

# Toward a Natural Language-Based Approach for the Specification of Decisional-Users Requirements

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Authors         [Alzahrani, A.](#), [Feki, J.](#)

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Abstract

The number of organizations adopting the Data Warehouse (DW) technology along with data analytics in order to improve the effectiveness of their decision-making processes is permanently increasing. Despite the efforts invested, the DW design remains a great challenge research domain. More accurately, the design quality of the DW depends on several aspects; among them, the requirement-gathering phase is a critical and complex task. In this context, we propose a Natural language (NL) NL-template based design approach, which is twofold; firstly, it facilitates the involvement of decision-makers in the early step of the DW design; indeed, using NL is a good and natural means to encourage the decision-makers to express their requirements as query-like English sentences. Secondly, our approach aims to generate a DW multidimensional schema from a set of gathered requirements (as OLAP: On-Line-Analytical-Processing queries, written according to the NL suggested templates). This approach articulates around: (i) two NL-templates for specifying multidimensional components, and (ii) a set of five heuristic rules for extracting the multidimensional concepts from requirements. Really, we are developing a software prototype that accepts the decision-makers' requirements then automatically identifies the multidimensional components of the DW model.

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