Chapter XV

Strategic Significance of Information Technology to Developing Countries

Muhammadou Kah
Rutgers University-Camden, USA

INTRODUCTION

The growth of information technology use in developing countries will depend on a number of factors, such as effective economic policies, the IT human capital stock, and an adequate telecommunications infrastructure. However, it is difficult to say which aspects will play the most significant roles. The definition of a new economic sector has emerged (the information or the knowledge sector/economy) as economies of the world witness the growth of the information industry. The fading of the industrial revolution into the dawn of the information revolution has transformed the world economy into a truly global one. However, the emergence of this new sector has started to create a wider gap between the information-rich and the information-poor, thus creating a wider gap between developing and more developed economies.

The strategic integration of information technology planning and strategy within sectors of governments and businesses in developing countries and the strategic use of information systems is key to economic efficiency and development in these countries. Most business processes and economic activities are performed mainly by government agencies or the public enterprise organized in the form of Ministries. For example, Ministry of Education, Ministry of Trade and Economic Planning, Ministry of Finance etc. Ministries consist of departments, divisions and agencies which conduct the economic activities in these developing countries.

In most cases, these ministries are not interconnected, causing duplication of efforts and redundancies contributing to inefficiencies. However, this situation is changing slowly with the diffusion of information technology and the Internet in ministries or government agencies in developing countries. The issue faced here is not an issue of availability of information technology infrastructure, rather, its...
appropriate and strategic use within organizations in developing countries coupled with inadequate skilled IT professionals in most of these countries. Further, the strategic fit of information technology in these organizations/government agencies “needs” is often misaligned, resulting in under usage of the existing information technology infrastructure. These “needs” are neither static nor uniform across government agencies or businesses in developing countries. The convergence of computers and communications technologies, and the more widespread use of databases, networks and enterprise resource systems could help alleviate these issues if effective planning and information technology strategy is implemented. These must include strategies to increase the pool of skilled IT human resources in organizations in developing countries. Given the improving telecommunication infrastructure in developing countries and the increasing use of the Internet in these countries, innovative “Web education” could be implemented through strategic partnerships with firms offering these services in developed countries. This will be very cost effective and would help increase the IT human stock in developing countries needed for strategic use, planning and implementation of appropriate information technology.

Developing countries, including those in Africa, have become more detached from the global economy, largely due to lack of a sustainable and appropriate information technology strategy and poor telecommunications infrastructures, resulting in inadequate information technology resources. While the information technology sector could be viewed as a source of productivity growth in all sectors of the economy, this is a significant infrastructure and an industry in its own right. Governments in developing countries can play a catalytic role in developing this infrastructure and in piloting and demonstrating various services to utilize it and to stimulate the effective use of these services in support of economy-wide competitiveness. The value of information resource and its intimate connection with strategy and structure were recognized in the 1970s (Mason 1984). Most business strategic planning in the developed world then, did not take information technology into consideration, it was merely an exercise in resource allocation generated from the lower levels of the organization. It was not fitted to the overall business strategy or business “needs” (Ward et al. 1990; Remenyi 1991). This, however, changed in the 1980s following Porter’s (1980, 1985) analysis of industry competition. Porter and others used the forces of industry competition, generic strategies (Parsons 1983; McFarlan, 1984; Cash and Konsynski 1985), the value chain, and industry variations in information intensity (Porter and Millar 1985) to shed light on the connections between IT and business strategy. McFarlan suggested the strategic grid, in which the implications for investment, management control and structure, attitude to risk, and corporate strategy were shown to vary according to the role that information systems played in firms (Gerstein, 1987; Synnott, 1987; Atkins 1994). In the late 1980s, organizations used information systems strategically. In light of these studies, the following strategic applications are suggested for adoption in developing countries:

• linking government agencies/ministries via technology-based systems to its customers/consumers and/or suppliers;
• improved integration of internal value-adding processes in these government agencies;
The Interplay of Strategic Management and Information Technology
[www.igi-global.com/chapter/interplay-strategic-management-information-technology/29752?camid=4v1a](http://www.igi-global.com/chapter/interplay-strategic-management-information-technology/29752?camid=4v1a)