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Challenges and Interesting Research Directions in Model Driven Architecture and Data Warehousing: A Survey

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Abstract: Model driven architecture (MDA) is playing a major role in today's system development methodologies. In the last few years, many researchers tried to apply MDA to Data Warehouse Systems (DW). Their focus was on automatic creation of Multidimensional model (Start schema) from Conceptual Models. Furthermore, they addressed the conceptual modeling of QoS parameters such as Security in early stages of system development using MDA concepts. However, there is a room to improve further the DW development using MDA concepts. In this survey we identify critical knowledge gaps in MDA and DWs and make a chart for future research to motivate researchers to close this breach and improve DW solution?s quality and performance, and also minimize drawbacks and limitations. We identified promising challenges and potential research areas that need more work on it. Using MDA to handle DW performance, multidimensionality and friendliness aspects, applying MDA to other stages of DW development life cycle such as Extracting, Transformation and Loading (ETL) Stage, developing On Line Analytical Processing(OLAP) end user Application, applying MDA to Spatial and Temporal DWs, developing a complete, self-contained DW framework that handles MDA-technical issues together with managerial issues using Capability Maturity Model Integration(CMMI) standard or International standard Organization (ISO) are parts of our findings.