



Chapter XI

Infrastructure and Policy Frameworks for the Support of Intelligent Enterprises: The Singapore Experience

Leo Tan Wee Hin

Nanyang Technological University, Singapore, and
Singapore National Academy of Science, Singapore

R. Subramaniam

Nanyang Technological University, Singapore, and
Singapore National Academy of Science, Singapore

ABSTRACT

Singapore has put in place an advanced broadband telecommunications infrastructure in both the landline and wireless domains to support the growth of intelligent enterprises in the new economy. A pro-business environment modeled on a slew of policy frameworks, the presence of an e-government, and the entrenching of a transparent e-commerce ecosystem, have led to the rise of intelligent enterprises as well as encouraged other businesses to re-engineer various aspects of their operations to tap new business opportunities and improve their operational efficiencies. M-commerce initiatives are also helping to fuel the growth of online commerce. The need for state intervention to drive growth and applications has been found to be very important.

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INTRODUCTION

Globalization and the Internet are causing the world-view of the economy to undergo a paradigm shift. Traditional economic wisdom fixated on the veracity of the land-labor-capital triumvirate is veering towards a domain where creativity, innovation and technopreneurship occupy important coordinates. This has led to what is now known as the knowledge-based economy, also known as the new economy or information economy.

In the new economy, traditional business structures and trade barriers are starting to dissolve, thus leveling the playing field. New opportunities are presented for nations to spawn economic growth as well as re-engineer the operations of traditional enterprises in a productive manner. Countries which are well positioned to address the challenges of the new economy will be able to enhance their competitiveness as well as capitalize on the oncoming opportunities.

As a tiny island (600 sq. km.) with no natural resources, Singapore places great emphasis on the effective utilization of its limited manpower (four million) as well as the judicious use of science and technology to overcome various constraints and problems (Tan & Subramaniam, 1998, 1999). Recognizing that the new world-view of the economy is conducive for the growth of nations irrespective of size and other constraints, Singapore has put in place an advanced telecommunications infrastructure as well as the necessary regulatory and legal frameworks in its efforts to ride on the emerging opportunities in the information economy.

The vision of the Singapore government with respect to information and communication technology is encapsulated in its Infocomm 21 plan (<http://www.ida.gov.sg>):

The aim is to develop Singapore into a vibrant and dynamic global infocomm capital with a thriving e-economy and a pervasive and infocomm-savvy e-society. As an infocomm capital, Singapore also wants to be the premier center of buzz and activity for infocomm industries and businesses, research and development, venture capital, intellectual capital, education and thought leadership. In addition, Singapore also wants to be a real life showcase and test bed to the world for innovative infocomm applications and services in the public, private and people sectors.

As Singapore was among the earliest countries in the world to adopt e-commerce, there was little guidance on best practices that it could emulate when it started out in 1996. The intent was to put in place a basic architecture and framework, and allow these to evolve as standards become well defined, technologies related to telecommunications mature, and e-commerce activities in the developed world move further upstream. In this regard, significant attention was placed on monitoring e-commerce developments in the U.S., and to see how these could be best adapted to Singapore's needs. While much of the architecture and frameworks in the U.S. was developed on an ad hoc basis by industry consortia and state governments in a somewhat uncoordinated manner (Kasarda & Rondiwelli, 1998), it was felt that reliance on the private sector in Singapore to stimulate such developments would not be conducive for promoting speedy development of an e-commerce culture in the business community. State intervention was deemed to be a strategic imperative if e-commerce infrastructure and frameworks are to be deployed at a rate that allows Singapore to be judiciously plugged into the international e-commerce

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