

## For Discussion Purposes Only

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The Minister for Information Technology  
The Minister of Commerce  
The Minister for Economic Development

### **ELECTRONIC COMMERCE: STRATEGIC IMPORTANCE, KEY ISSUES & WAY FORWARD**

#### **ISSUE**

1 The purpose of this paper is to show that facilitating the growth of electronic commerce in New Zealand will play an important part in economic development.

2 Electronic commerce is driving significant changes in business and in the shape of both the economy and society as a whole. It can potentially deliver to New Zealanders important new opportunities. Hence the Government needs to take account of this rapidly changing environment for economic development initiatives to have the chance of maximum success.

3 Because the environment *is* changing rapidly, speed is of the up-most importance. Hence we urge that the necessary decisions to do with electronic commerce, such as the proposed ecommerce strategy and summit, be made as soon as feasible.

4 The first part of this paper talks about the “New Economy” and how this is changing perspectives internationally on what works in terms of economic development. Particular emphasis is placed on the role of networks in amplifying opportunity, how information and communications technologies (ICT) are driving both change and economic growth, and how the fastest growth in jobs occurs through the creation of new businesses.

5 The second part outlines the strengths and weaknesses in the current state of electronic commerce policy work in New Zealand. The main thrust is that although New

Zealand is relatively well placed internationally when measured on a number of criteria (such as Internet access), more needs to be done in order to facilitate faster growth and spread the benefits to more people and communities. In particular the Government needs to move faster on creating the right environment for electronic commerce.

6 The third part offers a process for moving forward, including strong ministerial leadership, improved co-ordination across departments, and a sufficiently resourced co-ordinating body to manage the process, report to Ministers etc.

7 The Appendix includes a range of initiatives that might be included in a "New Zealand Electronic Commerce Readiness Strategy".

8 Note that we have chosen here to use the phrase "New Economy" as well as "Knowledge Economy". New Economy better captures the idea that all this is not just about new knowledge based industries, but about new ways of approaching *all* economic activity in order to capture the greatest growth potential.

9 The overall premise of the paper is that a future of high skills, high employment, a high value added economy and reduced inequality is dependant on the Government developing policies that support and are congruent with the dynamics of the New Economy. In the first instance this means rapidly increasing understanding of the New Economy - how it works and how it is different.

10 Additionally for economic and regional development policies to work they must be founded on the factors that have been identified as important for success in the New Economy, such as:

- excellence in public education;
- encouragement of innovation and entrepreneurship;
- an R & D infrastructure;
- availability of job-specific skills training;
- the creation and use of networks;
- on-the-job training;
- quality government; and
- focused economic development efforts that leverage local strengths and meet local needs.

11 A crucial part of this is to grow the use and availability of information and communication technologies (ICT) in all areas of activity – government, education, business and community.

## Part 1: Background

### a. The “Amplifying” Network

12 Information and communication technologies (ICT), particularly the Internet, are fundamentally changing the structure of economies and societies. ICT is one of the key drivers in the dynamism, constant innovation and accelerating speed of the New Economy. The degree to which these features have become the norm is one of the most striking structural economic changes of the last decade. If New Zealanders are to grasp the significance of ecommerce, the Government must grow its own understanding - and that of New Zealanders - of these New Economy forces and how to work with them.

13 One of the keys is to comprehend and utilise the amplifying effect of networks.

14 The creation and utilisation of networks is a fundamental ingredient for generating wealth in the New Economy. This is because of the effect of “network externalities”; as the network grows, the value of being connected to the network grows exponentially, while the cost to the individual remains the same or reduces. To illustrate, a connection to the Internet in 2000 with 250 million users and a billion web pages is much more valuable - yet much less expensive - than a connection to the Internet in 1994 with 6 million users and something less than 20 million web pages.

15 Consequently a network acts fundamentally as an amplifier. The greater and more complex the network, the greater the amplification. The Internet is the most complex network humanity has yet created – it is a vastly more complex network than the telephone network. The latter is designed for one-to-one connections. But the former derives its power through being designed to facilitate any number of multiple connections simultaneously, in any format – text, images, sound and video.

16 The Internet amplifies *opportunities*; for creating wealth, increasing social cohesion, participating in global activities, and for living a richer more informed life – irrespective of geographical location or population density.

17 Simultaneously the Internet can amplify *inequalities*, contributing to the so-called digital divide. It has been shown that those who are already disadvantaged for socio-economic or geographical reasons are less likely to be connected to the Internet and/or e-literate. This lack of access amplifies the existing disadvantage, because those who are e-literate and connected have exponentially greater access to opportunity and information than those who are not. The key point to understand is that the Internet does not create the digital divide per se – it simply amplifies already existing disparities.

18 As an amplifier of opportunity, the Internet specifically, and networks generally, are a fundamental tool for economic and social development. Indeed, management expert Peter Drucker and others have suggested that the dynamic of networks, partnerships and collaborative ventures is a key organising principal in the New Economy.

19 It is instructive to note that networks have always been at the centre of successful societies. The Roman Empire, for example, was based on its network of roads and waterways. Physical networks like roads, sewerage and electricity still underpin our society today. But as the founder of Nua Internet Surveys Gerry

McGovern points out “...the Internet network is different. It is digital, it is global, and it changes faster than practically anything changed in the Industrial age.”<sup>1</sup> In other words, it is the complexity, speed and reach of the Internet that makes it different.

20 McGovern also points out that although there are wires, computers, modems and web sites, these things are not the essence of the network. The essence of Internet is that it works to help people interact and share information with each other...

