to all.

In the study, important factors that influenced companies not to adopt the Internet and electronic commerce included a lack of knowledge, a lack of skills and a lack of advice and support. The role of external support in convincing SMEs of the benefits of electronic commerce, as well as providing the knowledge and skills to be able to successfully adopt and further develop their electronic capabilities is of great importance. For example, even in Finland, which has one of the highest rates of Internet access (90%), it is still perceived as being important to raise awareness among micro businesses (EBPG, 2002). Few companies adopt deliberate and explicit strategies with regard to electronic commerce (Marshall et al., 2000), mostly due to a lack of skills, knowledge and time. Education and training is viewed as being crucial to addressing the lack of readiness of SMEs in adopting and developing their electronic business capabilities (Chau, 2001). The reliance of SMEs on external resources and support is highlighted by MacKay et al. (2001) who found that in British Columbia, 78% of SMEs rely to some extent on external resources to assist them in developing, managing and maintaining their websites. The Development of a comprehensive and co-ordinated network of support agencies will be crucial in providing education and training to SMEs. A step towards achieving this goal has already been taken in Europe with the setting up of the eEurope Go Digital initiative which is aimed at helping SMEs seize the opportunities provided by electronic commerce by benchmarking national and regional e-business policies for SMEs (EBPG, 2002).

8. Conclusion

The sharp rise in interest and usage of Internet related technology by small businesses in the Lanarkshire area clearly cannot be taken to imply that there will be any immediate or seamless transition to full blown electronic commerce. Most of the small firms are in the early stages of Internet adoption and few show any inclination to make the leap towards full integration or even attempting to explore how and where electronic commerce can be used to add and increase business value.

The next stage of the study outlined in this paper is to investigate some of the issues that have emerged in more detail. One important issue appears to be 'e-awareness' and the provision of training and skills to micro and small businesses. Perry and Schnedier (2001) showed that mass media knowledge of the benefits of electronic commerce was not in itself sufficient to lead to adoption within the context of small businesses. Only 25% of the businesses provided formal training in the technology which is not surprising given their size and limited resources. This has also been highlighted in other surveys by Local Enterprise Companies (e.g. Scottish Enterprise Renfrewshire) which identified a low level of training being carried out across all company size grouping, especially lowest among the smaller businesses. What is evident is that although local and national policy makers have achieved a certain degree of success in persuading SMEs to get online, there is still much work needed. Policy makers need to address the level of consultant support and ensure that SMEs feel that they are getting value for money. Policy makers also need to address the current attitudes and support mechanisms with regards to how to develop a positive approach to training staff with the skills needed to capitalise on Internet related technologies.

Clearly more detailed and focused work needs to be conducted to ensure that the impact of electronic commerce awareness and training programmes and initiatives can be maximised. One of the limitations of the study was that it did not investigate in detail the websites of the respondents to determine the full extent to which electronic commerce was taking place. This will be an area of future research which will help place the statistics within the context of actual electronic commerce activity and how SMEs can work towards developing electronic commerce activity on a wider scale. Another limitation of the study is that because nearly 40% of the respondents have only been connected to the Internet within the last 12 months, it is difficult to see have Internet use and electronic commerce activity is developing over time. With this in mind, the authors will be continuing the study in order to learn if and how Internet use and electronic commerce activity is developing over time for these SMEs and when specific barriers become an important issue.

REFERENCES

Baldwin, A., Lymer, A. and Johnson, R. "Business Impacts of the Internet for Small and Medium-sized Enterprises," E-Commerce and V-Business: Business Models for Global Success, B. Hunt and S. Barnes (eds.), Butterworth-Heinemann, Oxford, pp103-120, 2000.

Scottish Enterprise Renfrewshire, *Benchmarking the Renfrewshire Area – ICT: A Survey of e-Business Readiness – April/May 2000.*

Carter, S. and Anderson S. *On the Move: Women and Men Business owners in the UK,* The National Foundation of Women Business Owners, Washington, USA, 2001.

Campbell, C. and MacDonald, D. "Small and Medium-Sized Enterprises in Scotland", *Scottish Economic Bulletin*, No. 58: 33-41, March 1999.

