

Information Communication Technologies and City Marketing: Digital Opportunities for Cities Around the World

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Chapter X

Marketing Your City's Industries to the World: Building and Retaining Export Oriented Clusters through Strategic ICT Investments

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ABSTRACT

This chapter discusses the importance of making strategic investments in information communication technologies (ICTs) in order to benefit from globalization and the benefits created by robust export-oriented business clusters. Examples of investments made by local governments in India, Jamaica, and Hong Kong will illustrate how an adept ICT strategy can position a city to grow local industries and encourage exports. The authors argue that a coherent and comprehensive city marketing plan can attract and retain investments and play an instrumental role in the city's future prosperity. Intelligent investments in ICT infrastructure that address a city's unique attributes, objectives, needs, and competitive advantages can open up new export markets, especially in the service industry where ICTs can make local labour globally accessible.

INTRODUCTION

Wealthy trading city-states like Hong Kong have embraced them as a vehicle to spur growth, developing economies have claimed that they are

an effective way to connect local merchants to international markets, and the United Nations believes that they are an important tool for municipalities in third world states in the fight against poverty (Business World, 2004). Indeed, infor-

mation communications technologies are rapidly becoming an important element of many cities' marketing strategies to grow local industries and encourage exports—especially given that ICTs are an important factor driving the institutional and organizational transformations occurring in public administration (Gascó, 2003). Developing an export oriented business community is a vital part of ensuring long-term survival and prosperity (Stough, Haynes & Salazar, 2005, p. 23). Regardless of whether a city aims to export services or manufactured goods, making strategic investments in relevant information communications technologies is a prerequisite.

Intelligent investments in ICTs are a critical element of a successful marketing plan, especially at the product design phase and product promotion phase of the marketing mix. Cities, as the product being marketed, can be moulded to attract and retain investment and export-oriented businesses. This entails designing and promoting the city to achieve the goals of policy makers and export intensive businesses. In other words, utilizing ICTs in a fashion that both works within local constraints and gives exporters a competitive advantage to locating in a certain municipality will spur the growth of an export-oriented business community.

Cities, in collaboration with national governments, in developed and developing nations can re-design themselves using ICTs to create an atmosphere that is conducive to attracting and retaining export-oriented businesses. Examples of success stories in the service sector will be used to illustrate how making critical investments in ICTs and other areas can spur economic growth and diversification. By investigating the best practices being used by cities, such as Hong Kong, Montego Bay, and Bangalore, this chapter will expose politicians and city planners to innovative city design and promotion projects that have been proven to be effective in attracting and retaining export-oriented businesses.

Arguably, making strategic investments in ICTs is an effective arsenal for any city that wishes to look beyond its borders and offer its wares to the world. Improved ICT infrastructures will open up service industry markets in a manner similar to how free trade has opened markets for tangible goods. Improvements in ICT systems and infrastructure will enable municipal economies to compete on the world stage as barriers to exporting services are removed (Graham & Marvin, 2001, p. 352), and cities will need to correctly position themselves to capitalize on the opportunities presented by ICTs in a globalized world.

This chapter will serve to elaborate a methodology on how cities can identify city design barriers and remedy them with ICT investments to encourage the development of export-oriented business communities. Examples of projects in less developed country (or “LDC”) cities such as Montego Bay, Jamaica and Bangalore, India and developed economies, such as Hong Kong, will illustrate how ICT investments can bridge gaps and help cities to meet the needs of potential investors (Black, 2002, p. 267). Further, examples of how these cities have used Internet based promotional tools to market these industries will be given.

BACKGROUND

For those marketers interested in developing a healthy export-oriented business community, the purpose of city marketing is to ensure that the city is equipped to meet the needs of export-oriented businesses. Developing a thriving export-oriented business community is an essential element in ensuring long-term prosperity as cities can increase their productivity, income, and employment levels by maintaining a positive trade balance. In fact, it can be said that “cities accumulate and retain wealth, control and power because of what flows through them, rather than what they statically contain” (Graham & Marvin, 2001, Acknowledgements). Exports have “a dynamic effect on

overall economic growth” (Stough, Haynes & Salazar, 2005, p. 23) and cities that adopt “an outward orientation should be able to benefit from technological spillovers generated by trade and better participate in the international flow of goods and technologies” (Stough, Haynes & Salazar, 2005, p. 23). One critical move that cities can make to adopt this outward orientation is to “embrace ICTs” as an integral element of their city design plans (Ahmad, 2005). Making strategic ICT investments is necessary to “fully participate in ...new opportunities” (Ahmad, 2005).

ICTs can play a particularly integral role in a city's *marketing mix* (consisting of *product, promotion, price* and *place*) at both the city design (otherwise know as the *product design* phase) phase and the *promotion* phase (Berkowitz, Crane, Kerin, Hartley & Rudelius, 2003, p. 15). The marketing mix, being the “marketing manager's controllable factors”, represents the range of influence that city marketers can exert over their cities (Berkowitz, Crane, Kerin, Hartley & Rudelius, 2003, p. 15). As the focus of this chapter will be on the product and promotion aspects of the marketing mix, price and place, the last two elements of the mix, will not be discussed.

For the city marketer who has an interest in developing his/her city's capacity to attract and retain export oriented industries, product can be defined as “all the attributes of the area (land, communications, skilled labour, training facilities, quality of life) and the service that they (and their partners) can offer to potential investors” (Fretter, 1993, p. 167). Similarly, promotion can be defined as all communication “which is undertaken with the clear objective of influencing the behaviour of those at which it is targeted” (Ashworth & Voogd, 1990, pp. 98-99).

