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The Electronic Commerce Network

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Abstract

Message translation service providers (brokers) have been an essential component of thousands of interorganisational relationships worldwide. This case study tells a story of one such provider in New Zealand that has been very successful in its business, yet still faces some major issues and challenges that will have a critical impact on its future existence. This article raises a number of questions indicating that the value traditionally delivered to e-Business relationships by message brokers may soon be insufficient. Increasing sophistication of substitutes together with the growing adoption of the XML and the Internet, capable of linking organisations directly, indicate declining attractiveness of the message translation business. In order to exist in the future, such service providers will have to look for new business models.

Keywords

Message translation, electronic commerce, middleware, system integration, interorganisational systems, e-Government, case study

INTRODUCTION

It was raining and very windy on the 20th of May 2001, common when winter knocks on the gate of Wellington, the capital of New Zealand. Locals usually start complaining about the ill-tempered weather but Wayne McLaughlin, CEO of Electronic Commerce Network (ECN), barely noticed it this time. His thoughts were somewhere else, far away across the Tasman Sea. "Potentially, it's a big risk", he acknowledged as he prepared himself for yet another of his frequent business flights to Sydney and thought about forthcoming expansion of his company to Australia. "The investment that we are currently making in Australia is about six times larger than the investment in ECN made by NZ Post. So if we get it really wrong it could actually destroy our total business," admitted McLaughlin. As well as expanding into Australia, ECN was also aiming to establish itself as the key service provider for forthcoming e-Government initiatives, and thus reinforce its dominant position in the New Zealand market. As if those two challenges weren't enough, McLaughlin knew that ECN's traditional business model, based on facilitating business-to-business external connectivity¹, was being challenged by new information technologies capable of allowing firms to communicate directly, thereby disintermediating ECN's core business.

HISTORY

The Electronic Commerce Network was established in 1996 and, as of late 2001, was jointly owned by its three founders and New Zealand Post at 50% share each. Before launching ECN, the founders had worked for Auckland Savings Bank (ASB) in the electronic banking area. Here, they began to perceive a need for the bank's clients to be able to communicate seamlessly with the bank and with each other and proposed a service that looked very much like ECN is today. However, the bank declined to get involved on the grounds that the

¹ Also referred to as 'interconnectivity' in some studies, external connectivity is defined as the extent to which a firm has developed digital connections with its business partners (Ramamurthy *et al.*, 2000).

service wasn't closely enough aligned to its core business. Eventually, the three managers left ASB and founded a consulting company called Virtual Technologies that specialised in implying innovative information technology to solve business problems. It was a matter of chance that Virtual Technologies helped to form an e-Commerce strategy for IBM New Zealand at the time when its major client and New Zealand's monopoly transportation company TranzRail was looking for their third generation e-Commerce solution. Since IBM was not able to deliver the service that TranzRail was looking for, IBM's sales representatives began to look elsewhere, and shortly ended up at Virtual Technologies. The three managers designed a service as a solution to solve TranzRail's need to communicate electronically with its clients, and founded a new company called Electronic Commerce Network to provide that service.

ECN was founded and originally located in Auckland, the hub of New Zealand's industry. However, two years later, a new branch was established, and the headquarters moved 600 km south to the capital city Wellington, that has an ideal geographical location in the very centre of New Zealand. Moreover, Wayne McLaughlin elaborated, "a lot of our major clients, including almost all governmental organisations, have decision makers in Wellington and we wanted to serve them better, become part of their organisations. So in order to be able to grow at the rate we wanted it seemed we needed a presence in Wellington."

BUSINESS MODEL

The Electronic Commerce Network was New Zealand's largest business-to-business e-Commerce service provider of its kind. Every day, it enabled its numerous clients to exchange thousands of transactions in goods and services, including invoicing and purchasing, import and export, supply and distribution, inventory management and compliance transactions with government agencies. By providing organisations with a set of well-developed and custom-made hi-tech services, it aimed to facilitate interorganisational electronic communication as reflected by its mission:

The Electronic Commerce Network will collaborate with our partners and customers to improve the competitiveness of New Zealand and Australian companies locally and internationally through the use of innovative and cost effective electronic commerce.

"The business model of ECN is very simple. That's why it works!" exclaimed Mike Day, ECN co-founder. It was based on a message translation service and application-to-application integration to make two different computer systems talk to each other without any intervention. "We allow electronic business messages to be reformatted and connected between different applications of our clients across whatever transfer mechanism and infrastructure a client chooses," explained Wayne McLaughlin. This comprised taking a file from one computer application, mapping it to ECN's translation system, and then looking at where the information is required elsewhere, and mapping it to the recipient computer application. The actual pricing model of ECN was a combination of per transaction-based fees and monthly subscription fees; the latter had become increasingly prevalent. The other revenue-generating areas included implementation and supply chain integration consulting charged on a daily rate basis and message management service.

