Chapter VI

Neural Data Mining System for Trust-Based Evaluation in Smart Organizations

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Abstract

Nowadays, many enterprises manufacture and distribute their products or services globally, and quite a number of smart organizations are formed on the Internet and are expected to evolve to a strategically important e-business model. Although information and communication technologies (ICT) and knowledge management plays an important role in linking the core and partner companies, it remains subservient to the humans that form the smart organizations. This chapter identifies two instances in which trust-based evaluations of partners in the smart organizations are applicable. A review of the literature indicates that neither researchers nor practitioners agree on a single model of interfirm trust that applies to all partner evaluation contexts. A decision-support system based on neural network and data mining technologies is proposed. A case example is given to illustrate a trust-based evaluation in real situation.
Introduction

Fostered by the rapid and ever-increasing pace of development of information and communications technologies (ICT), a new digital economy is emerging around the globe. In this new digital economy, small and medium enterprises will have more chances than ever before to play a role alongside the big players. Since the Internet is being adopted as the most important global communications infrastructure, and because global knowledge is becoming accessible by everyone with Internet access, the digital economy will be characterized by radically new forms of business relationships and will have a profound effect on the way we work and live.

The current business environment can be typified by continuous pressures to change and the shortening of product development times and product life cycles. Markets are fickle and strongly customer-led, with unrelenting pressures to bring down costs and to take advantage of innovative technologies. Many organizations look to new organizational structures such as the smart organization to enable them to cope with these changed conditions. As computers rapidly shrink in size, ICT are becoming ubiquitous and invisible. Organizations preparing to go digital need to recognize the implications this transition will have on their business processes and organizations as a whole. Besides setting up the digital infrastructure, organizations need to be able to:

- enter into virtual global internetworked collaborations
- manage transition and adapt quickly
- leverage human capital to optimize performance

In other words, organizations need to get “smart.” The characteristics of a smart organization (Filos & Banahan, 2000) adopted in the present context are:

- internetworked
- dynamically adaptive to new organizational forms and practices
- knowledge and learning-driven
- hierarchically flattened where the individual’s skills, intellect, and knowledge, are recognized, valued, and leveraged

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Critical Success Factors for the Implementation of Business Intelligence Systems
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A New Decision Making Model based on Factor Analysis (FA), F-ANP, and F-ARAS for Selecting and Ranking Maintenance Strategies