Secondary elements of the product, such as websites and certain city services that aren't essential to an export-oriented business' operations may be referred to as *accessory* product features. These features constitute an important part of the product offering but most often are not essential

to the consumer. Collectively, the 4 Ps represent the range of elements that the city marketer can influence and manipulate to achieve the goal of encouraging trade and export-oriented business. At the product phase, ICTs are used to design and mould the city's core attributes, characteristics and accessory product features. This could mean making strategic investments in ICT infrastructure, such as telecommunications networks, or simply improving access to important information and services through a city-run website, which is an accessory benefit. At the promotion phase, ICTs can be applied to communicate with an international audience, especially via innovative Internet applications, and promote the city globally. The contemporary city marketer therefore should not presume that “the urban product can be assumed and the task of the city marketer is only to seek out and capture a suitable market for a pre-existing product” (Ashworth & Voogd, 1990, p. 65). The contemporary city marketer can use tools, such as ICTs, to design and promote the city in order to “satisfy the needs of the consumer while also trying to achieve the organization's goals” (Berkowitz, Crane, Kerin, Hartley & Rudelius, 2003, p. 21). This means using ICTs to satisfy the needs of export oriented companies while achieving internal organizational goals (i.e. budgetary constraints, economic growth targets). Export oriented companies, as the *target market*, or the “group of potential consumers toward which” the city directs its marketing program” (Berkowitz et al., 2003, p.15), require ICT infrastructure that allows them to sell internationally and compete globally. The phenomenon of *geographical detachment*, which occurs when companies can offer services and products to consumer markets remotely, means that ICT investment is more important than ever. Alternatively, ICTs also enable firms to market and provide services customized to local consumers on a global basis—known as the *glocal* phenomenon (Graham & Marvin, 2001, pp. 376-377). Websites like eBay allow local communities to exchange ideas and products through a

medium that is otherwise global. Similarly, some scholars have used the word *disintermediation* to describe how “customers and providers of a service no longer need to be located in the same place” (Graham & Marvin, 2001, p. 352). Further, it can be argued that ICTs have allowed for the disintermediation of both governments and markets. Le Galès and other scholars have remarked that states themselves have lost part of their “central role” allowing for greater “horizontal restructuring” (Le Galès, 1998, p. 501).

These phenomena have led to the rise of a new breed of corporation—one that thinks internationally and acts locally. *Export-Oriented Companies*, or “EOCs”, which are part of this new breed of corporations, are essentially firms that manufacture goods and services principally for consumption in foreign markets. Subcontractors and subsidiaries that participate in *outsourcing* activities, which involve moving manufacturing or service operations abroad, and generally away from the company’s primary customer markets, are perhaps the best examples of EOCs (Black, 2002, p. 337). These sorts of firms are sought after by cities given their ability to generate jobs and earn income locally. Competition for EOCs is intense and has produced somewhat of a race to the bottom, with cities sparring “to provide investors with ever speedier development approvals, ever larger tax concessions, ever weaker environmental regulations, and ever friendlier business environments” (Graham & Marvin, 2001, p. 342). This being said, there is substantial evidence that attracting and retaining EOCs can be an important element of building a healthy economy (Stough, Haynes & Salazar, 2005, p. 23). Cities, and more generally nations, “succeed in particular industries because their home environment is the most forward looking, dynamic and challenging” (Kotler, Haider & Rein, 1993, p. 282). Re-designing the city-product through ICT investments and promoting the city using certain ICT communications vehicles, like the Internet, can therefore present an exciting opportunity for economic development.

In this regard, cities have utilized novel structures, such as *public-private partnerships* or “PPPs”, where EOCs partner with governments (through joint ventures or simply coordinated development projects) to create environments that are suitable for export-intensive business operations. Some of the most notable examples of PPPs have come from *Less-Developed Countries* that lack the infrastructure necessary to support many industries but have ample low cost labour. In fact, government intervention in the economic development process is generally very high in many LDCs, countries for which a prominent feature is low per capita incomes (Ramachandran & Sougata, 2005, p.162). This fact makes sense given that “one of the key means of pushing rapid development is by the creation of physical infrastructure” (Ramachandran & Sougata, 2005, p.162).

The importance of government interventions in applying ICTs to re-design and promote the city cannot be underestimated. When determining if a certain ICT investment or promotional strategy is suitable, city planners must assess whether the investment would create consistency amongst internal and external factors. According to Fretter (1993, p. 166), all place marketing, city marketing included, involves a number of key elements. These elements must be consistent with one another in order for the city marketer to achieve organizational goals.

These include having a clear (1) *vision*, or an understanding of what you wish to achieve that is shared by stakeholders such as EOCs (the customer), municipal officials and local business leaders; having an understanding of the municipality’s (2) *capabilities*, including budgetary constraints, environmental issues and even social, economic and cultural issues; knowing one’s (3) *customers*, or knowing what EOCs need, their limitations, and objectives; (4) *Designing the product*, or in other words adapting and changing the city’s attributes to suit the needs of the targeted customers (i.e. the EOCs) and the objectives of city

planners; Understanding how a city is situated relative to its (5) *competitors*, or other municipalities that could compete viably for the same customers and markets; Communicating the city's offering to customers and stakeholders with (6) *one voice*, meaning creating a coordinated and clear campaign that has a unified message; and, finally, (7) *Differentiating* the city from others by offering a unique competitive advantage to the target customers and communicating that advantage (Fretter, 1993, pp. 165-172). This model provides a useful framework for analyzing place-marketing issues but can be adapted to analyze the opportunities that cities face when trying to attract and retain EOCs. City marketers concerned with attracting and retaining EOCs must answer questions such as:

