



Infolution B.V.

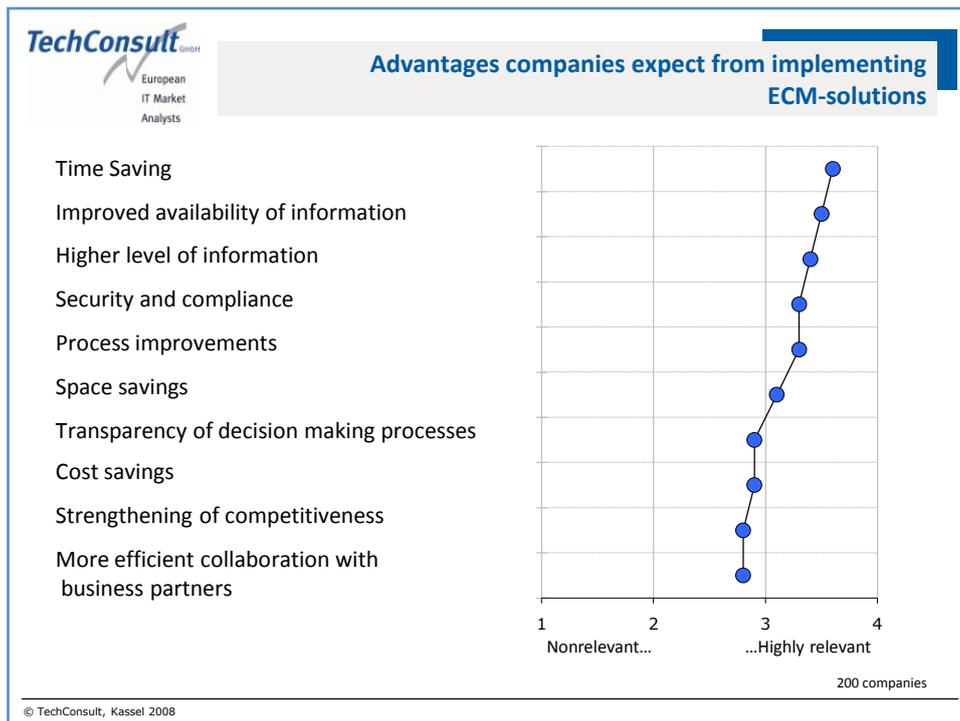
Semantic search with Infolution

A white paper written by TechConsult

Information Overload and its Challenges

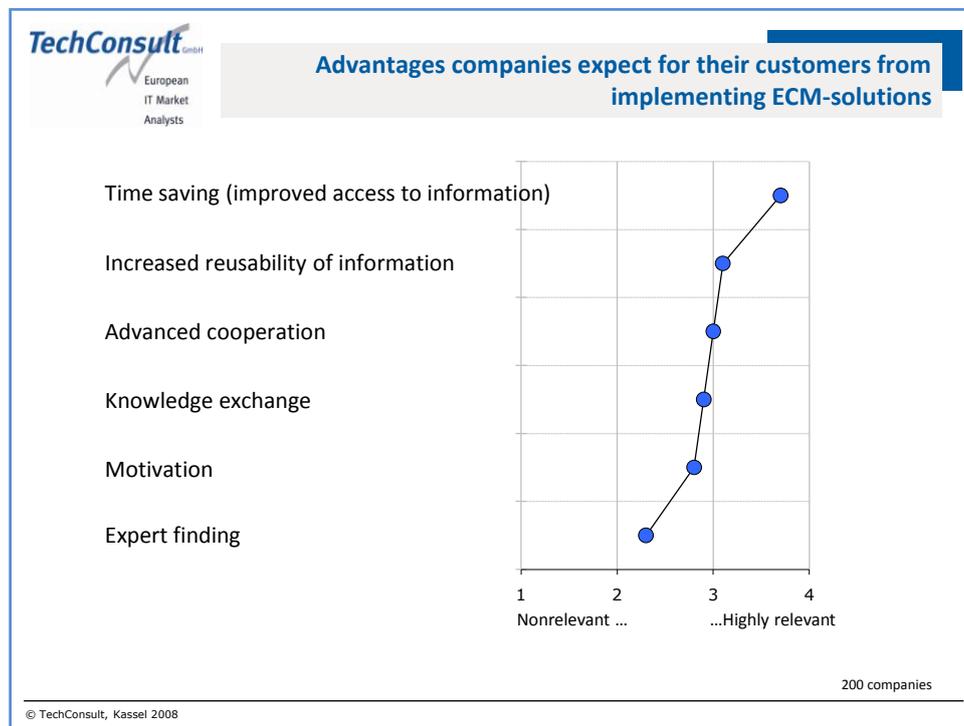
Information overload is proverbial and we already have trouble keeping our heads over water, given the reams of documents from various sources in diverse file formats. The end of information growth is unforeseeable. Numerous companies got hurt by the fact that knowledge has to be considered as being the fourth production factor (besides ground, capital and work) and, hence, a strategic competitive factor.

