

eCommerce and the Region: Not Necessarily an Unequivocal Good

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Abstract

eCommerce is generally assumed to be an unequivocal benefit for regional areas. Drawing upon the globalisation literature and the experience in Australia as a case study, this paper questions whether eCommerce is an unequivocal benefit and suggests that at least in some cases eCommerce may lead to the increased import of goods and service into non-metropolitan regions and the domination of these regions by large businesses based in urban areas. The impact of eCommerce in non-metropolitan areas needs to be systematically studied and a number of research avenues are suggested.

Keywords: *eCommerce, economic impact, social and regional issues, globalisation*

1. Introduction

In Australia there has been increasing political and social concern regarding regional, rural and remote (R-3) areas in Australia. Rural areas have been declining in population and in recent times, R-3 areas have increased and exercised their political strength (Pritchard and McManus, 2000).

eCommerce and ICT in general has been seen as an important means by governments and policy groups to address the political and social concerns expressed in R-3 areas (Castleman, Swatman and Swatman, 2000). Programs and initiatives to support or promote eCommerce and ICT can demonstrate that governments are addressing the concerns of the R-3 areas and also address concerns of the digital divide between R-3 and urban areas in Australia. Most importantly, however, eCommerce is seen as assisting the development of the R-3 economy through the potential expansion of markets, increased efficiency of supply chain

management, and finally the political and economic promotion of the region (eg NSR, 1999; NOIE, 2000a; NOIE, 2000b).

The Australian response to eCommerce and regional areas arguably represents the orthodox position regarding eCommerce and regional areas across the globe. There is an emerging literature in Australia that is questioning this orthodoxy (eg Castleman, Swatman and Swatman, 2000, Coulthard, Castleman and Hewett, 2000; Wilde and Swatman, 2000). This paper seeks to add to the critique of the orthodox position by drawing together the experience of regional Australia as a case study and the literature on globalisation and economic geography to raise the possibility of potential negative outcomes of eCommerce for regional areas. One potential issue, for example, is that eCommerce raises the possible outcome of increased market share and dominance of large urban based companies in regional areas rather than the promised expansion of regionally based companies outside their regions.

What actually will occur will be a matter of empirical study. This paper attempts to introduce the issue of potential spatial or regional characteristics of eCommerce development and growth and open up debate and empirical study towards identifying the impact of eCommerce on regional areas. From such studies it may be possible to identify policies and strategies for regional areas, to increase the opportunities and minimise the dangers of eCommerce. The primary focus of the paper is upon the issues of the relationship between regional economic development and eCommerce. To that extent, the paper does not address the problems of the 'digital divide' where the ITC access of regional and other groups who may be disadvantaged in their ITC access and use (NTIA, 2000).

2. Current Models of eCommerce Impact and Adoption in Regional Areas

Current views and models of eCommerce for regions in developed nations appear to be very optimistic. Overall, they appear to work on the premise that eCommerce is good for business and what is good for business is good for the economy and for the regions. The following lists five basic assumptions or beliefs concerning the benefits of eCommerce to businesses within regions that have been drawn from the Australian New Silk Road study (NSR, 1999), the National Office for the Information Economy (NOIE) studies (NSR, 2000a, b) and the OECD (1999) study:

1. A reduced tyranny of distance and increased access to global markets (NSR, 1999; NOIE, 2000a, b). Small and regional firms can now have access to capital city and global markets. Distance is no longer seen as an obstacle for outside investment or the relocation of businesses into the region. Distance from markets, and arguably cultural centres is no longer such an inhibitor for regional economic development as a result of eCommerce and ICT.
2. Presenting a regional image and focal points (NSR, 1999). The NSR report suggest that the innovative use of eCommerce can assist in establishment of regional identity for use in the expansion of markets and marketing of the region to potential firms wishing to locate in the area.

3. Productivity gains through more efficient procurement and sales.
4. New products and services (NOIE, 2000a; NSR, 1999).
5. The production of a “catalytic effect” (OECD,1999). The OECD (1999) report argues that eCommerce facilitates the diffusion and adoption of a range of other changes such as globalisation and market liberalisation.

In sum, eCommerce appears to offer regions the opportunity to become more efficient, develop new products and services to a much wider market place with ongoing catalytic benefits and regional identity. From such assumptions, it would appear that regions generally have much to gain and little to lose. It is not surprising that most governments actively support the adoption of eCommerce in the economy overall and in regional areas.

