

Knowledge management in Europe – results from a European survey

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Abstract

This paper presents some empirical results from the first German Benchmarking Study on Knowledge Management with the survey of the TOP 1000 German and TOP 200 European companies. Cost and time reductions are reported as improvements from KM activities. Companies mainly start in R&D with KM. Critical success factors are corporate culture, processes and structures, human aspects and information technology.

Keywords

Knowledge Management, Business Processes, Information Technology

INTRODUCTION

In a continuously developing knowledge society the intellectual capital of a company becomes its most important resource. The stock market value of successful companies, such as Microsoft or SAP, is much higher than the book value. A decisive factor for this difference is the corporate knowledge that is, for example, made public in patents or databases, or contained in the heads of the employees.

In the nineties, innovative managers focused on the efficient management of these resources. The advantages of making use of these intellectual goldmines are enormous. Internationally operating companies, such as the oil company Chevron or the chemicals company Dow Chemical, save millions by applying internal knowledge effectively.

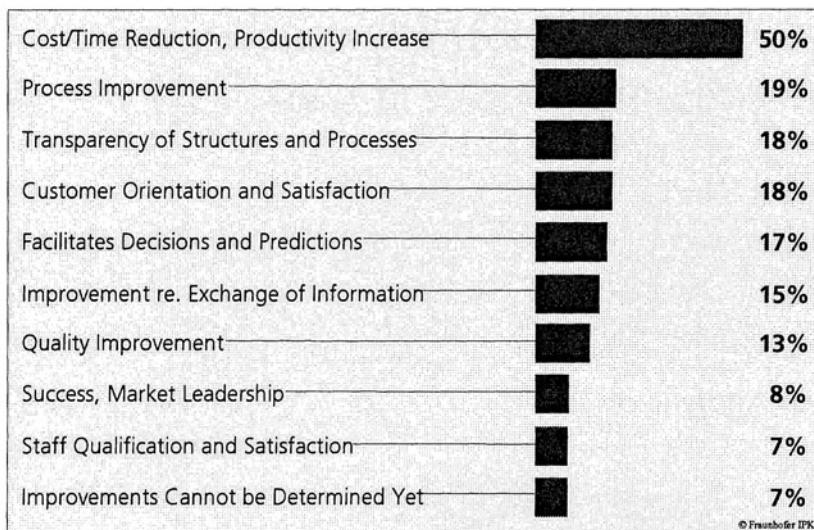


Figure 1 Improvements through Knowledge Management

The results of the present study confirmed the great potential for savings and improvements. Over 70% of the questioned companies have already attained noticeable improvements through Knowledge Management. More than half of these companies have thus saved time and money, or have improved the productivity. Almost 20% of these companies have either improved the processes, arrived at a better transparency of structures and processes, increased the level of customer satisfaction, or facilitated decisions and forecasts. The Information Center Benchmarking (IZB) at Fraunhofer IPK conducted the first comprehensive German Benchmarking study on the level of Knowledge Management. The study focused on the German TOP 1000 companies and the European TOP 200 companies. Previous studies on Knowledge Management had almost exclusively focused on North America and the UK. 144 questionnaires (12%) were returned. The leading industries, in this respect, are chemicals and pharmaceuticals, computers and telecommunications, media, consulting, and automotive and aircraft.

KNOWLEDGE MANAGEMENT AND BUSINESS PROCESSES

The Understanding of Knowledge Management: People and Processes

Nowadays, the term “Knowledge Management” is used increasingly often. However, the understanding of the term varies greatly. Our analysis of

publications until May 1998 revealed that technological concepts of Knowledge Management predominate. Early reports, however, emphasize the importance of human factors in the successful application of Knowledge Management. The results of our study revealed Knowledge Management is neither understood as a technological term, nor as an immaterial asset. It is understood as a part of the corporate culture and as a corporate approach: The sum of procedures that determine the generation, distribute and application of knowledge to achieve organizational goals.