Not only the worst case scenario - loss of information due to quitting knowledge workers – can make a crucial impact on companies. Also, the decrease of productivity by reinventing the wheel all too often generates additional costs in today's vibrant and highly competitive markets and is therefore a major issue for almost all companies. Not only for big businesses, but also for small to medium-sized businesses (SMB), the adequate use of knowledge becomes more and more a core factor of success and is therefore crucial in order to stay competitive and highly innovative – even if more pragmatic needs like time-saving in context with Enterprise-Content-Management (ECM) and IT-solutions are at present in the limelight of most business objectives.



More often than not, the actually needed information only represents a small part of aggregate information spread throughout a company. The search for a specific information often turns out to be like looking for a needle in a haystack and requires a lot of both, time and resources. Needless to

say, companies focus on improving the availability of information when setting up their elementary demands on any ECM-solution.



New challenges and increasing requirements emerge even on employee-level. The half-life of knowledge decreases, based on fast product life cycles and market shifts. Due to new, inter-divisional and interdisciplinary working processes, people are forced to acquire skills in fields that have previously been totally foreign to them.

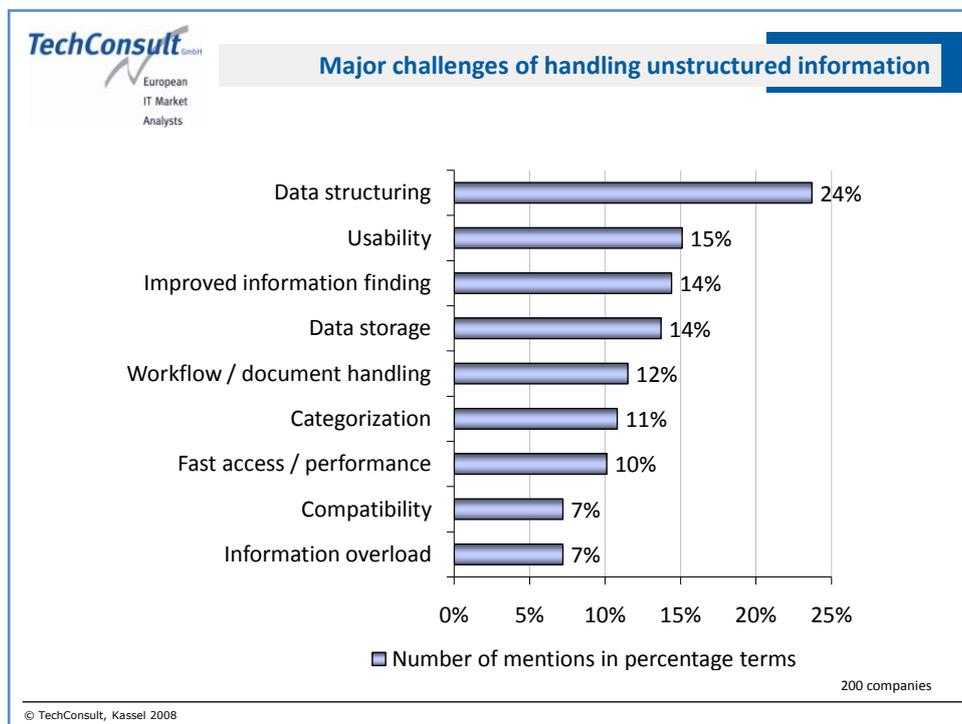
In order to face new emerging problems and demands, companies have to establish easy-to-use knowledge management applications that can easily be integrated into the workflow. It may be the only way to sustain people's motivation to try to keep up with the growing challenges they have to face. At this point, users have to analyze and to examine exactly which ECM-solutions may be appropriate for them, which strategy may be pursued and which technologies have to be implemented.

Possible solutions

In order to gain cost- and competitive advantages, one main objective of information technology has to be the optimization of knowledge management. It can be met through several ways, of which one may be a process oriented implementation of improvements: Existing knowledge is restructured and can be accessed more easily, e.g. by improved classification and structuring of information. For newly generated knowledge, additional processes are provided in order to simplify the future allocation and availability of knowledge.

Indeed, this may be a valid approach. Nevertheless, we are dealing here with a highly complex procedure that requires a lot of both, resources and discipline, hence makes it almost non-applicable in practice. Furthermore, it is possible that initially defined structures have already become obsolete until the implementation yields any useful result.