MANAGEMENT AND STAFF

Wayne McLaughlin started to work as a certified automotive technician three decades ago but very early on recognised that it was not the long-term career path he wanted to pursue. He was seeking a change in his life and eventually applied overseas to IBM in Sydney for a customer engineer position. IBM provided Wayne with valuable training in information technology and introduced him to a wide range of new opportunities and challenges. He stayed with IBM for the next 18 years, mainly in Wellington, where he specialised in hardware and software engineering and eventually got involved in selling IBM products and services. As a marketing manager, Wayne was later responsible for the governmental sector and thus managed to develop an in-depth understanding of local state-owned enterprises and governmental departments that proved so much useful later on in ECN. He left IBM in 1991 with a solid background in communications and information technology. For the

following two years, his new employer became IBM's mainframe processing bureau Vogel Corporation. Later on he took up a position of general manager of Sales and Service Netway Communications, a subsidiary of Telecom New Zealand. Later, he worked as business development manager in Telecom's government computing services unit, and helped restructure it into what is known today as EDS New Zealand. Wayne was appointed as CEO of ECN in April 1999, the day the founders of ECN sold 50% of their brainchild to NZ Post. He then reported to the ECN board that consisted of the two original founding directors, two NZ Post executives, and an independent chairperson.

Besides Wayne, the senior management team included e-Business specialist Paul Hufflett, and one of the founders of ECN and director of Virtual Technologies Mike Day. Paul had been working in e-Business field since 1995. As a development and subsequently e-Business manager in NZ Post he formulated and executed NZ Post's business-to-business strategy. The infrastructure developed under this strategy was still in use by NZ Post in 2001. The vision behind those developments was part of a wider strategy that has been later effectively fronted by ECN. Mike Day had also an IT background, particularly in project management and system development. He entered IT business in London in 1966 in a way most computer science students naturally did – programming, database and systems administration. He spent 7 years working for the Burton group, one of the largest retail chains in UK. In 1986, Mike left for New Zealand to take up position of systems development manager in the electronic banking division of ASB Bank. He worked in project management on banking systems and set up a clearing competition company that implemented the state clearing system in New Zealand. Five years later, he moved into consultancy and founded Virtual Technologies. The revenue generated by this company was used to fuel the start-up and growth of the Electronic Commerce Network.

In its short history, ECN had grown quite significantly as the number of staff almost quadrupled. "When I joined the company two years ago we had five staff and we have about 19 now," recalled Wayne McLaughlin and further elaborated on ECN's human resources strategy: "We added staff in two different areas. First, we hired skilled people to fill gaps in urgent areas. Second, I recognised that in order to support growth, I needed to build a second level team with the same set of skills as the first team. The reason was that we wanted to expand to a geographically different region that necessarily created a need for an extra self-capable team. Moreover, a lot of our processes were not documented at all and we needed some redundancy in case somebody left so as to fill the boots. Even now with our 19 staff," he added, "I think we could probably run the company quite satisfactorily, if we were not in a growth phase, with 8-9 people. So the rest is really investment..." Most ECN employees were e-Business specialists with particular knowledge and skills in databases, programming, system analysis, networks and communication tools and standards.

SERVICES

The core competence of ECN lay in harnessing the capabilities and intellectual knowledge of its employees and partners to solve problems in electronic trading through the following set of services: message translation, e-Business consulting, and support and maintenance (see Figure 1).

Message Translation

Message translation had been the core service of ECN, generating the majority of its revenue. By transforming business documents into different formats and utilising various communications channels, it allowed any business application in use by a client organisation to interact electronically with that of a trading partner, irrespective of the technology each employed (Figure 2). There was no additional software required by either client, since ECN acted as a fully self-sufficient outsourced message broker.

