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|  |  | **Unilever**  04/03/2019 | |  | | |
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|  |  | Business Intelligence  Impact, legal issues and usage | | |  | |
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|  | **Introduction**  Unilever is a globalized and world class brand that has over 400 brands aimed to grow sustainably while effectively achieving the prime goal of helping over a billion people with their health and wellbeing. In this noble journey, to ensure that they do not achieve their goals at the expense of people or the environment, they wish to turn to business intelligence tools to streamline their business and take decisions quick and accurately.  This report will make an attempt to discuss how BI tools can contribute to decision making, the legal issues with regard to exploitation of BI tools and identify situations where BI has improved various organization operations.  Author: K.P.I. Shenesh Perera  IDM | | | | |  |
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# What is Business Intelligence?

Business Intelligence (BI) refers to the tools, technologies, applications and practices used to collect, integrate, analyze, and present an organization’s raw data in order to create insightful and actionable business information. BI as a discipline and as a technology-driven process is made up of several related activities, including:

* Data mining
* Decision support systems
* Online analytical processing
* Online transactional processing
* Querying
* Reporting

BI leverages software and services to transform data into actionable intelligence that informs an organization’s strategic and tactical business decisions. BI tools access and analyze data sets and present analytical findings in reports, summaries, dashboards, graphs, charts and maps to provide users with detailed intelligence about the state of the business. All of which Unilever’s many products and brands can use in order to ensure efficient work flow, while being cautious and most importantly aware about the cons of any decisions they make

# Why Business Intelligence?

Although business intelligence does not tell business users what to do or what will happen if they take a certain course, neither is BI only about generating reports. Rather, BI offers a way for people to examine data to understand trends and derive insights.

A company like Unilever that wants to better manage its supply chain needs BI capabilities to determine where delays are happening and where variabilities exist within the shipping process. Unilever could also use its BI capabilities to discover which products are most commonly delayed or which modes of transportation are most often involved in delays.

The potential use cases for BI extend beyond the typical business performance metrics of improved sales and reduced costs. One of the most prominent times when BI showed off its wings was in Ohio, a school system and its success using BI tools to examine numerous data points from attendance rates to student performance to improve student learning and high school graduate rates.

Although much of today’s hype is around big data and advanced analytics as well as the next step up artificial intelligence and machine learning, BI is still relevant for multiple reasons.

# Business Intelligence Software & Techniques

Business intelligence software are essentially data-driven Decision Support Systems (DSS). BI is sometimes used interchangeably with briefing books, report and query tools, and executive information systems. With these tools, business people can start analyzing the data themselves, rather than wait for IT to run complex reports.

This information access helps users back up business decisions with hard numbers, rather than only gut feelings and anecdotes.

Business Intelligence software systems provide historical, current, and predictive views of business operations, most often using data that has been gathered into a data warehouse or a data mart and occasionally working from operational data. Software elements support reporting, interactive “slice-and-dice” pivot-table analyses, visualization, and statistical data mining.

Applications tackle sales, production, financial, and many other sources of business data for purposes that include business performance management. Information is often gathered about other companies in the same industry which is known as benchmarking.

Some of the most popular business intelligence tools are:

**Sisense -** Sisense is a business intelligence platform that lets users join, analyze, and picture out information they require to make better and more intelligent business decisions and craft out workable plans and strategies.

**Looker ­-** Looker is a data platform with insights for every department. It’s a data-discovery app that provides an intuitive approach to data exploration. It offers a web-based interface that business users can utilize to tap into the expertise of their data analytics team. They can build and share reports on the fly, so other functional groups can benefit from the questions they’re asking and the knowledge they’ve created. Thus, Looker can help all companies use data to drive their business decisions and activities in the right direction.

**Datapine -** Datapine gives you BI and data visualization to help you makes sense of your organization’s data. With its capabilities, you’ll be able to unravel actionable so you can make smart business decisions, craft and implement effective strategies, and realize corporate goals in the most efficient manner.

**Zoho Analytics -** Zoho Analytics is the data analytics app in the Zoho software family. It was formerly known as Zoho Reports which was re-engineered into a more robust cloud-hosted platform which comes complete with online reporting, drill down analytics, and self-service business intelligence. The software is designed to process big data, track KPIs, identify trends, and discover insights.

**Yellowfin -** Yellowfin is a BI and analytics software built to speed up the process of providing you actionable insights and data-driven forecasts on your business’ performance. The software offers three main tools Assisted Insights for automatically giving you’re the reason why Yellowfin Signals that instantly notifies you if changes happen; and Yellowfin Stories which provides narrative and context that you can share. The BI solution helps you analyze data and discover actionable information for better understanding of your organization’s processes and performance.

# Factors of business intelligence software

BI software can be divided into three broad application categories data management tools, data discovery applications and reporting tools including dashboards and visualization software. What BI tools you need depends on how your data is currently managed and how you would like to analyze it.