“The Network economy is just another name for the caring economy because the network is all about people: people *are* the network.”<sup>2</sup>

## **b. Networks and Electronic Commerce**

21 Electronic commerce is a business application of networks. Conceptually, the development of electronic commerce is about moving physical business processes, such as supply, production and distribution chains, to the networked electronic environment. Making these processes “weightless”, faster and less error-prone markedly reduces the costs of transactions and contributes significantly to business efficiency. Other benefits include the potential for much greater collaboration and customisation in design, lower inventory costs, faster production, lower supply costs and an increased ability to combine markets across borders, making national borders more porous.

22 Simultaneously, the amplifying effect of networks tends to increase the value that can be derived from electronic business processes over and above cost reduction. For example, the reach of the organisation is increased enabling it to interact with non-traditional suppliers or customers. Relationships with business partners can go beyond those defined by existing linear processes, by connecting businesses that are not normally adjacent on the traditional supply chain. These more complex, newly established business relationships can constitute a new business-to-business market – often crossing borders - where information becomes the core of the transactions.

23 Additionally electronic commerce amplifies the ability of SMEs to access new markets across the globe, enabling activities that might not be otherwise supported by the local market. This could be particularly beneficial for those SMEs located in low population areas.

24 In a nutshell, electronic networks make for a much more varied and richer range of possible supplier and customer relationships. Because they are electronic, there is also the ability to collect and analyse much greater amounts of information *about* those relationships. This provides opportunities for new business models to develop, and new wealth to be created.

25 It is important to note that business to consumer ecommerce (i.e. shopping on the Internet) is the public face of electronic commerce. While this is having an effect in terms of price, choice and convenience, it is in the area of business to business ecommerce that the most significant impacts are predicted and being felt, particularly for SMEs.

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<sup>1</sup> McGovern, Gerry, *The Caring Economy*, (Dublin: Blackhall Publishing, 1999) p. 230

<sup>2</sup> *ibid* p.231

### c. The New Economy

26 In the New Economy the degree to which ideas, innovation and technology are integrated into every sector of the economy - regardless of whether its manufacturing, services, or agriculture - determines the opportunities for employment and wealth creation.

27 In the traditional economic view the discovery of key technologies such as the transistor or the steam engine are seen as scarce opportunities that are given to us by nature and are largely beyond our control.

28 We are now learning that – in New Economy terms - this account gets things exactly backward. In fact the opportunities given to us by nature are anything *but* scarce. While physical resources are indeed finite, there are unlimited potential ideas or “recipes” for turning those finite physical resources into new and valuable products. Silicon, for instance, a virtually worthless element is now used for making computer chips.

29 There are also unlimited opportunities for creating new services – for instance New Zealanders Dennis Dutton and Bruce Simpson have both created world famous (and not just in New Zealand) web-based information services of high value based on the web’s linking facility.

30 In the New Economy, instead of supplying mass or commodity markets, identifying and exploiting numerous high value niche markets will become the primary generator of wealth. This greater breadth of more dynamic economic activity will likely imbue the New Zealand economy with greater resilience. In particular smaller communities will be better off with greater numbers of smaller businesses rather than reliance on a single large industrial employer.

31 What *is* scarce then is not opportunity, but the human talent to pursue the many opportunities available. As new growth theorist Paul Romer says there are hundreds of examples that show that we make progress in almost any area to which we put our minds. Moreover, if we don’t put our minds to an area, we don’t make progress. The lesson in this rather obvious statement is that innovation and technological progress is something that does not just occur by accident, but can be made to happen. The realisation of this fact is one reason for the increasing speed and dynamism of the global economy.

32 As an example of boundless opportunity and scarce human capital, an Auckland Venture Capitalist stated recently that he is aware of many good investment opportunities in the high tech/electronic commerce sector in New Zealand. However, his constraint is the lack of what he calls “managerial bandwidth”. In other words, there are not nearly enough people available with the business expertise to take advantage of the available opportunities. The lack of people with skills, training and experience is the bottleneck.

33 Hence in New Economy terms, encouraging future discovery is a key role of governments. Economic success is increasingly determined by the effectiveness of the support that countries, enterprises, communities and individuals give to technological innovation, entrepreneurship, education and learning.

34 In other words a key element that will deliver the desired future of high skills, high employment and a high value added economy, while reducing inequality, is the rapid creation of as many new businesses as possible, exploiting as many opportunities as possible - remembering that opportunities as such are virtually limitless. To support this goal developing human capital, business and management capability and fostering continuous R & D is of paramount importance.

#### **d. Education in the New Economy**

35 An area, which has yet to be fully addressed in New Zealand, is how the growth of ICT will drive changes in education.

36 A cursory analysis suggests that ICT will potentially change the shape of education substantially. ICT greatly enhances the ability to deliver distance courses, and this may well lessen the need for educational institutions to have a big investment in buildings. At the same time, New Zealand educational institutions – particularly at the tertiary level - will increasingly find themselves in competition with overseas universities offering Internet based courses, and delivering better qualifications at a more affordable price. New Zealand tertiary institutions may well have to follow the economy as a whole in concentrating on niche areas of excellence. Additionally ICT may afford opportunities for New Zealand tertiary institutions to form partnerships with overseas institutions, either to offer courses locally to New Zealanders or to co-facilitate courses drawing on those areas where New Zealand has an edge.

37 The Internet is also likely to increase opportunities for life-long learning both on and off the job. Indeed just as the ecommerce is causing new business models to emerge, so the Internet is likely to enable new models of education that more closely match a whole range of learning needs.

