

Business Intelligence forwarded Phenomena through Different Elements

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ABSTRACT

In today's fast-paced business world, it is imperative for executives to have the insight and data they need in order to make the right calls at the right time. Business Intelligence is the key to making those correct decisions, as it joins data analytic, technology and knowledge to help business professionals make the best decisions that drive their enterprise's success. BI consist an enterprise data warehouse and a BI platform or tool set to aid those executives in changing the data into actionable information. But, there also is an element to Business Intelligence that is not entirely found in technology on a computer: the human element. Business Intelligence consultants, experts and insiders have the knowledge it takes to turn the data into results, and they share their Intel in articles and blog posts. We know that business professionals often are too busy to search the web for the best BI blogs, Thus we have taken the time to do it for you. To make the list, the BI blogs must be up-to-date with the latest information and trends, contain content written by BI experts who have a great deal of experience, and include relevant news and topics for the BI community.

Keyword: - *On-line Analytical Processing, Oracle Business Intelligence Enterprise Edition*

1. Introduction

The term Business Intelligence over and over again referred to simply as BI was initially coined by Gartner Group who in 1996 wrote: By 2000, Information Democracy will appear in forward-looking enterprises, with Business Intelligence applications and information available roughly to consultants, employees, suppliers, customers, and the public. The key to flourish in a competitive marketplace is remaining ahead of the competition. Making sound business decisions based on current and accurate information takes more than perception. Data reporting, analysis and query tools can help business users splash through a sea of data to create valuable information from it - today these tools jointly fall into a group called "Business Intelligence." This definition of BI is quite general: Data reporting, analysis and query tools. And since then the group has become even wider as it frequently happens with popular new terms [1].

2. Related Work :

There are Five Business Purposes in Business Intelligence: Basically, Business Intelligence (BI) can be applied for at least 5 business purposes:

2.1. Reporting - To offer tactical reporting to serve the strategic management of a business, not operational reporting. Often involves executive information system, data visualization and On-line Analytical Processing (OLAP).

2.2. Analytics - To reach at more optimal decisions and to achieve business knowledge discovery. This naturally involves techniques like process mining, data mining, statistical analysis, predictive modeling, predictive analytics, business process modeling, prescriptive analytics and complex event processing.

2.3. Measurement - To notify business leaders and managers about the progress on the way to certain business goals.

2.4. Knowledge Management - To make the company data-driven through policies and practices to distribute, create, identify, represent and enable adoption of insights and experiences that are correct business knowledge. Knowledge management leads to regulatory compliance and learning management.

2.5. Collaboration - To let different department inside or outside an organization to work together through techniques such as electronic data interchange and data sharing.

3. Case Study :

3.1. On-line Analytical Processing :

OLAP is a exact way of arithmetic and financial data representation for executives, analysts and specialists. It is designed to aid in decision making and better information understanding. The main idea is to answer the user's inquiries, arising at the work time, on-the-fly. An OLAP system allows user to get into details and generalize, filter, sort and regroup data at the time of analysis. Intermediate and final totals are recalculated promptly. The main manipulation and data viewing tool is the dynamic electronic worksheet.

Its elements columns and rows are the manipulation controls. Moving columns and rows or clicking them individual makes the system perform scheming and show data in different aspects. Thus, user can produce lots of reports out of a single data set on his own, without any interference with IT-specialists. This saves IT sections from continuous hard-coding of various kinds of reports and gives additional degree of freedom to specialists and executives for getting the necessary information. OLAP breaks data into two groups: dimensions (descriptions) and facts (numbers, also called measures).

Facts are aggregated in a given portion by some algorithm while the user defines aggregation and grouping depth. Also, an electronic worksheet can display data with a regular structure. OLAP is suitable everywhere, where a task of multi-factor data investigation takes place. Generally, having a table filled with data, given that it contains at least one descriptive column and one or more data columns, OLAP can become an favorable and effective tool for analyzing such table and generating reports.

3.2. Oracle Business Intelligence Enterprise Edition :

In commonplace words BI is the front end of your solution and DWH is back-end. BI solution can only be based on the data warehouse. A data warehouse has a various data structure than a normalized entity relationship structure used in ERP applications. Some intelligent tools such as Oracle Business Intelligence Enterprise Edition (OBIEE) afford your knowledge to create a realistic or virtual dimensional data model layer on top of a normalized physical database but doing that for enterprise coverage would have a severe hit on performance of the system. What are Measures and Dimensions? In easy words, all the figures and facts are measures. Dimensions are the elements against which we see certain measures. Usually ERP and other OLTP systems create two dimensional reports for instance sales of certain products based on time, product is a dimension. Time is also a element and sales amount is the measure. At the minimum, any report can contain two dimensions and one measure. Multidimensional reports can be made by BI reports. You can refer to the report I displayed in my previous blog post. You can see that it contains three dimensions, i.e. Product, Time, location and there is one more measure which is sales amount. You can even add several new dimensions in this report. What are KPI's Key Routine Indicators ? KPI's are metrics that help organizations to evaluate the progress towards organizational objectives and goals. KPIs can or cannot be quantifiable in absolute numbers.