Chau, P. "Inhibitors to EDI Adoption in Small Businesses: An Empirical Investigation*", Journal of Electronic Commerce Research*, Vol. 2, No. 2: 24-46, May 2001.

Chong, S. "Electronic Commerce Adoption by Small-Medium Sized Enterprises in Australia and Singapore", *Working Paper*, School of Information Systems, Curtin University of Technology, Perth, Western Australia, 2001.

EBPG "*eEurope Go Digital: Benchmarking National and Regional e-Business Policies for SMEs*", Final report of the E-Business Policy Group, 28 June 2002.

Fenby, J. "Will You Make Net Gains?, *First Voice*, October/November 2000: 12-17.

Kalakota, R., and Robinson, M. *E-Business: Roadmap for Success,* Addison Wesley, Reading, MA, 1999.

Levy, M. and Powell, P. "SMEs and Business Transformation: Proscribed, Disconnected and Disjointed Progressions". *ECIS2002, Gdansk*, June 2002.

Livingstone, I. *Lanarkshire Development Agency Annual Report and Accounts Year to 31st March 1997*.

Lymer, A. "UK Business and the Information Superhighway: The Impact of the Internet on SMEs", *ACCA Occasional Research Paper No. 23*, 1999.

MacKay, N., Gemino, A., Igbaria, M. and Reich, B. *The Impact of Electronic Commerce: A Survey of Small and Medium–Sized Enterprises in British Columbia*. Research Results, Simon Fraser University, British Columbia, 2001.

Marshall, P., Sor, R. and McKay, J. "An Industry Case Study of the Impacts of Electronic Commerce on Car Dealerships in Western Australia", *Journal of Electronic Commerce Research*, Vol. 1, No. 1, February 2000.

Mehrtens, J., Cragg, P.B. and Mills, A.M. "A Model of Internet Adoption by SMEs", *Information and Management*, Vol. 39: pp165-176, 2001.

Perry, J.T and Schneider, G.P. *New Perspectives on E-Commerce*. Course Technology: Boston, 2001.

Scottish Enterprise Network. *E-Business Benchmarking 2000: An International Benchmarking Study,* 2000.

Scottish Enterprise Network. http://www.scottish-enterprise.com/businessdev/e-comm/ [last accessed 23rd October 2002).

Timmers, P. *Electronic Commerce: Strategies and Models for Business-to-Business Trading*. Wiley: Chichester, 1999.

Venkatraman, N. "IT-Induced Business Transformation: From Automation to Business Scope Redefinition", *Sloan Management Review*. Winter: 73-87, Winter 1994.

APPENDIX A

The Questionnaire Used in the Study

Details of the business:

When did your business start?	In the past 12 months ❑
(Please tick the appropriate box)	1 – 3 years ago ❑
	More than 3 years ago ❑

What is the legal form of your business?

Limited company ❑
Sole Trader ❑
Partnership ❑
Other ❑

Please describe your main business activity
(e.g. retailing, construction, etc) _____

Is your business registered for VAT?   Yes ❑   No ❑

How did you start the firm?

Started the business by self / with partners ❑
Bought going concern ❑
Inherited the firm ❑
Management buy-in / buy-out ❑

Do you operate the business from

Your home ❑
Separate business premises ❑

How many people have been employed in your firm over the past 3 years?
 (please write in the numbers if relevant)

		2001	2000	1999
	Full time	____	____	____
(Less than 30 hrs per week)	Part time	____	____	____
	Casual	____	____	____

Personal Details:

Are you male or female?   Male   ❏   Female ❏

What is your age?   Under 25 ❏
                                                                         25 – 34 ❏
                                                                         35 – 44 ❏
                                                                         45 – 54 ❏
                                                                         55 – 64 ❏
                                                                         Over 65 ❏

Please indicate levels of qualification you have achieved

O'Level/Standard grade	❏	Degree	❏
Higher/A Level	❏	Post graduate degree	❏
ONC/OND/NC/SVQ	❏	Professional Qualification	❏
Apprenticeship	❏	Other (Please specify) _____	
HNC/HND	❏		

Are you a member of a business network group?
(e.g. Chambers of Commerce, Rotary, etc)   Yes   ❏   No   ❏

                                                      Please specify_____

Markets and Growth:

Which of the following would be a major objective for your business for the next three years?

