

Emerging Market Queries in Finance and Business

## Business intelligence solutions for SME's

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### Abstract

The economy globalization has generated the globalization of information each manager has to deal with rapidly and efficiently in decision making process. SME's are more vulnerable to changing business conditions than larger competitors. To survive in the unstable economic environment in which they operate, SMEs must be able to monitor their business and use all their resources efficiently, especially the information resources. In the last decade the use of information systems in management activities became a must.

The main objective of this paper is to present the place and the role of Business Intelligence in SME's activity and to identify their level of use. After a short literature review we will analyze the main components of a Business Intelligence System and we will identify the BI solutions for SME's on the global market and on the Romanian market.

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### 1. Introduction

The business activities in any company, regardless of its size, involve the management of large quantities of information from both internal and external business environments; all these information related to internal operations, market, customers, suppliers, financial resources, etc., historically cumulated, on activity periods of

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the company, form the basis for some complex and extremely useful economic and financial analysis in the company's management decisions making process.

The continuous development of companies in a growing competitive environment necessarily requires appropriate decisions to be made, adequate, based on significant information and as accurately predicted as possible. In the current practice, the companies have defined sets of technologies and processes that provide decision support using business information to analyze organizational performance. These solutions for decision support are based on integrated management information systems, including specialized business intelligence BI modules and which are exploited at company's management level for supporting of business decisions.

The utilization of IT&C to support and optimize a company's internal processes and integration with e-business activities have become very important for all economic fields. ERP software solutions, for example, allow transparent conduct of all business processes. However, in all fields of the economy, these IT&C solutions are predominantly used by large companies and, to a lesser extent, by medium and small companies.

### *1.1. What is BI?*

The term Business Intelligence was first mentioned in 1958 by Hans Peter Luhn in an article published in the IBM Journal. In this paper the author defined the term by the two components: business and intelligent systems Luhn, 1958. The business Intelligence concept was reintroduced by Howard Dresner in 1989 "as an umbrella term to describe concepts and methods to improve business decision making by using fact-based support" Negash and Gray, 2008: 175. Afterwards, this term was successfully adopted by a large number of experts in DSS field, by software developers and managers. A series of technologies have had a significant impact in BI development, from these we mention Decision Support Systems DSS, Executive Information Systems EIS, Data Warehouse, OLAP and Data Mining. Currently, BI combines all these technologies in one system Negash and Grey, 2008. Regarding the classification of BI systems in a category of information systems, the opinions are divided; according to some authors, BI systems are data-driven decision support systems Power, 2002, while other authors consider that BI systems replace the Executive Information Systems.

According to Negash a BI is "a strategic information system capable of providing actionable information through a centralized data repository, sourced from numerous sources, transformed into meaningful information via BI analytical tools, to facilitate business insights leading to informed decisions" Kulkarni et al., 2007: 34. The main objective of BI is to provide timely and quality information to those involved in decision making process by analyzing large amounts of data about the company and its activities.

Gartner defines BI platform as a software platform that delivers the following capabilities: BI infrastructure, metadata management, development tools, collaboration, reporting, dashboards, ad-hoc queries, integration with Microsoft Office, searching tools, Mobile BI, OLAP, interactive visualization, predictive modeling and data mining and scorecards Hagerty et al., 2012.

From the technical point of view a Business Intelligence solution BI includes etl-tools.info:

- Data warehousing - architecture, modeling, storage, managing, data processing
- ETL process extracting, transforming, loading and data integration
- Implementation of reports, data visualization, dashboards
- Online Analytical Processing OLAP and multidimensional data analysis
- Data mining, statistical analysis, forecast.

### *1.2. BI in SMEs*

For small and medium enterprises SMEs the aspect of business intelligence and the support of management decision are variously perceived. Much of the SMEs are run by the owners which, in case they are carrying out

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