CHAPTER OVERVIEW

Continuous computing technologies are employed in order to achieve business continuity from the business operations perspective. In the same time, these technologies are the main prerequisite for business agility as agility relies on available information and “always-on” information system that generates it. Business Agility and relations with business continuity technologies are briefly explained in Chapter XIV.

INTRODUCTION TO BUSINESS AGILITY

The concept of business agility or enterprise agility is introduced. The main framework for achieving business agility by employing information technologies is presented in this section.

Business agility (enterprise agility) is a term that has been coined recently as a result of the agile manufacturing paradigm which emerged in the beginning of ’90s. Agility has several dimensions and contemporary businesses are seeking ways to become “agile organizations.” Since the emergence of the agile manufacturing concept, information technology (IT) has been considered as one of major agility drivers. Several IT-related technologies are employed in supporting both manufacturing and management processes. This section aims at identifying major IT-based agility drivers and their features that are critical for enhancing the enterprise-wide agility.
Enterprise agility is a term that is also used today in describing accepting and implementing the “agile” philosophy in modern organizations. Several definitions of the agility exist, depending on the standpoint of authors.

According to Sanchez and Nagi (2001) agility is characterized by cooperativeness and synergism (possibly resulting in virtual corporations), by a strategic vision that enables thriving in face of continuous and unpredictable change, by the responsive creation and delivery of customer-valued, high quality and mass customized goods/services, by nimble organization structures of a knowledgeable and empowered workforce, and facilitated by an information infrastructure that links constituent partners in a unified electronic network. Sharifi and Zhang (1999) define agility as a concept comprising of two main factors: i) responding to change (anticipated or unexpected) in proper ways and due time and ii) exploring changes and taking advantage of them as opportunities. Katayama and Bennett (1999) explore the concepts of agility, adaptability and leanness and study relationships between them. Phillips and Tulandhar (2000) use the term agility or “agile response” interchangeably with the term “flexibility” and propose a model for measuring organizational flexibility.

Several agility attributes are identified and the ways of achieving them are proposed in recent research publications. Information technology has always been considered as one of major agility drivers. Different IT-related technologies are employed in supporting both manufacturing and management processes.

Sharifi and Zhang (1999) define a hypotheses in their research which says the following: information system/technology in its utmost level of timeliness, coverage, communication ability, data banking and interchange, and so forth, is a major differentiator of an agile manufacturing company compared to traditional systems. Gunasekaran (1999) emphasizes the role of information technologies in an effective integration of physically distributed firms in agile manufacturing and lists several computer-integrated systems that could be used for AM such as (i) MRP II, (ii) Internet, CAD/CAE, (iii) ERP, (iv) Multimedia, and (v) Electronic Commerce. In addition to satisfying the traditional requirements, an agile enterprise information system must be able to be reconfigured in a very short time and should be able to include parts of information systems from other companies if a virtual corporation is required to meet the market demand.

Cheng, Harrison, and Pan (1998) presented an approach in implementing agile systems based on the integration of artificial intelligence and Internet technologies with the conventional design and manufacturing techniques. Huang, Ceroni, and Nof (2000) describe the impact of modern IT on distributed, networked enterprise systems through three categories: (1) speeding up activities; (2) providing intelligent and autonomous decision-making processes; and (3) enabling distributed operations with collaboration along communication networks, claiming that all
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