Chapter XII

Use of Situation Room Analysis to Enhance Business Integration Aspects of a Virtual Enterprise

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ABSTRACT

In this chapter, we present recent results of a wider research work in defining a methodological framework for situation room analysis (SRA) and its deployment for complex (business enterprise) systems study. Within this remit, we also consider virtual organizations as dynamic value constellations with certain challenges involved for realizing both business efficiency and technology integration. In our approach, we propose the use of ontologies as a powerful means to support the implementation of multiparty collaboration and decision-making activities that build on the paradigm of a situation room (SR). The approach described places heavy emphasis on the notion of Web technologies and their adaptation for achieving the IT enabled shift to this more efficient process orientation.

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INTRODUCTION: SETTING THE STAGE

In the world of business, changes in the working environment of enterprises are now driven by the needs of industry to respond in an agile manner to market forces, such as customer demands, increased competition, and shifting patterns of global trade, etc. This also requires a clear identification and redeployment of traditional business functions.

A major challenge for virtual enterprises (VEs) in that respect is the integration of their various heterogeneous organizational structures, information and communication infrastructures, and personnel. There also remains a need for greater understanding of how such virtual enterprises will operate in a “shared data/information/knowledge environment,” through distributed working approaches and based on the paradigm of using the SR metaphor as the core paradigm for carrying out joint operations.

According to Putnik (2000), there is not a universally accepted definition of the VE concept and he suggests at least two (main) approaches in VE concept definition, or specification:

“In the first approach the most important characteristic of the virtual enterprise concept is dynamic networking of enterprises [...]. The second approach emphasizes the ‘virtuality’ of the system [...] The VE is reduced to the simulation program.”

In the following pages we shall present achievements of wider research work in defining a methodological framework for situation room analysis (SRA) and its deployment for complex (business enterprise) systems study. Within this remit we also consider virtual organisations as dynamic value constellations with certain challenges involved for realizing both business efficiency and technology integration.

Furthermore, in our approach we propose the use of ontologies as a powerful means to support the implementation of multi-party collaboration and decision-making activities that build on the paradigm of a situation room (SR). The approach is complementary to others in the area of business planning and is characterized as top-down in that the SR paradigm is conceptualized through three related models: the situation room model (SRM), the information management model (IMM), and the situation analysis model (SAM). The ontology-based approach includes the semantic features of the exchanged decision-making information, thus offering the integration of the SRA framework with existing corporate decision-making grids.

As a means for facilitating formation and life cycle management of VEs, we made use of concepts from two key information research areas. These deal with information flow management and with the shift from a function orientation of enterprises toward a more efficient process orientation.

The approach described places heavy emphasis on the notion of Web and object technologies and their adaptation for achieving the IT-enabled shift to this more efficient process orientation. It covers specification, design, and conceptual realization of how information supply chains and routes can be organized and navigated across VE activities within the context of a branch independent model (i.e., independent of any particular domain specializations governed by respective domain-specific rules).

The harmonized combination of the concepts formulated in the SRA theoretical framework and their IT realization can be employed within the context of real-world
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