- **What are the city's organizational objectives?** For instance, this could entail job creation or diversification of the local economy
- **What are the current attributes of the city-product?** This could include labour force characteristics and the state of local infrastructure
- **What are the needs of the target EOCs?** This could include cost-savings, or access to specialized labour or office facilities
- **What competitive advantages does the city have over competing cities?** Superior ICT infrastructure, better promotional tools, and low cost labour are examples
- **What deficiencies need to be remedied for the city to succeed?** The cost of doing business in a locality or the absence of certain ICT infrastructure needed to attract EOCs could be deficiencies
- **What actions must the city take to achieve its objectives (i.e. considering the city's attributes, deficiencies, competitive advantages, and opportunities)?** This might mean investing in certain types of telecommunications infrastructure or other ICTs

If the city marketer can craft a plan that creates consistency amongst these elements it is then possible to achieve organizational goals. By matching the needs of target EOCs to the objectives, attributes, and competitive advantages of the city, and remedying deficiencies, cities can determine which ICT investment actions might have the highest probability of attracting target EOCs. Cities such as Bangalore, India, Montego Bay, Jamaica and Hong Kong have all undertaken promotional and city design projects that have achieved consistency amongst these elements. Both Bangalore and Montego Bay have achieved notable growth in certain export-oriented service industries while Hong Kong has managed to differentiate itself by deploying a website that achieves consistency amongst these elements.

MAIN THRUST

Issues, Controversies, Problems

Contemporary city marketers must contend with a number of issues when designing the city-product and promoting the city-product. Economic liberalization, technological advancements, and the removal of barriers to international trade have meant that city marketers today must plan to compete in a world that is *geographically detached*. In other words, city marketers must design cities to compete internationally and must promote their cities globally. This fact has meant that city marketers must contend with several challenges. Firstly, city marketers are often unable to implement ICT solutions without the collaboration of private sector partners and need to employ novel solutions in order to achieve city design goals. Secondly, city marketers must find ever-more innovative ways of differentiating their city's offerings against global competition. Lastly, city marketers must choose ICT investments that will attract and retain export-oriented industries despite geographical detachment by ascertaining

the industries in which they can build and keep a competitive advantage.

This being said, geographic detachment has led many observers to believe that improved telecommunications networks and other ICT will make the physical location of many export-oriented industries irrelevant. Being able to connect to international markets from remote locations therefore poses a great opportunity and challenge to cities that wish to remain internationally competitive and expand their export-oriented industries (Esbjornsson & Vesterlind, 2003). Additionally, cities that wish to retain existing industries must ensure they remain competitive or risk losing these industries to more competitive markets. City marketers that wish to benefit from the age of geographical detachment must utilize promotional tools, like the Internet, to communicate opportunities with export-oriented companies, and invest in ICTs that will position their cities to compete effectively.

Many scholars, such as Sassen (2001, p. 257), have stated that “the dispersal capacities emerging with globalization and telematics led many observers to assert that cities would become obsolete”. Indeed, obsolescence is a very real threat for those municipalities that are not competitive on a cost-basis and cannot offer some other competitive advantage. Geographic detachment means that companies can operate in both service and non-service (such as manufacturing) industries without being hindered by their physical distance to primary consumer markets.

Software design firms in Bangalore, India offering customized services at competitive prices to US customers, client service representatives operating out of Montego Bay, Jamaica addressing the needs of British citizens filing insurance claims, and physical goods being manufactured in Hong Kong to be sold in Australia are all concrete examples of the new reality of a globalized world where geographical detachment is a norm. For the city marketer that is interested in capitalizing on these opportunities making the right invest-

ments in ICTs is important. As city marketers in Bangalore, Hong Kong and Montego Bay know, working with private sector partners to ensure the development and deployment of ICT systems is a critical first step in competing globally and encouraging exports.

Similarly, Hong Kong and many other cities in developed economies that are reliant on trade are competing globally to create greater value for customers, specifically exporters and international buyers. Through the creation of Internet based ICT promotional tools these cities provide users with accessory benefits that allow them to differentiate themselves and develop a sustainable competitive advantage. Through the shared efforts of industry leaders and public sector officials at the city and national level, creative ICT tools can be developed to combat geographical detachment's threat to developed economies.

Geographical detachment poses a challenge to cities with developed economies that wish to retain their positions and cities with underdeveloped economies, which wish to increase their exports and diversify their economies. In fact, the effect of geographical detachment has been so great that many media pundits have publicly condemned its effects. CNN's Wolf Blitzer, a US-based journalist and commentator, has decried geographical detachment's effect on the US economy in TV segments discussing the “outsourcing of America” (Blitzer, 2006). Similarly, Le Galès notes “certain territories are organizing politically to resist the often devastating effects of the market on local societies” (Le Galès, 1998, p. 503). In other words, local governments are fighting back by restructuring themselves to be more competitive in high-growth industries. Designing a competitive city despite geographical detachment requires that city marketers determine which areas they can succeed in and then select intelligent investments in ICTs to attract EOCs and retain existing EOC industries. ICTs, in this respect, can be considered a trade promotion tool that can give a city the competitive advantage needed to attract (or

in some cases just simply access) international business markets. Choosing which investments are best, thereby re-designing the city-product, is perhaps the most difficult element of the product design process for city marketers interested in encouraging export-oriented trade. Reviewing projects undertaken in cities in developed and developing economies will provide insights.

Examples of What Has Been Done

Example 1: *Hong Kong retains and attracts export-oriented trade by providing value added online services to international buyers and local exporters.*

Despite increasing competition from ports in mainland China, Hong Kong has continued to see increased activity in its shipping and re-export business (Kelly, 2005, p. 375). “Exports are the lifeblood of city-states such as... Hong Kong, whose natural resources are too limited to produce everything they need, nor can their limited populations absorb all the goods they can produce” (Kotler, Haider & Rein, 1993, p. 32). The city, which is now part of China’s Special Administrative Region (or “SAR”), is renowned for its position as a manufacturing centre (especially in clothing and textiles) and a centre for international trade, financial services, shipping and other “invisible exports” (Kelly, 2005, p. 375). Other municipalities in the region, such as Shanghai pose a serious challenge to Hong Kong’s position as a leader in international trade and shipping, thus making it imperative for the port to distinguish itself from its competitors in mainland China to retain its share of export-oriented businesses.

