

Chapter XIII

Current Developments and Diffusions in ICT: ERP, SCM, CRM

Although Boeing and Rolls-Royce are operating in the same aerospace industry sector and use ERP, but the ways that they implemented their systems are completely different. Boeing uses big bang and treats ERP as a system implementation, whilst Rolls-Royce uses phased implementation and treats ERP as a philosophy. Both companies experience different outcome as a result of their approaches. (Koh, 2006)

Dell has a “build-to-order” business model that clearly integrates both supply and demand chains. That model has worked astonishingly well for Dell, its customers and its key suppliers. In fact, Dell could not do what it does if it designed and managed its supply chains and Customer Relationship Management (CRM) as separate technical entities. The “build-to-order” business value proposition demands an architecture that inherently integrates customers and suppliers. Yes, Dell has a “supply chain,” but it coevolves in the context of explicit customer demand. (Gunasekaran and Ngai, 2005)

ICT DEVELOPMENTS AND DIFFUSIONS DEFINED

ICT development can be defined as using combination of hardware, software, and network, the Internet and new concepts, to develop an information and communication system for information storing, retrieval, processing and sharing.

ICT diffusions can be defined as the uptake and wide spread of using ICT in certain context, e.g. in businesses.

These include the adoption of Enterprise Resource Planning (ERP), Supply Chain Management (SCM) and Customer Relationships Management (CRM) systems in businesses.

ENTERPRISE RESOURCE PLANNING (ERP)

In the 90s, ERP emerged as the most implemented, and sold as an enterprise solution to many enterprises across industry sectors around the world. Table 13.1 shows the applications of ERP around the world, as compared to SCM and CRM.

Large-scale enterprises were originally being targeted, but today's SME are in the league table, head-to-head with their counterparts (B2B) and shoulder-to-shoulder with their customers (B2C), to enhance their competitive advantage through ERP implementation. The large-scale enterprises are moving towards global integration and implementation through networking the entire business processes. Examples of these enterprises are Nestle Corporation and Rolls-Royce Plc. Figure 13.1 shows the modules in an ERP system (adapted from SAP R/3).

Modules in an ERP System

Boston-based Advanced Manufacturing Research (AMR) predicts the ERP market will reach USD69 billion by 2003 at an estimated compound annual growth rate of 32% (Angerosa, 1999). Table 13.2 shows the ERP market opportunity.

One of the main drivers of the emerging trend of SMEs implementing ERP systems is the pressure from the big player (their business customer). ERP systems enable orders to be made with a click away and performance to be monitored real-time. Many SMEs need to be equipped with this type of technology to provide a

Table 13.1. ERP, SCM and CRM applications

<i>The global distribution of enterprise applications</i>				
	ERP	SCM	CRM	Total
Latin America	5%	2%	1%	4%
Asia/Pacific Rim	10%	8%	6%	10%
<i>Europe</i>	31%	16%	17%	30%
North America	54%	74%	76%	56%
Source: adapted from AMR research, 1999				

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