38 At the compulsory end of the scale, education at the primary and secondary level must be closely examined to see how it might better deliver the skills and experience that our children will need to prosper in an economy that is more dynamic. Research over the last twenty years in learning styles suggests that it is more than possible to provide education that can unleash the creativity of every child.<sup>3</sup> Additionally there needs to be a much greater focus on integrating the use of ICT into the curriculum to create e-literate citizens. There are some excellent examples in New Zealand – such as Tahatai Coast School in the Bay of Plenty - that show that utilising the latest research in teaching and learning combined with use of ICT can deliver impressive results.<sup>4</sup>

39 In summary, it is vital that the Government's investment in education continues to deliver results that meet the needs of the future.

#### **e. Flux in the New Economy**

40 Since 1980 the United States lost some 44 million jobs in the process of adjusting its economy, but simultaneously created 73 million jobs – a net gain of 29 million. Unemployment in the US is at historically low levels.<sup>5</sup>

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<sup>3</sup> see Prashing, Barbara. *The Power of Diversity : New Ways of Learning and Teaching* (Auckland: David Bateman, 1998).

<sup>4</sup> See <http://www.tahatai.school.nz>

<sup>5</sup> Zuckerman, Mortimer B., "A Second American Century", *Foreign Affairs*, May June 1998, p.19

41 In the same period policy in the European Union was to protect existing industries and work out ways of distributing existing jobs around more people through shorter working hours or lower retirement ages. The result was a net loss of 5 million jobs, and stubbornly high unemployment levels – even Ireland still has an unemployment rate of around 7%.

42 A recent report in the *Washington Post* stated that many European leaders are now acknowledging that the European Policy of...

“...subsidising dying industries in an effort to preserve jobs has contributed to the overwhelming superiority of the United States in such booming sectors as computers, Internet services, biotechnology and even investment banking.”<sup>6</sup>

43 The Spanish Prime Minister is quoted as saying “Our problem is not the lack of a scientific or technical base. It is the lack of stimulus for business initiatives, which is the key to North America’s success”<sup>7</sup>.

44 A recent study by Donald Hicks of the University of Texas found that the longevity of Texan business had fallen by half since 1970. Austin, the city in which businesses had the shortest expected life span, also had the fastest-growing job base and the highest wages.<sup>8</sup>

45 Similarly, a report prepared for the Wellington City Council and released in January 2000 noted that Wellington’s relative economic health is due to a dynamic business sector constantly reviewing and renewing itself, with the most important component being the ability to generate new jobs in new industries.<sup>9</sup> It is instructive to note that one of these industries – telecommunications – is pure ICT. Another - film production – has a large ICT component particularly in terms of computer-based special effects. It is also instructive to note that the Wellington City Council has had a long-standing policy of investing in the ICT infrastructure of the city.

46 The conclusion is that there is powerful evidence that a focus on facilitating a very dynamic business environment, with a strong emphasis on the creation of many new rapidly growing firms, is critical for economic growth. It is this realisation of the role of flux in the economy that underpins the UK Labour Government’s initiatives to “modernise the economy” – a key plank of which is support and advocacy for the increased use of ICT, especially among more disadvantaged sections of society.<sup>10</sup>

47 It would seem that to harness the maximum potential for growth the state should ideally direct most of its efforts toward those things that support the continual re-creation of the economy – such as technological innovation, entrepreneurship, education and learning. This will most likely provide the foundation whereby individuals and communities can improve their standards of living, have real choice and dignity, and participate in society and the economy.

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<sup>6</sup> Europe Can’t Match US Techno-Boom, *Washington Post*, January 15, 2000.

<sup>7</sup> *ibid*

<sup>8</sup> see [http://www.inc.com/articles/details/0,3532,ART1490\\_CNT53,00.html](http://www.inc.com/articles/details/0,3532,ART1490_CNT53,00.html)

<sup>9</sup> Capital Commerce : A Report on the Economy of Wellington City, Issue 4

<sup>10</sup> Increasing the Availability and Take-up of ICT in Deprived Neighbourhoods (draft report), DTI, November, 1999.

48 The focus needs to be on improving the process that brings new entrants into the market, and enables successful firms to expand and innovate. For instance, what is the best way of getting people to work on interesting new questions so they can start new enterprises?

49 In encouraging the creation of many new businesses a primary role for Government is to ensure there are as few barriers as possible to this process. In this context work on facilitating more start-up and spinout companies, and making it easier for New Zealand firms to both succeed and fail with dignity is crucial.

50 Technology is important not only because it creates new business, but because it makes existing business more efficient, thus enabling greater competitiveness in the global economy.

51 The adoption of new technologies by firms enables them to be much more dynamic, innovative and quicker to change than ever before.

52 The adoption of new technology by individuals enables them to be more fleet of foot in the labour market, improving their overall employability and their likelihood of gaining higher paid jobs.

53 Indeed the process of adopting new technology in itself is an element of innovation, which challenges both individuals and firms to look at new ways of doing things. This ability to respond to change is a critical factor for New Economy success, on an individual, regional and national level.