There are very few studies currently that specifically address the impact and adoption of eCommerce in regional areas. The OECD (1999) study of the economic and social impact of eCommerce is perhaps typical insofar as any regional effects of eCommerce are not discussed. The studies commissioned by NOIE do, however, specifically attempt to model the impact of eCommerce on regional economies (NOIE, 2000a, 2000b).

The NOIE studies developed an econometric model to study the impact of differing eCommerce preparedness for regions in Australia. An eCommerce preparedness index was developed based on supply factors such as telecommunications access, transport costs and current business eCommerce and internet use and demand factors such as income and education levels.

The model found that eCommerce benefited 30 out of 57 regions across Australia. Twenty four of the remaining regions were found to increase economic output but with some decrease in employment. The three regions that performed poorly overall were heavily reliant on mining. The study concluded that “there are no significant differences in the results for metropolitan regions and non-metropolitan regions...*What matters is the composition of a region’s underlying economy...* regions more dependent on just a few key activities are vulnerable to an overall contraction as a result of greater use of eCommerce.” (2000b, ix, italics added). The report continues “the dislocation involved in the greater use of e-commerce is expected to be largest in regions that have most to gain from the change, particularly in terms of employment. This means that as long as people upgrade their skills to meet changes in demand in the labour market, they should be able to cope by changing jobs while living in the same area” (NOIE, 2000b, ix).

For our purposes, however, a key problem with the NOIE model is that possible differences between metropolitan and non-metropolitan businesses that may influence the impact and adoption of eCommerce have not been included. A small business in an urban area benefiting from expert eCommerce advice, transport and telecommunications links is likely to be in quite a different position to a similar business in a region without the benefits of advice, transport and communications. That the composition of a region’s underlying economy is far more important to regional growth rather than its status as either urban or rural or regional is hardly

surprising given the structure of the model. It may well be the case that the underlying economy of a region is itself at least partly result of geographic factors.

There are a few clues that it may not benefit all regions, or areas within regions equally. The NOIE studies suggest that some regions may experience a decline in employment as a result of eCommerce disintermediation and three regions were worse off and NSR (1999) suggests a link between economic decline in regional areas to services being delivered online. The NOIE study also suggests that any decline in employment will be offset by “lower prices for goods and services [that] would stimulate demand in other areas and increase their demand for labour” (NOIE, 2000b: 26). It seems unlikely that increased demand for labour would magically appear in regional Australia and in all likelihood would lead to further migration to the capital cities. The concern is that unless we fully examine the regional effects of eCommerce, it may be the case that the displaced regional worker of the NOIE study may have no job to change to and no place to upgrade their skills. Indeed, Birrell and O’Connor (2000) find that ‘new economy’ jobs such as business, finance and insurance services are increasingly being located in the capital cities at the expense of regional cities.

3. eCommerce and Regional Areas

The current eCommerce development model, assumes that the location of economic activity and the consequent effect of eCommerce on that activity is of little consequence. However, there are at least three reasons to begin to raise the issue of the importance of location or space and its relation to eCommerce development.

Regional Towns as Intermediaries

Small country towns and regional centres in Australia are largely centres servicing the rural hinterland with little manufacturing or export industry beyond the export of agricultural commodities (Beer, Bolam and Maude, 1994; Coulthard, Castleman and Hewett, 2000). Such towns are, arguably, the intermediaries between rural farmers and the goods and services required by agriculture.

As intermediaries, small towns and regional centres may be particularly vulnerable to a variety of disintermediatory factors that may include reduced transport costs, enhanced telecommunications and more recently the internet. Cheaper transport costs may mean that consumers and suppliers may be more willing to travel further to supply or demand goods and services, enhanced ICT may mean that government and financial services can more efficiently be provided over the internet. Certainly, the Australian experience has recently seen a major depopulation and economic decline of small regional towns and loss of government and financial services that can be linked, particularly in the case of government and financial service provision to the development of eCommerce.

It would seem that small regional towns may be particularly vulnerable to the disintermediation effects described above. Tonts (2000) has identified a large

decline in the population of small regional towns in Australia. Whether larger regional towns (who are currently benefiting from the demise of the smaller towns) will also succumb to the pressures of disintermediation will prove to be an important regional issue.

Lower eCommerce and Internet Adoption Rates in Regional Areas

Yellow Pages/NOIE (2000) undertook a random nationwide survey in Australia of 1,496 small and medium sized business (SMEs) concerning eCommerce and internet adoption. The survey found that SMEs in comparison to urban areas, R-3 areas were less likely to own a computer, have an internet connection or home page, place orders on the internet, advertise or sell over the internet or see the potential of eCommerce. The survey also found that with the exception of sourcing information and services, rural businesses made less use of the internet than metropolitan business.

