Business Intelligence, Analytics & Reporting: Glossary of Terms

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Ad-hoc analytics
Ad-hoc analytics is the process by which a user can create a new report to answer a specific question immediately. Ad-hoc analytics take care of anything that's not already covered by a standard report.

Aggregate
An aggregate is a function that performs a computation on a set of values. For example, finding the average or mean of a list of numbers is an aggregate function. All database management and spreadsheet systems support a set of aggregate functions that can operate on a set of selected records or cells.

Alerts and Notifications
These are automated messages or signals sent via email, pager, and so on to indicate that a predefined event or an error condition has occurred and that some action needs to be taken. Alerts allow users to receive critical business information in the quickest possible time.

Analysis
Analysis is a process of breaking down information into component parts in order to identify motives or causes, make conclusions, and/or find evidence to support generalizations.

Analytic Applications
Analytic applications are software solutions designed to address a specific data analysis need, for example financial analysis or customer intelligence. As an example, the Silvon Stratum suite of packaged analytic applications enables companies to gain performance insight across all core operational areas of the business. This includes sales, inventory, customer relations, vendor relations, marketing, production and finance.

Balanced Scorecard
A Balanced Scorecard is a performance management tool that summarizes an organization's KPIs (key performance indicators) on a single page and integrates the KPI measures into the basic management structure of the organization.

Business Analytics
Business Analytics is the combination of skills, technologies, applications and processes used by organizations to gain insight into their businesses based on data and statistics in order to drive business planning. Business analytics is used to evaluate organization-wide operations and can be implemented in any department from sales to product development to customer service.

Business Intelligence (BI)
A set of business applications and technologies for gathering, storing, analyzing, and converting data into information to enable future business strategies and decisions to be made. Business intelligence allows users (employees, customers, suppliers, and partners) to receive information that is reliable, consistent, understandable, easily manipulated, and timely. Business intelligence software includes decision support systems, querying and reporting, online analytical processing (OLAP), statistical analysis, forecasting, and data mining.

Business Intelligence (BI) Software
Business Intelligence software enables companies to identify, extract, and analyze business data in order to provide historical, current and predictive views of business performance. Such data can be derived from a number of sources such as ERP, CRM and Supply Chain Management systems, Excel spreadsheets, point-of-sale systems and other information sources. The purpose of Business Intelligence software is to support better decision-making through reporting, analytics, data mining, performance management, predictive analytics and other BI functions.

Business Performance Management (BPM)
Business performance management (BPM) is a set of processes that facilitate direct modeling and scenario exploration. BPM is generally focused on business processes like planning and forecasting to help businesses better plan the efficient use of their business units, financial, human, and material resources. It also is synonymous with Enterprise Performance Management (EPM).

Criteria
Criteria are used when running an analytical query or report to either exclude or include certain data points. You can apply criteria to your report, dashboard or analysis to only see data related to specific entries of a category.

Cubes (or Data Cubes)
A multi-dimensional structure that forms the basis for analysis applications. Cubes have three dimensions and allow for a variety of calculations and aggregations. The numeric values in your data (such as revenue and profit) are placed in the intersections in the cube structure. The value in the cell is the aggregated value of the dimensions (such as customers, period and product) that meet in the intersection. As the values based on different dimensions and aggregation levels are pre-calculated, the use of OLAP cubes significantly reduces the query time compared to relational databases.

Customer Relationship Management (CRM)
Customer relationship management (CRM) describes both a business process and an associated software application family for managing an organization's interactions with customers, clients and sales prospects.

Dashboard
A dashboard is a user interface that organizes and presents information in an easy-to-read format and help organizations align people's actions with strategy by tracking and analyzing key business metrics and goals. Dashboards and scoreboards enable proactive management via "what-if" analysis, customer segmentation, forecasting, and analyzing business processes. It provides graphical depictions of current key performance indicators in order to enable faster response to changes in areas such as sales, customer relations, supplier / vendor relations, etc. on single screen.

Data Cleansing
The process of ensuring that a program operates on clean, correct and useful data. It includes manipulation of data – using a variety of techniques: parsing, standardizing, correcting, and consolidating- extracted from operational systems so as to make it usable by the data warehouse.

Data Mapping
The process of identifying a source data element for each data element in the target data warehouse environment. For example, gender ('M'/ 'F') is decoded and mapped to a gender description field as 'Male' or 'Female'.

Data Quality
Data quality pertains to aspects such as availability, completeness, accuracy, consistency, relevance and timeliness of data. High data quality is essential to business intelligence's role as a means of decisional support. Poor data quality examples: missing fields, old or inaccurate information, data conflicts, inaccessible data in legacy systems.

