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Business Use of the Internet in New Zealand: A Follow-Up Study

Walter Abell and Steve Black

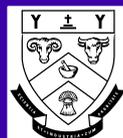
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The Editor
Centre for Computing and Biometrics
PO Box 84
Lincoln University
Canterbury, NEW ZEALAND
Email: computing@lincoln.ac.nz

Business Use of the Internet in New Zealand: A Follow-Up Study

Walter Abell* and Steve Black

*Centre for Computing and Biometrics, Lincoln University, New Zealand
abell@lincoln.ac.nz

Information Tools Ltd, Auckland, New Zealand
sblack@xtra.co.nz

Abstract

A survey of New Zealand businesses using the Internet was undertaken in 1995 and a follow-up survey carried out in 1996. Both surveys looked at current and expected uses, perceived benefits and problems areas of Internet use by business. Interesting results include: a substantial increase in providing on-line customer services, small and technology focused companies making more use of the Internet; and an increase in problems with the technology and Internet Service Providers.

Introduction and Background

Many reasons and strategies for business use of the Internet have been proposed and discussed in the media and the IT industry (e.g., [Cronin, 1995] and [O'Reilly, 1996]). However, much of what has been written is anecdotal and only highlights successful cases. There are a growing number of studies (such as [Pitkow & Kehoe, 1994-1996]) that attempt to quantify individual consumers' use of the Internet by gender and age, purchasing preferences, etc. However, only a handful of studies have looked at how businesses are using the net (and why) and most of these have been carried out by market research companies who charge hefty fees for the information (e.g., [Peck, 1996]).

New Zealand is a small country which is geographically isolated from most world markets. The Internet has the potential to enable New Zealand businesses to compete on a more even footing with their larger overseas competitors. In New Zealand, as in other countries, the adoption of the Internet by businesses has increased rapidly, as evidenced by the large increase in commercial domain name registrations [McDonald, 1997]. A whole support industry has sprung up to help businesses devise and implement their Internet plans.

In order to get a picture of how New Zealand businesses were using the Internet, a study was conducted in 1995 [Abell and Lim, 1996]. A survey approach was used to look at:

- current and future usage of the Internet
- reasons for and perceived benefits of Internet use
- use of the Internet for marketing and advertising
- problems and issues associated with Internet use

The current study involved recontacting the same companies in 1996 (15 months later) to see how their usage and perceptions had changed.

Methodology

The follow-up survey was kept as similar as possible to the original to enable comparisons to be made. However, some items were removed and a few new responses and questions added. The original and follow-up questionnaires are available (along with full result tables) at <http://www.lincoln.ac.nz/ccb/staff/abell.htm>.

An initial request for participation was sent by e-mail to the 116 respondents to the original survey. While this produced some immediate replies, the rest had to be contacted by phone (where this was possible). There were a number of problems with the delivery and forwarding of messages (which also occurred in the original survey). This is an interesting result in itself and brings into question the usefulness of e-mail for surveys or indeed for making positive contact with companies. A summary of the responses to the participation requests is given in [Tab. 1].

<i>Response</i>	<i>N</i>	<i>%</i>
Agreed to participate	81	70
Declined to participate	3	3
Not contactable (details not provided in original survey)	19	16
Did not reply to e-mail or phone message	4	3
Ceased trading	7	6
Ceased using the Internet	2	2
Total	116	100

Table 1: Responses to participation requests

As in the original study, respondents were given the option of how to receive the questionnaire; well over half opted for e-mail. This is a good illustration of the change in Internet usage as only a small number in the original study opted for e-mail.

A total of 68 forms were returned. One was a duplicate and two could not be matched to an original questionnaire, leaving 65 valid responses (56% response rate).

Sample characteristics

As with the original survey, the sample was self-selected so the results obtained cannot be generalised to the wider business population. However, it is useful to look at the similarities between the follow-up and the original study groups. A breakdown by size and technology focus for both groups is given in [Tab. 2].

Original Group				Follow-up Group			
<i>Company Size</i>	<i>Non-Tech Focus*</i>	<i>Tech Focus*</i>	<i>Totals</i>	<i>Company Size</i>	<i>Non-Tech Focus</i>	<i>Tech Focus</i>	<i>Totals</i>
1-50	27%	47%	73%	1-50	28%	43%	71%
>50	19%	7%	26%	>50	20%	9%	29%
Unknown	0%	1%	1%	Unknown	0%	0%	0%
Totals	46%	54%	100%	Totals	48%	52%	100%

*3 respondents changed their technology focus response from the original study

Table 2: Breakdown of original and follow-up groups

It appears that the follow-up group does not differ markedly from the original on these variables. Further comparisons of the original survey responses of both groups show little difference except in the area of marketing and advertising on the Internet (due to small numbers involved). Since the two groups are sufficiently similar, only the responses from the follow-up group to both surveys will be considered in the rest of this paper.

Survey Results

As could be expected, most current uses and benefits increased as shown in [Tab. 3] and [Tab. 4]. There was a corresponding drop in uses and benefits expected within the following twelve months.