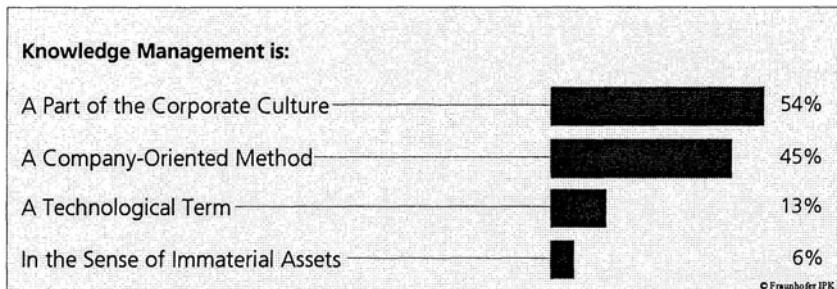


Figure 2 Understanding of Knowledge Management

Many companies also stressed in their understanding the process orientation and methodology of Knowledge Management:

- Knowledge Management is "a generic term for all activities that are carried out to optimize the creation, utilization, distribution, and storage of knowledge" (consulting company)
- For us, "Knowledge Management" is a collection of techniques to obtain an in-depth, dynamic perception of our business and its boundary conditions. Perception / knowledge / sensibility about our business is obtained not only by means of formal collection. (engineering company)
- Controlling the four dimensions: Content: Which knowledge is relevant for whom? Culture: How can one promote the exchange of knowledge? Process: With which processes can one manage knowledge? Infrastructure: Which medium of communication is suitable? (consulting company)
- The sums of procedures that serve to create, evaluate, distribute, and apply knowledge to attain predefined goals. (metal processing company)

Importance of Knowledge Management for Business Processes: Value-Adding Predominates

From the view of a company, Knowledge Management allows organizational goals to be improved. Therefore, Knowledge Management must be connected with corporate business processes. In this context, the importance of Knowledge Management for individual business processes is high.

The results showed that the participants thought Knowledge Management to be most important for the business processes Understanding Markets and Customers, Development of Products and Services, Management of Improvements and Changes, and Information Management. Due to the increasing customer orientation and fiercer competition, knowledge of customers and competition has gained utmost importance. The great importance of the business process "development of products and services" is due to the tight connection to the core activities "apply knowledge" and "create new knowledge". The value of the supporting business process "management of improvements and changes" reflects the increasing importance of identifying and distributing tacit and explicit knowledge, for example, best practices, ideas, and suggestions. The business process "information management" represents the technical infrastructure for the transportation and storage of data and information, i.e., the raw materials for knowledge.