<b>Keys to the Old and New Economies</b>		
<b>ISSUE</b>	<b>OLD ECONOMY</b>	<b>NEW ECONOMY</b>
<b>Economy-Wide Characteristics:</b>		
Markets	Stable	Dynamic
Scope of Competition	National	Global
Organizational Form	Hierarchical, Bureaucratic	Networked, Entrepreneurial
Potential Geographic Mobility of Business	Low	High
Competition Between Regions	Low	High
<b>Industry:</b>		
Organization of Production	Mass Production	Flexible Production
Key Factor of Production	Capital/Labour	Innovation/Knowledge
Key Technology Driver	Mechanisation	Digitisation
Source of Competitive Advantage	Lowering Cost Through Economies of Scale	Innovation, Quality, Time-To-Market, and Cost
Importance of Research/Innovation	Moderate	High
Relations With Other Firms	Go It Alone	Alliances And Collaboration
<b>Workforce:</b>		
Principal Policy Goal	Full Employment	Higher Wages and Incomes
Skills	Job-Specific Skills	Broad Skills, Cross-Training

Requisite Education	A Skill	Lifelong Learning
Labour-Management Relations	Adversarial	Collaborative
Nature of Employment	Stable	Marked by Risk and Opportunity
<b>Government:</b>		
Business-Government Relations	Impose Requirements	Assist Firms' Innovation and Growth
Regulation	Command and Control	Market Tools, Flexibility

Source: The State New Economy Index: Benchmarking Economic Transformation in the States (Progressive Policy Institute, July 1999), p.36

## f. Historical Context

54 To put the impact of ICT into some context it is useful to compare the invention and development of the internal combustion engine, the most recent parallel.

55 The motor vehicle industry hardly existed in the USA in 1900; by 1930, it was the largest industry in the USA. Not least was the impact of the building (by the government) of the Interstate highways – a network - in the fifties and sixties. The widespread use of internal combustion engines and motor vehicles transformed our way of life and changed the basic shape of the economy.

56 The power of ICT will probably have a greater impact, and in a shorter period of time. ICT can radically and very quickly alter relative costs of doing things. In turn, that can lead to very rapid changes in what is actually done. Some recent examples:

- A major US oil and gas explorer (with whom we have had regular contact) has looked at all its core competencies against the collapse in costs of information management. It discovered it was very good at data manipulation – essential for well drilling – and the change in the relative costs of using that competency meant it could do very different things. It has moved its focus from the high risk/high return drilling of oil and gas wells, to the low risk but still lucrative business of creating operating markets for energy products.
- A major car company is looking to replace its existing very expensive and high quality headlights with a row of seven very much cheaper lights. These cheaper lights have sensors that can instantaneously change the light output and direction based on external inputs. Hence a relatively small and very cheap chip, some programming skills and an awareness of the possibilities could reduce the costs and increase the quality of this vital piece of safety equipment.

57 The key points in these examples are first, enterprises need to keep looking at themselves, their competencies and at the impacts of the huge shifts in relative costs, and second, even very sophisticated ways of doing things may no longer be the best way. To take advantage of these opportunities we need creative, enquiring minds that appreciate the opportunities that ICT provides.

58 That applies as much to the Government itself as it does to the rest of the economy.

## g. Smart Communities: ICT & Economic and Regional Development

59 In policy terms addressing the impacts of economic flux is one of the key New Economy challenges. We need to understand how best to help workers, enterprises and regions innovate, adapt and manage the risks of increased turbulence. As Charles Handy points out, many of those who will have to be the new business starters are the least well equipped for it.<sup>11</sup>

60 It may be that an active labour market policy should focus more on developing the capacity (i.e human capital) of disadvantaged job seekers (long-term unemployed, particularly Maori and Pacific Island peoples.), in the context of building the overall capacity of communities to create new business and leverage local advantages. Such an approach might result in more people being employed for longer together with better economic development outcomes.

61 Most communities' idea of economic development is to lure outside companies through a range of incentives. Communities grapple over existing wealth as if it is a fixed quantity. This however is buying into the zero-sum game of the industrial economic view of finite resources, as one community's gain is another's loss.

62 In New Economy terms, economic development is seen as the creation of *new* wealth – goods, services and jobs that did not exist before. It may well be that investing in a local business incubator programme – while not a quick-fix – will in the longer term be more effective than business attraction schemes in building the total stock of jobs. Additionally ensuring affordable access to ICT, combined with education and support to optimise the use of ICT, has been shown overseas to be a powerful combination in lifting the well being of impoverished individuals, communities and locations, which ultimately builds the capacity of the nation.<sup>12</sup>

63 The key is not to focus on particular industries or activities, as in more dynamic economies the importance and value of particular activities (or the value and potential of niches) will both rise and diminish over time – often quite rapidly. The key is to focus on growing the *total capability* of a community to be both industrious and active. The real resource is the skills and talents of the people, and it is these that must be harnessed.

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<sup>11</sup> Handy, Charles. *The Hungry Spirit*, (London: Hutchinson, 1997), p.44

<sup>12</sup> The KickStart Initiative, Connecting America's Communities to the Information Superhighway (<http://www.benton.org/library/KickStart/Kick.home.html>) provides examples of US initiatives to improve individual and collective social and economic well being. CitySkills provides training for entry level jobs in ICT for underemployed urban adults (<http://www.CitySkills.org>). Grimethorpe Electronic Village Hall, established in 1994 on an ad hoc basis in a town previously based on mining, is now is a key local community business helping regenerate the local community through upskilling people's ICT skills and providing training and technical support for local schools and community groups (<http://www.eacn.org>). Appalachian Centre for Economic Networks provides upskilling and business incubator programmes, community technology and computer access centres focusing on workforce development and entrepreneurship (<http://www.seorf.ohiou.edu/~acenet/>). The Disabled Peoples Electronic Village Hall, in Dewsbury, West Yorkshire, provides training in ICT for people with disabilities (<http://www.ev1.demon.co.uk/courses.htm>). Plugged In, in East Palo Alto, provides training and business development facilities to assist children and families from low-income communities in Silicon Valley to take advantage of the opportunities created by new technologies.

64 Internationally there is a move to approach economic and regional development in terms of building “smart communities”; that is using ICT as the basis for transforming the way businesses operate, citizens communicate, and governments interact with citizens and business. Advances in individual and collective wellbeing are achieved through co-operation between government, business, educators and citizens to make optimal use of ICT and encourage a culture of innovation. Essential infrastructure for this includes availability of bandwidth, excellent lifelong education and support for research and development.

