INTELLIGENT SUPPORT FOR EPIDEMIOLOGICAL RESEARCH THROUGH AN ORGANIZATIONAL MEMORY INFORMATION SYSTEM

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Organizational memory provides information about past experiences in order to improve the effectiveness and efficiency of organizations. This paper shows how organizational memory may influence the efficiency of a research activity. In survey-based research, new projects are seldom built on their successful predecessors due to inadequate retention of information and a poor record of past experiences. This paper proposes a framework for an organizational memory information system (OMIS) that addresses the problem of continuity in this type of research.

Epidemiology studies are based on surveys and suffer from lack of continuity. Such studies rely on complex concepts that are constructed as a combination of factors measured by questions that elicit unambiguous responses. The construction these concepts builds on the experiences of past surveys, relying on the history and evolution of the concepts. Documentation providing the reasoning behind the design of each survey can give an opportunity for future evaluation and improvement of questionnaires. This highlights the need to explicitly record expertise as a part of organizational memory.

The proposed framework for an OMIS ensures that the memory is updated and maintained while it is used to support ongoing epidemiological research. Such an OMIS provides a means for recording developmental, conceptual, and other supporting information, as well as knowledge and expertise gained from the research task: conducting surveys. The proposed framework incorporates some intelligent features for knowledge processing, reuse, and learning. Aspects of the framework are illustrated using a major Australian epidemiological project as a case study. The software resulting from the proposed framework will be used to explicitly construct an organizational memory for individual research units and has the potential to become an intelligent support tool for survey-based research across the discipline.