The principle of the translation process in interorganisational communication was quite simple. Documents, such as invoices, credit claims, remittance advices, and purchase orders generated by corporate business applications² were internally converted and

² Corporate business applications provide capability to manage financial transactions, asset and cost accounting, production operation and materials, personnel, plants, and archived documents. These applications are commonly

structured into a preferred message format, normally a variation of Extensible Mark-up Language (XML), Electronic Data Interchange (EDI), or a combination of both. Rather than directly to a trading partner, the messages are first delivered to ECN using TCP/IP, X.400, Frame Relay, SMTP, POP3, IMAP and other popular communication protocols via an available communication channel, normally the Internet, Extranet, direct link, proprietary Value Added Network (VAN) or Wide Area Network (WAN). Upon reaching ECN's gateway, the messages were held for an agreed period of time in order to give a sender the possibility to make corrections in case of error, application failure or unwanted dispatch. As soon as the delay period was over, the messages were verified, backed-up, converted into a new format, routed and eventually sent along an appropriate communication link to the recipient's computer application. The whole translation procedure can be demonstrated using the example of New Zealand Customs Authority (which selected ECN as the preferred supplier to facilitate the electronic filling in of customs declarations). Customs required the declarations to be sent over a private X.25 network using X.400 communications protocol in an EDIFACT format that was not acceptable for all organisations it dealt with. However, the open EDI solution proposed by ECN allowed organisations to supply the declarations in whatever form and communication medium they preferred, including World Wide Web for occasional users. The incoming messages were translated by ECN into EDIFACT and forwarded to Customs. "Provided we know where the message comes from, we can do the data manipulation and data mapping inside our own environment," confirmed Wayne McLaughlin.

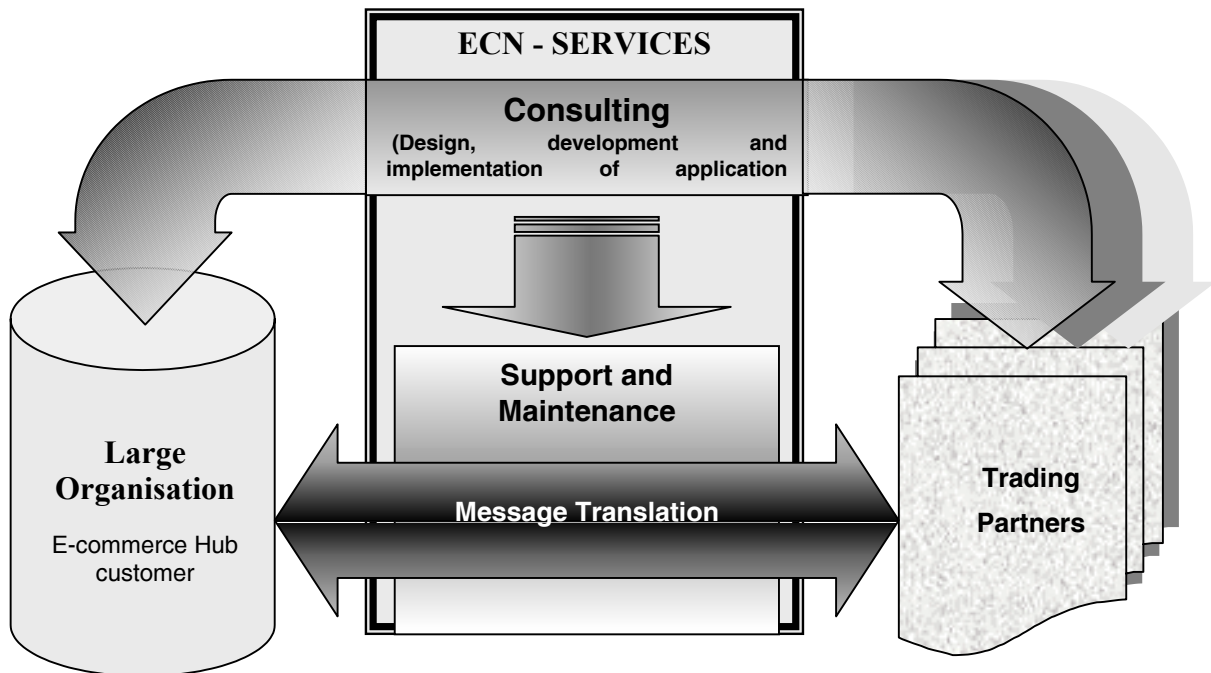


Figure 1: Map of services provided by the Electronic Commerce Network (figure courtesy of ECN).

Such a process of data exchange was fast, reliable, efficient, and worked well in the domain of smaller businesses, and even better between larger organisations where intensive data traffic occurred. However, despite the latest advancements in information and communication technologies developments and adoption, fax and telephone were still commonly used forms of business-to-business collaboration in New Zealand, especially in the domain of small enterprises. Telephone requires a human hand to operate and thus cannot be automated. Fax offers limited business process automation at the sending end of the relationship but the receiver must still handle paperwork. Automating only one end of the data interchange significantly restricts business benefits that can normally be attained from the full automation of the process. Nevertheless, ECN provided fully integrated fax solutions

provided by way of Enterprise Resource Planning (ERP) application suites such as those available from SAP AG, JD Edwards, BAAN, Oracle, PeopleSoft, BPCS, or CBA.

for those clients who wished to translate their outgoing computer-generated data into a fax message delivered to their trading partners.