65 A Smart Community approach offers citizens the opportunity to:

- Develop the skills to advance economically, improve quality of life and together strengthen their culture
- Stimulate economic growth by helping individuals and businesses to become more adaptive, innovative, co-operative and externally focused
- Attract (rather than buy) new investment and business
- Improve learning opportunities and access to knowledge, and create a more skilled work force
- Increase access to and quality of health care

66 In essence e-literacy and access to ICT is a key tool not only for the successful adoption of e-commerce, but also as a means of increasing the ability of people to create and exploit the opportunities of an increasingly digital world. By utilising the power of ICT, marginalised communities can leap-frog or kick-start their economies, and so move from a disadvantaged position in the industrial economy to a competitive position in the information/knowledge economy. In effect the network enables such areas to be tied back into the web of the national economy, and access directly the global economy. The abundance of relationships that then become possible is the basis of economic growth – remembering that the network is all about people. People *are* the network.

67 Maori communities may be particularly well placed to benefit from investment to become Smart Communities as they already have a cultural structure in place that facilitates networking and co-operation. In addition, ICT, particularly the Internet, can assist Maori businesses and communities to overcome barriers of location, such as distance from suppliers and markets. Maori is also a unique brand, in global terms, for Maori businesses to utilise to good effect in international ecommerce.

68 A point to note is that while the common focus of smart communities is on optimising ICT, the use to which the technologies are put varies according to the individual needs and circumstances of each community. Indeed, this is a major benefit of investment in ICT; it serves as a platform for advancing whatever agenda a community decides will bring them optimal economic and social advantage. This could be amplifying current endeavours or enabling a regional economy to be transformed for the new economy.

69 Hence when developing policies to grow New Zealand’s new economy it will be important not to be prescriptive. Instead government must pay attention to local and regional contexts; explore the nature of any geographical digital divide, and be sensitive to the diversity of responses necessary to ensure that different types of regions gain optimal benefits from ICT. Regional competitiveness is likely to focus on the capacity of

a region to develop knowledge, improve human capital, innovate and network. However, regions are likely to vary in how best they can achieve these goals.

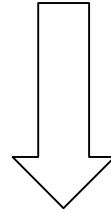
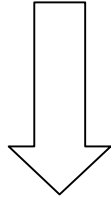
70 To understand how individual regions can best develop an environment conducive to new economic development, government will need to work with local government, communities and the private sector. It will also be important to manage the ongoing volatility that is particularly problematic for many small towns dependent on single employers or products.

71 A close-by and interesting example of a traditional one-industry town making the transition to the new economy is the way Newcastle (Australia) has prepared itself for life after the closure of BHP's steelworks. The preliminary downsizing has created high unemployment and attendant dislocation. For some time, leaders in business, the community and education have been developing a strategy to reposition Newcastle around clusters of engineering and IT firms, which is paying dividends. Members of these industries actively and formally network to share knowledge and opportunities. Employment in service industries, including opportunities for those without high skill levels, will develop from the strength of economic growth in new industries and the support for entrepreneurs.<sup>13</sup>

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<sup>13</sup> See <http://www.hunternet.com.au>

# Conditions for Local Economic Development



<b>Natural Resources (Tangibles) (Dominant in Industrial Economy)</b>	<b>Human Resources (Intangibles) (Dominant in New Economy)</b>
<p>Land</p> <p>Minerals</p> <p>Water</p> <p>Trees</p> <p>Climate</p> <p>Energy</p>	<p>Population</p> <ul style="list-style-type: none"> <li>- Birth rate</li> <li>- Immigration</li> <li>- Emigration</li> </ul> <p>Culture</p> <ul style="list-style-type: none"> <li>- Institutions</li> <li>- Attitudes</li> <li>- How we do things here</li> </ul> <p>Education</p> <ul style="list-style-type: none"> <li>- Skills</li> <li>- Harnessing strengths</li> <li>- Creativity</li> <li>- Ideas</li> </ul> <p>Access and use of resources</p> <ul style="list-style-type: none"> <li>- Transport</li> <li>- Information and Communication Technologies</li> </ul>
+ Application of knowledge/technology	+ Application of knowledge/technology
<p>= Ability to do things better through:</p> <ul style="list-style-type: none"> <li>- increased efficiency</li> <li>- lower cost</li> <li>- more competitive</li> </ul> <p>and/or ability to do things differently with the same resources e.g. new products (wine, olives) new markets</p>	<p>= Ability to do things better or differently, e.g. add value through</p> <ul style="list-style-type: none"> <li>- branding</li> <li>- marketing</li> </ul> <p>plus</p> <p>ability to create new things to do</p> <p>e.g. software, film.</p>
= Incremental growth	= Exponential growth
Dependant on availability of the resource	Dependant on availability of leadership plus attitudes and skills

## Part 2: Electronic Commerce

### a. New Zealand's Response in the Global Context

72 Among OECD members there is broad agreement with the thesis that electronic commerce is revolutionising business and international trade. The next few years will be viewed as a crossroads in the development of the world economy. Successful companies in five years time will ipso facto be Internet companies – that is, whatever the product or service, the Internet will play an integral role in some aspect of supply, production, delivery or customer service. Those who do not act will be out of the game. The recent merger of Time-Warner and AOL and then the subsequent agreement of the new mega-company with EMI can be seen in this context.

