Business Intelligence and Analytics Cost Accounting:  
An Empirical Study of the Perceptions of Stakeholders and Their Implications

Raphael Grytz, Paderborn University, Paderborn, Germany  
Artus Krohn-Grimberghe, Paderborn University, Paderborn, Germany

ABSTRACT

As data driven decision-making using business intelligence and analytics (BI&A) becomes standard in companies, the importance of mitigating the accompanying growth in costs increases. Research shows that the increasing transparency of individual BI&A artefacts such as reports or analytic applications is necessary, but in practice and implementation lags behind. This article addresses the status quo for three types of stakeholders: users, developers, and managers. The results show where a strong need for action exists and this article identifies challenges for further research. These findings indicate that managers see BI&A cost accounting as having a high potential benefit - and believe the degree of implementation to be higher than other stakeholder types do. The authors identified comprehensibility as an important factor for user acceptance of BI&A cost accounting systems; this could be supported by a service-oriented approach. The authors conclude that BI&A professionals have to consider these different perceptions and their implications in order to gain traction for BI&A cost accounting.

KEYWORDS


INTRODUCTION

To compete successfully in the marketplace, it is becoming increasingly important for an enterprise to utilize the full potential of data-driven decision support that Business Intelligence & Analytics (BI&A) promises (Moss & Atre, 2003). Chen et al. (2012) define BI&A as “the techniques, technologies, systems, practices, methodologies,
and applications that analyze critical Business data to help an enterprise better understand its business and market and make the timely decisions it needs”. In most enterprises, an internal department for BI&A, which in most cases is organized as a BI Competency Center (BICC) (Miller et al., 2006), provides this information through a company-specific BI&A architecture and organization. Today, the benefits of BI&A are undisputed and it has reached most enterprises. To achieve more flexibility and scalability, organizations are now looking for new sources of potential e.g. from reducing costs or increasing the speed of implementation. These are just the kinds of improvement promised by BI in the cloud or BI as a service (Kazeli, 2014).

While current discussions in the field of BI&A are dominated by potential benefits of big data (Baars et al., 2014; Kaisler et al., 2013), the costs of establishing and maintaining BI&A systems are often overlooked. Due to complex architectures (Horakh et al., 2008), in addition to the high speed of innovation in technology and methods (Chen et al., 2012), the costs of BI&A have recently increased. The costs associated with such systems need to be transparent to management to allow for correct business decision-making (Moss & Atre, 2003). This is especially important during times of increased global competition (Gibson et al., 2004; Lönnqvist & Pirttimäki, 2006).

We believe, this lack of cost transparency is a significant driver for increasing BI&A costs. If customers are not paying for BI&A resources, then they have no interest in saving money for the company. To increase consciousness, customers have to pay the cost for services they demand. Payment must then be charged without this billing disproportionate costs. Besides being cheap and efficient, such an accounting system is fair inasmuch as service consumers have to pay for the costs they cause (Grytz & Krohn-Grimberghe, 2017b). Additionally, without such a system, outlay cannot be priced reliably; this is true for the company’s entire BI&A investments as well as individual applications within the BI&A department. Although companies are looking for new outsourcing opportunities, e.g. delivering BI&A as a service (Baars & Kemper, 2010; Hagerty et al., 2012), without cost transparency any outsourcing decisions with respect to specific parts of a BI&A landscape cannot be evaluated. Furthermore, it is difficult to locate potential for improving efficiency and productivity, for planning the use of resources, and for justifying it to management. With improved cost transparency, a BI&A department can locate cost savings and cost drivers.

The necessary cost transparency can be provided by a BI&A cost accounting system. Such a system can be used as a managerial instrument which delivers information about value streams and for planning, controlling and monitoring all tasks in the BI&A organization (Hamel et al., 2010; Kaplan & Cooper, 2005) in a fast, efficient, and data-driven way. Current research on BI&A cost accounting regarding management objectives and design principles (Epple et al., 2015) shows the importance of this topic on a managerial level. Furthermore, the first realistic implementation guidelines (Grytz & Krohn-Grimberghe, 2017a) for a BI&A cost accounting system are available. (Grytz & Krohn-Grimberghe, 2017a) represent the BI&A infrastructure and organization as a computational abstraction layer by applying the theory of service computing (or service-oriented computing) (Bouguettaya et al., 2017), which makes
A Contribution to the Specification of Model Transformations with Metamodel Matching Approach
www.igi-global.com/article/a-contribution-to-the-specification-of-model-transformations-with-metamodel-matching-approach/204369?camid=4v1a

The Application of FOOM Methodology to IFIP Conference Case Study
www.igi-global.com/chapter/application-foom-methodology-ifip-conference/28112?camid=4v1a