Data Source
In basic terms, a data source is a facility for storing data. It can be as sophisticated as a complex database for a large corporation or as simple as a file with rows and columns. A data source can reside on a remote server, or it can be on a local desktop machine. Applications access a data source using a connection. In business intelligence, data sources are typically ERP, CRM and Supplier Relationship Management systems, Excel spreadsheets, and external sources like point-of-sale and market research solutions.

Data Staging
This denotes a system area where all the data extraction, transformation and loading operations are performed. This is the work area where data warehouse developers clean, summarize, filter, decode and prepare data.

Data Visualization
Data visualization is a significant part of what users experience within their BI tool. Data visualizations serve to present the user their requested data in a clear and effective, graphical manner. Used effectively, data visualizations can help users identify weak spots or project future performance more easily.

Data Warehouse
A database that is geared toward the business intelligence requirements of an entire organization. The data warehouse integrates data from the various operational systems and is typically loaded from these systems at regular intervals. Data warehouses contain historical information that enables analysis of business performance over time.

Decision Support System (DSS)
The purpose of a decision support system is to provide decision makers in organizations with information. The information advances the decision makers' knowledge in some way so as to assist them in making decisions about the organization's policies and strategy. A DSS is often synonymous with Business Intelligence software.

Dimension
A dimension is one of the perspectives that can be used to analyze the data in an OLAP cube. Dimensions are used to categorize and filter the measures (see Measure) of your cube. When you are browsing the data in a cube, dimensions can be combined to view the data from different perspectives. For a Sales database, the dimensions could include Product, Time, Employee, and Customer. Dimensions are defined by attributes which are individual categorization options. Attributes may be combined into one or more hierarchies with increasingly detailed information, giving the end user options for easy drilling up and drilling down in the data.

Dimensional Hierarchy
A dimensional hierarchy refers to the different levels of data within a dimension table. Data can be rolled up or drilled down to for analysis. This can be represented in a data model by multiple columns within a dimension table in standard star schemas called hierarchy columns.

Drag and Drop (in OLAP / Business Intelligence)
Drag-and-drop is a mouse technique that can be used to change how data is displayed on the x- and y-axis of an analytical view. This gives business users the ability to quickly and easily alter the perspective from which they wish to view and analyze their data.

Drill Down
A drill-down is a component of OLAP analysis. The term drill-down refers to the process of moving from high-level, less detailed information to more specific data.

Drill Through
Drill through is an action in which you move horizontally between two items via a related link. While we often use summarized information for analysis purposes, Drill-Through functionality lets you see all the underlying transactions which can sometimes be useful to investigate.

Drillable Charts
Users can drill-down to underlying, granular data from the graphic analysis. In drillable pie charts, you can drill directly down into each segment or in a bar graph by double clicking on the bar.

Dynamic Time
Dynamic time allows a user to compare figures over a given duration of time (such as year to date, last six months, Q3) against similar figures from previous years. The Silvon Stratum business intelligence software suite goes one step further and lets users compare data over non-identical periods of time (such as promotional periods involving different days or weeks from one year to the next).

Enterprise Performance Management (EPM)
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Enterprise Reporting
Enterprise reporting refers to large-scale report generation, usually achieved through the use of business-intelligence software, and intended to deliver Information by means of the Internet or an Intranet.

Enterprise Resource Planning (ERP)
Enterprise Resource Planning systems integrate management information across an entire organization, including finance/accounting, manufacturing, sales and service, customer relationship management, etc. ERP systems automate this activity with an integrated software application. Their purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders. Your company is probably using an ERP system right now. You might know it under the name of SAP, Oracle, JDE, BPCS, Infor, MAPICS, Microsoft Dynamics, NetSuite or another ERP solution supporting industry-specific or broad-based functionality.

Export
The ability to transform and format data in such a way that it can be used by another application. For optimal interoperability with your other business applications, the formats to which BI reports can be exported should include PDF, Excel and HTML, among other formats.

ETL (Extract, Transform, and Load)
ETL is the process of getting data out of one data store (Extract), modifying it (Transform), and inserting it into a different data store (Load). In Business Intelligence projects, ETL packages are used to extract data from the data sources and load it into the Data Warehouse and subsequently into the cubes. Once an ETL has been established, it can be scheduled to be run automatically at fixed intervals (e.g. once every day or every 'x' hours).

Filter
A saved subset of information pulled from your database in a query that is based on certain criteria. For example, only the records associated to a certain time period or region.

Forecasting
Forecasting is one of the activities made possible by business intelligence. It is the formulation of trends, predictive models, and scenarios for the purpose of better decision-making. For manufacturers and distributors, forecasting is typically a prediction of customer demand used to calculate future inventory levels

Gauges
A gauge gives visual impact like a speedometer for easy-to-understand, at-a-glance display of critical information. It is used in dashboards for business users.

