An Academic Management Portal

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INTRODUCTION

E-management is a definition for a group of tools and actions used in the organizational steering based on data systems. E-management can make strategic planning more solid and valid using data and information on past performance provided by the management information system (MIS). E-management requires a meta-level data system through which the data produced by the basic operational data system can be modified, restored and merged for use in operational steering. The possibility of merge the operational and financial data is especially important.

This article describes how the strategic management and the balanced scorecard approach developed by Kaplan and Norton (1992, 1993) can be used as a basis of the MIS and an academic portal. The Balanced Scorecard translates the strategy into tangible objectives and measures. The implementation of the strategy can be continuously monitored openly by everyone in the organization. The trends and development of operations can be monitored and evaluated in order to make the changes necessary to achieve the desired strategic objectives.

The empirical case of this article illustrates the development and the usage of an academic management portal at Turku Polytechnic. It is the largest multi-disciplinary polytechnic in Finland, having more than 8000 active students, six multidisciplinary educational departments, 36 degree programs and 750 full-time employees. The polytechnics in Finland are professionally-oriented higher education institutions (HEIs) unlike the universities, which have a scientific orientation. The increased autonomy and greater accountability of HEIs emphasise the importance of strategic management and management tools to implement strategies.

A MANAGEMENT INFORMATION SYSTEM BASED ON STRATEGIC MANAGEMENT

Strategic management is a matter of mapping the route between the perceived present situation and the desired future situation (West-Burnham, 1994). Strategic management involves taking stock of the educational policy, local economy, and other factors in the organization's environment. It adapts the organization to its environment, but on the other hand, tries to exert a positive effect on the development of its local community.

The balanced scorecard approach is a framework for the communication and implementation of the strategy (Kaplan & Norton, 1996, 2001, 2004). The approach has been used extensively in Finnish HEIs (Kettunen, 2004, 2005). The Balanced Scorecard approach was introduced at Turku Polytechnic in 2002. It was followed by a thorough description of the management process starting at the beginning of 2004. The entire management process was described in detail during the development project to create the basis for the information system.

The MIS should include a description and measures regarding how the strategic objectives can be achieved. The balanced scorecard is easily left halfway due to the fact that the existing information systems do not directly support the approach. The balanced scorecard approach creates a shared understanding of the strategic plan, translates the plan into objectives and measures, and balances them usually into four different perspectives: customer, finance, internal processes and learning. The approach supplements the traditional accounting information. It does not only describe the monetary figures but also reports on the real course of events in the organization.

The concept of an MIS refers to the use of information technology in management, which is more specific than the term of a decision support system by Blanning and Bui (1999). Compared to earlier systems, the main difference of the MIS introduced in this article is the increased reciprocity and dialog between the users, decision makers and other stakeholders involved in the future planning and the goal to gain a stronger sense of collective commitment and open minded communication.

Our experiences show that tailoring all the necessary components of the MIS to meet the needs of the organization is important. A proper MIS presupposes modelling and

reshaping the entire management process, which is specific to each organization. Another point is that the strategic plans and tools to communicate and implement the strategies are also specific to each organization. The balanced scorecard may well be an inadequate tool due to the unreliable measures and troublesome calculations.

The purpose of the MIS project was to achieve a system for the exchange of knowledge within the organization. The purpose was also to stimulate dialogue within the organization, encouraging innovations and reciprocal open discussion about strategic issues. The information system and the unit of the supporting information services provide means of combining, transforming, and sharing the existing information. An advantage of the decentralized system is that members of the personnel at the various levels of the organization can see how they can contribute to the achievement of strategic objectives.

The MIS gives the organization a common language and codes that form the cognitive dimension of the organizational culture. More than 800 concepts were defined in the project during the description of the management process. Metadata were added to these concepts in order to give the users of the portal solid meanings for the issues, measures and concepts.

In capturing data from the diverse source system and storing them in the integrated database, the data warehouse approach turned out to be useful. Finally, an information system with an intranet portal was developed during the years 2004-2006. The new portal is open to the management and personnel of the HEI. It will increase the transparency of how the objectives will be achieved. The management process is supposed to enhance strategic dialogue and the commitment of the personnel to the chosen strategic outlines.

The communicating of large organizations is nowadays carried out through intranets. Data mining is an attempt to extract useful relationships from large bodies of data. The data can be collected from different levels of the organization and aggregated to the overall level. Data warehousing is the process of capturing data contained in an organization's various operational systems. The data from external sources (e.g., demographics, queries, registers, etc.) can optionally be added to the data warehouse and utilised for analysis and decision-making purposes (Darling, 1997). A rapid response is often necessary for decision makers in their ad hoc information requests.

THE DEVELOPMENT PROJECT IN E-MANAGEMENT

The introduction of the balanced scorecard approach to Turku Polytechnic in 2002 was followed by a view that the entire management process needed to be described in depth. The

description of the management process started at the beginning of 2004. During the description of the management process the self reflection resulted in the conclusion that the process needed some improvement. All the phases of the management process were described in detail and developed using flow diagrams and instruction documents.

Changes were made in the timing and agenda of the procedures and meetings included in the management process. The definition and development work produced the new management model, which describes the main aims, meetings, documents and time table of the management process tailored for Turku Polytechnic. The details of the management process can be aggregated to four sequential phases including objectives, resources, steering and results.

The whole management process is based on the principles of reciprocity, dialog, and flexible expert organization management, which refer to the values of the organization. The goal set for the development project was to create an appropriate, uniform, and open MIS to support the management process. It was important for the strategic planning and the implementation of the strategy to be appropriate and come across all levels of the organization from the institutional level to the level of the administrative units to the degree programmes and also the level of employees.

The main stages of the e-management development project were:

1. Evaluation, description, and reshaping of the management process
   a. Process specification of the management process
   b. Design of the document and report models of the management process
   c. Definition of concepts of the management process
2. Description, planning, and implementation of the MIS
   a. Planning of the information architecture
   b. Planning of the contents of process modules
   c. Definition of the process tasks and user roles
   d. Planning of the data transfer and warehousing
3. Design and production use of the portal
   a. Designing the computer screens of the MIS for the e-management portal
   b. Planning the contents of process modules
   c. Testing and demonstrations of the portal
   d. Incremental extensions to portal functions
   e. Evaluation of the management process, MIS and the portal
   f. Development of the portal functioning

The management process was evaluated, described, and reshaped for the MIS at the various levels of the organization. This phase of the development project produced a large chart

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