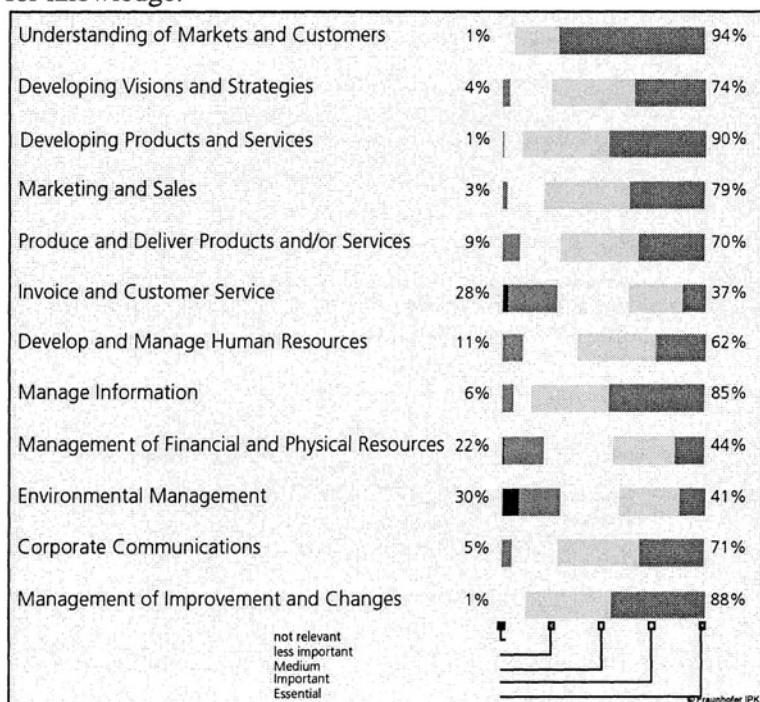


Figure 3 Importance of Knowledge Management in the Business Processes

Core Competences and the Beginning of Knowledge Management: Clear Relation

A central question of introducing Knowledge Management concerns the decision where in the company to begin with the systematic management of the resource knowledge: closely connected to the core competences in order to strengthen them, or at that point where one can expect quick success?

According to our results, more than two thirds of the companies described between two and five business processes as core competences. Only 3,5% of the companies did not define any core competence. These companies clearly described operative business processes as core competences.

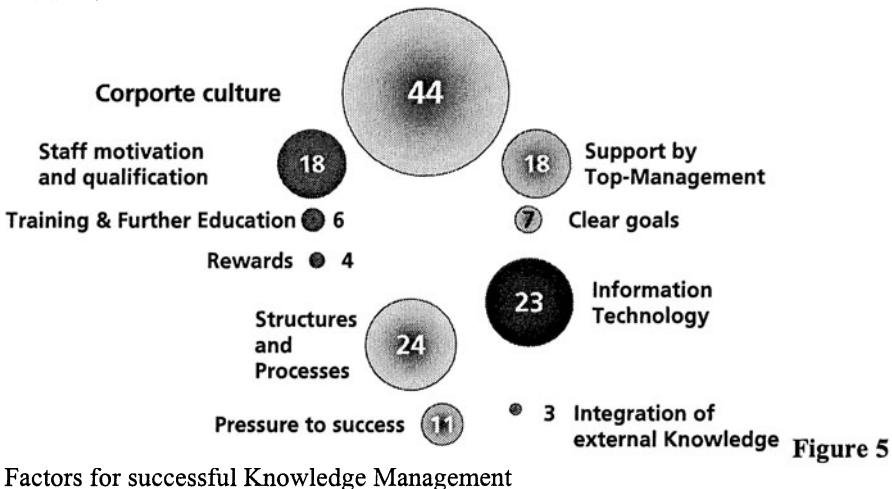
The results of the question as to in which business process Knowledge Management was started show a similar picture. About half of the companies began Knowledge Management in two or three business processes. About 20% of the companies concentrated on one business process, and only every eighth company included four business processes. The business process paid foremost attention to now is Developing Products and Services, not Understanding Customers and Markets anymore. The high number of companies that mentioned the business process Information Management signifies the importance the companies attach to this area when applying Knowledge Management. There is a clear relation between the core competences of a company and those business processes to which Knowledge Management is applied first.



Figure 4 Where companies started with Knowledge Management

THE DESIGN FIELDS OF KNOWLEDGE MANAGEMENT

The conceptualized design of integral Knowledge Management decides upon the quality of the core process. Apart from various operative instruments, methods and concepts it is particularly important to create a suitable environment for the design of Knowledge Management. This is done on a normative and strategic level. To design Knowledge Management, users have to describe connecting fields. The selection and relative weight of these fields are confirmed by this study impressively. The answers to the question "What are the essential factors of success for efficient Knowledge Management in this business process (evaluated by the company)?" were classified and categorized by the staff members of Fraunhofer IPK:



Factors for successful Knowledge Management

The distribution of answers reflects the importance the companies place on the different areas. The corporate culture contributes the most to the success of Knowledge Management (44%). The relatively high contribution of Human Resource Management is not that obvious at first. However, the addition of the categories "Staff Motivation and Qualification", "Training and further Education", and "Rewards" amounts to 29%. The aspect Leadership amounts to 25% with the categories "Promotion by Top Management" and "Clear Goals". Information Technology amounts to 23%, and the category Structural factors/external conditions, i.e. the process orientation to 24%. All companies that have been carrying out Knowledge Management activities for more than three years, i.e., about half of the interviewed companies, have placed slightly more importance on all mentioned success factors. In actual numbers this means that all categories increase by about 3

to 5% (for example, "corporate culture" to 49%, "staff motivation and qualification" to 21%). Only the category "information technology" does not increase.