As an alternative, one can rely on the implementation of sophisticated search applications, accessing the unstructured stock of information. However, most of the currently available Enterprise Search Applications return 1000+ hits for a common full-text search and therefore don't provide any adequate help or solution to the problem mentioned above. Consequently, most users still consider the structuring of available data as being the only reasonable way to handle excessive amounts of information.



Alternative solution: Semantic search with INFOLUTION B.V.

Sheer keyword-search is not sufficient, as it returns too many and/or irrelevant results, without distinguishing between relevant and irrelevant hits. For example, when searching for the word "bishop", one usually has only one of the word's possible meanings in mind. A chess player, for instance, may not be interested in articles about some dignitaries in Latin America. On the other hand, a good article on chess may not necessarily contain the word „bishop“. This example illustrates how crucial a more sophisticated accessibility of information content truly is.

Ideally, a search engine can set contextual limits in order to generate a specific range of results, based on sophisticated algorithms that enable the program to recognize connections between several data out of heterogeneous sources.

In this context, INFOLUTION B.V. software offers a favorable solution. By using patented algorithms, INFOLUTION B.V. opens up the document's semantic content by assembling a network of concepts, ideas and meanings instead of creating a simple, one-dimensional index of words. Thereby, the true content of a text file becomes accessible – the applied process is similar to the human approach. One major difference results from the underlying categories which determine the semantic interpretation: these categories are managed dynamically, adjusting themselves to the underlying content, based on statistic analysis. The program is, based on the correlative occurrence of “contents”, able to deduce thematic contexts from the calculated data. Expensive maintenance work is no longer needed.

Search results are, inter alia, displayed as a semantic “cloud”, explaining the different correlations and providing related terms in order to enable users to go further into the content. These thematic connections are especially helpful, if, for instance, a specific search does not return any appropriate results.

Thematically related - but not equivalent - search terms may help users to get out of a dead end. By using these new suggestions, users can proceed with a thematic exploration and become more and more able to specify their interests.

Texts are automatically summarized in a preview, similar texts are being grouped and furthermore, it is possible to establish proactive notifications on topics in order to keep users up-to-date. Needless to say, the application can be integrated in virtually any existing intranet-platform.

Numerous fields of application

The fields of application for INFOLUTION B.V. software solutions are virtually unlimited.

A characteristic example for a **sector-independent use** of INFOLUTION B.V. software solutions can be found in the sales sector. Customers increasingly expect ad hoc solutions for increasingly vibrant product- and service industries. Additionally, today customers have a better knowledge about specific products and services, enabling them to ask more and more comprehensive questions. Employees only have a limited amount of time for customer inquiries or complex research in more or less structured and more or less up-to-date data bases – initially unsuccessful inquiries are therefore more often canceled before any useful information can be provided. With INFOLUTION B.V. software solutions, employees get easy and more convenient access to the entire information held in a company's portfolio and can therefore make a professional impression on customers. After all, by having access to any information regarding the company's wide range of products and services, cross-selling opportunities can more easily be discovered.

Sector-specific use for previously mentioned software solutions can be found in sectors that deal with highly sophisticated, value-adding products and services. Services like consulting and information brokerage are predestined for innovative and powerful search technologies. But even in other sectors and businesses like insurance companies or government agencies, where employees rely on voluminous knowledge data bases with permanently changing contents, companies would benefit from a higher performance due to the use of INFOLUTION B.V. software solutions, as well as the research and development sector with its permanently required access to gigantic amounts of unstructured information.

Other possible application scenarios could be found on internet portals for end-users, for example in the health care sector. Applications could guide users through the obscure jungle of technical terms and links in order to let them find the information they were looking for.

Conclusion

The potential of optimized knowledge management in any business sector is still significant and will grow simultaneously to the amount of information businesses have to deal with day-to-day.

Categorization and sorting is in a sense a Sisyphus-work and can not be considered as being an appropriate solution for knowledge management.

High-performance and innovative search technologies like INFOLUTION B.V. software solutions offer the access key to increasingly important knowledge resources and provide, particularly with regard to a cost-benefit ratio, tremendous opportunities.

About Infolution B.V.

Infolution is a search and retrieval specialist developing and licensing text processing software. Infolution provides scalable search and classification solutions to enhance the performance and intelligence of enterprises. The solution seamlessly integrates into information domains, which allow customers to instantly source and manage any business-critical information. Infolution is unique in that it processes, comprehends and retrieves concepts in the same way as humans do. Infolution is a platform and OEM company. Software vendors, solution providers and systems integrators build on top of us. By offering their clients the kind of intelligent, intuitive and ultimately satisfying search experience they have been denied until now, a commercial advantage and product differentiation is gained in an overcrowded marketplace.

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