For example, if it is currently scattered across disparate transactional databases, you might need to build a data warehouse to centralize it and invest in data management tools that offer Extract, Transform and Load (ETL) functionality to move and re-structure it.

Once data is given a common structure and format, you can invest in data discovery solutions such as Online Analytical Processing (OLAP), data mining and semantic or text mining applications, with the capability to create custom, ad hoc reports. Because information is stored within the warehouse, users can quickly pull reports without impacting the performance of the organization’s software applications, such as CRM, ERP and supply chain management solutions.

But this isn’t the only way to implement BI within your organization. If you’re only analyzing data from a single source, ETL and data warehouses are unnecessary. Alternatively, you might require multiple warehouses, and thus, require different tools to connect data between both these servers and other BI applications that need access to this data.

# Types of BI software

## Data management software

Better decision-making starts with better data. Data management tools help clean up "dirty data," organize information by providing format and structure and prepare databases for analyses, performs the following major 2 functions that assist decision making:

* **Data quality management** - Helps organizations maintain clean, standardized and error-free data. Standardization is especially important for BI implementations that integrate data from diverse sources. Data quality management ensures that later analyses are correct and can lead to improvements within the business.
* **Extract, transform and load (ETL)** - Collects data from outside sources, transforms it and then loads it into the target system (a database or warehouse). Because primary data is often organized using different schemas or formats, analysts can use ETL tools to normalize it for useful analysis.

## Data discovery software

The ability to sift through data and come to meaningful conclusions is one of the most powerful benefits of adopting business intelligence tools. Data discovery applications help users make sense of their data, whether it be through quick, multivariate analysis during OLAP or via advanced algorithms and statistical computations during data mining. Data discovery software performs the following functions:

* **Data mining** - Sorts through large amounts of data to identify new or unknown patterns. It is often the first step that other processes rely on, such as predictive analytics. Databases are often too large or convoluted to find patterns with the naked eye or through simple queries. Data mining helps point users in the right direction for further analysis by providing an automated method of discovering previously neglected trends.
* **Online analytical processing** (OLAP) - Enables users to quickly analyze multidimensional data from different perspectives. It is typically made up of three analytical operations: data consolidation, data sorting and classification and analysis of data from a particular perspective.
* **Predictive analytics** - Analyzes current and historical data to make predictions about future risks and opportunities. An example of this is credit scoring, which relies on an individual's current financial standing to make predictions about their future credit behavior.
* **Semantic and text analytics** - Extracts and interprets large volumes of text to identify patterns, relationships and sentiment. For example, the popularity of social media has made text analytics valuable to companies with a large social footprint. Understanding semantic trends is a powerful tool for organizations evaluating purchase intent or customer satisfaction among users of these channels.

## Reporting Software

Reporting applications are an important way to present data and easily convey the results of analysis. BI users are increasingly business users who need quick, easy-to-understand displays of information. In response, software vendors have been working to mask the complexity of these applications and increasingly focus on the user experience. Reporting tools perform the following functions:

* **Visualizations** - Helps users create advanced graphical representations of data via simple user interfaces. The ability to visualize information in a graphical format can help users understand data in a more insightful way. In addition, new interactive tools can provide teams the ability to both analyze and manipulate reports in real-time.
* **Dashboards** - Dashboards typically highlight key performance indicators (KPIs), which help managers focus on the metrics that are most important to them. Dashboards are often browser-based, making them easily accessible by anyone with permissions.
* **Report writers** - Allows users to design and generate custom reports. Many CRM and ERP systems include built-in report writing tools, but users can also purchase standalone applications, such as Crystal Reports, to create ad hoc reports based on complex queries. This is especially helpful for organizations that continually modify analyses and need to generate new reports quickly.
* **Score carding** - Scorecards attach a numerical weight to performance and map progress toward goals. Think of it as dashboards taken one step further. In organizations with a strategic performance-management methodology.

# Legal commitments to avoid exploitation of BI

## Businesses must know what they are doing

In an economic theory built on the assumption of rational agents, this appears to be a trivial statement. Companies are assumed to have clear strategies and operative procedures on their data collection and data usage, i.e. their Business Intelligence. They know what they are doing, have cleared this with their lawyers, and published the resulting, legally valid procedures in the form of a privacy policy, which is available on a platform widely available for the public.

## A user must be categorized by his/her own data only

In many laws as well as in the data mining community, the concept is generally translated into data protection, or more specifically, the protection of personal data. Personal data is any information relating to an identified or identifiable natural person. An identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identity”

## A user must know what data they give, to whom, for what and why

It is also assumed that users are the rational providers of information. They must be provided with a clear view on their privacy including differentiated views on what information they would or would not share, including nicknames, health histories, credit card details, etc. Avoid using services that the general public think has unclear or unsafe policies giving false information online or even terminate transactions prematurely in reaction to perceived breaches of or dangers to their privacy.