



Chapter XV

Information and Communication Technology in Singapore: Lessons for Developing Nations on the Role of Government

Leo Tan Wee Hin

Nanyang Technological University and Singapore National Academy of Science,
Singapore

R. Subramaniam

Nanyang Technological University and Singapore National Academy of Science,
Singapore

ABSTRACT

Information and Communication Technologies (ICT) hold great potential for promoting socioeconomic development in many developing countries. ICT has not significantly percolated down the economic value chain in these countries for various reasons. The example of Singapore is used to show how governments can make a difference in entrenching a vibrant ICT sector through appropriate policies, programs, and other intervention instruments. It is suggested that aspects of the Singapore experience would be useful for other developing countries.

INTRODUCTION

Information and Communication Technologies (ICT) are increasingly pervading various aspects of societal endeavors and economic activities. Referring to the agglomeration

of telecommunication, computer, and broadcast technologies, it is giving rise to what is commonly referred to as the information economy or knowledge-based economy.

The relentless pace at which globalization and the Internet are shaping the contours of the politico-economic landscape makes it imperative that nations address the oncoming challenges. Though ICT is well entrenched in the developed world, it has not diffused sufficiently in many countries in the developing world, thus contributing to the digital divide. There are a number of reasons for this state of affairs. One reason is the low emphasis being placed on science and technology for national development in these countries (Tan & Subramaniam, 1998, 1999). Another reason could be that ICT is perceived as a trivial public utility, mainly for high officials (Adam, 1996). Though ICT is prevalent in some sectors such as airlines and banking in these countries, it has got to do more with the need to comply with international standards and regulations rather than to national initiatives. The relatively modest pervasiveness of ICT in capital cities in a number of developing countries is a reflection of the need to cater to the presence of foreign embassies, big businesses, and multinational companies operating there.

The fact that ICT has not percolated down the economic value chain in most developing nations means that they would not be able to participate effectively in the emerging information economy. Even though the value and role of ICT in promoting socioeconomic development is not clear, owing to the absence of concrete quantitative measures that can correlate explicitly the extent to which ICT can accelerate such development, it is a given that it is a major determinant. The example of Singapore is often quoted to advance the view that ICT has enormous potential to stimulate growth in all sectors of the economy (Avgerou, 1998).

As an advanced developing nation, Singapore has realized the benefits of ICT to a significant extent, so much so that it now contributes to about 20% of the Gross Domestic Product. A lot has got to do with the role of government in formulating the necessary policy frameworks, creating the necessary enabling environments, and chalking an effective implementation strategy with well-defined milestones to engender this state of development.

The principal objective of this chapter is to share details of important policies, incentives, and programs initiated by the Singapore government to fuel the development of ICT, and to suggest that aspects of the Singapore experience would be relevant for other developing nations. Significant emphasis is placed in this chapter on the role of telecommunications, as it is a key infrastructure for realizing efficient and affordable communication as well as accessing information.

The following is a roadmap for this chapter. The first section provides brief details of Singapore. The second section reviews the literature on the development of ICT in Singapore. Some of the more important policy instruments, incentives, and programs initiated by the Singapore government to promote ICT are presented in the third section. A discussion of the thrust of this chapter in the context of developing nations is done in the fourth section. The chapter completes with the fifth section, the conclusion.

SINGAPORE

As an island state located in Southeast Asia, Singapore is a tiny country with a land area of 683 sq. km. and a population density of about 6,000 persons per sq. km. It is an immigrant society with a multiracial background. Its per capita income in the year 2000 was S\$42,212.

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/information-communication-technology-singapore/4522

Related Content

Globalization, Information and Communication Technologies, and Women's Lives

Gillian Youngs (2012). *Globalization, Technology Diffusion and Gender Disparity: Social Impacts of ICTs* (pp. 25-34).

www.irma-international.org/chapter/globalization-information-communication-technologies-women/62873

Towards Reviewing an Immediate Impact of COVID-19 on the Integrative World Economy: An Evolving Perspective

Bhavya Alankar, Harleen Kaur, Shafqatul Ahsaan, Gaurav Sharma and Victor Chang (2022). *Journal of Global Information Management* (pp. 1-19).

www.irma-international.org/article/towards-reviewing-immediate-impact-covid/281690

USCInfo: A High Volume, Integrated Online Library Resources Automation Project

Mathew J. Klempa and Lucy Siefert Wegner (2006). *Cases on Information Technology and Organizational Politics & Culture* (pp. 1-26).

www.irma-international.org/chapter/uscinfo-high-integrated-online-library/6298

Understanding Internet Banking Adoption and Use Behavior: A Hong Kong Perspective

Siu-cheung Chan and Ming-te Lu (2006). *Advanced Topics in Global Information Management, Volume 5* (pp. 308-330).

www.irma-international.org/chapter/understanding-internet-banking-adoption-use/4572

Understanding Internet Banking Adoption and Use Behavior: A Hong Kong Perspective

Siu-cheung Chan and Ming-te Lu (2004). *Journal of Global Information Management* (pp. 21-43).

www.irma-international.org/article/understanding-internet-banking-adoption-use/3610