Consulting

Although not the core activity, consulting was increasingly becoming an important component of ECN's business portfolio, with 32 percent growth in revenue in 2000. It was deemed to be an extra service that distinguished ECN from pure technology providers and added value to its core, message translation service.

Message Translation Service

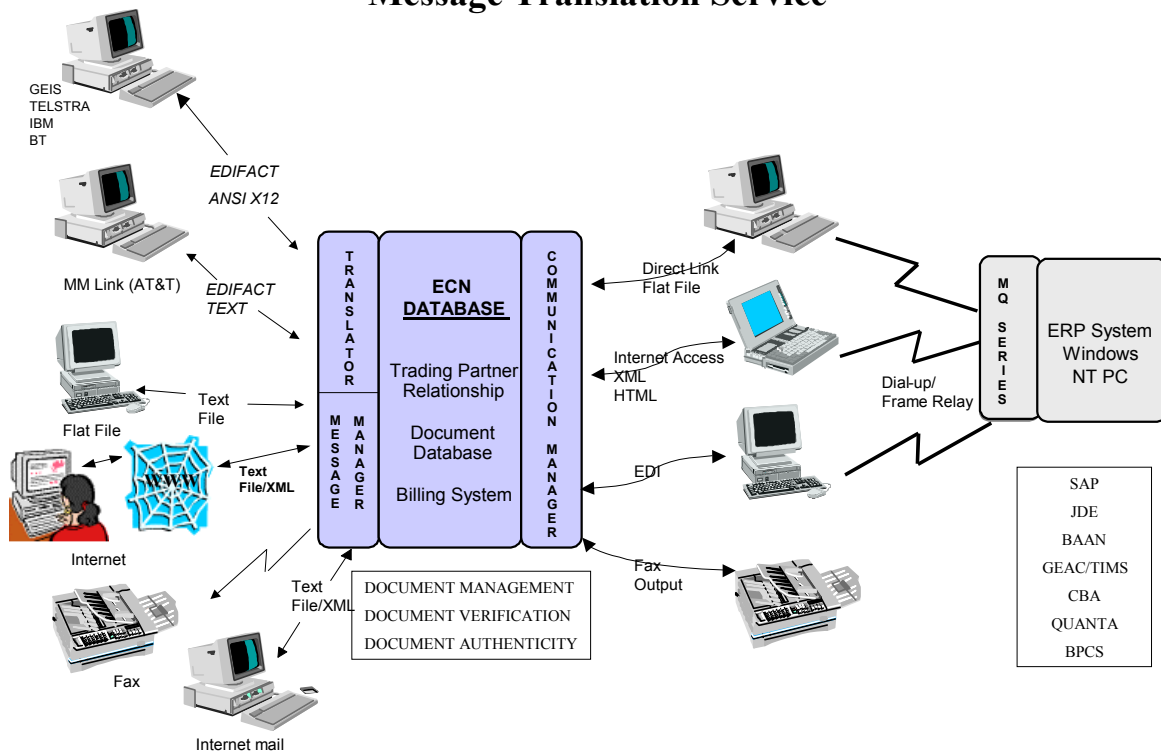


Figure 2: Schematic of Message Translation Service (figure courtesy ECN).

Residing in the middle of business relationships, ECN was uniquely positioned for business-to-business e-Commerce consulting (Figure 3). "It's probably as close to being involved in the interorganisational business processes as you can from IT perspective," confirmed Wayne McLaughlin. Such close contact allowed ECN to maintain very good knowledge of interorganisational systems and to be aware of common problems organisations were facing when engaging in e-Business relationships. The consulting service typically related to application-to-application integration, data interchange management, e-Procurement systems, message mapping, analysis, design, development, and implementation of messaging and middleware solutions and customised web applications. It was charged on per hour basis and primarily targeted at, and required by small and medium organisations that were likely later to subscribe the core message translation service.

Due to recent advances in information technologies capable of connecting business partners directly, ECN managers viewed consulting as the key service and source of revenue for the future.

Support and Maintenance

ECN's integration into supply chain relationships resulted in a greater need to maintain excellent communication with clients. Providing on-going customer service, including system support and maintenance, was perceived to be critical for the company's success and thus was provided out of both Wellington and Auckland centres. The ECN helpdesk was available

between 7 am to 7 pm on workdays and 9 am to noon on Saturdays. Key customers had free access to extended helpdesk service, 24 hours a day, 7 days a week. If phone contact was not enough to resolve a client's problem, a support engineer arranged technical consultation on the client's premises. ECN's website (located at www.ecnetwork.co.nz) had become another important customer support mechanism. Besides information about the company services and contact details, it offered the clients direct access into the ECN's system so as to track their transactions. With the exception of fax, all electronically delivered messages were trailed and audited, and records were kept for seven days back in time. All messages were then archived on CD-ROM, available to customers upon request.

