Change Process Drivers for E-Business

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INTRODUCTION

The main focus of this article is a study of the transformation processes occurring in industry and business at large. It deals with the social and economic challenges and it explores the new concepts arising from an unprecedented technology revolution. In addition it sets the scene for a new era of industrial capitalism.

BACKGROUND

Over the last decade of the 20th century a large number of companies faced the future with trepidation while others lacked a good strategy (Ashkenas, 1997; Kidd, 1994; Possl, 1991). Many changes had taken place, including Just In Time (JIT) manufacturing and logistics, lean manufacturing (Womack et al., 1990), shorter product life cycles (Davenport, 1993), more intelligent approaches to IT (Drucker, 1992; MacIntosh, 1994; Nonaka, 1998), and costing (Ansari et al., 1997; Wilson, 1995), but making money was becoming more and more difficult. It was a time and climate for dramatic new approaches (Drucker, 1994; Goldman et al., 1995; Warnecke, 1993) with greater agility. New technologies were replacing old at a faster rate and information technology provided better management and control vision, albeit on a limited local scale (Arguello, 1994; Leachman et al., 1996; Makatsoris et al., 1996). And, push to pull manufacturing (Mertins, 1996) distinctly changed the approach to customers and service. Moreover, increased competitive and economic pressures resulted from the global reach of customers, manufactures and service providers keen to exploit the wealth of opportunities in both global markets and differences in worldwide regional markets (Bitran et al., 2003). Even players only operating in local markets (Bologni et al., 1996; Bonfatti & Monari, 2004; Zabel et al., 2000) could not resist the tide of change. As a result, many companies and economies (Hutton, 1995) were in a state of upheaval and as a consequence some fell by the wayside. This was a climate in which there was an uncertain outcome, and it was into this melting pot that the Internet and the World Wide Web (WWW) were to produce an environment for a much-needed revolutionary change in industrial approach. Later, broadband for landline and also wireless networking provided a much needed speedier access.

Businesses looked to the wider horizons and the dynamics of their supply chains as well as their markets to discover new ways of working with both customers and suppliers to grow and remain viable. The diverse industrial, commercial and operational practices and processes needed to be remolded. These targeted the collaborative aspects of external relationships to the advantage of company performance and the creation of new opportunities. This resulted in more and more use of new forms of communication and available multi-media. In this unsettled environment, once fear of change had been forced into the background, chaos became the domain of creative experimentation (Weiland-Burston, 1992). It is during this period of confusion and anxiety that the process of metamorphosis is taking place.

A surge of new software tool ideas have helped, including Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) (Chang et al., 2001), Customer Relationship Management (CRM) (Greenberg, 2002), electronic commerce (e-commerce), electronic business (e-business) (CEC, 2000) and new forms of enterprise, amongst many others. These have stimulated the reformation of business attitudes to the flow of goods, services, information and knowledge (Bouet & Martha, 2000; Hardwick et al., 1996; Introna, 2001; Johnston, 2001; Richards et al., 1997; Zobel & Filos, 2002).

THE CHALLENGE

ICT (Information and Communication Technologies) tools and systems are important enablers (CEC, 2000) in the

change process. They have played and will continue to play a major role in the emergence of new ways of conducting business and improving the economics of business. However, open global standards, protocols and interfaces, interoperable applications and platforms, trusted and sustainable infrastructure and compatibility between business practices have to be achieved before interconnection for broader based business is fully realized (Frick, 2000; Kidd, 2001).

The necessary social changes to business (McCarthy, 1996) are at least as significant as ICT. A web-like organizational network has emerged from the more loosely coupled supply chains. The value network and virtual enterprise permit new forms of communication, participation, leadership, and decision making to develop. In turn these create new economic balances, shared learning and procedures geared to people rather than institutions, in which ICT allows the collapse of space and time (Duttas, 2001; Franke, 2001). There is also resistance to change to be overcome (Deloitte & Touche, 2000; Hunziker & Sieber, 1999).

Three basic aspects to change have emerged, before smarter business is accomplished, to drive the change process and they are developing in parallel to carry business forward to the future:

- Organization: How organization and inter-company relations are developed to ensure greater collaboration; here meant as working jointly together, co-operating and co-ordinating, trusting each other, sharing information and knowledge where appropriate and refining the skills in the organization to cope with the economics, strategic aims, day-to-day operations and service excellence.
- ICT: How tools and systems are created, developed and introduced to ensure open, effective and efficient dynamic engagement between companies, using all the appropriate communication channels

Table 1. Some challenges to organizations

- Lack of awareness by very large sections of the business community:
    - How best to educate and train staff
- Lack of trust for successful e-business.
- Insufficient partners in an e-market.
- Lack of perceived benefit.
- Inequitable benefits:
    - How economics and risk are shared, which also takes into account a judgement of fairness.
- Lack of good business models.
- Limitation of collaboration to tier n suppliers.
- Needs to accelerate the business performance targets: for example--
    - Reduction of time to market;
    - Better precision for just-in-time production and logistics;
    - Provision of faster innovation cycles;
    - Working capital efficiency;
    - Increased resource utilization across the whole network;
    - Improvements to distributed inventory management;
    - Creation of new metrics for value network performance improvement.
- Demand for specialty products in small batches through intelligent automated production planning and logistics systems.
- Demand for astute fast mobile complex service engineering.
- Inter-company collaborative design of high-quality complex products.
- Lack of a standard business model for collaborative business.
- Lack of ability to manage and control large equipment/product integration produced in value networks to meet the necessary performance targets.
- Needs to meet the demand of mass customization and personalization through detailed models and processes and smart, agile order processing.
- Ability of companies to conceptualize a value network that is advantageous to them and to identify requirements for new skills, new metrics and changes to be made.
- Needs to have the ability to use shared knowledge and interpret shared information effectively among partners in a value network.
- How much transparency there should be between partners in a value network.
- Belonging to many value networks at the same time.
- Lack of standard business processes.