Knowledge discovery methods

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Coping with complex and dynamic environments forces companies to invest in the re-source knowledge for the maintenance of their operational reliability; they have to create and to renew the resource knowledge continuously. Elementary activities of knowledge management comprise collecting, organizing, connecting, sharing, and applying of knowledge. A necessary prerequisite before the outcome of knowledge can be deployed and activities can be utilized is the availability of knowledge. Thus, creation and discovery of knowledge play a decisive role to increase the availability of knowledge assets of a company, the growth of corporate knowledge, the capacity to act, and finally, the effectiveness of companies. This paper contributes to the understanding of knowledge management through an exploration of different approaches of knowledge discovery methods. A detailed literature study forms the basis of this contribution and thus, it results in a selection of several approaches of different research domains, which seems to be appropriated for our purpose. In detail, we focus on following main approaches: developmental psychology and epistemologies, like the ways small children learn to discover the world (following Piaget) or inquiring systems (following Churchman), artificial intelligence methods, like data mining, the discovery of general world knowledge in texts, and the creation of knowledge structures and reusable structured semantic link networks. The findings comprise delimitations of specific paradigms, characteristics, and fields of application of knowledge discovery methods as well as similarities and interdependencies. We argue that the exploration of these methods is a necessary prerequisite to fill knowledge gaps , as the importance of the resource knowledge as a success factor increases continuously.