Granularity
Granularity refers to the level of detail or summarization of data in the data warehouse. More detail means higher the level of granularity. The less detail there is, the lower the level of granularity.

Information Delivery
Information delivery is the process of getting the right information to the right person, in the right format and medium, at the right time. A Flexible Information Delivery strategy can include multiple data distribution methods based on a user's role and informational needs.

Information Management
Information management is the means by which an organization maximizes the efficiency with which it plans, collects, organizes, uses, controls, stores, disseminates, and disposes of its Information, and through which it ensures that the value of that information is identified and exploited to the maximum extent possible.

Key Performance Indicators (KPI)
A performance indicator or key performance indicator (KPI) is a type of performance measurement. An organization may use KPIs to evaluate its success, or to evaluate the success of a particular activity in which it is engaged. Sometimes success is defined in terms of making progress toward strategic goals, but often success is simply the repeated, periodic achievement of some level of operational goal (e.g. zero defects, 10/10 customer satisfaction, 98%+ fill rates, 100% on-time delivery, etc.). The Silvon Stratum Business Intelligence software suite includes more than 500 pre-defined sets of measurements to help companies (particularly in manufacturing and distribution) track and better manage common industry KPIs.

MDX
MDX is the query language for multidimensional databases. It is equivalent to SQL (for relational databases), and can be used to add business logic to the data to maximize the ease of use for the end-user.

Measures (in OLAP)
A measure is a numeric value stored in a fact table and in an OLAP cube. Examples of measures in an OLAP cube could be Sales Count, Sales Price, Cost, Discount, and Profit.

Metadata
Metadata is often explained as "data about data." In Business Intelligence, we often distinguish between two kinds of metadata: system metadata that defines the structure and nature of the production data (such as data types, dimensions and measures), and business metadata that tells us about the data we are working with, and how it relates to other data in our data warehouse.

Metrics
Measures of performance that monitor progress and assess trends within an organization. A metric is the comparison of two or more measures.

Microsoft SQL Server
The Microsoft SQL Server is Microsoft's primary offering in the database market. It comes in a number of different editions, from local versions that are used on a single or few computers, to versions that can serve as the backend for large ERP systems, as well as complex websites with many users. Microsoft SQL Server comes with a number of add-on services, many of which are relevant for Business Intelligence.

Mobile BI
Mobile Business Intelligence is business intelligence delivered on the smartphone or tablet for executives and salespeople on the go.

MOLAP (Multidimensional OLAP)
MOLAP refers to performing OLAP using multi-dimensional databases.

Multi-Dimensional Analysis
The analysis of business indicators by examining them from different points of view (for example, revenue by product, geography, customer). It is also known as dimensional analysis.

On-Line Analytical Processing (OLAP)
OLAP is an approach to building databases that are optimized for analytical purposes. With OLAP, data can easily be aggregated and analyzed on one or more dimensions, as well as enabling a deeper analysis of the data is possible with slicing and dicing. In OLAP, dimensions are often organized into hierarchies that facilitate drill-downs to detailed views or roll up to higher level values.

OLAP Cube
OLAP compiles a set of source data and restructures it into an OLAP cube, which is optimized for analysis. A cube represents pre-calculated dimensions of data available to a user, which, in turn, enables faster processing. Queries are then run against the cubes.

Online Transactional Processing (OLTP)
Online Transactional Processing is a type of system that immediately handles operational data and transactions. This operational system allows the smooth functioning of an organization's daily business. Usually OLTP offers no analytical capabilities.

Optimization
Optimization is a scientific approach to solving problems. Its purpose is to improve on the subjective aspects of decision-making, thus improving operational efficiency. Optimization calls for the mathematical formulation of the problem and an explicit statement of the desired objectives. The method consists of creating a mathematical model and using computational means to help choose the best schedule of actions among alternatives. The Silvon Stratum BI solution suite offers such capabilities, most notably in the area of inventory optimization and performance management.

Parameterized Report
A report that uses input values for processing. For example, allowing users to select from a pick list to show data by a particular product category or region. Parameters are typically used in a query that selects the data for the report.

Pareto Filtering
The Pareto principle (also known as the 80-20 rule) states that, for many events, 80% of the effects come from 20% of the causes. This is a useful feature when a dimension, like customer, has a large number of categories and you want to identify the 20% of your clients who brings 80% of your sales. Filtering based on this principle automatically groups the categories that amount to less than 20% of a row or column total into 'other' category.

Percentage of Total
Displaying data in a table as a percentage of that particular data's total, using the percentage (%) of row and percentage (%) of column calculation. For example, user can summarize 'Sales in different region' as a percentage of 'Total Sales.'