It is, however, unclear from this report whether the differences reported between metropolitan and rural business were statistically significant or whether the differences are a function of size of the business rather than location. The overall findings of the survey was that small businesses were less likely to have adopted eCommerce than medium sized business. However, even if it is the case that the lower adoption rates by businesses in rural and regional areas is a result of firm size, the outcome is the same.

R-3 areas have also been found to be slower than urban areas in the adoption of the internet. This has been found in Australia (ABS, 2000) and the US (NTIA, 2000). This suggests that the SMEs in R-3 areas are less likely to know about ICT or know someone who does. It also might mean that there is no ready market for their products in the rural hinterland. It is therefore unlikely that regional SMEs will have first mover status and the advantages that such status may provide over firms from urban areas.

Regional Barriers to eCommerce Adoption

The Yellow Pages/NOIE (2000) survey found that rural businesses were more likely to be concerned about the costs of internet connection and that rural businesses were more likely to believe that they did not have the skills to design, build and manage a home page or to manage its development by consultants.

The survey also identified some reasons why SMEs were not interested in adopting eCommerce. They included: seeing no potential for eCommerce; their business was unsuited to eCommerce; the need to work on a face-to-face basis; people need to touch or see the product; clients not on the internet; or the business only works locally (p. 35). Unfortunately, the report does not report rural/urban differences. It is possible that any regional differences in adoption may actually be the result of the larger proportion of small businesses in regional areas.

Castleman, Coulthard and Hewett (2000), however, suggest that there may be important regional/urban differences in eCommerce adoption that reflect the particular social and economic circumstances of the region and businesses. Their findings are similar to the Yellow Pages/NOIE (2000) survey. Through a small number of case studies, Castleman et al found that economic reasons for not adopting eCommerce included a lack of effective demand and critical mass with low population densities and few duplicate or industry related business, and lack of capital, human resources and expertise to develop eCommerce. Few companies had specialist eCommerce skills. Local businesses also had difficulties in identifying goods and services to export and organising consortia to market those goods and services.

Castleman et al (2000) also identified that stronger, overlapping, social networks in regional areas may inhibit eCommerce adoption. For example, R-3 retailers can only rarely compete against large city stores on price. However, they can compete in terms of customer loyalty and the quality of face to face interactions with their customers. They can share local knowledge with their customers. eCommerce can therefore be perceived as actually reducing their competitive advantage against city companies.

This brief overview of eCommerce in regional Australia suggests that eCommerce may not be an unequivocal benefit to regional areas as suggested by NOIE (2000a, b). The underpinning service structure of regional centres and towns suggests that eCommerce could potentially lead to the disintermediation of many services provided by these towns. The evidence of Tonts (2000) already suggests that this process may already be occurring for the smaller towns in R-3 Australia. Birrell and O'Connor (2000) also suggest that new economy employment is not occurring in regional centres in the place of other services. Secondly, the slower adoption rates of eCommerce and internet use in regional areas in comparison to urban areas suggests that regional areas on average are unlikely to achieve first mover status. Also, given the low rates of internet and eCommerce adoption, it is also less likely that those businesses who are considering eCommerce adoption will be able to find reliable advice. Finally, the overview suggested that regional areas have significant entrance barriers and inhibitors for eCommerce adoption.

Regional businesses and communities are at some disadvantage in comparison to their city cousins. Whether or not these disadvantages are temporary or fundamentally change either the structure of regional economies to the benefit of regional areas is a matter for further study.

4. Dynamics of Globalisation and e-Commerce

The experience to date of regional Australia and its prospects may, of course, be contingent upon the particular circumstances of regional Australia. The more general question is whether eCommerce actually privileges some locations rather than others and, if this is the case, to understand the dynamics of this privileging. Put another way, if we conceptualise the 'information superhighway' from major

urban centres to regions or from the centre to the periphery, is the information superhighway – the flow of information, goods and services symmetrical with an equal number of lanes flowing in and out of the regions or is it more of a one way process?

The globalisation literature is strongly suggestive that eCommerce may be more likely to aid larger urban centres, and more generally it is more likely to aid and strengthen the position of core regions that are the headquarters of large, global companies than peripheral or less favoured regions (Amin and Thrift, 1992). Globalisation theorists appear to provide three reasons: increased capital mobility, the rise of powerful global networks and the need for a command and control centre.