In this light, Hong Kong’s Trade and Development Council (the “HKTDC”) has implemented a number of unique web based applications that provide buyers and sellers with additional value. The HKTDC, itself a public sector organization whose directors come from both the public sector and private industry, helps the city compete

against other emerging Chinese ports through its online forum for Hong Kong based businesses and international buyers (www.tdctrade.com). The HKTDC acts as the official marketing arm for Hong Kong’s manufacturing and export industries, and is the official public sector contact point for importers and exporters in the Special Administrative Region (www.tdctrade.com).

The website is just one of several ways in which Hong Kong has re-designed its city product to retain export-oriented business. Hong Kong, as the product being marketed, includes the HKTDC website and all other accessory benefits that an EOC might derive from having operations in the city (Fretter, 1993, p. 167). In other words, similar to how a warranty on a computer constitutes an “accessory” element of the product, Hong Kong’s HKTDC website acts as an accessory element of the city product and adds value for consumers, namely EOCs, and differentiates the city from the competition.

The website helps Hong Kong’s export industries benefit from geographical detachment by making Hong Kong based companies accessible to the world. The sourcing section of the website offers buyers access to hundreds of thousands of products from Hong Kong, Mainland China, and Taiwan, ranging from toys to cars and auto parts (www.tdctrade.com). Detailed information regarding suppliers, manufacturers, product characteristics, sales and shipping terms are offered in addition to contact information (www.tdctrade.com). In fact, the HKTDC website makes it possible for overseas buyers to quickly and efficiently assess potential purchase opportunities. Buyers can connect with sellers by submitting an enquiry, but cannot make a purchase directly through the online forum.

The HKTDC website provides equally important information regarding the local economy, trade shows and events, and international opportunities (www.tdctrade.com). The forum effectively has a second function—that of a promotional tool that showcases local events and

business opportunities. Lastly, in addition to the online services offered, the HKTDC promotes local manufacturing industries, the re-export business, and Hong Kong's seaport through trade magazines, trade fairs (both overseas and at home) and consulting services.

The Hong Kong Trade and Development Council's website is an excellent example of how ICTs can be mobilized to encourage the retention and growth of local export oriented companies, and promote a city's offerings to the world. The sophistication of the portal and the unique benefits it offers is incomparable to other such projects in Asia and thus gives Hong Kong a notable competitive advantage over emerging Chinese port cities that do not have the marketing savvy and organizational finesse to provide a similar service. The website differentiates Hong Kong in a way that may help it retain its leadership position while promoting the city's offerings to the world. The website positions Hong Kong to benefit from geographical detachment and compete effectively with other regional port cities.

Example 2: *Public-private collaboration and strategic telecom investments spur the development of Montego Bay's export-oriented service industry*

Hidden away along the coastline of Montego Bay, Jamaica's second largest city and most popular tourist destination, lies a facility developed through the collaboration of public and private sector partners (Graham & Marvin, 2001, p. 357). Inside the Jamaica Free Trade Zone (or "FTZ") in Montego Bay, one of two such projects undertaken by the Jamaican government with the cooperation of municipal and corporate partners, the operations of Jamaica Digiport ("JDI") can be found. The FTZ is classified as being a special economic zone where foreign export-oriented companies can operate without the hindrances of certain government regulations and high-taxes. Further, the zone offers foreign companies excep-

tional ICT infrastructure and connects Jamaica to international markets, especially the United States and Canada. The FTZ includes the Jamaica DigiPort facilities, a privately operated for-profit company, created through the collaboration of public and private sector players, that caters to foreign firms looking to capitalize on low cost Jamaican labour while benefiting from high-end telecommunications infrastructure, similar to what could be found in Europe or North America. The company removes one of the major barriers that prevent foreign companies from operating in Jamaica by providing the ICT infrastructure necessary to do business in Jamaica without the difficulties companies might ordinarily face.

JDI is the result of considerable collaboration between local authorities, the private sector and the Jamaican government and incorporates these stakeholders into its mission, which is "to facilitate the development of industry in Jamaica, by providing the highest quality telecommunication services at a cost that will allow ...customers to provide services at rates that will be internationally competitive." (www.jadigiport.com)

The company offers international clients looking to establish call centres, data processing centres, and other labour intensive service based operations, state of the art telecommunications systems allowing multinational corporations ("MNCs") to benefit from the economic climate in Jamaica while maintaining close contact with home offices. JDI provides dedicated Internet and telephone lines for data and voice transmission, access to a "high speed IP based network" which utilizes "Multi-Protocol Label Switching (MPLS) technology to provide a fast, secure, and scalable connection" for internet users running on JDI's systems (www.jadigiport.com), international direct dial service for call centres which wish to make outbound calls to Canada and the United States at rates that are competitive with those which would be charged in the continental United States (www.jadigiport.com), and a plethora of different toll free service arrangements that allow MNCs to offer

customer service direct from Montego Bay (www.jadigiport.com). JDI can offer these services at rates comparable with “tier 1” US telecom carriers given a “Nortel DMS 100/200 switch equipped to provide ACD & Centrex services”, its partnership with local telephone company Cable and Wireless, and a direct connection to the “CJFS/Maya I submarine cable system” (www.jadigiport.com). Satellite to earth stations and a stable internal backup power source further reinforce JDI’s ability to offer international clients services that are comparable with what they would receive locally. The company plays host to numerous Fortune 500 firms who employ roughly 5000 locals, thereby making a considerable contribution to the local economy and increasing the city’s international income through service oriented exports (Graham & Marvin, 2001, p. 357).

