OBJECTIVES, TYPES AND EFFICIENCY FACTORS OF KNOWLEDGE MANAGEMENT PROJECTS
CILJEVI, TIPOVI I FAKTORI EFIKASNOSTI PROJEKATA UPRAVLJANJA ZNANJEM

Bojan Krstić
Faculty of Economics, Niš

Abstract - This paper emphasizes the relevance of knowledge as a vital organizational resource and factor of project management efficiency. As knowledge is complex, paper deals with knowledge management projects. In that aim, it explores objectives (types) and factors of efficient knowledge management projects.

Key words: knowledge, knowledge management project.

Sadržaj - U radu se akcentuje značaj znanja kao vitalnog resursa preduzeća i faktora efikasnog upravljanja projektima. S obzirom na komplexnost znanja preduzeća, govori se o projektima upravljanja znanjem. U tom cilju rasvjetljuju se ciljevi, tipovi i faktori efikasnosti projekata upravljanja znanjem.

Ključne reči: znanje, projekt upravljanja znanjem

1. KNOWLEDGE AS RESOURCE AND FACTOR OF EFFICIENT PROJECT MANAGEMENT

"We are living now in a knowledge based society", wrote once A. Toffler. Knowledge is important source of sustainable competitive advantage. The competitive advantage of firms depends on their ability to create, transfer, utilize and make it difficult to imitate knowledge assets. P. Drucker said that “knowledge is the only meaningful economic resource” [1]. The raison d'être of a firm is to continuously create and disseminate knowledge.

There are two basic types of knowledge: explicit and tacit. Explicit knowledge can be expressed in formal language and shared in the form of data, specifications, manual and such like. Explicit knowledge can be processed, transmitted and stored. Contrary, tacit knowledge is highly personal and hard to formalize. It includes subjective insights, intuitions and it deeply rooted in action, procedures, routines, ideals, values and emotions. Also, it is difficult to communicate to others [2].

Knowledge is information combined with experience, context, interpretation and reflection. Knowledge is a “structured information” or information is a simple form of knowledge. Efficiency of the firm depends on many kinds of knowledge: technological (or production) knowledge, market (or exchange) knowledge, etc. Organizing the production and commercializing products and services require specialized knowledge. This knowledge limits activities which may be undertaken efficiently by a particular firm. It may be called practical knowledge, which is used in making decisions and taking actions. This is a commercial knowledge and it is defined as an explicitly developed and managed network of imperatives, patterns, rules and scripts, embodied in some aspect of the firm, and distributed throughout the firm, that creates marketplace performances [3].

Organizational knowledge consist of organizational processes, systems, procedures, routines and structure. With organizational knowledge associate transactional difficulties. “Such knowledge cannot be moved into an organization without the
transfer of cluster of individuals with established patterns of working together. This is most frequently accomplished through personal relations or through alliances, joint ventures, mergers and acquisitions of business unit” [4]. Knowledge is acquired through a process of learning. Learning is the transfer of knowledge from one individual to others or the discovery of new knowledge. That is knowledge creation and includes: searching new information, selection of information, creation of concepts, frameworks and capabilities. Knowledge transfer includes: information transfer, thinking (reflection, reasoning, evaluation), the experience to test understanding [5].