73 In recognition of the radical nature of this change, OECD members have devoted significant resources to both ecommerce policy development and to developing programmes to encourage uptake, particularly among SMEs. They view facilitating the uptake of ecommerce as strategically important. This is because ecommerce, and the wider Internet economy, are becoming significant drivers of economic growth. For example, a recent Australian study has shown that the adoption of ecommerce will contribute an extra 2.7% to Australia's GDP over the next ten years.<sup>14</sup> As well, ecommerce is changing the rules for business, and governments have seen their role as assisting business to adjust.

74 The emphasis other OECD members - and indeed a number of developing countries - are placing on electronic commerce and its facilitation calls into question New Zealand's commitment to electronic commerce and our consequent ability to maintain competitiveness in the future. It is true to say that some excellent progress has been achieved in a number of areas, and that New Zealand is not that far behind the leading ecommerce nations. However, in general terms New Zealand is not doing enough, fast enough, to reap the full benefits of electronic commerce, or continue to keep pace with our major trading partners. Indeed, a further threat is that developing countries such as India will make the leap more rapidly and successfully.

### b. Strengths: Legislative Reform is Ready to Go!

75 The Ministry of Commerce published the Government Statement on Electronic Commerce in November 1998: *Electronic Commerce – the Freezer Ship of the 21<sup>st</sup> Century*. Following that Commerce established and chaired an interdepartmental officials committee to oversee the Electronic Commerce Work Programme.

76 The Electronic Commerce Work Programme has raised awareness in a number of policy areas such as Justice (hacking) IRD, Treasury and Consumer Affairs. The main focus in 1999 was on supporting the work of the Law Commission in assessing what laws need to be changed to facilitate electronic commerce. Our contribution to ecommerce work in APEC was also focused on promoting the UNCITRAL Model Law on Electronic Commerce as a means of creating a seamless international legal

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<sup>14</sup>see

[http://www.noie.gov.au/ecom/HOME/Policy/Economic\\_Impacts\\_Study/economic\\_impacts\\_study.html](http://www.noie.gov.au/ecom/HOME/Policy/Economic_Impacts_Study/economic_impacts_study.html)

framework. The Law Commission's work is world class, and if that work is translated into legislation before the end of 2000 via the proposed Electronic Commerce Transactions Bill, then New Zealand's legislative and regulatory environment will be among the best. This would be an excellent way of getting some quick runs on the board.

77 Our consumer and privacy law combined with self-regulation already in place, means that we have little specifically "ecommerce:" work to do in these areas, unlike many other countries. We have made an excellent contribution to the development of the OECD Guidelines on Consumer Protection for Electronic Commerce and have taken an active part in international Internet "sweep" day activities designed to identify poor practices and highlight the need for appropriate standards of consumer protection on the Internet. As well New Zealand is leading new electronic commerce consumer protection work within APEC.

78 The IRD believe our current tax regime to be sound in terms of ecommerce.

79 We have a competitive Internet Service Provider market delivering a high penetration of Internet access at an affordable price – a sound basis for the growth of ecommerce.

80 There are substantial private sector ecommerce initiatives.

81 The Ministry of Commerce has also facilitated publication of the broader ITAG "Knowledge Economy" report and has itself published the "Bright Future" document. The Ministry hosts the Government's Ecommerce Web Site and in conjunction with MFAT organised the APEC Electronic Commerce Steering Group meeting in Auckland. Progress reports to Cabinet on ecommerce initiatives have been provided on a quarterly basis.

82 In September 1999 the State Services Commission published the Government's E-Government Vision Statement. The e-government initiative has been driven by a sub-group of the Public Sector CEs Forum and is largely focused on a range of electronic government projects rather than policy issues. There are already some excellent applications of ecommerce in the delivery of some government services, and more are on the way.

83 The following are also in the pipeline:

- Following the Law Commission's reports on ecommerce it is planned to introduce an Electronic Transactions Bill into the House as soon as possible.
- The Ministry of Commerce is preparing a report on the Digital Divide – that is the growing gap between the information haves and have-nots. This report is part of the output programme of the IT Policy Group and is a follow up to the earlier ITAG Knowledge Economy report. Officials in other departments are being consulted in the preparation of the report and it is programmed for completion in June 2000.
- It is proposed to update the Freezer Ship publication.
- The ecommerce web site is to be extended to include case studies for businesses to learn from.

- The Ministry of Consumer Affairs is updating its 1997 Report – Electronic Commerce and the New Zealand Consumer.
- Policy work has commenced on the Labour Online initiatives

### **c. Weaknesses: Lack of Awareness, Co-ordination and Commitment**

84 The overarching problems the Government must address with respect to electronic commerce are:

- A lack of awareness across-the-board of the strategic importance of ecommerce to the economic and social wellbeing of New Zealanders;
- The lack of co-ordination in addressing ecommerce issues across departments;
- A pressing need for accurate, timely and pertinent information for policy decision making, reporting and awareness. The availability of key statistical information to inform decision making and policy analysis will be critical;
- A lack of analysis of the availability of skilled workers for both core and peripheral ICT industries;
- A lack of agreed vision and action between central and local government on how to utilise ICT to best effect;

85 We said in the Government Statement on Electronic Commerce published in November 1998 that ecommerce cuts across the entire economy, affecting tax, consumer affairs, privacy, commerce and trade as well as having social implications.

86 What we implied – but didn't make explicit - is that adopting electronic commerce is of fundamental strategic importance to the future economic and social wellbeing of New Zealand.

