ECOMMERCE ADOPTION OF INSURANCE COMPANIES IN NEW ZEALAND

JingTao Yao Department of Computer Science, University of Regina Regina, CANADA jtyao@cs.uregina.ca

ABSTRACT

Electronic commerce is causing fundamental changes in the insurance industry. The New Zealand insurance industry is well positioned to benefit from electronic commerce due to the high level of online access technology, high Internet usage, the high number of websites and the fact that New Zealanders are usually quick to embrace new technology. However, despite the emergence of e-commerce in the New Zealand information technology and insurance industry literature, little empirical research has been reported in the New Zealand insurance industry. This research presents an overview of the current state of e-commerce in the New Zealand insurance industry. In order to measure the extent of e-commerce usage, a descriptive study that surveys website content was designed. The survey found that all of the insurance companies had websites but less than half of these were New Zealand ones. Most of the companies use an international website to service all their global customers, yet the majority of these sites do not include many features specific for New Zealand customers. Overall it was found that the uptake of electronic commerce is relatively slow. The insurance industry is only employing the Internet to distribute information, with few companies offering the capability of online transactions. It is evident that there remains considerable scope for further development of website features.

Keywords: e-commerce adoption, e-commerce escalator, insurance, survey

1. Introduction

The recent emergence of the Internet has fueled the rapid growth of electronic commerce, and this in turn is changing the nature of business. There is no exception for insurance business that is currently experiencing a transformation with technology, an industry where electronic commerce will play a significant role [Grace 1998]. The primary objective of this research is to gain an understanding of the current state of e-commerce in the New Zealand insurance industry. In the past most insurance companies in other countries have employed the Internet to distribute information only, without offering the capability of online transactions. This study will evaluate the current situation and investigate whether the industry is still using the Internet as an information display channel only.

Trading electronically offers a number of advantages to companies. To take advantage of the opportunities created by e-commerce, companies implement websites that operate at a high level of e-commerce. Moore's e-commerce escalator [Moore 2000] classifies websites into seven levels: website for corporate information, website for product/service information, customer support via Web, credit card order processing, web access to order information, purchase order processing and web-based marketplaces. Moore's classification identifies the different e-commerce capabilities that a website has. It is acknowledged that websites can be basic, including only company information or more advanced with functionality for generating market sales.

Like the wider global business community, New Zealand organisations are alert to the advantages that ecommerce offers and have embraced the Internet and the WWW in order to stay healthy and grow in a competitive marketplace led by electronic commerce [Lowry 1999]. New Zealand businesses score well against all internationally accepted measures of e-commerce uptake [SNZ 2000]. New Zealand is among the leading nations in terms of population accessing the Internet and has a high density of online access technology and Internet usage rates [NOIE 2000]. However, despite current statistics that portray New Zealand as innovators who adopt new technology early and who have emerged from the advent of the online age as information economy world leaders, there is overwhelming evidence that New Zealand businesses only regard the Internet as a medium for one-way communication of product information and company image and have yet to fully engage in transacting online [Bowden 2001, DTT 2000, Lowry 1999, MED 2000]. New Zealand businesses have been slow to embrace extension of their marketing channels to include online transactions [Adams 1999]. To achieve the benefits of ecommerce, the scale of electronic activities will need to increase significantly in most New Zealand organisations [Bowden 2001].

The insurance industry is a vital sector in the economy that touches nearly every New Zealand business and individual. Internationally there are already thousands of insurers online. Unless the traditional insurers and brokers enable their New Zealand customers to purchase policies, lodge and track claims, and renew policies over the Internet, they will lose market share to new and more innovative players. As insurance companies have adopted e-commerce, websites have been integral to their strategy. However, most insurance companies are only using the Internet to advertise products. It is business as usual but with a different channel as the insurance industry has been employing the Internet to distribute information, without offering the capability of online transactions. The vast majority of websites have been basic in terms of online presence, containing static web pages with no interactive or dynamic functionality [BAH 1999, Buckley 2001, DTT 2000, Ho 1997, Romberg 1998]. With the correct understanding of the current situation, reasonable suggestions could be made to insurance companies.

The organisation of this article is as follows. The design of survey instruments and data collection will be discussed in the next section. In section 3, we will present the analysis of survey results. A conclusion session ends this article.