<i>Use</i>	<i>Original</i>	<i>Follow-up</i>	<i>Change</i>
To get information from suppliers	65%	83%	18%
Provide information to customers	45%	69%	24%
Send orders to suppliers	37%	42%	5%
Receive orders from customers	34%	46%	12%
Market & product research	40%	58%	18%
E-mail Communications	91%	94%	3%
R&D/ Sharing of software, data or information	48%	55%	7%
Advertising job vacancies	11%	23%	12%
To be seen at the forefront of technology	54%	51%	-3%
Marketing and advertising	28%	55%	27%
Voice or video conferencing	2%	6%	4%

Table 3: Current uses

<i>Benefit</i>	<i>Original</i>	<i>Follow-up</i>	<i>Change</i>
Lower cost of obtaining supplies	20%	32%	12%
Faster, more flexible delivery from suppliers	31%	38%	7%
Better service and support from suppliers	51%	57%	6%
Increase in market share	22%	18%	-4%
Lower cost margins	23%	20%	-3%
Greater customer satisfaction	34%	55%	21%
Ability to reach international markets	38%	45%	7%
Effectiveness in information gathering	78%	80%	2%
Increased productivity	42%	46%	4%
Availability of expertise regardless of location	57%	57%	0%
Better awareness of the business environment	32%	42%	10%
<i>Improved communications*</i>	9%	77%	

* response to "Other" in original survey, added as listed choice in follow-up survey

Table 4: Current benefits

Customers and Suppliers

Of the major uses, there was a large jump in both providing information to customers and receiving orders on-line. This was mirrored by a substantial increase in the “greater customer satisfaction” benefit. It is not clear whether the companies actually measured customer satisfaction or whether they assumed that providing better on-line access would lead to greater satisfaction. Interestingly, there was a drop in the “increased market share” benefit which could indicate that the companies were focusing on their existing customer base.

On the other hand, there were smaller increases for getting information from suppliers and ordering from suppliers. The latter was one of the few areas where expected use did not decline with 30% of respondents expecting to do this in the next year. There were also small increases in the “lower cost of obtaining supplies” and “better service and support from suppliers” benefits. The lower cost sentiment may be partly explained by the increase in market and product research, with the ability to compare prices and products more effectively. However, these results contrast with the small drop in the lower cost margins benefit. It would be interesting to study the companies claiming lower costs in more detail to see how the Internet actually impacts on this.

Marketing and Advertising

The number of companies using the Internet for marketing and advertising doubled in the follow-up survey. Almost all companies used a home page for this purpose and 56% used ads or links on other web sites. A greater number of companies in the follow-up survey kept statistics on customer visits to their site but the level of analysis varied widely from very detailed to "trying to make sense of them".

Impediments to Internet Use

While increased uses and benefits were expected, a rise in some of the problem areas of Internet use was a surprising result as shown in [Tab. 5]. However, there was a drop in the “suppliers and customers not connected” response which is consistent with the rapid growth of the Internet. A smaller drop in the “difficulty in locating information” response may be a result of improving search facilities and/or increasing user sophistication.

<i>Reasons</i>	<i>Original</i>	<i>Follow-up</i>	<i>Change</i>
Technical limitations of hardware/software	28%	49%	22%
Lack of expertise or personnel	23%	32%	9%
Suppliers/Customers not connected	72%	57%	-15%
Difficult to locate information	34%	28%	-6%
Connection and/or usage charges too high	20%	23%	3%
<i>Problems with ISP*</i>	12%	22%	
<i>Concerns about security*</i>	3%	42%	

* response to “Other” in original survey, added as listed choice in follow-up survey

Table 5: Reasons for not benefiting

The increases in the technical limitations and lack of expertise responses indicate that Internet technology still has some way to go in terms of useability. It could also be due to companies attempting more ambitious projects requiring more sophisticated skills (e.g., CGI or Java programming). The high response to security concerns indicates that there were still doubts in this area despite the advances made in encryption, etc. This may well be an education and public relations issue rather than just a technical one.

The problems with ISP response has some serious implications for the industry. The New Zealand IT media has chronicled a series of pricing and service problems with ISPs [Hosking, 1996]. Indeed, some of the problems in using e-mail to contact survey participants may have been caused by ISP problems.

Companies not using the Internet for marketing also indicated technical limitations and lack of expertise as reasons. In addition, there was a small increase in those who did not think that Internet marketing was effective (12% to 21%). Of the two new responses added to the follow-up survey, 45% selected not having time to research and set up a system while 24% said that their company had no policy on Internet use.

Internet issues of concern (security, frivolous use, etc) had similarly high ratings in both surveys. The only substantial change was a very high (98%) response for the system being reliable.

The rating for overall effectiveness of the Internet was very similar in both surveys. However, the specific rating for effectiveness for Internet for marketing and advertising was slightly lower in the follow-up group.

Company type and Internet use

A higher reporting of uses and benefits by small and/or technology focused companies was present in both the original and follow-up surveys. However, the gap between large and small companies was smaller in the follow-up while the difference between technology and non-technology companies was the same or greater. It is important to keep in mind that there was an overlap between the two groups. Companies that were both small and technology focused reported the most Internet uses and benefits.

While the technology result is not surprising, the small/large difference is at odds with overseas trends. O'Reilly and Associates continue to report that Internet uptake by large North American companies far exceeds that by smaller ones [Peck, 1996]. The New Zealand situation is of course quite different, with almost all businesses considered "small" (less than 100 employees). There is also a perception that New Zealanders are quick to adopt new technology. The small/large gap possibly reflects a more flexible attitude to experimentation by smaller businesses. The narrowing of that gap may mean that larger companies have become aware of the potential benefits (and the growing imperative) to be on-line.

Summary

Although this study used a self-selected sample, it does point to some interesting trends in Internet use by New Zealand businesses including an emphasis on customer service (which overshadows marketing) and a steady move toward on-line transactions. From a New Zealand point of view, the Internet provides businesses with an unparalleled opportunity to reach distant markets. However, the continuing concerns over security and technical (and ISP) problems could hamper companies' plans. Further research in these areas is crucial if New Zealand is to make the most of the full potential of the Internet for electronic commerce.

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