

# BUSINESS INTELLIGENCE

## SYNONYMS

None.

## DEFINITION

Business intelligence (BI) is a business management term, which refers to a set of tools and techniques that enable a company to transform its business data into timely and accurate information for the decisional process, to be made available to the right persons in the most suitable form. BI systems are used by decision makers to get a comprehensive knowledge of the business and of the factors that affect it, as well as to define and support their business strategies. The goal is to enable data-based decisions aimed at gaining competitive advantage, improving operative performance, responding more quickly to changes, increasing profitability and, in general, creating added value for the company.

## MAIN TEXT

BI was born within the industrial world in the early 90's, to satisfy the managers' request for efficiently and effectively analyzing the enterprise data in order to better understand the situation of their business and improving the decision process. In the mid-90's BI became an object of interest for the academic world, and ten years of research managed to transform a bundle of naive techniques into a well-founded approach to information extraction and processing that led to defining the modern architectures of data warehousing systems. Currently, BI includes not only the tools to gather, provide access to, and analyze data and information about company operations, but also a wide array of technologies used to support a closed decisional loop (known as *Business Performance Management*) where the company performance is measured by a set of indicators whose target values are determined by the company strategy, and where the actions taken are aimed at matching current and target values for these indicators.

From an architectural point of view, the core of a BI system is usually a data warehouse that stores the corporate historical data in a consistent and integrated form. A number of applications may be built around the data warehouse, for instance aimed at supporting OLAP analysis, data mining, what-if analysis, forecasting, balanced scorecards preparation, geospatial analysis, click-stream analysis. The architecture may be completed by a reactive data flow, more suited for monitoring the time-critical operational processes by supporting real-time applications.

## CROSS REFERENCES

Data Warehousing Systems: Foundations and Architectures; Data Warehouse Applications; What-if Analysis; Data Mining.

## REFERENCES

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- [3] Moss, L. T. and Atre, S. *Business Intelligence Roadmap: The complete project lifecycle for decision-support applications*. Addison-Wesley Information Technology Series, 2003.