2. Survey Design and Data Collection

The primary objective of this research was to gain an understanding of the current state of e-commerce in the New Zealand insurance industry. Although the government pushes a lot on e-commerce, the industry may not react accordingly. The first step of this study is to sample insurance companies evaluated in this research. These companies are obtained from the Insurance Council of New Zealand (ICNZ). ICNZ is an industry organisation that represents 29 insurance companies. These companies are on a spectrum differing in size, type of insurance provided, financial performance and foreign ownership. Foreign ownership refers to foreign-owned insurance companies, such as affiliates of UK insurance groups. The members protect approximately half a trillion dollars of New Zealanders assets with members of the Insurance Council paying claims of \$1 billion to New Zealanders in 2000 [ICNZ 2001].

We use a list of 29 insurance companies obtained from the ICNZ website. While the list was comprehensive, 16 insurance companies did not include their web URL, therefore a thorough search for the companies URLs was investigated through the Internet. When we completed the list of all the URLs for the companies, we used the URL ending in ".nz" to find the companies that have New Zealand web sites. For further analysis, the number of international sites (those web addresses that did not end in ".nz") was divided into two categories: those with at least one New Zealand feature included in them and those with no New Zealand features or information what so ever.

Once we have the classified web site, we will find out exactly what the insurance companies using their websites for based on a survey. We designed a survey in order to identify the content of each insurance company website. We start our design based on a similar survey used by Costello and Tuchen [1998] in their comparative study of e-commerce within the Australian insurance sector. Since their survey identified the main features of insurance company websites and from the work they had done, it was a promising place to start. However, after testing the survey and spending much time browsing the 29 insurance company websites, we found that some features consistent with both insurance and general websites were not included in that survey. We also found that several of the features were obsolescent or not relevant. Therefore, based on a critical examination of websites, many changes were made from Costello and Tuchen survey as it was further developed and refined.

The survey was designed in the form of a table. It included a contents column (which named the feature of the website), a description / examples column (which briefly described the website feature, giving examples) and the remaining columns were provided those insurance companies that made use of the respective features. All content characteristics are features that can be measured objectively. For example, online business is possible, or it is not; there is a CEO message included on the web site or there is not. Our survey has been designed more in detail than Costello and Tuchen's [1998]; the changes made have allowed for a more precise analysis of the website content. Content features included in this survey are: Company Overview, CEO Message, Financial facts, What's new, Employment opportunities, Community involvement, Other, Product services (general overview), Product services (specific details), Other services, FAQ (Frequently Asked Questions), Insurance Overview, Contact details, E-mail address, Feedback, Links to other sites, Comparison with other companies, Product services (interactive features), Online business, Online accounts for buyers, Online account access, Online account settings, Online access to orders, Order tracking functionality, An alliance with competitors, and Criteria-based product selection.

When the design of the survey was finished, the survey instrument was pre-tested to determine whether it obtained the desired data. Two research assistants were hired to collect data. In order to verify the accuracy of the data gathered, wherever there were differences between the results, these were highlighted. A third party of even

forth would be involved to re-visit the website until a consistent result or agreement has been obtained. The data was gathered in 2001.

The websites of each insurance company were visited twice to complete the survey and conduct content analysis. The first time data was collected all features of the websites were evaluated and recorded. As the project is primarily about evaluating the websites of insurance companies from the point of view of a New Zealand client, the second time the survey was completed only those features that were included for the New Zealand customer were evaluated and recorded. New Zealand features were distinguished between general features by being information specifically about the company's New Zealand operations. This meant that if the address and phone number of the company headquarters in the United States were included in the website, contact details would be ticked in the first survey. However in the second 'New Zealand features only' survey these details would not warrant a tick, only the address and phone number of the company's branch in New Zealand would. Similarly, in the second survey the company overview had to be a brief profile about the company's history in New Zealand, financial facts would be about New Zealand's operations, news releases about business in New Zealand, employment opportunities in the New Zealand branches etc. Features had to be related to the company's New Zealand operations to be counted.

Another task of this research was to group the content features from the survey into the levels of Moore's ecommerce escalator [Moore 2000]. A Web site can concentrate on one or more functions such as providing information and enabling transactions. The level of e-commerce to which a website is operating at has been measured as the number of different features in each category that the site contains. The research distinguishes between twenty-six different features. These consist of seven corporate information features, five product / service information features, six customer support features, two online order processing features, four web access to order information features and two web-based marketplaces features.

