

## Chapter XII

# Drivers and Barriers for ICT Development

*The Internet Cultural Era (ICE) has driven many Small and Medium sized Enterprises (SMEs) in the UK and Ghana to adopt ICT technology. This competition is particularly fierce in the logistic providers and tourism service industry. (Azumah et al, 2005)*

*The drivers for ICT development in Gripple (Sheffield) Ltd UK are to be able to improve the operating efficiency in administration, stock keeping and order received. They have a kind of ERP system to deal with production planning. They plan to be able to integrate their system with their suppliers. However, the barriers are that their suppliers are not ready and do not have the technology for integration. (Pavic et al, 2006)*

### **CONTEXT OF ICT DEVELOPMENT**

ICT has been adopted in manufacturing and service industries, public and private sectors, large organizations and SMEs, for productivity improvement, increased operational efficiency and better customer service. The historical nature of ICT development and implementation has always been made popular by larger organi-

zations. This was the case due to financial support and complexity of its business processes. In smaller organizations, the adoption of ICT has begun to emerge over the last 15 or 20 years. Due to the advancement of IT and network technology, increasing number of SMES have begun to exploit the benefits of ICT. In addition, the globalization phenomenon has also driven many SMEs and large organizations to adopt and integrate the use of ICT in a supply chain.

ICT can be defined as the study of the technology used to handle information and aid communication. The phrase was introduced by Stevenson in his 1997 report to the UK government and promoted by the new National Curriculum documents for the UK in 2000 (FOLDOC, 2008).

ICT development deals with the design and implementation of information systems using information and communication technology. For examples, Enterprise Resource Planning (ERP) systems, Supply Chain Management (SCM) systems, Customer Relationships Management (CRM) systems.

## **DRIVERS AND BARRIERS FOR ICT DEVELOPMENT**

Various studies have been conducted examining the drivers and barriers for ICT development. Barriers can be defined as inhibitor factors exacerbating the effective and efficient development of ICT. Drivers can be defined as motivator factors leading the effective and efficient development of ICT. It is essential for an organization to understand the barriers and drivers for ICT development in order to maximise the chance of its success in development and implementation.

It is, however, necessary to recognize the generic and industry-specific barriers and drivers in this context. Such recognition provides a step ahead in ICT development planning by involving the right resources and personnel, and managing expectation of stakeholders in order to maximise the success rate of ICT development and implementation. In this chapter, the generic as well as the sectorial specific barriers and drivers, are summarised to provide its overview in diverse sectors.

The generic driver and barriers for ICT development (Pavic et al, 2006) were derived from a comprehensive literature review and interviews with managers. The manufacturing sectorial specific drivers and barriers for ICT development were derived from interviews with managers from manufacturing organizations in the UK. The service sectorial specific drivers and barriers for ICT development (Oldham, 2003) were derived from interviews with managers in service organizations. The learning and education sectorial specific drivers and barriers for ICT development were derived from the Queensland government, Australia, in 2002-2003. The agricultural sectorial specific drivers and barriers for ICT development (Sartain, 2003) were derived from a consultancy project in the agricultural sector.

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