JDI itself is a product of government intervention, as the company was originally founded as a public-private partnership between the Jamaican government, Cable and Wireless, and US-based telecom giant AT&T (www.jamaicaobserver.com). The government’s intervention, through investment in telecommunication infrastructure and the creation of the Free Trade Zone in Montego Bay, has allowed call centres based in Montego Bay to offer phone service direct to the United States at six cents per minute, which is several multiples lower than rates a decade earlier (www.jamaicaobserver.com). Despite now being privately owned, the Jamaican government continues to promote the establishment of service-based industries that will use the telecommunications networks developed by JDI and other new telecom companies.

The Jamaican Trade Promotion Board, known as Jampro locally, assists in marketing Digiport’s solutions to international clients (www.jamaica-tradeandinvest.org). JDI’s success is an example of how forming the right product can attract EOCs. The country’s base of over 3 million English speaking people who reside in close geographical proximity to the United States and Canada, and low wages give the nation a clear competitive

advantage in service based industries that are labour intensive.

Jampro promotes Digiport and other local EOCs through a team of trade professionals and certain web based ICT tools. The Jampro website boasts that Jamaica’s telecommunications system is “among the best in the world” and connects website users to trade representatives who are ready to assist them in finding the information necessary to make export-oriented investments in Montego Bay and other cities in Jamaica. Access to a supplier’s database that lists the names of service industry suppliers, like Jamaica Digiport, and other tools further reinforce the strategy to promote Montego Bay as a viable destination for service based industry (www.jamaicatradeand-invest.org).

The promotional strategy employed by Jampro and the City of Montego Bay responds to the issues that need to be addressed by place marketers. According to Kotler, Haider and Rein (1993, p. 162) every place marketer attempting to promote a city’s image must ask certain questions, including (1) Who the target audience is, (2) What broad influence tools are available, (3) What major advertising channels are available and what are their characteristics, (4) What criteria should be used in choosing specific advertising media vehicles, and finally (5) How the advertised messages should be timed.

The approach taken in marketing Digiport responds to both the needs of Jamaican cities to attract export-oriented industries while working within the budgetary limitations of local and national governments. Jampro’s utilization of a website allows it to cost effectively communicate with foreign EOCs and put them in direct contact with the authorities that can facilitate their investment in export-oriented business in Jamaica. The target audience, decision makers working in EOCs, is often best influenced through personal marketing techniques and can easily be contacted via the Internet. Criteria such as whether the advertising medium can serve to communicate

detailed information to a decision maker, whether the medium can cost-effectively provide this information to foreign EOCs, and whether the medium can do so in a time-efficient manner are all critical. The fact that the Internet trade portal created by Jampro can offer access to detailed, time-sensitive information at an affordable cost makes the medium preferred for countries that have limited resources.

Further, interested EOCs can develop personal relationships with JamPro by contacting a trade representative and personal marketing techniques can then be used to court the potential investor. Often, large-scale investments that involve considerable risk, as is the case when establishing a subsidiary or branch operation in a foreign country, require more intimate marketing approaches. Personalized promotional approaches play a critical role in developing an EOC cluster. Indeed, personal promotional approaches were used to initiate investments in the telecommunication sector in Jamaica. The island nation's Minister of Commerce himself courted potential investors and has negotiated several new telecommunications licenses. By doing so, the Jamaican government has worked with local authorities to help to cut telecommunications costs by granting new licenses to other companies that compete with Jamaica Digiport. Recently, licenses were granted to companies that have agreed to offer data and voice transmission services at prices that are 70% less than current prices. Interventions of this kind by governments push operating costs down and make cities more competitive internationally (www.jamaicaobserver.com). The beneficiaries of the new licenses, namely Fibralink Jamaica and the Trans-Caribbean Cable Company ("TCCC"), have worked with the local government to further enhance the attractiveness of Montego Bay as a business destination by offering lower cost telecommunications options to EOCs (www.jamaicagleaner.com). This is consistent with the argument put forth by Le Galès that central governments are yielding power to local governments in order

to better facilitate economic development (Le Galès, 2006, p. 718).

Example 3: *Bangalore attracts export-oriented companies in the information technology industry by re-designing itself through ICT investments.*

Like Montego Bay, the Indian city of Bangalore has had success in developing its service-based export sector. Bangalore hosts numerous software development and IT help desk operations which employ skilled, often computer savvy and university educated, locals to complete work that would cost several multiples more in Europe or North America. Like Montego Bay, enabling Bangalore to compete internationally in service industries was a matter of removing certain barriers and building modern ICT infrastructures that could put the city on par with locales in Europe, Canada, and the US. Bangalore also has a large English speaking population and its residents have benefited from technical programs offered at Indian universities in areas such as computer programming and software design. Cooperation between the Indian government and local authorities has allowed Bangalore to repackage itself into a highly marketable commercial centre for EOCs in the IT industry. Bangalore's transformation is another example of how re-designing the city-product using ICTs can lead to the successful development of EOC clusters. India, on the whole, has over 8,000 software firms alone, and "the software industry in India grossed an annual revenue of US\$ 12 billion during 2002-03, up from US\$10 billion in 2001-02, registering an overall growth of 18.8% in dollar terms" (Ramachandran & Sougata, 2005, p. 149). These companies cater primarily to foreign customers (Ramachandran & Sougata, 2005, p. 149) and offer a broad spectrum of software development services.