Levels		Content
1.	Website For Corporate Information	Company Overview CEO Message Financial facts What's new Employment opportunities Community involvement Other
2.	Website For Product / Services Information	Product services (gen overview) Product services (specific details) Other services FAQ Insurance Overview
3.	Customer Support Via Web	Contact details E-mail address Feedback Links to other sites Comparison with other companies Product services (interactive features)
4.	Online Order Processing	Online business Online accounts for buyers
5.	Web Access To Order Information	Online account access Online access to account settings Online access to orders Order tracking functionality
6.	Web-Based Marketplaces	An alliance with competitors Criteria-based product selection

Table 1: Features at each level of e-commerce

3. Results Analysis

Base on information from ICNZ and web search, we find that all 29 of the insurance companies in ICNZ list owns a website, therefore 100% of the sample were able to participate in the survey. This result is an improvement for Australasia. In Tuchen & Costello's survey conducted in 1998, only 18 of the 21 largest Australian insurance companies had websites. With the passing of three years, it appears that time has emphasised the value of having an Internet presence within the insurance industry. Given the definition that has been used for this research, all of these companies are considered to be engaging in e-commerce as all of them are either sharing business information, maintaining business relationships or conducting business transactions by means of telecommunications networks

[Zwass 1996]. Of the 29 insurance companies in the study, 11 companies have New Zealand websites (38%), 16 companies have international websites with features related to its New Zealand operations (55%) and 2 companies have international websites with no New Zealand information on them (7%).

It is evident that the insurance industry has not made ground with its e-commerce strategies. Website features for presenting information about the company are still more frequent than those features aimed at generating sales online. The eight most common features present on the websites were all items of information. It seems that the insurance industry regarded the Internet mostly as a medium for one-way communication of product information and company image. The survey results are presented in Table 2.

Content	%	Content	%	Content	%	Content	%
Company Overview	100.0	Product services (gen overview)	96.6	Feedback	37.9	Online access to account settings	17.2
CEO Message	51.7	Product services (specific details)	17.2	Links to other sites	82.8	Online access to orders	17.2
Financial facts	62.1	Other services	79.3	Comparison with other companies	3.4	Order tracking functionality	10.3
What's new	86.2	FAQ	41.4	Product services (interactive features)	37.9	An alliance with competitors	0.0
Employment opportunities	48.3	Insurance Overview	6.9	Online business	20.7	Criteria-based product selection	0.0
Community involvement	41.4	Contact details	100.0	Online accounts for buyers	13.8		
Other	75.9	E-mail address	89.7	Online account access	17.2		

Table 2: Average percentage of features present on websites

Firstly, the most common features on the websites were the company overview (100%) and contact details (100%) as both items were present on all of the websites. In Huizingh's study [Huizingh 2001] the kind of information that was most available from a website was product information. We also found that a general overview of product services (96.6%) was a common feature of websites with only one of the companies not making reference to their products at all. Including an e-mail address (89.7%) was also very popular, only 3 of the companies failed to do this. The inclusion of an e-mail address is particularly important, as users were very critical of sites that did not even provide an e-mail contact [Lowry 1999]. Providing 'What's new' information (86.2%) and links to other sites (82.8%) was standard, many of the websites included the latest news and press releases about their company as well as links to any sites related to their company, industry links, helpful links, useful links and sites of interest. The trend in the insurance industry at the moment is for insurers to move towards providing complete financial packages including investments, banking and insurance. With the frequent nature of information about the company's other services (79.3%) besides insurance, there is evidence that this trend is common. There was a lot of information on the websites covering financial planning, investment, banking, risk related services and asset management services. The final item that appeared in many of the websites was the 'Other' feature (75.9%), any non-commercial information either related to the company, its industry, or its geographical location. There were many different features accounted for in the survey, these included online chat, information about conferences and seminars, newsletters, publications, articles, picture gallery, competitions, tips, humour and road maps.

There was evidence of approximately half of the websites providing financial facts (62.1%), a message from the company's CEO (51.7%), employment opportunities (48.3%), community involvement (41.4%) and frequently asked questions (41.4%). Feedback and interactive features appeared on approximately 40% of the websites. Many of the websites reviewed in previous studies contained static web pages with little or no interactive or dynamic functionality, 40% indicates a marked improvement. However while 34% of the sites included quote forms, only half of them (17%) provided instant quotes. The feature 'Product services (specific details)' was not very common, due largely to the fact that many of the websites could not give customers specific price information, a feature present only in those sites that had the ability to generate instant quotes. If customers want to know exactly how much a policy will be for their individual circumstances, in most situations they will have to ring or visit a company representative. The features 'Insurance overview' and 'Comparison with other companies' were included for interest. It is now evident that very rarely do any of the websites include either feature. Companies do not include a

statement explaining why customers should have or need insurance, more so they include an explanation of why customers should choose their company to provide the insurance. It is also not at all common for insurance companies to provide links to other insurance company websites.