2. TYPES OF KNOWLEDGE ASSETS

Knowledge assets are the inputs, outputs and moderating factors of the knowledge creating process. The management practice and theory do not have an effective system and tools for evaluating knowledge assets. “Existing accounting systems are inadequate for capturing the value of knowledge assets, due to the tacit nature of knowledge. Knowledge assets must be built and used internally in order for their full value to be realized, as they cannot be readily bought and sold. We need to build a system to evaluate and manage assets of a firm more effectively. Another difficulty in measuring knowledge assets is that they are dynamic” [2]. This mean, that new knowledge assets can be created from existing knowledge assets. Nonaka, Toyama and Konno gave four types (categories) of knowledge assets [2]: experiential, conceptual, systemic and routine. Experiential and routine knowledge are the kind of tacit knowledge, and systemic and conceptual knowledge are the kind of explicit knowledge. Experiential knowledge assets are difficult to grasp, evaluate, trade and imitate. It consists of: a) knowledge based on experience amongst the members of organization, b) knowledge based on experience between the members of the organization and its customers, suppliers and affiliated firms, c) skill and know-how of individuals, d) emotional knowledge (care, love, trust), e) physical knowledge (facial expressions, gestures), f) energetic knowledge (sense of existence, enthusiasm, tension), g) rhythmic knowledge (improvisation and entrainment). Conceptual knowledge is explicit knowledge articulated through images, symbols and language. Conceptual knowledge assets are easier to grasp then experiential. It consists of: a) product concept or designs (which are perceived by the members of the organization), b) brand equity (which is perceived by customers). Systemic knowledge is systematized and packaged explicit knowledge. It can be transferred relatively easily and consist of: a) explicitly stated technologies, b) product specifications, c) manuals and documents, d) documented and packaged information about customers and suppliers, e) intellectual properties (licenses and patents). Routine knowledge routinized and embedded in actions and practice of the organization. It consists of: a) know-how in daily operations, b) organizational routines, c) organizational culture. This typology has a significant role in process of knowledge management. Effective knowledge management is one of many components of good (project) management.

3. THE ELEMENTS OF KNOWLEDGE MANAGEMENT

AND TYPES OF KNOWLEDGE STRATEGIES

Knowledge management is the process of continually managing knowledge kinds to meet existing and emerging needs, to identify and exploit existing and acquired
knowledge assets and to develop new opportunities. Knowledge management has tactical and operational perspective. Its functions are planning, implementing, operating and monitoring all the knowledge-related activities. There are four elements (activities or phrases) of the knowledge management process [3]:

1. **Construction**: the “making”, discovering and structuring of knowledge through complex processes (creation, theft, reinterpretation);
2. **Embodiment**: the choosing a container for knowledge when it is constructed or the transforming a tacit knowledge into processes and practices, machinery, materials and cultures;
3. **Dissemination**: the distributing of embodied knowledge throughout a firm by human processes and technical infrastructure;
4. **Use**: the implementing of disseminated knowledge to particular problems with goal of production of commercial value for the customer or client.

Knowledge management is a segment of a broader area - intellectual capital management. Wig gave the five basic knowledge strategies [6]:

- Knowledge strategy as business strategy.
- Intellectual asset management strategy.
- Personal knowledge strategy.
- Knowledge creation strategy.
- Knowledge transfer strategy.

### 4. THE OBJECTIVES AND TYPES OF KNOWLEDGE MANAGEMENT PROJECTS

Davenport, De Long and Beers studied thirty-one knowledge management projects in twenty-four companies [7]. Table 1 represents some of knowledge management projects in study of these authors.

<table>
<thead>
<tr>
<th>Type of Business</th>
<th>Type of Knowledge</th>
<th>Primary objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-tech</td>
<td>Development</td>
<td>Capture lessons learned</td>
</tr>
<tr>
<td>manufacture</td>
<td>knowledge</td>
<td>Share experiences</td>
</tr>
<tr>
<td>High-tech</td>
<td>Educational offerings</td>
<td>Leverage knowledge of entire</td>
</tr>
<tr>
<td>manufacturer</td>
<td>Industry and consulting</td>
<td>firm</td>
</tr>
<tr>
<td>Consulting</td>
<td>Practice</td>
<td>Improve sales and service</td>
</tr>
<tr>
<td>Specialty chemicals</td>
<td>Product application knowledge</td>
<td>Reduce costs, improve returns</td>
</tr>
<tr>
<td>Chemicals</td>
<td>Patented knowledge</td>
<td>Provide access to experts</td>
</tr>
<tr>
<td>Knowledge services</td>
<td>Technical expertise</td>
<td>Improve access and awareness</td>
</tr>
<tr>
<td>Automobile</td>
<td>Competitive intelligence</td>
<td>Increase knowledge</td>
</tr>
<tr>
<td>Advertising/direct marketing</td>
<td>Client/campaign knowledge</td>
<td>awareness/usage</td>
</tr>
<tr>
<td>Software</td>
<td>Software development experts</td>
<td>Improve project assignment and</td>
</tr>
<tr>
<td>Electronic</td>
<td>Best practice</td>
<td>education</td>
</tr>
<tr>
<td>Bank</td>
<td>Lessons learned</td>
<td>Improve process performance</td>
</tr>
<tr>
<td>Engineering/Construction</td>
<td>Project designs and plans</td>
<td>Improved learning, avoid</td>
</tr>
<tr>
<td>Insurance</td>
<td>Intellectual capital</td>
<td>mistakes</td>
</tr>
<tr>
<td>Financial services</td>
<td>Office procedures</td>
<td>Make projects more efficient</td>
</tr>
<tr>
<td>Computer</td>
<td>Sales document</td>
<td>Measure and publicize</td>
</tr>
</tbody>
</table>

