

Chapter XIV

E–Technology: E–Business, Intranet, Extranet, Internet

Globalisation, modernisation and streamlining paradigms have driven many enterprises to use various e-Technologies in order to improve the performance of existing operations, and compete globally and strategically to enhance manufacturing enterprise competitiveness, which in today's digital economy, is often networked and interconnected via the Internet, Intranet, and Extranet. Examples of the e-Technology include e-Commerce, e-Business, e-Procurement and e-Logistics. These technologies are in place to support the notion of establishing a value-added e-Supply chain and e-Demand chain. The support of back-office systems, e.g. Supply Chain Management (SCM), Manufacturing Resource Planning (MRPII), Enterprise Resource Planning (ERP) are crucial to enable seamless information flow in the supply chain, whilst support from front-office systems, e.g. Customer Relationships Management (CRM), is important to coordinate the demand chain. Appropriate alignment of the e-Technology with the systems is expected to create further competitive advantages. Hence, e-Technology is a core competence in contributing to competitiveness in the digital economy. It is not merely a facilitating enabler, but a critical enabler towards globalization. (Ketikidis et al, 2006)

E-TECHNOLOGY DEFINED

Electronic-technology (E-technology) covers a diverse range of IT, IS, IT/IS and ICT used with the network architecture support of the Internet, Intranet and/or Extranet to assist personal, business, organisational and institutional activities. This ranges from the basic e-technology such as e-mail, to the intermediate one, such as an integrated payroll system (e.g. ERP), to the advanced e-technology, such as e-commerce or e-business.

It is out of the scope of this chapter to discuss the basic e-technology. The intermediate e-technology has been discussed in the previous chapter. This chapter will focus on the advanced e-technology.

WHAT IS E-BUSINESS?

There is a no universally accepted definition of e-business. Consequently the term e-business is used interchangeably (Fillis, 2003) and/or is mistaken (Lawson et al, 2003) with the term e-commerce and other related phrases. E-business means different things to different people (Searle, 2001), and the term has been variously defined. To make the term e-business clearly understood, in this book we adopted the definition from Kalakota & Robinson (2001).

E-business is the combination of strategies, technologies and processes to electronically coordinate both internal and external business processes, and manage enterprise-wide resources (Kalakota & Robinson, 2001). Chiu et al (2007) presented a common gateway service model for electronic business supply chain based on RosettaNet Standards. A prototyping system compliant with the model presented is built and installed as a gateway interface of digital firms and seamlessly integrate to the firm's backend information system to conduct the message exchange with its business trading partners. The result of experimental implementation in a firm's supply chain system shows that the service model can really assist the firm to streamline its flow of business data and create a higher value of supply chain with its suppliers in this digital era. Pavic et al (2006) examine what is needed for the transition of SMEs from an "old" traditional business strategy to a new "e" business strategy. The findings indicate that it may be possible for SMEs to integrate the Internet technology into an overall strategy and that this new technology could become a force for creating a competitive advantage. However, owners' attitudes towards new technology, the knowledge and skills of management and the workforce are recognised as potential problematic issues.

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