How to Transform the Information Infrastructure of Enterprise into Sustainable, Global-Oriented and to Monitor and Predict the Sustainability of Civilization: The Organizational and Social Aspects

Andrew Targowski, Western Michigan University, USA

ABSTRACT

In this paper, the author defines the evolution of the Classic Enterprise Information Infrastructure into Sustainability and Global Enterprise Information Infrastructure. However, this is not the end of evolution. Since Enterprise Systems operate within larger entities, such as Local, National, Global Information Infrastructures and these create the Civilization Information Infrastructure. The latter is the foundation for modern civilizations and the emerging Global Civilization, with repercussions for lower level infrastructures as well as World Civilization. If such civilizations want to survive, they must be able to monitor and predict sustainability in relationship with enterprises. In this paper, the author then gives recommendations for pathways to a sustainable future.

Keywords: Business Intelligence, Civilization Monitoring, Enterprise Information Infrastructure, Enterprise Systems, Key Performance Indicators, Management Dashboard, Sustainability Intelligence

INTRODUCTION

The purpose of this study is to define a concept how to transform a classic enterprise into sustainability and global-oriented enterprise, which will be economically vital, environmentally accountable, and socially responsible. Furthermore, such enterprise’s intelligence system should be integrated with national and civilizational levels of the Monitoring and Predicting Systems. The approach to solve these issues is based on graphic modeling the mentioned systems. As a result of this study, the
pathways to a sustainable future of an enterprise and civilization are offered.

CLASSIC ENTERPRISE INFORMATION INFRASTRUCTURE

The Classic Enterprise Information Infrastructure (C-EII) is illustrated in Figure 1. It contains 7 specialized layers, where the 6th and 7th Layer are the most visible for the end-users. A set of applications is evolving along with the development of IT concepts and business needs. In the 2000th it is based upon work from the office via in building, local, metropolitan, and national networks/infrastructures (LAN, LII, MII, NII) and from a home via a home network/infrastructure (HII) for tele-work.

The 7-Intelligence Layer is also an application layer, which specializes in managing of the whole enterprise with the support of Knowledge Management System, composed of Enterprise Data warehouse, Data Mining, Knowledge Database, and Management Dashboard, also known as business intelligence.

GLOBAL ENTERPRISE INFORMATION INFRASTRUCTURE

The Global Enterprise Information Infrastructure (G-EII) is the extension of the C-EII through the Global networks/infrastructure, as it is illustrated in Figure 2. The user-visible Layer 6 has applications more complex than applications of a classic enterprise, since they have

![Figure 1. The classic enterprise information infrastructure architecture](image-url)
The Selection of a New Student Administration System at University of Southland
Nelly Todorova and Julie Falls-Anderson (2007). *Journal of Cases on Information Technology* (pp. 16-29).
[www.igi-global.com/article/selection-new-student-administration-system/3210?camid=4v1a](www.igi-global.com/article/selection-new-student-administration-system/3210?camid=4v1a)

Extending Sociotechnical Design to Project Conception: Knowledge Communication Processes for Situating Technology
[www.igi-global.com/chapter/extending-sociotechnical-design-project-conception/54521?camid=4v1a](www.igi-global.com/chapter/extending-sociotechnical-design-project-conception/54521?camid=4v1a)

Enterprise Resource Planning (ERP) Maintenance Metrics for Management
[www.igi-global.com/chapter/enterprise-resource-planning-erp-maintenance/13758?camid=4v1a](www.igi-global.com/chapter/enterprise-resource-planning-erp-maintenance/13758?camid=4v1a)