                                                      To reduce in size   ❏
                                                      Stay same size   ❏
                                                      Grow moderately   ❏
                                                      Grow substantially   ❏

**Please indicate what percentage of your sales are achieved from
each of the following areas?**

                                                      Lanarkshire/Glasgow   _____
                                                      Rest of Scotland   _____
                                                      National (UK wide)   _____
                                                      European   _____
                                                      Other overseas markets _____
                                                                             100%

Please indicate the level of sales revenue for the business for the last financial year

Less than £50,000	❑
£50,000 - £100,000	❑
£100,000 - £500,000	❑
£500,000 - £1 million	❑
£1million - £5 million	❑
More than £5 million	❑

For the last financial year, did your firm operate at (pre-tax profit or loss) as a percentage of turnover?

Profit of 5% or more	❑
Profit of less than 5%	❑
Breakeven	❑
Loss of less than 5%	❑
Loss of more than 5%	❑

Technology:

Please indicate which of the following
(if any) your firm uses

Personal Computers	❑
E-mail	❑
The Internet	❑
Company intranet	❑
Other (e.g. LAN, EDI)	
(please specify)_____	

Please indicate how much you agree with each of the following statements

Where   **1** = Strongly Disagree   **4** = Agree
              2 = Disagree   **5** = Strongly Agree
              3 = Neither agree nor disagree

	Strongly disagree				Strongly agree
	1	2	3	4	5
The Internet has no relevance to our business	❏	❏	❏	❏	❏
E-commerce is really just a fashion	❏	❏	❏	❏	❏
Good location is vital to business success	❏	❏	❏	❏	❏
Building contacts is vital for business success	❏	❏	❏	❏	❏
The cost of the Internet tends to outweigh benefits	❏	❏	❏	❏	❏
The Internet poses security threats to a business	❏	❏	❏	❏	❏
There is an element of fear surrounding the Internet	❏	❏	❏	❏	❏
The Internet is mainly for young businesses	❏	❏	❏	❏	❏
Our employees will waste time using the Internet	❏	❏	❏	❏	❏
Our customers increasingly expect us to be on-line	❏	❏	❏	❏	❏
The Internet is a valuable business tool	❏	❏	❏	❏	❏
Developing new products and services is vital for the success of our business	❏	❏	❏	❏	❏
Our ability to tap into markets across a wide geographical area is vital for success	❏	❏	❏	❏	❏
The government should give more incentives to help firms get on the Internet	❏	❏	❏	❏	❏
Small companies stand to gain more from using the Internet than their larger competitors	❏	❏	❏	❏	❏

Only complete this page if your firm DOES NOT have the Internet or e-mail at present

How important would you say the following factors were in influencing your decision *not* to use the Internet within the business at the present time?

Where   **1** = Not important   **4** = Important
                    2 = Marginal importance   **5** = Very important
                    3 = Some importance

	Not important---------------------- Very important				
	1	**2**	**3**	**4**	**5**
Too expensive	❑	❑	❑	❑	❑
Too complex	❑	❑	❑	❑	❑
Too slow and disorganised	❑	❑	❑	❑	❑
Not relevant to the business	❑	❑	❑	❑	❑
Too insecure	❑	❑	❑	❑	❑
Lack of time	❑	❑	❑	❑	❑
Lack of staff with IT skills	❑	❑	❑	❑	❑
No wish to expand further	❑	❑	❑	❑	❑
Few of my customers are on-line	❑	❑	❑	❑	❑
Few of my suppliers are on-line	❑	❑	❑	❑	❑
Few of my competitors are on-line	❑	❑	❑	❑	❑
Fear of being 'ripped off'	❑	❑	❑	❑	❑
Lack of knowledge about Internet	❑	❑	❑	❑	❑
Lack of advice and support from local authorities and public agencies	❑	❑	❑	❑	❑

Do you use the Internet at home for personal use?   Yes ❑   No ❑

Do you use the Internet elsewhere (e.g. library)?   Yes ❑   No ❑

Do you intend your business to go on-line

In the next six months   ❑
6 – 12 months   ❑
1 – 3 years   ❑
Probably never   ❑

Thank you. Please go to the bottom of the last page

Only complete these sections if your firm DOES have the Internet and/or e-mail.