87 The underlying weakness then is that electronic commerce is still seen by many in the public and private sectors as an add-on – something that is happening at the periphery. Consequently progress in the Electronic Commerce Work Programme (for example) has been patchy, and dependant on the level of commitment demonstrated by individual departments. Good progress has only been made in those specific areas with a commercial sector imperative, notably the legislative environment, consumer affairs, trade, and commercial sector government services

88 As yet there has been no substantial analysis undertaken of the impact of IT and the Internet on policy, legislative or regulatory issues. Nor has any work been done on the impact on future requirements in the labour market and what implications that might have for education and skill development. A particularly frustrating gap is the lack of statistics on electronic commerce transactions, particularly international transactions. Most government departments view IT and the Internet with an internal focus, in terms of usefulness for administration and service delivery.

89 Indeed it could be said that the examples of success set out above have occurred in spite of the resources we apply to electronic commerce, and literally by passing the hat around to fund some of the Law Commission activities

90 With respect to the E-Govt work, this has developed independently of the Electronic Commerce Work Programme, and there needs to be co-ordination between the two in terms of policy and legislative implications.

91 In addition, anecdotal evidence suggests that New Zealand currently lacks the necessary human capability required to fully take advantage of the economic and social opportunities facilitated by ICT, and this may be a critical constraint on the economy.

92 A recent American study (<http://www.internetindicators.com>) defined four layers within the Internet economy, some of which require people skilled in a variety of core ICT areas, and others in wider e-commerce areas. These include;

- Infrastructure – communication companies, ISPs, network hardware/software manufacturers
- Applications – software and services to facilitate web transactions and transaction intermediaries
- Intermediaries –online brokers, content aggregators, portals, advertisers
- Commerce - e-tailers, direct sellers of services

93 While countries such as the US and Australia have concentrated their skill shortage concerns around skills traditionally associated with core IT, the above model is useful because it illustrates how ecommerce requires a much wider range of skills. As well, an economy based on high skills and high value added activity demands an ample supply of managerial talent to assist with the numerous start-up and spinout companies required.

94 Both Australia and Canada face losses of their IT talent to America, which continues to attract skilled IT immigrants from Asia as well.<sup>15</sup> New Zealand too is suffering a brain drain. Given the competitive international market and global shortage of ICT and ecommerce skills, New Zealand will need to identify how to develop rapidly the human capital it needs in these areas. International opinions vary as to whether the solution lies in “buy” or “grow” approaches.

95 In countries such as Australia, the UK, Ireland and the US, governments are working in a structured way with industry and the education sector to increase the number of people with the skills to participate in ICT industries, and therefore advance the development of ecommerce.

96 In the New Zealand context policies aimed at developing human capital will need to take account of the fact that 80 percent of the labour force of the next ten years is *already in* the labour force. An appropriate response is likely to include initiatives to both “buy” *and* “grow”, where “grow” includes both on-the-job training and retraining.

#### **d. Opportunities: Taking New Zealand to the Next Level**

97 In the next three years electronic commerce has the potential to be a key driver of economic growth, both nationally and regionally, have a positive impact on economic

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<sup>15</sup> A study on start-ups in Silicon Valley showed that new immigrants from India and China were responsible for 29 percent of all start ups between 1995-98, not counting US citizens of Asian ancestry. See Silicon Valley’s New Immigrant Entrepreneurs, by Annalee Saverian, 1999, Public Policy Institute of California.

and social cohesion, improve delivery of government services, and be a crucial part of New Zealand's developing knowledge based economy.

98 Electronic commerce offers huge opportunities for New Zealanders, especially SMEs, to develop entirely new high value products and services, add value to existing products and services, reduce costs, develop new export markets, and add value to existing activities including those in the primary sector. Interestingly, a recent study by the US Centre for Energy and Climate has shown that the growth of efficient information based technologies, particularly the Internet, has been a significant factor in a major drop in energy consumption. Hence facilitating the uptake of ecommerce also assists the Government's goal of creating an environmentally sustainable economy.

99 Because New Zealand is a small country with an open flexible economy, and with some distinctive strengths already in terms of ecommerce, we can catch up with the leading ecommerce countries relatively quickly. Indeed the recent Y2K experience has shown that, despite frequent allegations of too little too late, we achieved world class results at relatively little cost. This was in no small part due to our small size being a positive advantage allowing the major players in the economy to easily communicate and share information – a textbook example of the power of networks.

100 However, for New Zealand to fully capitalise on ecommerce opportunities will demand a commitment from the highest levels. Electronic commerce and the larger knowledge economy strategy need to move from the periphery into the centre of everyone's thinking. Ecommerce and its effects need to be factored into all relevant areas of policy. *We need a committed and sustained intellectual effort.*

101 Up until the end of 1995 Bill Gates had dismissed the Internet as a peripheral player in the burgeoning technology scene. Then he realised that he had read the future wrongly, and on December 7<sup>th</sup> 1995 radically changed Microsoft's strategy to make it into an Internet company. Microsoft literally stopped a number of projects on that day and committed those resources to the Internet. Gates moved the Internet from the periphery to the centre, and the share price has continued to climb ever since – the US Department of Justice notwithstanding.

102 As a country New Zealand must take a similar step if it is to navigate the changes being brought by the Internet and ecommerce and ascend to a new level of prosperity. Government, public institutions and the private sector must place the Internet at the centre of their thinking. The alternative is to risk continued relative decline.

103 Having said that, there is a danger of falling prey to ICT and ecommerce evangelism. ICT is a powerful tool that will deliver some highly valuable benefits, but is not an answer in and of itself. There was a similar danger with Y2K. Doomsayers believed the end of the world was nigh, and nay-sayers believed the whole thing was a computer programmers plot to make money. The approach of the Y2K Readiness Commission was to take a middle way based on openness and co-operation. This worked very well. With electronic commerce we need a similarly measured approach based on sound policy principles, but which also takes account of the need for speed.