Specimens of some KPIs are Market Share Market Growth Customer Churn Rate Customer Profitability Advertising to sales ratio Inventory Turnover Net Sales to Net Worth Asset Turnover There can be hundreds of KPIs for any particular business sector. Whatever concepts which I commitment to explain in my earlier post are explained one by one here: What is Single Version of Truth? Realizing the limitations of ERP reporting, middle managers/analysts mostly use worksheets (mostly excel) to present information / analysis to business executives or to support their day to day functions. Usually these spreadsheets are shared with colleagues and management as email attachments. Sometimes converted into PDF or word formats as well. These documents and spreadsheets are called Unstructured data sources. There are definite inherent restriction with this approach, one apparently being difficulty to apply version controlling if data gets updated. Experts have to set up a fresh spreadsheet every time by searching help of IT to pull data from source systems (e.g. ERP, legacy applications) and apply aggregations and statistical or mathematical functions manually. As a effect sometimes belief for certain KPIs may be different in different spreadsheets prepared by different analysts. On the other hand, having a BI solution for analytic reports, which gets all the data from a central data warehouse, get rid of the opportunity of multiple values for same KPI. This is why it's referred as Single Version of Truth. Adhoc reporting is fundamentally the same thing for which expert use

spreadsheets. The reports which are not present in your ERP or legacy applications. An Professional intellect solution offers the suppleness and powers of custom reports development to business analysts even if they don't know about the structure of underlying data elements. The view of report writing tool that they see contains data rudiments in business terms like Sales, Profit, Year, Month etc. With drag and drop functionalists, they can quickly create reporting different steps against various dimensions Dicing and Slicing. The idea of Slicing is much like filtering the data. This is used to view only that data which is necessary for our current analysis for Instance say we are viewing a Quarter-On-Quarter revenue comparing report.

Now we need to see the 3rd quarter revenues in detail so we slice the report to display only third quarters report. It depends on the system or user whether it is displaying an aggregate revenue report for full quarter or displaying it in Month-on- Month judgment. By the way, in secretarial terms, these comparisons are called horizontal analysis. Dicing stands for transposing the X and Y dimensions. Like pivoting or cross tabbing Dashboards There is a term in BI & DWH which is called Visualization. Visualization means representation of information in meaningful way like charts, graphs, tables etc. A dashboard is a place where you put all the visual representation of your information. Using tables, charts, gauges etc. You can demonstrate information (e.g. your KPIs) in a very attention-grabbing and to-the-point way. Here are some of the screen-shots from some dashboards. observing information at a more exhaustive level for same dimension. For example, when you are viewing an annual report (time dimension), you can drill it down on time dimension for half year, quarter or month. Drilling from one measurement to another on same hierarchical level.

4. Future of Business Intelligence :

Organizations of all sizes today operate in uncertain and dynamic environment. This requires them to quickly adjust to a host of new communication channels, technologies, mobility, including social media and web. The risk of becoming obsolete and redundant is omnipresent in today's market landscape, which calls for organizations to take a strategic approach based on meticulous actionable and research insights. Data analytic are the key to helping organizations determine optimal service, product, business policies based on their business objectives.

5. Conclusion :

The aids of applying business intelligence are Solid and numerous. Even if most of the benefits must be classified as soft benefits it is evident that few other systems offer the exclusive strategic profits that business intelligence does.

References :

- [1] Stackowiak, R., Rayman, J. and Greenwald, R. (2007) Oracle Data Warehousing and Business Intelligence Solutions, Wiley Publishing, Inc, Indianapolis.
- [2] Seufert, Andreas, and Josef Schiefer. "Enhanced business intelligence supporting business processes with real-time business analytics." 16th International Workshop on Database and Expert Systems Applications (DEXA'05). IEEE, 2005.
- [3] Tvrđikova, Milena. "Support of decision making by business intelligence tools." Computer Information Systems and Industrial Management Applications, 2007. CISIM'07. 6th International Conference on. IEEE, 2007.
- [4] http://en.wikipedia.org/wiki/Business_intelligence
- [5] <http://www2.sas.com/proceedings/forum2007/207-2007.pdf>