If your firm is using the Internet and/or e-mail please indicate for how long

	The Internet	E-mail
0 – 6 months	❑	❑
6 – 12 months	❑	❑
1 – 2 years	❑	❑
2 years plus	❑	❑

Thinking back, how important were the following issues in influencing your decision to use the Internet and/or e-mail in the business?

Where   **1** = Not important   **4** = Important
                        2 = Marginal importance   **5** = Very important
                        3 = Some importance

	Not Important		----------------	**Very important**	
	1	2	3	4	5
To gain an edge over my competitors	❑	❑	❑	❑	❑
Because it is expected in our industry	❑	❑	❑	❑	❑
To communicate with existing customers	❑	❑	❑	❑	❑
Customers requested on-line access	❑	❑	❑	❑	❑
To attract new customers	❑	❑	❑	❑	❑
To exploit new markets	❑	❑	❑	❑	❑
To sell on-line	❑	❑	❑	❑	❑
To communicate with suppliers	❑	❑	❑	❑	❑
Suppliers requested on-line access	❑	❑	❑	❑	❑
To search for new suppliers	❑	❑	❑	❑	❑
To improve internal communications	❑	❑	❑	❑	❑
To streamline internal operations	❑	❑	❑	❑	❑
To research the industry and markets	❑	❑	❑	❑	❑
To assess its potential benefits	❑	❑	❑	❑	❑
My business advisers suggested it	❑	❑	❑	❑	❑
To keep up with the competition	❑	❑	❑	❑	❑

Business activities: Current and future plans

The business:-	**Yes**	**No**	**Planned**
Has a web page	❑	❑	❑
Purchases goods / services via the Internet	❑	❑	❑
Sells goods or services via the Internet	❑	❑	❑
Supplies product information via the Internet	❑	❑	❑
Bids for contracts via the Internet	❑	❑	❑
Uses the Internet to find out about our competitors	❑	❑	❑
Uses the Internet to find out about our customers	❑	❑	❑
Uses the Internet to find new suppliers	❑	❑	❑
Uses the Internet to build business connections	❑	❑	❑
Monitors the number of visitors (hits) to our site	❑	❑	❑
Has a separate on-line subsidiary	❑	❑	❑
Have made staff changes to make use of the Internet	❑	❑	❑
Gives staff formal training on using the Internet	❑	❑	❑

Please give your assessment of the impact of each the following on your business

The Internet has

Had a positive impact on our business	❑
Had a negative impact on our business	❑
Has had no impact on our business	❑
Don't know	❑
Do not use the Internet	❑

E-mail has

Had a positive impact on our business	❑
Had a negative impact on our business	❑
Has had no impact on our business	❑
Don't know	❑
Do not use e-mail	❑

Do you use the Internet at home for personal use?   Yes ❑   No ❑

Do you use the Internet elsewhere (e.g. library)?   Yes ❑   No ❑

This section should only be completed by firms using the Internet

Approximately how many hours per week do you use the Internet
for business purposes?

Zero	❑
Less than 5	❑
5-10 hours	❑
11-20 hours	❑
More than 20	❑

Over the next 2 years, do you expect your
use of the Internet to:-

Decrease	❑
Remain the same	❑
Increase	❑

How would you describe your experience of working with third parties in this area?
(e.g. IT consultants, web page designers, etc)

Satisfactory	❑
Unsatisfactory	❑
Not relevant. Have not used third parties	❑

If you have a web page, is it easy to find
in the search engines?

Yes ❑   No ❑   Don't know ❑

Do you actively take steps to get better
noticed on the search engines

Yes ❑   No ❑   Don't know ❑

If you have a web page please enter the address (URL)

_____(optional)

Thank you for assisting in this research project