THE CORE PROCESS OF KNOWLEDGE MANAGEMENT

According to the understanding of Fraunhofer IPK Knowledge Management can be divided into six core process activities. The stages „identify knowledge“ and „formulate knowledge goals“ trigger the process and control the dynamics. The other core activities as well as „create knowledge“, „store knowledge“, „distribute knowledge“, and „apply knowledge“ are understood as a cycle that is constantly reproduced.

Through their judgment of the individual core activities, the participating companies confirmed the relevance of our approach. More than 70% of the companies confirmed that almost all core activities were „very important“ or „essential“. The only exception was the activity „state knowledge goals“. Only 50% of the companies said that this activity was either „very important“ or „essential“. The lesser importance of this activity reveals that the companies may not use appropriate instruments. The biggest significance is attached to the activities „apply knowledge“ and „distribute knowledge“. More than 90% of all companies think that these activities are either „very important“ or „essential“.

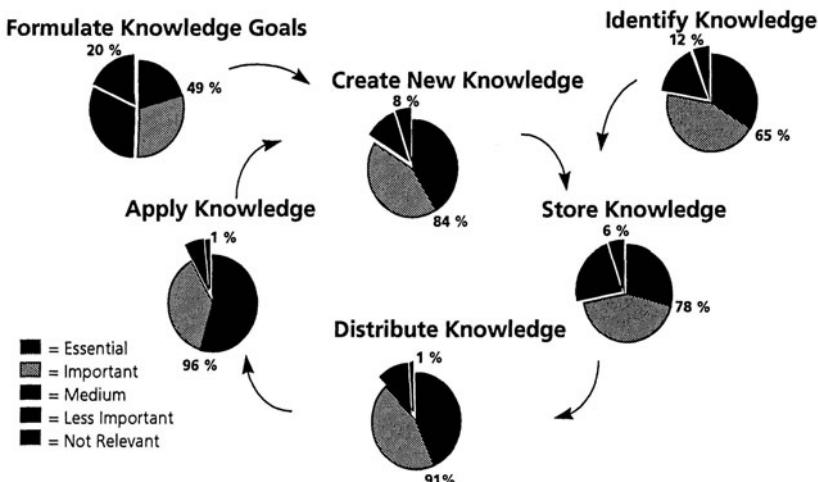


Figure 6 Importance of core tasks of Knowledge Management

BIOGRAPHY

Peter Heisig, Head of Competence Center Knowledge Management at Fraunhofer IPK studied social sciences at Göttingen and Vienna with research projects in Spain and Argentina. He joined the Fraunhofer IPK in 1990 and conducted research projects on tacit knowledge of employees in the metal industry. He initiated the First German Benchmarking Study on Knowledge Management sponsored by Continental AG, DASA MTU München GmbH, Eternit AG, Henkel KGaA, Merck KGaA and PSI AG.

Kai Mertins, Prof. Dr.-Ing., born in 1947, studied Control Theory in Hamburg and Economy together with Production Technology at the Technical University of Berlin. In 1978, he became member of the scientific staff of the University Institute for Machine Tool and Manufacturing Technology (IWF), Berlin. Since 1983 he had been head of the department "Production Control and Manufacturing Systems" at the Fraunhofer-Institute for Production Systems and Design Technology IPK (Chairman: Prof. Dr.-Ing. E. Uhlmann, honorary chairman Prof. Dr. h.c. mult. Dr.-Ing. G. Spur), Berlin, where he is Director of the Division Systems Planning since 1988.