As far as the transaction features go, there is little improvement in the industry's quest to move online. Only a fifth of the businesses offer online business and even fewer (13.8%) offer online accounts. There is also no evidence that web-based marketplaces exist, as none of the companies have an alliance with competitors or offer the selection and comparison of all policies within the marketplace. There were signs throughout this study that some of the companies were hoping to improve the features they offered on their websites. It was not uncommon to find the websites state that they hope to offer the services of payment over the Internet and real-time quotations in the near future. This is exactly what is required to improve the performance of the insurance industry in e-commerce.

While there are many features included on the company websites, those features specific to the New Zealand customer are much less frequent. It is apparent that the percentages of features present on the websites significantly decrease in the second survey. While many of the insurance companies choose to cater for all their customers through the same global website, there is a question of whether an adequate service for the New Zealand customers is being provided. The survey results are presented in Table 3.

Content	%	Content	%	Content	%	Content	%
Company Overview	65.5	Product services (gen overview)	69.0	Feedback	24.1	Online access to account settings	13.8
CEO Message	20.7	Product services (specific details)	10.3	Links to other sites	48.3	Online access to orders	13.8
Financial facts	31.0	Other services	48.3	Comparison with other companies	0.0	Order tracking functionality	6.9
What's new	34.5	FAQ	20.7	Product services (interactive	24.1	An alliance with competitors	0.0
Employment opportunities	17.2	Insurance Overview	6.9	Online business	17.2	Criteria-based product selection	0.0
Community involvement	24.1	Contact details	89.7	Online accounts for buyers	10.3		
Other	37.9	E-mail address	62.1	Online account access	13.8		

Table 3: Average percentage of NZ features present on websites

The most common feature for the New Zealand customer is similar to the previous results, with 89.7% of the websites including the contact details of its company in New Zealand. However while all the websites in the first survey (Table 2) included a company overview, only 65% of the websites have included a company overview about their New Zealand operations, which is a significant decrease from 100%. More common than this feature is now the 'Product services (general overview) feature (69%), which gives a general outline of the product services available to New Zealand customers. The inclusion of an e-mail address (62.1%) is just above half of the sample, but other than these features the remaining ones are only present on less than half of the websites. Only a third of the companies include on their websites news about their New Zealand operations as the 'What's new' feature appears on 34.5% of the websites, which compares to 86.2% in the first survey. There are many other features such as 'Financial facts', 'Employment opportunities', 'FAQ' that are present on less than half of the sites that appeared on in the general survey. Based on the differences between the two surveys, it is apparent that many of the websites provide for a more general customer and not for a customer from New Zealand, as there are few features include specifically for the company's business in that region.

Insurance companies in New Zealand have been slow to embrace extension of their marketing channels to include online transactions. Only 6 of the 29 insurance companies (21%) were selling their products online. Consistent with earlier studies, the results of this study also indicate that only a few companies are conducting online business. The percentage of insurance companies selling goods online is similar to previous statistics of New Zealand businesses in general and to the insurance industry. In the Deloittes [2000] e-business survey, 17.6% of the businesses were using their websites to sell goods and services. The results from the New Zealand insurance industry lie neatly in between those figures. The Booz Allen & Hamilton [1999] study found that only 1% of insurance companies provided online sales. Forrester Research as cited in Romberg found that 12% of insurance companies interviewed for their study sold goods online [Romberg 1998]. The results from the Survey show a vast improvement on the Booze Allen & Hamilton and Forrester results. It is however, much closer in range to the results

of the following studies. The Deloittes study established that 18% of the companies in their survey offered real-time claims processing [Deloitte Touche Tohmatsu] and in the Costello & Tuchen [1998] survey 19% of the companies were selling their products online. The 21% attained from this research is the highest figure of all these studies. Perhaps it is an indication that the insurance industry is slowly improving their position in the arena of online business.

Based on the criteria of Moore's e-commerce escalator [Moore 2000], 65% is the average percentage of companies that included features from level one, website for corporate information, which is the most common. However, with average percentages of 48.3% and 58.6%, level two, website for products/service information and level 3, customer support via web are also frequent. The results are shown in Figure 1. Given that there is a significant amount of features in each of these three levels, a conclusion can be made that most of the insurance companies in this study are generally operating their websites at level three on Moore's e-commerce escalator, having included corporate information, products/service information and items used for customer support via Web. Few of the insurance companies have made the transition to level four, online order processing or level five, Web access to order information. None of the companies have entered the highest level, Web-based marketplaces.