The growth of the software industry in India is a product of efforts by private and public authorities. In order to "promote the growth of the IT

industry, ... many state governments have created software technology parks in which both economic and social infrastructure are readily available... the parks have played an important role in enabling clusters to develop” (Ramachandran & Sougata, 2005, p. 151) and have been a key element in Bangalore’s rise to become the “Silicon Valley of India” (Ramachandran & Sougata, 2005, p. 152). In fact, the city has blossomed from a “mere 13 software firms in 1991-1992” to “over 1100 software firms working in areas such as chip design, systems software and communication software” and now employs more than 80,000 people in IT (Ramachandran & Sougata, 2005, p. 152). Bangalore is the result of an intensive city design effort by local, state and federal governments in India to create an environment where a software industry could flourish.

One of the best “means of pushing rapid development is by the creation of physical infrastructure” (Ramachandran & Sougata, 2005, p. 162) thereby changing the nature of the product offering being made to foreign EOCs. Governments play “a crucial role in shaping the cluster by developing and promoting educational and research institutions, attracting investment in high technology areas by providing better factor conditions and creating local demand” (Ramachandran & Sougata, 2005, p. 162). In both Montego Bay and Bangalore, government interventions have been an important element of city marketing plans and have yielded astounding results. In the software industry’s infancy, companies such as Infosys had to compensate for the shortcomings of local governments by investing in systems to provide a stable power supply, proper office facilities, and even water supply (Ramachandran & Sougata, 2005, p. 157). Both Bangalore and Montego Bay are a testament to the idea that smart investments geared towards shaping the city are often key in developing EOC clusters. India’s investment in telecommunications networks, and other ICT facilities and Montego Bay’s investment in high-tech facilities both yielded considerable returns for local and national governments.

In order to facilitate the development of India’s export oriented software and customer services clusters, local and national governments in India made considerable ICT and infrastructure investments. Bangalore STPIB program, an acronym for Software Parks of India Bangalore, is an example of this type of investment. STPIB is a government owned and operated program that assists in the development of technologically advanced office space for hi-tech companies interested in establishing operations in Bangalore. These companies cater almost exclusively to foreign markets, especially the United States, where labour is much more expensive (www.blr.stpi.in). The first software policies developed in the 1980s in India “emphasized the concept of software development and export through data communication links” and kick-started investment in the basic ICT infrastructure necessary for the sector’s development (www.blr.stpi.in).

The STPIB concept focuses exclusively on one sector, information technology, and associated areas such as customer service for software users (www.blr.stpi.in). The scheme is “100 percent export oriented” and focuses on the “development and export of computer software, including export of professional services using communication links or physical media” (www.blr.stpi.in/). Like in Montego Bay, the Indian government established zones dedicated to export intensive industries, such as the software industry. Conventional technology parks are located within these “Export Processing Zones” further increasing the attractiveness of these centres to foreign investors wishing to establish operation in cities like Bangalore. The technology parks created by STP, such as the Bangalore facilities described above which house that city’s IT services and software development industries, offer services such as private leased lines for Internet and telephony to connect with offices and customers overseas. For instance, Softpoint, one of the most popular services offered uses IPLC transmission lines and “Intelsat, New Skies satellite, APSTAR”

technologies to connect offices in Bangalore with any point in Europe or North America (www.blr.stpi.in). The parks are also equipped with facilities to ensure the integrity and security of data stored and information transferred from the technology parks (www.blr.stpi.in).

The role of governments in developing these ICT infrastructures was critical and has put Bangalore's software industry at the forefront. Indian software companies, like Infosys, are now amongst the world's largest and have grown from small start-ups to global powerhouses thanks, in part, to a marketing plan that emphasized the creation of export-oriented zones equipped with the technologies needed for the local software industry to thrive. More interestingly, the Indian government has placed the offices that administer the STPI program within the technology parks themselves, keeping government officials in close contact with the industry (www.blr.stpi.in). This type of close collaboration between city marketers working for the Indian government and business has spurred on the innovation process.

SOLUTIONS AND RECOMMENDATIONS

Solution to Problem 1: Employing Novel Solutions to Implement ICT Investments

As has been demonstrated by the examples of both Montego Bay and Bangalore, novel solutions must often be employed to effectively implement ICT solutions. In both cities, the creation of parks and zones dedicated to specialized export oriented business activity was a key element of their city design plans. In Bangalore, government developments, designed specifically to house export oriented software and IT businesses, equipped with the most advanced telecommunications equipment was the product of public-private co-operation. Investments in office space and ICT

infrastructure coupled with industry consultation have made Bangalore an internationally renowned centre for IT activity. Foreign investment has spawned the creation of new facilities and led to the development of an Indian software industry, with software giants like IBM, Infosys and Wipro housing themselves in Bangalore (Graham & Marvin, 2001, p. 338). Infosys, in return, has collaborated with local governments and has made private investments in things like roads, electricity and water systems (Ramachandran & Sougata, 2005, p. 157).

Similarly, in Montego Bay, governments have partnered with the telecommunications industry, becoming a shareholder in companies like Jamaica Digiport at the formative stages, and have helped to fund the development of improved ICT networks. Submarine cable networks and satellite uplinks now make Jamaica one of the most wired nations in the Caribbean and the presence of a business community that makes use of these networks for the purpose of exporting services is an extraordinary bonus. Both Jamaica Digiport, based in Montego Bay, and its competitor, the Trans-Caribbean Cable Company, have been instrumental in spurring on the growth of service exports from the island. Public-Private partnerships and strategic government investments that satisfy industry needs, such as technology parks, are novel solutions that can help countries effectively implement ICT investments in a geographically detached world.

Solution to Problem 2: Differentiating the City Using Unique ICT Tools

ICTs have also enabled cities like Hong Kong to differentiate themselves and develop a sustainable competitive advantage in the face of rising regional competition. Hong Kong's development of Internet-based applications that provide accessory benefits to business communities by connecting local industry to international markets,

while promoting the city is highly innovative. The HKTDC website is both a product design exercise, as it adds value to doing business in Hong Kong, and a promotional tool, as it communicates the city's capabilities internationally. The website differentiates the city from other ports and trading centres in the region, most of which do not offer a comparable service, and is a potent tool in fighting the threat of geographical detachment on Hong Kong based industries. By creating value for EOCs through unique ICT tools cities can remain competitive and differentiate themselves from other locales that compete purely on the basis of their core product offering. Accessories, like the HKTDC website, are an effective way of achieving this.