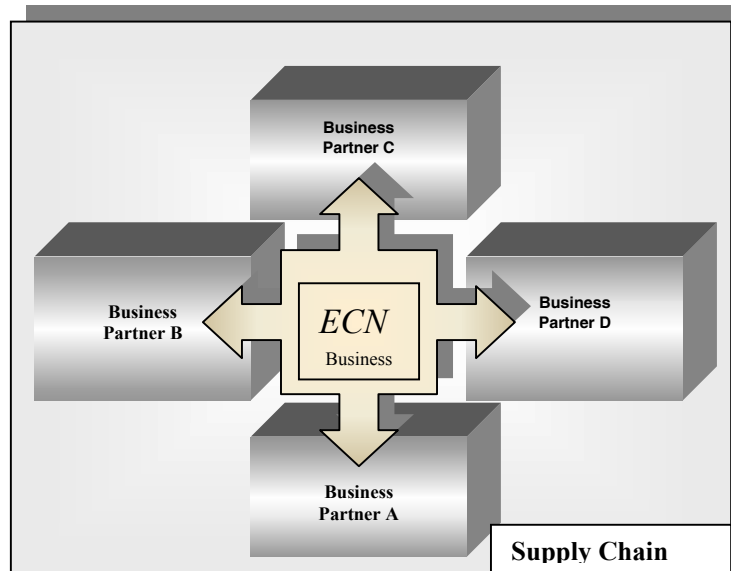


Figure 3: Visual Depiction of the Integration of ECN into Business Relationships (figure courtesy ECN).

GROWTH

"It has just gone crazy", exclaimed Wayne McLaughlin, and he had a reason to be pleased. To date, ECN had been growing at a tremendous rate, and enjoying substantial increases in revenues. "Two years ago we were doing about \$9,000³ a month in transaction revenue. We are probably an excess of \$200,000 a month now. Total year revenues have gone up from initial \$250,000 through \$1,000,000, up to \$2.5 million for the past fiscal year. In addition, we have been profitable throughout the growth phase. Our profit for last year reached almost \$250,000. We are growing as fast as we are capable at the moment and our board is expecting even more from us in future."

The number of customers had increased correspondingly. As of early 2001, ECN had more than 4,000 clients; comprising 85-90 percent of business-to-business relationships facilitated by a third party and 50-60 percent of the entire electronic messaging market in New Zealand. Most customers had been acquired through existing clients who often approached ECN to resolve connectivity problems with their trading partners. These typically had their own business partners, with whom they may have wanted to interact electronically, and so the recruitment process went on across multiple supply chains. "Moreover, as more and more organisations connect to our service, we have to do less and less mapping, because we can re-use the maps we had created before. And that is really a key competitive advantage," explained McLaughlin.

To generate high transaction revenue under a traditional per transaction cost scheme, ECN originally focused its services on larger organisations that conducted high transaction volumes and were heavily engaged in interorganisational e-Commerce. However, large organisations usually interact with smaller ones in order to be able to do their business and

³ All dollar figures are in New Zealand dollars. At the time of writing, the NZ dollar was worth approximately \$0.42 US.

thus ECN had to expand to the arena of small enterprises, that others might see as financially unattractive. Therefore, the clients varied in size from large organisations with 2,000-3,000 employees and thousands of transactions per week, to small suppliers with 20-50 employees sending or receiving less than 50 messages per month. The former and the latter were commonly engaged in one-to-many relationship, better known as hub and spoke. "For every hub there are about 30 spokes for ECN to link," indicated McLaughlin, demonstrating the overwhelming majority of SME customers and the key opportunity for growth. Yet, it was only a small number of large clients, usually associated with imports and exports that represented the majority of ECN's revenue. These included New Zealand Customs Authority, TranzRail, NZ Post, and Repco, each with more than 300 trading partners. Customs Authority, in particular, with its 2-3 million transactions processed annually, was ECN's biggest customer, representing 75 percent of transaction volumes and revenue. All goods imported to or exported from New Zealand must be accompanied by a filled customs declaration. In 98 percent cases of imports and 55 percent of exports, the declarations were filled and delivered electronically, via ECN.

