Advantages of Integrating ERP with Business Intelligence Tools

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Abstract
Enterprise Resource Planning (ERP) is commonly known as an integrated business suite for business organization. It integrates the functional wise software into one single application. While integrating ERP and BI tools together, it gives the results better and permits executives to take efficient decisions. It is possible for the presentations of the results with good infographics and visualization for easy understanding. Business Intelligence (BI) is a technology to get the data from internal and external sources of an organization to analyze, process and visualize or present information to the executives for taking good business decisions. Business Intelligence Tools like an Online Analytical Process (OLAP), Digital Dashboards, and Process Visualizations are supporting tools for the retrieve, convert, explore and present data for executives of the organization. These tools are generally read the data from the data warehouses or data mart. ERP and BI tools has its own applications for producing results to take decisions. ERP gives the results mostly without visualization and infographics. BI tools gives supports for any file type like .pdf, .xlsx, .xlx, .pptx, .ppt, .doc, .svc, etc for analyze and presentation. It is also possible to interactive with the source data to modify or predict the future result, then and there. This conceptual paper discuss the advantages of integrating ERP with BI tools for wise decision making by executives of the business organization.

Keywords: Business Intelligence, BI Tools, ERP, Data Visualization, Information Systems

Introduction
Enterprise Resource Planning (ERP) is commonly known as an integrated business suite for business organization. It integrates the functional wise software into one single application. ERP has the functional modules like Human Resources, Finance, Accounting, Productions, Operations, Sales and Distribution, Logistics, Inventory, etc. SAP, JD Edwards, Oracle, IBM, Microsoft, Ramco, etc are leading ERP Vendors in the market. The popular ERP Packages in current trends are SAP HANA, SAP HCM, SAP FI, Oracle Peoplesoft, Oracle E-Business Suite, Ramco Cloud On-Demand, Microsoft Dynamics, etc. ERP process the data already existing in the data warehouse and gives output as a report. Enabling a Business Intelligence Tool into data mart, that provides various types of information based on the end-user’s decision, when required. While integrating BI into ERP packages in an organization, it provides regular information along with past and future information.

What is Business Intelligence?
The technology-driven process for data analyzing and actionable presentation for corporate executive, business managers and other end users to help and support to take good business decisions is called Business Intelligence [1]. Business Intelligence (BI) is a technology to get the data from internal and external sources of an organization to analyze, process and visualize or present information to the executives for taking good business decisions.

History of Business Intelligence
The term ‘Business Intelligence’ used in the year 1865 by Richard Millar Deven’s Cyclopaedia of Commercial and Business Anecdotes. Hans Peter Luhn, IBM Computer Scientist titled the article “A
Business Intelligence System” and described as an automatic system which is developed to propagate information to the various sections of any industrial, scientific and government organization. H.P. Luhn recognized as a ‘Father of Business Intelligence’. After 1980’s the modern era of business intelligence has began with some technologies like data storage and data analysis like Decision Support Systems (DSS) and Executive Information Systems (EIS). In later years, along with this development, Extract, Transform and Load (ETL) and Online Analytical Processing (OLAP) softwares are also stapled [2].

**Business Intelligence Tools**

Business Intelligence tools are classified into three application categories namely (i) Data Management Tools (ii) Data Discovery Applications and (iii) Data Reporting Tools.

(i) Data Management Tools

(ii) Data Discovery Applications

(iii) Data Reporting Tools

Better data makes better decision making. It helps to provide organized information by clean up the unwanted data and format for analysis. Data Management Tools are divided into two functionalities:

(a) Data Quality Management

It helps to maintain clean and standardized error-free data for organizations. It ensures the data standardization for integrating business intelligence in various sources.

(b) Extract, Transform and Load (ETL)

It collects data from various external sources, transforms it and loads it into a database or data warehouse. Business Analyst can use these tools to normalize for useful analysis.[3]

**Integrating Business Intelligence with ERP**

Enterprise Resource Planning is a software-driven based business management system that integrated all the business process and units of an organization. While integrating this ERP system and Business Intelligence together, business organization will get rapid access of information, more consistent and accurate information to the top level executives.

![Diagram of Business Intelligence with ERP](image)
Advantages

The proper implementation and uses of Business Intelligence tools with ERP System gives more benefits to the organization. The following are the key advantages:

(a) Rapid and fact-based decision making for the Executives
(b) Time saving
(c) Right and related decisions
(d) Reliable information to the users
(e) Highly secured data
(f) Easy to understand the Key Performance Indicators (KPIs) by using visualization and graphical presentation
(g) Quick collection and spreading of information
(h) Easy to manage the data and quality of data. [4], [5], [6]

Conclusion

The various functional departments have utilized the ERP for supportive information and decision making in the functional level. Where integrated Business Intelligence tools with ERP Package gives strategic level decision making and vision based visualization. The executives of the organization may take future oriented decision from the past information which is grinded in the Business Intelligence Tool with ERP. The BI Tools can be used in various types of ERP Packages and also used in various MIS Softwares irrespective of industry segments like micro, small, medium and large enterprises.

References