3. A Framework for Evaluating the Quality of Conceptual Models - [Masters]

Conceptual Models (CMs) are central in almost every Information System (IS) as the quality of the end-system depends on the quality of the CMs [1], i.e., CMs are being used for ISs analysis, design, and facilitate the development of such ISs to meet stakeholders' requirements. Despite this, there are no generally accepted guidelines/practices for evaluating the quality of CMs [2], nor generally agreed-on quality measures for such evaluation [3]. Accordingly, it is still not clear what constitutes a ``high-quality'' CM [3,4]. That is why conceptual modeling is still considered an ``art'' rather than a mature engineering discipline [2]. Although there is an international standard for evaluating software systems [5], no equivalent standard for evaluating the quality of CMs has been proposed. However, several frameworks (e.g., [1,2,4,6]) have suggested various aspects (e.g., simplicity, relevance, completeness) that can be used for evaluating the quality of a CM.

This thesis aims to tackle this problem by proposing an approach for evaluating the quality of conceptual models. This will be achieved by (1) reviewing and analyzing relevant literature to identify key quality aspects/attributes (e.g., simplicity, relevance, completeness) of CMs; (2) specifying appropriate criteria for the assessment of each of them; (3) evaluating the proposed approach with CM experts and by applying it to a real/realistic case study/scenario.

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