One reason why ECN had been successful is the differentiation of its services from its competitors. It offered its customers expertise and hi-tech services, not physical products. The core message translation service was unique in that no expensive proprietary software or hardware was required to be installed on the clients' side. Provided no additional mapping was needed, it took less than 3 days and \$5,000 for an organisation to be connected to ECN and send a first electronic document. The ECN solution was thus affordable for small organisations, as opposed to any preceding EDI-like systems. Also, unlike traditional EDI service providers, ECN charged only the sender, under a per-transaction cost scheme, and did not require using expensive proprietary networks as a communications medium. However, the greatest competitive advantage ECN possessed was its large client base. "If anybody wants to talk to thousands of organisations that are already connected to our client base, there is no more efficient way than doing it using existing interfaces," claimed McLaughlin. "If a new competitor to ECN were to emerge in the New Zealand market, it would have to face this barrier."

ALLIANCES AND PARTNERSHIPS

In order to achieve commercial strength in its service, ECN identified a number of potential partners with skills complementary to those of ECN. This process led to establishing a key partnership with IBM New Zealand in 1996, since IBM had strong technical and infrastructure skills and was looking to develop solution-based skills in electronic commerce. Conversely, ECN possessed know-how in e-Commerce consulting and message translation but lacked infrastructure capability. Although the relationship with IBM was still close as of 2001, it had not developed into the strategic partnership that was envisaged at the beginning. "It is actually going in opposite direction," said Wayne McLaughlin referring to that fact that IBM was no longer directly involved in ECN's business as a prime contractor in relationships with clients.

Further relationships were initiated with telecommunications company Telstra, for which ECN acted as a contractor, and with ECN's 50% owner New Zealand Post. The direct engagement of NZ Post in ECN brought the much needed injection of capital and, conversely, offered NZ Post the opportunity to be involved in an innovative company with relatively little risk. Although not operationally involved, NZ Post also provided strategic direction and brought significant business opportunities to ECN. One such opportunity was an invitation to supply integration functionality for NZ Post's supply chain management strategy that would support on-line catalogue ordering, electronic billing and helpdesk services.

Over the last five years ECN had also developed working relationships with many New Zealand business application vendors such as SAP, Oracle, J. D. Edwards. For their clients engaging in business-to-business e-Commerce relationships, these software companies were recommending ECN as the proffered supplier of interconnectivity solutions. This approach allowed ECN to leverage off partners' sales force thereby reducing its sales and marketing cost and effort.

COMPETITION

There had been lot of competition in the financially attractive area of e-Business consulting on supply chain integration, traditionally the domain of large consulting companies. "The consulting job is normally done by the time we arrive to connect a company to our message translation service," admitted Wayne McLaughlin. He was not completely sure whether ECN should compete against them as a consultant, or rather cooperate as a contractor. "People think that this job is beyond our scope and capabilities. So we do it only if we are asked to," he remarked. In its core message translation service however, ECN had been fortunate enough yet to face only minor competition in New Zealand. A few bureau-type business-to-business e-Commerce intermediaries had been operating or recently emerged on the market but, unlike ECN, these organisations were industry focused and did not offer cross-industry solutions. The most significant firms competing with ECN in the message translation arena included Telecom New Zealand and General Electric Information services (GEIS).

Telecom's new CommX product, launched in January 1998, provided a level of functionality that competed directly with ECN by providing anything-to-anything data mapping and connectivity service options. Although CommX was considerably more limited than ECN's solution, the recently formed strategic alliance among Telecom, EDS, and Microsoft was likely to result in migration of CommX clients to a Microsoft's BizTalk Server 2000⁴ platform, that could in turn become a very powerful alternative to ECN. Moreover, Telecom had a solid capital base for new developments, access to highly qualified human resources and the largest business-to-business client base in New Zealand, and a stated interest in the area of e-Commerce. Through partnership with its subsidiary Internet service provider Xtra, it had a strong potential capability to develop trading communities leveraging the Internet. In addition, ownership of, and experience with, Australian specialist in e-Commerce AAPT provided Telecom with a model that could be easily brought to New Zealand. All these assets made Telecom New Zealand a potentially formidable competitor, even though it lacked e-Commerce sales and solution skills, reported lower than anticipated CommX client base growth, and maintained its focus on its core telecommunications business.