Figure 1: Comparison of general features and e-commerce levels

With the website features from the first survey, both the New Zealand and international insurance company websites are very similar in terms of e-commerce adoption levels. The majority of features from both groups fit into the categories corporate information, product/services information and customer support via Web. The number of features present at each level is also similar for both groups, where the only marked difference is at the product/services information level where the New Zealand websites appear to have a third more features than the international websites. In most of the categories the New Zealand websites have only a few more features present at each level, except for level one where the international websites have a slight advantage.

However this is quite different as we can see from Figure 2, when comparing the e-commerce levels of New Zealand and international websites with the data from the second survey - features only specific to the company's New Zealand operations.

As stated previously many of the insurance companies are servicing all of their customers through the one international site, it is now evident that the features and level of e-commerce available for their New Zealand customers is minimal. From other analyses it is evident that the only features that many of the international websites include on their websites for the New Zealand customer is contact information for customer support and sometimes a brief explanation of the products available. In this area the New Zealand websites are far superior in terms of their features and e-commerce capabilities. These websites present corporate information, product/service information and customer support via the Web that is relevant to their New Zealand operations. They provide features such as employment opportunities for New Zealanders, news releases and financial facts about the New Zealand affiliate and an overview of the company's history in New Zealand. The differences between the levels four, five and six are not as significant, where the New Zealand websites are only slightly better. No websites New Zealand or international operate at the highest level.



Figure 2: Comparison of NZ features and e-commerce levels

4. Concluding Remarks

There is not a single industry that remains untouched by the e-commerce revolution. This study was designed to provide a thorough status report detailing the extent of e-commerce usage in the insurance industry, especially in New Zealand. It is now clear that the insurance industry has made progress as far as insurance companies moving onto the Internet is concerned, with 100% of the companies in the sample having a website. Like the wider global business community, it seems that insurance organisations have embraced the Internet and the World Wide Web, realizing the importance of its implications and have taken the first step towards administering electronic business. While all of the insurance companies operating in New Zealand have websites, only 38% have New Zealand websites, 62% are international ones. With the onset of globalization, it is apparent from this research that many insurance companies in the industry have created and maintained one international website that services all their global customers.

Whether e-commerce proves to be one of the most significant agents of change in the history of the insurance industry, is still not known as the eight most common features present on the websites were all items of information. As insurance companies adopt e-commerce, most of the companies are only using the Internet to publish company information and advertise products, more of a marketing strategy than a sales one. The industry has yet to take full advantage of the opportunities presented by this medium. While all of the insurance companies have websites and a few are attempting innovative offerings, only 21% of the websites are offering online transactions. The companies are starting to include more interactive features, with 38% of the websites including quote forms, valuation guides or calculators. There is still little evidence of online business and only 17% of the websites offered any online account features. To achieve the benefits of e-commerce, the scale of electronic activities will need to increase significantly on the websites of most of these insurance companies.

This study suggests that designing websites that are informative, relevant and useful to all the company's customers is the main need. Currently from the perspective of a New Zealand customer, features available about the companies' operations in New Zealand are minimal. The percentage of features present on the websites significantly decrease when only the features specific to the New Zealand affiliate are accounted for. New Zealand websites are far more advanced in terms of catering for New Zealand customers. Most of the international websites only include minimal contact and customer support information for their New Zealand business and brief details about the products available. Those companies who are only using one website for all their global customers have to ensure that they include features which are tailored to all their individual markets. Otherwise, some customer needs will not be satisfied. This research has found that truly innovative exploitation of the Web has yet to come. The majority of insurance company websites are operating at level three on Moore's e-commerce escalator (Customer support via Web), few websites have made the transition to level four (online order processing) and five (Web access to order information) and none have entered level six (Web-based marketplaces).

While it has been recognized that the absence of some website features, such as online business, is not improving the state of e-commerce in the industry, it is questionable whether or not customers want to use some of these features. Exactly what features and level of e-commerce customers' want is unknown in the insurance business; studies that deal with this aspect would be particularly useful. A recommendation for others interested in

this area is to determine what features, according to the perception and behaviour of visitors, are optimal for the insurance industry and the goals of the company. A full-fledged qualitative study could provide more insight into the content of websites. The quality of websites also contributes to their success - a follow-up survey measuring not just the content but the usability of the websites in this study would also be useful. Further research could also concentrate on the development of a general framework to study Web sites. The academic community needs such a general framework to facilitate the comparison of the results of Web studies with different goals, among different categories of sites or user groups, or conducted at different times.

