On the Applicability of Rules to Automate Data Warehouse Logical Design

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Abstract. Data Warehouse logical design involves the definition of structures that enable an efficient access to information. The designer builds relational or multidimensional structures taking into account a conceptual schema representing the information requirements, the source databases, and non functional (mainly performance) requirements. Existing work in this area has mainly focused into aspects like data models, data structures specifically designed for DWs, and criteria for defining table partitions and indexes. This paper proposes a step forward on the automation of DW relational design through a rule-based mechanism, which automatically generates the DW schema by applying existing DW design knowledge. The proposed rules embed design strategies which are triggered by conditions on requirements and source databases, and perform the schema generation through the application of predefined DW design oriented transformations.