As New Zealand's first Value Added Network (VAN) provider, GEIS had substantial experience with electronic marketplaces. It had been recognised as a world-class organisation with strong international presence in Australia, where it was operating as the leading e-Commerce service provider in retail industry. Having similar business strategy as ECN, GEIS Australian management had made it clear that they wished to expand and increase their client base and revenue in New Zealand, and proposed that ECN distribute GEIS products and services. Although it managed to acquire a couple of larger customers, who could represent a solid base for further expansion, its progress in New Zealand overall had been rather slow. GEIS's messaging solution was based on proprietary software and its revenue model on per-kilobyte of transferred data that made its implementation and service fees more expensive than those of ECN. Nevertheless, in partnership with Microsoft and Netscape, GEIS had been developing new initiatives in the Internet arena that appeared to be excellent hybrid of EDI and XML to address larger, multi- industry markets with many different communication channels. Together with economies of scale, good reputation, and solid experience in e-Commerce facilitation, the newly developed solution could make GEIS an important player on messaging market in New Zealand.

It appeared that even traditional Internet Service Providers (ISPs) had the potential to compete with ECN. The ISP market had been growing and developing steadily in New Zealand, and it was widely recognised that e-Commerce would play a major role in adding value to the Internet base. Message mapping and translation done at the Internet communications level by ISPs was the next best-positioned alternative solution to ECN's service. As of late 2001 however, ISPs' business efforts were directed much more at popular business-to-consumer e-Commerce, and McLaughlin felt that they were unlikely to move into the business-to-business arena in the near future. Similarly, telecommunication

⁴ 'BizTalk Server 2000' is a middleware application developed by Microsoft to solve interconnectivity problems in business-to-business electronic commerce. It allows businesses to interact while employing disparate data formats and communication protocols.

suppliers were also well positioned to provide translation and data mapping services as a commodity extension of their current carrier services. In an ideal case, they could combine such services with implementation advice supplied by large consulting companies such as Ernst and Young or PriceWaterhouseCoopers and seriously threaten the core competencies that differentiated ECN. While making this happen would have required deliberate change in plan and strategy on the side of both telecommunication suppliers and consulting companies, it was perceived as a significant substitute threat that should not be underestimated.

The largest competitive threats however came from new, increasingly powerful information technologies, and a growing acceptance of the value of standards that made it much easier for people to communicate directly without message brokers. "Probably the most popular alternative to ECN is doing the work yourself, as a part of your organisation. Those organisations that have their own messaging gateway, highly skilled staff capable of managing that gateway and access to the Internet would probably not require our services," explained McLaughlin. Such a process of displacing traditional service providers from business relationships started to emerge with the arrival of the Internet, and is referred to as disintermediation. Fortunately for ECN, "the cost of doing it alone is still higher at the moment," emphasised Paul Hufflett. There were software applications, such as BizTalk, rapidly emerging on the market claiming magically to solve incompatibility problems between trading partners. However, the purchase and implementation cost of such software was as high as \$100,000 and thus may have not been cost-justified in a New Zealand business environment with low to medium transaction volumes and a predominance of small-to-medium organisations.

OPPORTUNITIES AND THREATS

Although in a strong position with a large client base, and a successful business record, ECN was about to face some crucial issues and challenges in the months and years ahead. "All of them are equally important," emphasised Wayne McLaughlin. "Any one of them, if ignored, could undo us. So we have to keep an eye on the whole spectrum."

New Business Model

To what extent did the phenomenon of disintermediation in e-Commerce threaten ECN's core business? Were organisations engaged in e-Business relationships going to take advantage of products such as BizTalk or use inexpensive, versatile, and platform-independent communication technologies and mechanisms, such as XML and the Internet to bypass ECN and thus save on transaction costs? Or would ECN be able to continue to add value to business relationships to the satisfaction of all parties engaged in such relationships? Was that fact that ECN had had almost no competitors in its core service an indication that they did not think there was a strong value proposition in the message translation business? Wayne McLaughlin responded:

"I actually think that the technology will overtake us. More and more ERP applications and corporate information systems will be able to interact directly, without the need for translation. Furthermore, increasing number of large New Zealand organisations, including Telecom and EDS, are adopting Microsoft software as their platform. Although products such as BizTalk do not yet provide the amount of flexibility that would match that of ECN, and not many people can actually install them, one day they will eventually mature. But based on the complexity of the problem that we're trying to solve, I would give ourselves at least another 5 years, just working at current level."

To face disintermediation and rising competition, ECN would need a new business model that would not be so much based on message translation and would provide more value to customers. Its shape was still largely unknown, only that it was expected to continue rapid revenue growth, capitalise on market place opportunities, reflect new technologies, and improve the way the existing services are delivered. Recent feedback from clients pointed to growing demand for highly specialised services to increase visibility of information across

the entire supply chain, from the point of placing an order all the way to the point of delivery and payment. Should ECN go into a partnership with a consulting firm to develop and deliver such sophisticated, value added services?