Capital mobility and the defeat of time-space. Rather than seeing regions (and arguably Australia) escaping from the tyranny of distance through the use of ICT, globalisation theorists argue that it is capital that has escaped the confines of space (Bauman, 1998; Beck, 2000, Castells, 2000). Castells (2000) demonstrates that the global finance market can now virtually instantaneously move amounts of capital from one part of the world to another. Such capital movement is not necessarily and increasingly less dependent upon a sense of place or obligation to the region or nation being dis-invested or invested. As Bauman (1998) observes, capital has gained almost unlimited, instantaneous mobility and has won the ‘space’ war.

The consequence for regions is that whereas the people of a region are relatively immobile, capital, firms and businesses can relatively quickly invest and disinvest in a region.

The rise of global networks. ITC and eCommerce provides the opportunity for large companies to function on a global scale. Castells (1996) argues that the convergence of information technology and communications has provided capitalism with the opportunity expand markets and increased market share.

Castells argues that the central problem of firms in the 1970’s was finding markets for increased production. Castells documents over the period until the 1990’s a rapid and large expansion in world trade and foreign direct investment. This expansion was, according to Castells only possible through the development of ITC: “To open up markets, linking in a global network valuable market segments of each country, capital required extreme mobility, and firms needed dramatically enhanced communication capabilities. Deregulation of markets and new information technologies, in close interaction, provided such conditions” (Castells, 1996; 84-85).

ITC enabled large firms to expand their markets and invest in distant regions or countries. Castells further argues that a worldwide or global organisation of the production and distribution of goods and services has emerged in the most dominant sectors of the economy. A good may be designed in one country, components may be produced or sourced in a number of countries and managed from a different country. Such a ‘global web’ requires eCommerce to ensure coordination and to ensure the design specifications are met.

Amin and Thrift (1992) also argue that transnational corporations operate on a global scale. They suggest that transnational companies (TNCs) have developed extensive global networks that have allowed the TNC to become more decentralised and to operate within a value-added network. Global corporations sub-contract, outsource, undertake joint ventures and strategic alliances with a more or less integrated network.

The key point is that ITC not only has enabled the development of a global network but that it provides a highly flexible and dynamic network. “The flexibility of this global economy allows the overall system to link up everything that is valuable according to dominant values and interests, while disconnecting everything that is not valuable, or becomes devalued” (Castells, 1998, 5).

Decentralisation, command and control. The rise of global networks decentralises or globalises many aspects of a firm. However, Amin and Thrift (1992) argue that global corporations, and arguably any firm, require a geographical centre to co-ordinate across the global network. Amin and Thrift argue that a centre is required for knowledge production and dissemination, provision of social interaction to enable relationships, agreements and coalitions to develop and finally a centre is required to develop test and track innovations.

Amin and Thrift conclude that nodes of knowledge, sociability and innovation

have to be geographical centres, that is place bound communities in which the agglomeration and interaction between firms, institutions and social groups acts to generate and reinforce that ‘industrial atmosphere’ which nurtures the knowledge, communication and innovation structures required for retaining competitive advantage in a given global production filiere. (Amin and Thrift, 1992: 577)

Amin and Thrift suggest that the world may becoming more decentralised but that it is not becoming decentred. Such centres are effectively command and control centres of global networks.

An Australian example may illustrate these processes. As part of a study by Castleman and Cavill (2001), a senior information manager of a medium to high technology metal product manufacturer spoke of the central role eCommerce and ICT generally had played in the shifting of production offshore to a nearby Asian country. The manager explained that Australian labour rates made Australian production less competitive but with eCommerce, the Australian company could design products in Australia to customer specifications across the world and then produce the product in the Asian country. Production was remotely monitored in Australia and production problems were solved by engineers working from Australia. The Asian plant did not require significant numbers of either expatriate Australian or local engineers.

In this example, the most highly skilled aspects of the work – obtaining custom, designing to customer specifications, the design of plant and equipment and specialised maintenance and repair, and finally the directions and strategies of the

company were all highly centralised. Arguably, few high skill positions or technological or managerial transfer occurred between the head office, the branch plant and the broader region. Presumably, the company would be in a position to shift its production to other regions where labour rates and other political and economic considerations were attractive.

eCommerce, supply chain management and regions. To these general ICT trends, eCommerce itself can be identified as having potentially strong centring tendencies.

Companies now use B2B eCommerce “to manage their global supply chains and market and sell their products to corporate customers” (Strader and Wilcocks, 1999; 315). Supply chain management attempts to co-ordinate and optimise all activities that transform raw materials for goods for the end-user. It involves the co-ordination of processes across a supply chain, ranging from downstream suppliers, internal processes and downstream distributors and customers (Turban, Lee, King and Chung, 2000).