Base on our findings, the New Zealand insurance industry may need to review/reevaluate their policies and efforts on e-commence adoption. As the majority of insurance firms did not adopted e-commence very well, two types of options may be chosen. The first one is to emphasize the importance of e-commence. How would e-commence improve competitive advantages. Hopefully the insurance industry may take a further step on e-commence adoption. The second option is to adopt e-commence level by level. Due to the fact that the insurance industry adopted e-commence only on lower levels, it may be difficult for them to go to the top level from a very low one. This is more like to take the approach of business process improvement instead of business process reengineering.

Acknowledgements

The author would like to thank for the partial support from Business Research Fund of College of Business, Massey University, New Zealand. Thanks also go to my research assistant Terese Buckley for her hard work on data collection and analysis. I thank two anonymous referees of this journal for detailed comments that helped to improve the final version.

REFERENCES

- Adams, S., and Deans, K., "Online business in Australia and New Zealand: Crossing a chasm", Proceedings of Australian and New Zealand Marketing Academy (ANZMAC) Conference, 1999.
- BAH (Booz Allen & Hamilton), Third annual Internet insurance survey study of usage and trends. 1999.
- Bowden, S., Clark, D., Patricia, C., Gibb, J., Kearins, K., and Pavolich, K., "Adoption and implementation of ebusiness in New Zealand: Preliminary results", *Proceedings of the 9th Annual Conference of the New Zealand Strategic Management Society*, pp129-136, 2001.
- Buckley, T., A website evaluation of insurance companies in New Zealand. Massey University, 2001.
- Costello, G., and Tuchen, J., "A comparative study of business to consumer electronic commerce within the Australian insurance sector", *Journal of Information Technology*, Vol 13:153-167. 1998.
- DTT (Deloitte Touche Tohmatsu), Deloitte e-Business Survey: Insights and issues facing New Zealand Busines, 2000, http://www.deloitte.co.nz/images/acrobat/survey.pdf (accessed in May 2001)
- DTT (Deloitte Touche Tohmatsu), *The Insurance Industry: The e-commerce Imperative*, 2000b, http://www.us.deloitte.com/PUB/Ecommerce/ecomm2.pdf (accessed in May 2001)
- Grace, M.F., Klein, R.W. and Straub D., "E-Commerce in the Insurance Industry: Issues and Opportunities", In Se-Com: Secure Electronic Commerce. San Francisco, CA: Montgomery Research Inc., 306-310, 1998.
- Ho, J., "Evaluating the World Wide Web: A global study of commercial Sites" *Journal of Computer-Mediated Communication*, Vol 3, No 1, 1997. (http://www.ascusc.org/jcmc/vol3/issue1/ho.html)
- Huizingh, E., "The content and design of web sites: an empirical study", *Information & Management*, Vol 31:12-134, 2001.
- CNZ (Insurance Council of New Zealand), 2001, http://www.icnz.org.nz/ (accessed Oct 2001)
- Lowry, G., Scollary, A., and Singh M., "Electronic commerce initiatives in Australia: Identifying opportunity, meeting challenges, and measuring success", *Proceedings of the 10th Australasian Conference on Information Systems*, pp532 541, 1999.
- MED (Ministry of Economic Development), *Electronic commerce in New Zealand : A survey of business use of the Internet.* 2000, http://www.med.govt.nz/irdev/elcom/survey (Accessed May 2001)
- Moore, G. Living on the fault line: managing for shareholder value in the age of the Internet. New York : HarperBusiness, 2000.
- NOIE (National Office for the Information Economy), *The current state of play*. 2000, Accessed in May 2001 from http://www.noie.gov.au/projects/information_economy/ecommerce_analysis/ie_stats/State_of_Play.pdf
- Romberg, D., Insurance carriers slow to adopt net. Computing Canada, Vol 24, No 47: 1-1, 1998.
- SNZ (Statistics New Zealand), Internet usage statistics, 2000, http://www.ecommerce.govt.nz (Accessed May 2001) Zwass, V., "Electronic Commerce: Structures and Issues", International Journal of Electronic Commerce, Vol 1 No 1:3-23, 1996.