What is Business Intelligence?

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ABSTRACT

There has been growing corporate interest in business intelligence (BI) as a path to reduced costs, improved service quality, and better decision-making processes. However, while BI has existed for years, it has difficulties reaching what specialists in the field consider its full potential. In this paper, the authors examine disparities in how the constructs of business intelligence are defined and understood, which may impede an understanding of what BI represents to business leaders and researchers. The main objective of this study is to clearly understand this emerging concept of BI. In this regard, the authors analyze articles from the scientific and professional literature to have a comprehensive understanding of business intelligence as both a product and a process. This research proposes a global overview of the conceptual foundations of BI, which can help companies understand their BI initiative and leverage them to the strategic level.

Keywords: BI Governance, Business Intelligence, Competitive Intelligence, Data Analyses, Data Warehouse, Information Management, Intelligence, Strategic Intelligence

INTRODUCTION

Organizations are facing important challenge in today's competitive environment. It cannot be disputed that information has become a source of major competitive advantage in today's business world. The main objective of BI is to support managers in their decision-making process. Simply put, managers need better information and data in order to make better decisions (Jordan & Ellen, 2009). Business intelligence allows managers to make informed and intelligent decisions regarding the functioning of their organization. Informed decisions lead to better, more efficient processes in the actual work environment, and help create a powerful competitive advantage. BI is an important as-pect both business managers and IT managers need to be aware of and use it as a source of competitive advantage.

Business intelligence has been described as one of the top 10 priorities of CIOs for the next five years (Luftmann & Kempaiah, 2008). Even if the expression "business intelligence" is almost 20 years old (Marren, 2004), it is only recently that organizations have become more deeply involved in exploring the concept. In the early 1980s, the concept of executive information systems (EIS) emerged to support upper-level managers and executives in their decision making. Since then, reporting and analyzing capabilities have evolved from static systems to dynamic multidimensional reporting systems, trend analysis, drill-down capabilities, and artificial intelligence analysis. Today, many

BI tools include these features to support decisions across the organization.

This multiplicity of technologies related to BI, and the variety of innovations and concepts attached to business intelligence concept provides real challenges to the definition of the new concept. For managers, this situation creates specific problems related to determining a clear definition of BI, gaining consensus on business rules related to BI, establishing quality expectations defining success, and more globally managing people and resources (Jonathan, 2009). Indeed, we observed that the scope of BI is poorly understood and defined by both academicians and managers. Concepts like a competitive market or strategic intelligence, the data warehouse, business performance management and data mining are frequently used when talking about BI. In some situations, these terms are used as synonyms of BI. For example, Vedder et al. (1999) stated that competitive intelligence is a synonym for BI when they wrote "*competitive intelligence, also called business intelligence* […]." We believe that using different terms to explicitly discuss specific but different concepts related to BI creates confusion in the literature and therefore confusion in the interpretation of results.

Moreover, we have observed that researchers in the field have defined BI using many different definitions, each one with a particular orientation that best suited their particular study. Various stakeholders such as consultancies, software vendors, practitioners, and the scientific community have used the term business intelligence rather vaguely to describe processes and systems dedicated to the systematic and purposeful analysis of an organization and its competitive environment. For example, Glaser & Stone (Glaser & Stone, 2008) refer to BI as the "IT platform and tools used to gather, provide access to, and analyze data about organization operations and activities. The platform is composed of a set of information technologies that are often represented as tack-one technology set on top of another. Starting at the base, the following technologies are present: Infrastructure, Data acquisition, Data integration, Data aggregation and storage, Data analyses and Portals". However, for Azvine et al. (2005), BI is all about how to capture, access, understand, analyze and turn one of the most valuable assets of an enterprise — raw data — into actionable information in order to improve business performance (Azvine, Cui, & Nauck, 2005). As a third example, Negash defines BI as a system that combines data gathering, data storage, and knowledge management with analytical tools to present complex internal and competitive information to planners and decision makers (Negash, 2004).

Even if these three definitions seem similar, they do not correspond exactly to the same concepts. Indeed, the definition of Glaser and Stone (2008) is leaning towards the technological aspect of BI, while Azvine et al. (2005) and Negash's (2004) definitions have a more managerial aspect. Moreover, Negash's definition has a broader view of the scope of business intelligence since knowledge management and competitive intelligence are included in this last definition.

We are convinced that this multiplicity of definitions helps create confusion around what BI is. We concur with Barki et al. (2008) that conceptualization and measurement of constructs can provide great opportunities to advance information systems research and practice through a better understanding and explanation of interesting and important phenomena. Therefore, we think it is important to explore what should be considered as BI. In other words, we believe a good understanding of the concepts related to business intelligence explained in a process that includes most of the components linked to BI is essential for both managers and academicians.

Therefore, the primary objectives of this paper are to facilitate the understanding of business intelligence, disentangle some terms related to BI, and explain their association with BI. We wanted to develop a better understanding of what should be considered as business intelligence. We first propose a definition of business intelligence that builds on the existing literature and synthesizes it into a coherent

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