Personalization
Delivering appropriate content that is tailor-made for your end users' needs.

Pivot Table
To 'pivot' is to 'slice-and-dice' your data to get different views of the same data. A pivot table usually refers to a tool that lets you look at your data in different ways to obtain a desired report. Specifically it allows you to reorganize and summarize selected columns and rows of data in your database tables without changing the data that is actually contained in the tables.

Portal
A web site that typically provides personalized capabilities to its visitors. A portal brings content from different sources together and can enable collaboration, information consumption, and other applications or functionality for end users.

Predictive Analysis
It is a powerful analytic engine that encompasses various statistical and data mining techniques to make predictions/forecasts about future business conditions. Predictive analytics help people make proactive decisions more easily by providing insights via easy-to-use dashboards across the organization.

On-Line Analytical Processing (OLAP)
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Query and Analysis
This term refers to the tools that let its end users to interact with business information – without having to understand complex database languages and structures. It helps them to know answer of ad hoc questions without advanced knowledge of the underlying data sources. These tools support query generation and basic report authoring, as well as integrated analysis.

Ranking
Ranking is the process of positioning items such as individuals, groups or businesses on an ordinal scale in relation to others. A list arranged in this way is said to be in rank order. A ranking can be obtained by evaluating each item in the collection in such a way that any two items can then be compared to see which should come higher in the ranking. It is not necessarily a total order of objects because two different objects can have the same ranking.

Reporting
Reports are business information delivered as we know it: a daily, weekly or monthly delivery of information in form of a PDF or paper that can be observed but not investigated further. Going deeper requires access to analytics or mobile BI, enabling users to dig deeper into the information.

Relational Database Management System (RDBMS)
Short for Relational Database Management System, it is a system used to store, process and manage data arranged in relational tables. Such a database is organized and accessed according to the relationships between data values.

ROLAP (Relational OLAP)
ROLAP refers to performing OLAP using relational databases.

Relational Database
A relational database is a collection of data items that is organized as a set of related tables. Data can be accessed or reassembled in many different ways from these tables without the need to reorganize them.

Reporting
Reporting is the process of accessing data, formatting it, and delivering it inside and outside the organization. It is the foundation of a Business Intelligence (BI) strategy as it provides users the most-requested pieces of information reliably and securely, via the web or embedded in enterprise applications.

Role-Based Security
In role-based security, access is assigned to security roles, not to individual users. A user who is assigned to a security role has access to the set of privileges that is associated with that role, including what they can and can't do and see. With Business intelligence software, users are typically assigned to security roles based on their responsibilities in the organization and their participation in business processes. For example, security for a national sales VP would differ from that of a regional sales exec, individual sale representative, etc.

Slicing and Dicing
Slicing is the act of picking a rectangular subset of an OLAP cube by choosing a single value for one of its dimensions, therefore creating a new cube with one fewer dimension. As an example, sales figures of all sales regions and all product categories of a company in the year 2012 can be "sliced" out of a sales data cube for purposes of analysis.

Dicing: The dicing operation produces a subcube by allowing the analyst (or user) to pick specific values of multiple dimensions. For example, the new cube once diced could show the sales figures of a "limited number of product categories" while the time and region dimensions cover the same range as before.

Structured Query Language (SQL)
SQL is a programing language designed for managing data in relational databases, and it is in this language that programmers, developers and applications send commands to databases in order to query, insert or modify data.

SQL Server
It is generically, any database management system (DBMS) that can respond to queries from client machines formatted in structured query language (SQL) language. When capitalized, the term generally refers to the database management product from Microsoft.

SQL Server Analysis Services (SSAS)
SSAS is a key component of the Microsoft SQL Server offering when working with Business Intelligence. This is where you define the data model that should be presented to the end-users. The addition of Analysis services to the SQL Server enables the usage of various OLAP databases.

SQL Server Integration Services (SSIS)
SSIS is a service available on the Microsoft SQL Server and is used by developers to perform data extraction, transformation and loading (also known as the ETL). It is this tool that is utilized when moving data from your ERP and other systems into a data warehouse.

Supply Chain Management (SCM)
Supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics. Business Intelligence software supports SCM by providing users with better visibility across all supply chain functional areas.

Extensible Mark-up Language (XML)
The Extensible Mark-up Language (XML) offers a widely adopted standard way of representing text and data in a format that can be processed without much human or machine intelligence. Information formatted in XML can be exchanged across platforms, languages, and applications, and can be used with a wide range of development tools and utilities.

Zero Foot Print Browser Interface
This is an end-user application that is entirely resident on a server and is downloaded only at the time of use. This type of application does not require any client software to be installed or configured on a user's system.