While the literature and textbooks may suggest the value of strategic alliances and cooperation along the supply chain (eg. Turban et al, 2000; Handfield and Nichols, 1999) and the value of sharing information (Strader, Lin and Shaw, 1999) it seems likely that should all participants of a supply chain seek to manage or control the upstream and downstream to optimise their own requirements or goals then conflict may occur and larger or more powerful firms will gain control and dominate the chain. The relative power of firms may well prove important in the outcomes of supply chain networks and strategic alliances.

Webster (1993) in her discussion of EDI development, has made a similar point, suggesting that:

These (EDI) innovations reflect a set of supply-chain relationships and an agenda for managing them which is based on the domination of large and powerful companies over their smaller and less powerful suppliers and customers...the powerful players – known as ‘hubs’... - can dictate the terms on which they do business with their trading partners – spokes (Webster, 1993, 152-153).

From our regional perspective, if the relative power of firms does prove important in the determination of supply chain management networks and alliances, it would seem unlikely that regional companies, who are likely to be smaller would be in a position to control or influence a supply chain network. Large, global businesses are more likely to be in such a position.

At least from the perspective of globalisation theorists, eCommerce does not conquer distance **for** regions but conquers the barriers of distance for global networks and urban centres **to** regions. eCommerce provides the business application backbone for ICT that provides the command and control infrastructure for given centres. It is suggested that for some geographical regions that currently contain the headquarters of major, preferably global, companies will be at some

advantage over other regions. Such regions will almost certainly urban areas in developed nations.

Drawing upon the literature, and Amin and Thrift (1992) in particular, there appear to be three possible scenarios for regional areas:

- (1) the rise of an industrial district. The rise of a region specialising in a particular industry through the development of strategic alliances and network milieux (Amin, 1999). The shining example of such an industrial district is that of Silicon Valley. However, Amin and Thrift (1992) and Castells (2000) suggest only a few regions will be able to develop and sustain such industrial districts.
- (2) The region as branch plant (Cumbers, 2000). Amin and Thrift (1992) believe that the majority of regions will fall into this category. As a branch plant region, the region will be dependent upon attracting and retaining branch plant operations of a large company. The challenge for each region is to identify branch plants that will upgrade the regions skill levels and thereby attract “‘better quality’ branch investments” (Amin and Thrift, 1992: 585).
- (3) Irrelevance and exclusion (Castells, 1998, 2000). This according to Castells may well be the outcome for many regions of the developing world.

5. Conclusion

The outline of the experience of eCommerce in regional Australia and by drawing upon the literature of globalisation, suggests that there may well be important and significant social and economic impacts of eCommerce in regional areas. The implication is that eCommerce forms part of a globalising process. As a globalising process, it involves decentralising business and productive activity whilst maintaining a particular geographical centre – the hub – of the firm across a globalised supply chain. From this perspective eCommerce is a system of efficient business transactions that will (1) more successfully control and exploit resources of the region and (2) broadening sales and marketing into the region.

Far from being an unequivocal benefit, it may have an overall negative impact on the quality of life in many regional areas. Indeed, at one extreme there is the possibility of such negative impacts could include for some regions, exclusion and disinvestment, disintermediation and depopulation and greater economic power of large, urban based firms.

However, prior to becoming carried away by such a very gloomy prognosis, such a view should be seen more as tonic to the overly optimistic view of eCommerce by policy makers and a challenge to theoretically and empirically examine the potential impact of eCommerce in regional areas. eCommerce may well serve some firms, some regions, even some nations more than others. The challenge is to identify which regions, what types of firms and under what circumstances. By understanding these dynamics it may then be possible to assist regions to cope with and avoid or ameliorate the possible negative impact of eCommerce and globalisation and to capitalise on the advantages.

The following suggests some general areas and issues for empirical study:

- Investigating the impact of eCommerce in regional areas. Empirical studies may be able identify the relationship between the social and economic circumstances of a region and the outcome of eCommerce on the region.
- Investigating the power relations between firms and between locations across the supply chain. Studies could identify power differentials across the supply chain and identify the characteristics of those firms who exhibit greater power. Similarly, studies may be able to identify power differentials between different locations across a global network supply chain
- A key element of Amin and Thrift's work concerns the corporate need for a geographic centre. Studies may investigate whether eCommerce and computer mediated communication increases or lessens the need for a physical centre of a firm. Studies may also be able to examine the biases of head office location on investment decisions.
- Investigating the social, economic and political foundations of successful industrial districts, the potential for branch plant regions to economic develop and ways for other regions to emulate success and avoid potential exclusion.

Until these or similar studies are undertaken we can only speculate on the effects of eCommerce in regional areas.

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