Solution to Problem 3: Choosing the Right ICT Investments to Attract and Retain EOCs in a Geographically Detached World

Selecting ICT investments that will assist the city marketer in attracting and retaining export-oriented businesses while achieving municipal objectives is difficult. However, considering ICT developments in Bangalore and Montego Bay, one can see that certain factors must be considered before an investment is undertaken. By viewing ICT investment opportunities in terms of the city's objectives, attributes deficiencies, and competitive advantages, and the needs of the target EOCs, one can better understand the probability of an investment's success.

Using the example of the evolution of Bangalore's software development industry, the ICT investment rubric discussed in the background section can be applied. In the case of Bangalore, the city's attributes included considerations such as relatively low cost labour, highly educated software engineers with technical knowledge and a culture that is conducive to the development of a software industry. Infrastructure deficiencies, in both areas such as basic utilities and information communications technologies were barriers

to connecting Indian software developers to international markets. The objective of developing an Indian software industry required the city to take certain actions, such as the creation of office space and investment in infrastructure. EOCs based in the United States, Canada, and Europe required low cost skilled labour—an important input for most EOCs, and something which Bangalore has in abundance. Ultimately, investments in office space, telecommunications infrastructure and basic utilities have increased employment and diversified the local economy in Bangalore (Ramachandran, 2005, p. 162). The effect of the investments made in Bangalore has meant that the city has been effectively re-designed so as to attract the target market, which includes international IT and software companies such as Microsoft, IBM, Nortel and Infosys. City marketers, therefore, play an important role in identifying a niche and shaping the city to suit the needs of a specific industry. In the case of Bangalore, investments in telecommunications infrastructure, office space and even upgrades in the local power system were necessary to attract international investment and lead to the development of the IT and software cluster. In other words, action by empowered local governments has yielded increased involvement by the city's corporate citizens who have in turn made investments in Bangalore. However, individual citizens have been shown to be unmoved by the decentralization of governance functions and the empowerment of local governments (Hoffmann-Martinot, 1998, p. 198).

According to one Indian software guru, "India has all the prerequisites to emerge as a software superhouse" (www.dewangmehta.com). Putting the country in this position was a matter of removing a few critical roadblocks and offering incentives to foreign companies that wish to do business in cities like Bangalore. Deficiencies, such as the lack of competitive connectivity, problems with the power supply in many regions of India, and regulatory barriers were removed by creating the specialized STPIB parks equipped with facilities

that are competitive with those in North America and Europe. A “window clearance” scheme that allows foreign investors to receive clearance for their investment by all levels of government for all necessary issues using one single application cuts regulatory red tape and new start-ups are given a tax-free grace period (www.hyd.stpi.in). The State Technology Parks (or “STP”) office developments, coupled with other government incentives, have spurred on the growth of the software sector in India. Marketers who collaborated with other levels of government in the development of these parks have been successful in using ICT upgrades to help attract EOCs to Bangalore and compete in the face of geographic detachment. Bangalore, like Montego Bay and Hong Kong, has benefited from geographical detachment because it has re-designed itself to achieve internal objectives and help EOCs satisfy their needs.

Similarly, Montego Bay can be viewed through the rubric of this model. The attributes of the city, the objectives of city marketers, opportunities to satisfy EOC needs, the city’s deficiencies and possible competitive advantages must all be considered under this model. Montego Bay, like India, has a competitive advantage given that it can almost uniquely offer American companies low labour costs, an English-speaking population, and close proximity to two important consumer markets (i.e. Canada and the United States). The city’s competitive cost of labour makes locating

labour intensive industries, like call centres and data processing centres in Montego Bay appealing to EOCs based in the United States (the target market) and satisfies their need to locate labour intensive business functions in cost effective regions. The city, in seeking to diversify its economy away from its dependence on tourism, had to re-design Montego Bay as a competitive international destination for EOCs by addressing some of the barriers to setting up a labour intensive service industry in the city. This meant addressing deficiencies such as the island nation’s inferior telecommunications system, and regulatory issues. By working with local private sector partners and investing in ICTs, Montego Bay has positioned itself as a destination for call centre outsourcing.

Likewise, Hong Kong has re-positioned itself by changing the nature of the accessory benefits it offers in order to compete with other regional ports that provide the same core benefits. Whereas Shanghai and other ports can compete on the basis of cost and can offer similar value, in terms of strategic needs, Hong Kong has the advantage of access to an incredibly skilled and business savvy labour force that is capable of providing unique accessory services to re-export and shipping clients. In order to achieve the port’s objective of maintaining its leadership position, despite the increased competition, the port needed to find a basis for differentiation. The Hong Kong

Table 1. Bangalore software industry summary

Element	Application to Bangalore Call-Centre Industry
OBJECTIVE (City):	To increase hi-tech service exports and diversify the local economy
ATTRIBUTES (City):	English proficiency, exceptional IT training facilities and skilled cheap labour, poor basic infrastructure and international telecommunications infrastructure
NEEDS (EOC):	IT and software industry is under pressure to cut costs and improve investment returns, requires technical/skilled labour
ADVANTAGE (City):	Low wages, stable country, skilled workforce are the main competitive advantages
DEFICIENCY (City):	Need superior ICT infrastructure, stable power supplies, labour security
ACTION (City)	Investment in software technology parks equipped with specialized telecom switches, localized power supply stabilizers, etc.

