

A Self-Service Supporting Business Intelligence and Big Data Analytics Architecture

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Abstract. Self-service Business Intelligence (SSBI) is an emerging topic for many companies. Casual users should be enabled to independently build their own analyses and reports. This accelerates and simplifies the decision-making processes. Although recent studies began to discuss parts of a self-service environment, none of these present a comprehensive architecture. Following a design science research approach, this study proposes a new self-service oriented BI architecture in order to address this gap. Starting from an in-depth literature review, an initial model was developed and improved by qualitative data analysis from interviews with 18 BI and IT specialists from companies across different industries. The proposed architecture model demonstrates the interaction between introduced self-service elements with each other and with traditional BI components. For example, we look at the integration of collaboration rooms and a self-learning knowledge database that aims to be a source for a report recommender.

Keywords: Business Intelligence, Big Data, Architecture, Self-Service, Analytics

1 Introduction

Companies' market capitalization generally consists of enormous amounts of data available to them. However, several companies struggle to use these large amounts of data for analysis or for a decision support as data is often not easily accessible to business users [1]. Business Intelligence (BI) describes the process from collecting data to a fact-based decision support. This decision support is extending from strategic questions into operational environments [2]. This leads to the demand to enable more users to use BI systems. Many companies have to make these decisions in a time-critical environment, which increases the need for a faster technical infrastructure. It is crucial to consider the time a department needs to access the relevant information. Self-service BI (SSBI) provides a solution to these demands. SSBI aims to "empower casual users to perform custom analytics and to derive actionable information from large amounts of multifaceted data without having to involve BI specialists. Power users, on the other hand, can accomplish their tasks with SSBI more easily and quickly than before." [3]

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