### e. Threats: Lost Opportunities, widening gaps

104 Electronic commerce cuts across the whole economy. A survey of CEOs from around the world by PriceWaterhouseCoopers revealed that half foresee the greatest threat coming from non-traditional competitors entering their industries through electronic channels. Nearly two-thirds of executives from the European sample see electronic business reshaping their own industries in the next several years.

105 Government departments through the Government E-Vision statement are beginning to see the potential of ecommerce to deliver their services and information electronically. Many have yet to see the potential for electronic commerce to affect their areas of policy advice.

106 While electronic commerce offers huge opportunities for New Zealanders, every other country is identifying the same opportunities. The threat for New Zealand is that, in failing to make the commitment to becoming an Internet focused economy, we become less competitive and lose the opportunity of cashing in on the creation of new high value products and services. New competitors will cut us out of both traditional and new markets.

107 Another scenario is that we will become a sharply divided nation between those who are wired, literate and info-rich and those who lack access and technical literacy.

## Part 3: Way Forward

108 The way forward is to address the overarching problems of lack of awareness, co-ordination and commitment and the lack of empirical evidence. To do this requires the following four elements:

1. **Ministerial Leadership:** Ministers need to provide overall leadership by communicating the vision and direction for ecommerce in New Zealand. Government must publicly acknowledge that it understands the importance of ecommerce and is prepared to promptly address the issues in order to “ecommerce enable” New Zealand. Putting some quick runs on the board by introducing the proposed Electronic Transactions Bill in the first half of 2000 would help send the right message to both business and the international community. Reflecting the need for greater co-ordination, it is essential that electronic commerce work is supported and promoted by a range of ministers with both economic and social responsibilities. The Government must move ecommerce from the periphery to the centre by communicating the importance and benefits of ecommerce very clearly to the public sector, to business and to the wider community.
2. **An Electronic Commerce Readiness Strategy for New Zealand:** Of equal importance is the need for a single strategy to address the whole range of issues. We do not want sectors or departments leapfrogging each other with one sector after another playing catch-up. Reaping the benefits of electronic commerce requires a wide understanding of the vision and a co-ordinated response across all areas of government, in effect harnessing the power of networks.

Such a co-ordinated forward-looking strategy would address the range of responsibilities the Government must shoulder. These include law making;

regulation; education; ensuring a skilled labour force and the e-literacy of citizens, government management; international relations; social equity, and ensuring the right competitive conditions exist for the rapid development of ecommerce infrastructure. There is a need for ongoing monitoring of infrastructure developments to ensure that critical services – such as access to the Internet, leased lines and spectrum - are available at an affordable price, and continue to be available. Monitoring also needs to focus on whether desired outcomes are occurring, particularly the development of new services and the availability of services in the regions. A crucial part of the strategy would be to require the provision of adequate information to ensure that monitoring and sound policy development can take place. See Appendix for the detail such a strategy might contain.

The strategy would have both a timeline and the detail of government agency responsibilities for achieving objectives. It should also either encompass or have firm links into an e-govt strategy. The Electronic Commerce Readiness Strategy would be made public. Obtaining buy-in from private sector players through an ecommerce summit as outlined in the Labour Online document will be a good mechanism for both raising awareness and building the confidence of the IT/ecommerce sectors. It will also assist in focusing the attention of the country as a whole. Such a summit could be supported by ITAG. Options for the Summit will be dealt with in a separate paper.

3. **Departmental Commitment:** The development of the Bright Future package was satisfactorily achieved through a high level of commitment by departments to work co-operatively in tandem with strong direction from ministers. However, the current state sector model is focused upon delivering services in discrete and efficient silos. Electronic commerce – like the knowledge economy - cuts across the silo structure. Achieving the necessary level of co-ordination at the officials' level will require two elements. First a sufficiently resourced co-ordinating body to manage the process, report to Ministers etc., and secondly much greater cross agency commitment which will largely be achieved by clear ministerial direction.
4. **The Ministry of Commerce:** Electronic commerce *is* commerce. The “e” will be redundant in five years time. The Ministry, as the interface between the Government and the Commercial sector, has led much of the public sector development and thinking on what the knowledge economy and ecommerce will mean to New Zealand.

The core policy and regulatory responsibilities for information technology, consumer protection, business legislation, and infrastructure regulation lies with the Ministry. The widening scope of ecommerce is now expanding beyond the core commercial sector. To ensure uniform progress across additional sectors will mean an even greater requirement for leadership and co-ordination from the Ministry.

## Recommendations

- a. **Note** that the Internet is a crucial tool for economic and social development.

- b. **Note** that the Government needs to increase its own and New Zealander's understanding of the dynamics of the New Economy, particularly the powerful amplifying effects of networks.
- c. **Note** that "ecommerce enabling" New Zealand is of strategic importance to achieving the Government's goal of a future of high skills, high employment, a high value added economy and reduced inequality.
- d. **Note** that electronic commerce cuts across the whole range of economic and social areas, and that it's development requires leadership from a similar cross-section of Ministers with both economic and social responsibilities.
- e. **Note** that the attached Appendix forms the basis of an Electronic Commerce Readiness Strategy for New Zealand.
- f. **Note** that achieving the necessary level of co-ordination at the officials' level will require two elements. First a sufficiently resourced co-ordinating body to manage the process, report to Ministers etc., and secondly much greater cross agency commitment which will largely be achieved by clear ministerial direction.
- g. **Agree** that the points raised in this paper will be the focus of a future discussion with officials.

**Agree/disagree**

**IT Policy Group  
Competition and Enterprise Branch**