Table 2. Montego Bay call centre industry summary

Element	Application to Montego Bay Client-Care Industry
Objective (City):	To stimulate investment by EOCs in Jamaica's service industry in order to diversify the local economy and create job growth
Attributes (City):	Over 3 million English speaking people, weak telecom networks, close proximity to massive US and Canadian markets
Needs (EOC):	Low cost, English-speaking labour within proximity of consumer markets.
Advantage (City):	Cost-competitive labour, geographical proximity to the markets being served, some cultural similarities between local and foreign market, native English speakers, relatively safe and stable country, attractive climate and locale
Deficiency (City):	Lack of suitable office space, unstable telecommunications networks that are costly for MNCs to use
Action (City):	Investment by local and national city planners in affordable high-quality office space, telecommunications networks, tax-incentives and some basic language training

Trade Development Council offers companies that source goods from Hong Kong access to a database of potential suppliers and gives those who export from Hong Kong more opportunities to promote their wares than other regional ports. The port's Internet site, and the other accessory benefits offered in conjunction with the website (such as trade shows and support services), create a clear point of differentiation and deliver better value for companies that choose Hong Kong instead of a competing port.

Montego Bay, Bangalore, and Hong Kong have all managed to benefit from geographical detachment, attracting international EOCs and diversifying their economies. By choosing ICT investments that will match the objectives, attributes, and deficiencies of the city with the needs of the target EOCs, city marketers can be more

effective in successfully attracting and retaining EOCs. An inconsistency between these elements may expose an investment opportunity or an irresolvable barrier. In the case of both Bangalore and Montego Bay, deficiencies were remedied easily through ICT investments and other actions. Similarly, in Hong Kong, the city's need to differentiate itself merited an investment in an accessory service. This rubric therefore provides a good methodology for initially reviewing ICT investment opportunities.

FUTURE TRENDS

In the future, investments by countries like Jamaica and India will lead to increased competition and a greater need for cities in developed nations

Table 3. Hong Kong re-export and shipping industry summary

Element	Application to Hong Kong Re-export & Shipping Industry
Objective (City):	Objective of maintaining and possibly even growing the shipping industry despite increased competition from other regional ports
Attributes (City):	Exceptional port facilities, strategic locale at the cross roads of major trade routes, access to very skilled labour and business expertise, close proximity to other major ports and major manufacturing centres such as India and mainland China
Needs (EOC):	EOCs require better value than what is available from similar regional ports, including better marketing and promotional benefits and support from local organizations.
Advantage (City):	Ability to develop accessory services, trade promotion services, access to superior internet based databases and technology that make it easier for Hong Kong exporters to market their products internationally
Deficiency (City):	Lack of a point of differentiation, potentially not cost competitive with other ports in the region
Action (City):	Investment in a website that offers accessory benefits to companies that re-export or ship from Hong Kong

to differentiate themselves in a way that cannot be readily replicated. Improved connectivity in third world nations will mean that glocalization will accelerate and expose first world states to increased competition in service industries. Increased competition from cities in LDCs will make it necessary for cities in North America and Europe to invest more heavily in accessory ICTs, like websites, to provide added value and differentiate themselves from international competition. As in Hong Kong, mature urban economies may come under threat and need to find new ICT tools to distinguish themselves from the competition.

This being said, some scholars have suggested that economic and technological development, moving in lock step, follow a cycle. Kindleberger (Shaw, 2001, p. 293) has suggested that places achieve “economic primacy” because of “a series of innovations” and then “successfully consolidate those methods into institutional structures that in time became resistant to further change, only to be overtaken in turn by another nation more open and receptive to further innovation”. Considering Kindleberger’s thesis, it is therefore imperative for cities to compete to make themselves most receptive to innovation, or risk falling behind. Choosing to make strategic ICT investments is one way of meeting this challenge.

CONCLUSION

A city’s ICT infrastructure is one of its defining characteristics and can often be influential in its success or failure in the economic arena. Cities with superior ICT infrastructures are better connected and, overall, better positioned to benefit from the globalization of trade in services and goods (Ahmad, 2005). Industry leaders, city officials, and academics have all suggested that ICTs can play a pivotal role in a city’s future competitiveness— acting as a city’s future natural resource after contemporary industries have

evolved or even disappeared. Re-designing the city by making strategic investments in ICTs is critical to attracting and retaining export-oriented industries, and is therefore a vital element of long-term economic success.

In fact, some have suggested that by embracing ICTs cities are in a better position to spawn “new entrepreneurial forms” (Carrier, Raymond & Eltaief, 2004, p. 349) and lead new industries. This is because “markets ultimately create products rather than the reverse” (Ashworth & Voogd, 1990, p. 65), and cities need to be responsive to markets and understand the needs of both industry and consumers in order to ensure long-term economic success. Export-oriented industries require superior infrastructure, skilled labour, and competitive forward-looking conditions. Cities can position themselves to benefit from the presence of EOCs by incorporating strategic ICT investments into their city design plans. This may include improving the core benefits offered by the city through investments in sophisticated ICT facilities in business parks or could mean simply differentiating the city through accessory benefits such as a website. Irrespective of whether accessory or core benefits are modified to meet the needs of EOCs and correct deficiencies, re-designing the city, as the product being marketed, using ICTs can stimulate the growth of export-oriented industries. Given that IT is “fast becoming a vital engine of growth for the world economy”, cities can position themselves for success through ICT investments (Kenny, 2006, p. 67) that meet the needs of EOCs and achieve municipal organizational objectives. The decentralization of governments has allowed local governments to undertake new initiatives using ICTs and work to “institutionalize patterns of cooperation between” actors in industry and government (Le Galès, 2001, p. 181). As in Hong Kong, Montego Bay, and Bangalore, ICT investments can be deployed to promote and design the city so as to be better prepared to meet the needs of export oriented business sectors.

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