BI’s Impact on Analyses and Decision Making Depends on the Development of Less Complex Applications

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ABSTRACT

This paper addresses where BI developers have failed to create applications suited for the common end-user and provide a conceptual roadmap to address these shortfalls. It is argued that BI’s impact on analyses and decision-making depends on the development of less complex applications. Research conducted for this paper finds that BI lacks a common definition and standard, that BI tools are too complex for the common user, and that a shortage of analytical literacy relevant to BI among business professionals is a barrier to BI adoption. The paper suggests that until BI analysis tools become more “human-centric, design-oriented” and less from a “technology-centric, engineering-oriented perspective”, BI will continue to fail in its objective to routinely improve business decision-making.

Keywords: BI Adoption, BI End-Users, BI Tools, Business Intelligence, Decision-Making, Definition of BI, Management and BI

INTRODUCTION

This paper examines the commonality in defining BI has led to the development of BI applications that have failed to appropriately consider the types of people performing the analysis. Analysis tools are critical for employees from all levels of an organization. However, analytical efforts are often hindered by BI tools that are “too complex for wide-spread use” (Harris, 2010). The scarcity of business analysts combined with the lack of training and skill set of most common users impedes businesses from being able to take advantage of the available sophisticated BI tools (Kelly, 2009).

According to recent estimates, 20% of BI end-users can be classified as power users which typically have both the academic training and experience to maximize the analytical tools of most BI applications. For the other 80%, which range from the most senior level to the most junior, not only do they lack the experience but also the knowledge to merely interface with the tools. Additionally, the various layers of complexity additionally frustrate users to the point of creating their own impromptu analysis tools which often leads to more than one ver-
sion of the truth. Having multiple versions of the truth further denigrates the propensity for an enterprise to harness the potential of both its human and asset capital (Harris, 2010).

Maximizing the full potential of BI begins with first defining BI then designing applications that are equivalent to that definition. By incorporating a uniformed characterization of BI, “discussions…could be made more consistent and constructive [focusing]…on what matters – outcomes” (Herschel, 2010). This would help to concentrate application design efforts towards outcomes rather than building the infrastructure of data that falls short on engaging the “human-computer interaction that possesses intelligence: the human half” (Few, 2006, p. 1).

Due to BI not having a standardized definition, various interpretations from academia to IT contributes to a general misunderstanding of not only what BI is but also what it is supposed to be when it is simply about “using data and data analysis to understand and manage your business” (Davenport, 2010). Variations of defining BI has led to designing complex applications that “are some of the most difficult to use relative to a variety of technologies” (Howson, 2010, p. 1). The complexities in these applications have made it even more challenging to find a qualified work force suited to use BI for analysis.

As companies have discovered, having powerful, analytical BI applications means nothing without the kinds of people that have the “patience, aptitude, or interest to become proficient in BI software, learn how data is structured, or how to do statistical analyses” (Lucker, 2010). Training is a critical need for end-users to maximize the value of “sophisticated applications…that essentially the users are not taking advantage of [owing to a lack of training]” (Kelly, 2009).

One of the biggest issues that hinder end-users from using BI to impact analyses and decision making is because “BI tools are considered hard to difficult to use, with largely unappealing interfaces” (Howson, 2010, p. 1). Research confirms that the design of BI applications is preventing a wider adoption of BI despite the critical role it can play in discovering new opportunities and supporting more of a scientific approach to decisions (Howson, 2010, p. 3).

**RESEARCH**

**Why Does BI Lack a Common Definition?**

In 1958, the term Business Intelligence was first used by Hans Pete Luhn in an IBM Journal and defined as “the ability to apprehend the interrelationships of presented facts in such a way as to guide actions towards a desired goal”(Luhn, 1958). However, it wasn’t until Howard Dresner, a Gartner fellow, defined BI in 1989 as “concepts and methods to improve business decision making using fact-based support systems” that it started to become a more commonplace term (Martens, 2006; Few, 2010). Herschel (2010) argued that BI was often losing sight of its ultimate objective. He defined BI as “the application of data, technology, and analytics to gain insight and knowledge that enables decisions about people, processes, products, and services that yield positive economic outcomes for the firm.”

Standardizing a definition of BI is an important first step in eliminating misunderstanding of BI. However, attempts to more distinctly classify BI vary with individual interpretations that “[seem] to depend heavily upon your particular perspective or training” (Klimberg & Miori, 2010, p. 2).

In the early 1990s, the data warehousing industry began to use the term BI to “breathe new life into the data warehousing industry” and promote its products while regenerating interest in the technology. However, rather than developing methodologies and applications to bring Dresner’s vision to fruition, the focus remained on building infrastructure instead of “activities that actually made sense of information and use it to support better decisions” (Few, 2010). As a result of BI emerging from the data warehousing industry, early initiatives were often costly resulting in “large unused data
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