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Abstract

This paper deals with Organisational Memory Systems (OMS) which are seen as a new kind of information systems. OMS result from the application of advanced database and network technologies to support Organisational Memory concepts and approaches. It is suggested to take Organisational Memory concepts as a vision for the future development of corporate Intranets.
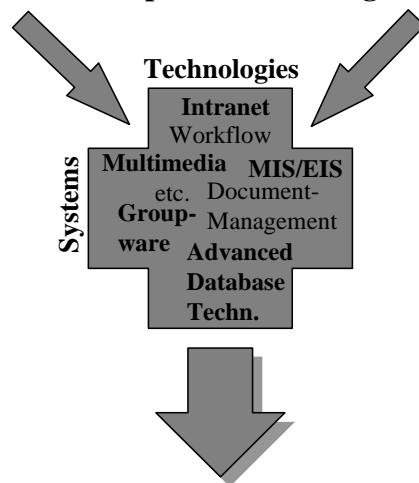
Motivation and Concept

Organisational Memory (OM) is a concept well known from organisation science and learning theory. Many approaches have been developed which claim to guide organisations to use their common or shared memory in a more efficient way. Existing approaches focus on organisational issues and consider the OM as a resource which has to be managed like capital or labour. With the advent of advanced database technologies (e.g. data warehousing, OLAP, data mining, knowledge discovery and bases, distributed data base systems, multimedia and hypermedia data bases and management support systems, like executive information systems or management information systems) and net technologies, especially the so-called "Intranet"- or "Web"-technologies, sound information technologies exist to support organisational processes of generating, institutionalising, retrieving and disseminating information. However, so far the OM approaches lack the integration of these technologies as means to support the respective processes.

Figure 1. Framework and Conditions for Organizational Memory Systems

The topic has taken on an intense sense of immediacy given the worldwide processes of restructuring in both economy and society. Relevant projects are already being carried out, especially in large corporations. Environmental dynamics and the pressure of competition that necessitate the development or the activation of new capabilities are paving the way for change. These adaptations occur automatically only in the rarest of cases, but presuppose (learning) processes. Important goals include elevating organizational efficiency and flexibility and overcoming growth limits. In times in which quantitative growth (e.g. through an increase in turnover, elevation of market shares, or the development of new markets) is only limitedly possible and the retention of the status quo is already viewed as successful, concentrating on qualitative dimensions gains increasing importance. One could look at this as an expansion inwards, wherein new or previously unused potential and strengths should be developed.

The authors believe that there are so far no "real" OMS-tools (Organisational Memory Systems) available and there possibly never will be an OMS-tool which covers the respective organisational processes on its own. "OMS-tool" stands for development tools or tool-sets, applications or application frameworks respectively. There are, however, technologies and even systems around which support certain aspects of the OM. The authors hypothesise that the integration of the tools and systems can play a crucial and beneficial role in improving a company's position in the competition with a clear focus on organisational learning projects. Thus in our understanding an OM system is a system which realises parts of the OM (also called organisational knowledge base) with the help of information systems and/or supports tasks, functions and processes closely related to the use of the OM (see Figure 1).

Analysis of Intranet Technologies Based on the OIP Model

Figure 2 shows the possible support of Intranet technologies for organisational information processes which are part of OMS. The columns contain the ten processes of the OIP model (organisational information processing) [cf. LeMa1998]. The rows contain the different Intranet technologies. The matrix fields reflect the expected support of each technology for each process. As an example we expect that individual learning can be strongly supported by decision support systems (DSS), executive information systems (EIS) and on-line analytical processing (OLAP) (++).

	Establishing info-sources	Individual Learning	Information Sharing	Institution-alisation	Action	"Feed-back"	Repack-aging	External Comm.	Internal Comm.	Culture
access and analysis technologies										
DSS/EIS/OLAP	0	++	0	0	+	+	+	0	0	0
data mining	0	++	0	0	0	0	+	0	0	0
data base interfaces and gateways	+	+	0	+	0	0	+	+	0	0
Intranet search tools	0	++	0	0	0	0	++	+	0	0
communication technologies										
massaging systems	+	0	++	+	0	0	0	++	++	+
chat systems	0	0	+	0	0	0	0	0	0	+
network news	++	+	++	+	0	+	0	++	++	+
electronic publishing	+	+	++	+	0	0	0	++	++	0
video conferencing	0	0	+	0	0	0	0	+	0	+
co-ordination and co-operation technologies										
workflow	+	0	0	+	++	+	0	0	+	-
groupware	+	0	++	0	0	+	0	0	+	+
security technologie										
firewalls	+	0	0	0	0	0	0	0	0	++
virus protection	+	0	+	0	0	0	0	0	+	++
electronic commerce technologies										
electronic payment systems	0	0	0	0	0	0	0	++	+	0
EDI	+	0	0	0	0	0	0	++	0	0
support systems										
on-line education and training	0	++	0	+	+	0	0	0	0	0
EPSS	0	++	0	0	++	0	0	0	0	0

Figure 3. The Support of Intranet-technologies for Organisational Information Processes
(Legend: ++ strong support, + weak support, 0 undecided or no influence,
- weak negative influence, -- strong negative influence)

Conclusion

Overall goal of our research work in the field of OM systems is to bring together the concept of OM and the technologies mentioned above. The corresponding main research question is whether the organisational approaches of OM can provide a theoretical framework for the integration of these technologies to support organisational information sharing. Our research work is still in progress. A comprehensive description of the research approach and first results will be published in [Lehn1998]. This paper reflects selected results from this work. There are, however, too many tools around which claim to support organisational processes of generating, institutionalising, retrieving and disseminating information. Therefore this paper concentrated on tools concerning "Intranet"- or "Web"-technologies. These tools are used as examples to show what support for OM systems can be expected today and what criteria future tools will have to meet. Currently we are carrying out two studies in Germany to investigate OMS in innovative companies and to find out which tools and systems are offered for the development of OMS.

References

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