They identified 4 global objectives or types of knowledge management projects:

- **Create knowledge repositories**: Authors found three basic types of repositories:
  - a) external knowledge (competitive intelligence), b) structured internal
knowledge (research reports, product-oriented marketing materials, techniques and methods), c) informal internal knowledge (database of know-how).

- **Improve knowledge access or facilitating its transfer among individuals**.
- **Enhance knowledge environment** - This group of projects consists of projects that were trying to build awareness and cultural receptivity to knowledge (change the organizational norms and values related to knowledge), initiatives attempting to change behavior relating to knowledge, and improvement programs and reengineering the knowledge management process.
- **Manage knowledge as an asset** - An example of this practice is Skandia, Swedish financial services company, which audits its intellectual capital every year and gives it in annual report to stockholders. With the reporting format, of a one-page report of non-financial items emerged the Skandia Navigator. It is first attempt to visualizing intellectual capital [8].

5. **THE EFFICIENCY FACTORS OF KNOWLEDGE MANAGEMENT PROJECTS**

- **Davenport, De Long and Beers** tried to identify the major factors that contributed to effectiveness (efficiency) knowledge management projects [7]:
  - Link to economic performances (benefits) or competitive advantages,
  - Use technical and organizational infrastructure,
  - Standard, flexible knowledge structure,
  - Knowledge - friendly culture,
  - Clear purpose and language (terminology),
  - Change in motivational practices,
  - Multiple channels form knowledge transfer,
  - Senior management support.

Knowledge projects are effective when they are linked to economic performances (benefits) or competitive advantages. This is manifested through better management of company patents (reducing taxes paid on patents and in that way saving, increasing revenue through licensing of patents and intellectual property, improvement in measures like cycle time, customer satisfaction and other nonfinancial measures.

Knowledge projects are more likely to be effective when they use technical and organizational infrastructure. Technical infrastructure included technologies that are knowledge oriented (for example, Lotus Note, World Wide Web based intranets, etc). Another aspect of technology infrastructure is technology for desktop computing and communications (for example, network PC on every desk or in every briefcase with standardized tools like as word processing and presentation software.

Organizational infrastructure is connected to establishing a set of roles and organizational groups whose members have the skills to serve as resources for various projects.

Third relevant factor is flexible knowledge structure. This means that the structure of knowledge has to change according to current usage. Also, very important is the continual evolution of a knowledge structure. Manager of the knowledge base controls decisions about knowledge structure.

Knowledge friendly culture is one of the most important factors. It means employees and managers who have a positive orientation to knowledge, and ones who are not
inhibited in sharing knowledge. In addition, the knowledge management projects have
to be harmonized with the existing culture.

Clear purpose and language (terminology) is a relevant factor of effective knowledge
use. For illustration, “Chrysler is developing electronic “books of knowledge” in more
than 100 areas of automobile design. When an engineer asked to include crash-test
information, the manager of the repository encouraged him to turn the information
into knowledge by adding historical context, implications of the findings, comparisons
with other cars of competitors, and learning from the crash-test process. Such sources
of added value are an effective forms of information and data” [7, p. 53].

Motivation to create, share and use knowledge is a successful factor for knowledge
management projects. Motivational approaches should be long-term and should
consist of the general evaluation and compensation structure.

Multiple channels for knowledge transfer are very important for successful knowledge
projects because each adds value in a different way. The Internet and global
communicational systems help in face-to-face interaction and contact.

Senior management support is a crucial thing for knowledge projects. This support
includes that executives continually have to send messages that knowledge
management and organizational learning are very important for enterprise efficiency.
Also, they should provide funds and other resources for infrastructure (for example,
informational technology, educational and training programs, etc.). Executives must
clarify what types of knowledge are most important to the company and how to reach
that knowledge.

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