Expansion to Australia

To fulfil the high growth requirements set by the board, and to provide better service for clients that trade both in New Zealand and Australia, ECN had developed a strategic plan aimed at establishing a significant presence within Australia over the following 12-24 months. The creation of the plan was fuelled by three circumstances. First, New Zealand was, according to international standards, a minuscule market where ECN was already approaching a dominant position. "And that's the limit of our growth," admitted Mike Day. "Now we have to go to another geography and get the benefits of the model that has proved to be so successful in New Zealand," he remarked. Contrary to Mike, Wayne McLaughlin saw a substantial amount of growth opportunity in New Zealand. "But it's not going to produce the speed of growth that we have had so far," he admitted. Second, many clients in New Zealand had Australian trading partners who had been connected to ECN anyway. The third incentive originated from the fact that the Australian marketplace had a lot of EDI legacy users who were still paying for their transactions based on the size of their message that was the old telecommunications companies' way of extracting money out of the message translation service. The ability to do the same job in a much more advanced and cost efficient way lifted ECN into a considerably strong competitive position, even against some very large and well-established Australian competitors with strong customer bases. Management viewed the expansion as an opportunity, and was reasonably confident in conquering the Australian messaging market by reducing the current cost of service by two thirds.

To minimise the risk and increase the success probability, ECN felt it should build its business around an already established company of a similar character rather than entering the market with a blank sheet of paper. Specific methods of entry being considered included forming an alliance with a specialised Australian consulting firm such as Dawson Consulting (which focused on supply chain management consulting), or acquiring a network service provider operating in the Australian market that time, such as PacStream or TEDIS.

The Australian operation represented a whole set of new opportunities and challenges at both a business and human relationships level, requiring sensitive handling. "These companies have their own organisational memory and Australian culture, recognising Australia as being successful. And we wouldn't want to lose that if we were to become part of it," said Wayne McLaughlin. At the business level, the prime challenge lay in gaining a favourable return on the considerable investment required for setting up an Australian operation – an investment that would be even larger than the original investment in ECN made by NZ Post. Sufficient capital had been allocated to support the anticipated growth of the Australian operation, a package of performance-based incentives for the new employees had been prepared, and finally, a decision had been made to put in place a loyal, New Zealander CEO.

This could not have been done without the strong belief of ECN's senior managers that the opportunity out there was enormous. "It would be true to say that we anticipate that the value of the Australian purchase will, with 12 months of us operating it, likely be worth a similar amount to our NZ business. Within 2 years of us investing we would expect the Australian business to be worth more than the NZ business," outlined Wayne McLaughlin. Mike Day added "By investing a reasonable capital into the Australian company after its acquisition we can grow quite rapidly and perhaps even expand to another geography such as Asia and possibly UK." Yet, they both realised that the Australian challenge was in many aspects different from New Zealand. Unlike its neighbour, Australia had a significant number of large organisations that operated their own messaging gateways and thus did not need ECN's services. Likewise, there were many small suppliers that supplied only one large organisation, therefore did not require multi-format messaging capability. And for those who did, there were several well-established network service providers to choose from. Notwithstanding the favourable circumstances and projections, ECN was thus about to enter

a new, much larger and quite different territory where unexpected obstacles and issues could suddenly emerge. Should the project fail, the result could be fatal for the company.

E-Government Initiative

Since the advent of the long-awaited e-Government policy, New Zealand government ministers, agencies and the State Services Commission had been all cooperating to introduce new electronic channels for more efficient interaction with businesses and each other. This initiative meant both an opportunity and threat to ECN's position in the market. In particular, the State Services Commission had a strong potential to become the messaging gatekeeper to government agencies. Such an outcome would have considerable impact on the revenues generated from government, including those coming from Customs Authority, and would significantly reduce the value that ECN brought to the relationships between commercial organisations and the government agencies. "The risk for us is that if we are not involved then communication with government could easily get centralised. And if that happens the government will probably end up with forcing a standard that all of industry will have to comply with in order to be able to deal with governmental institutions. As a result of this action, there would be no need for message broking service to government any more because people would be forced to adopt the same standards. And that's really back to the old days of EDI, as we see it," remarked Wayne McLaughlin.

A million questions ran through Wayne McLaughlin's mind as he watched the sparkling Tasman Sea slide by, on his flight to Sydney. But it was answers he needed, not questions... and soon.

REFERENCES

Ramamurthy, K., Premkumar, G. and Crum, M.R. (2000). Organisational and interorganizational determinants of EDI diffusion and organisational performance: A Causal model. *Journal of Organisational Computing and Electronic Commerce*, 9(4), 253-285.

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