**Caso di studio: progettazione sistema OLAP**

**Abstract**

“The BI enables the organization to become smarter, work smarter, and helps it to take better decisions through the use of information.” [1]

“The collected data is used to form the Data Warehouse of the enterprise and will be analyzed by the BI applications. The analysis from the BI applications is used to understand business behavior and make strategic decisions.”[2]

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**Introduzione**

Al giorno d’oggi le aziende di tutte le dimensioni sono sempre alla ricerca di strumenti, strategie e soluzioni per migliorare la propria capacità competitiva nei confronti della concorrenza. Le sorti del business sono influenzate fortemente oltre che dalle idee, dalla risolutezza e dalla brillantezza di chi compie le scelte, anche dai mezzi che aiutano ad assumere le corrette valutazioni e le corrette decisioni.

Compiere decisioni può risultare complicato specialmente quando c’è una considerevole mole di dati alla base. Il principale problema da affrontare diventa, quindi, quello di estrapolare le informazioni a partire da questi dati. Sebbene dato e informazione siano due termini spesso utilizzati come sinonimi, hanno un significato differente, così come sottoscrive Drucker affermando che *“Information is data endowed with relevance and purpose”*[3].

Questa differenza viene evidenziata anche da altri, tra cui Hicks che definisce un dato come “A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation, or processing by humans or by automatic means.”[4], o ancora è definito come *“Raw facts that can be shaped and formed to create information.”.*[5]

Mentre un’informazione è *“data that has been processed so that it is meaningful to a decision maker to use in a particular decision. ”*[4], oppure *“Data that have been shaped or formed by humans into a meaningful and useful form.”*[5]

Tuttavia, dopo aver estrapolato le informazioni dai dati, il problema consiste nel non riuscire ad usare questa ingente mole di informazioni per ricavare indicatori chiari ed efficaci per la valutazione delle prestazioni di un determinato processo aziendale, quindi ottenere conoscenza. Definiamo i processi aziendali come *“quite simply, the processes a business must execute in order for the business to operate.”*[6]

Per conoscenza, invece, si intende *“a fluid mix of framed experience, values,contextual information, and expert insight that provides aframework for evaluating and incorporating new experiences and information.”*[7]

Il processo che trasforma i dati e le informazioni in conoscenza è detto Business Intelligence ed è definito come: *“the intelligence as information valued for its currency and relevance. It is expert information, knowledge and technologies efficient in the management of organizational and individual business. Therefore, in this sense, business intelligence is a broad category of applications and technologies for gathering, providing access to, and analyzing data for the purpose of helping enterprise users make better business decisions.”* [8]

Un’altra definizione di Business Intelligence (BI) definita in letteratura è “the techniques or practices which utilize different technologies to create different methods or applications which analyze the business data available with the organization to help the enterprise to take decisions based on the predictions made by the data.”[9]

E’ importante sottolineare che la BI non comprende soltanto le tecnologie di elaborazione e analisi dei dati, ma anche molte pratiche e metodi di business che possono essere applicati a vari settori come l'e-governance, l'assistenza sanitaria, l'e-commerce, la sicurezza e l'intelligenza di mercato. [1], [9]

(Integrare con la frase precedente).È possible ottenere la suddetta conoscenza attraverso l’uso di un complesso strumento chiamato Business Intelligence System (BI System), cioè *“an integrated set of tools, technologies and programmed products that are used to collect, integrate, analyse and make data available”*[10]

Il BI System non fa altro che elaborare informazioni a partire da una sorgente di informazioni, chiamata Data Warehouse e definita come “*an integrated and time-varying collection of data primarily used in strategic decision making by means of online analytical processing (OLAP) techniques. It is essentially a database that stores integrated, often historical, and aggregated information extracted from multiple, heterogeneous, autonomous, and distributed information sources.”*[11]

Difatti costruire un grande Data Warehouse spesso porta a un maggiore interesse nell'analisi e nell'utilizzo dell'accumulo dati storici. Una soluzione è analizzare i dati storici in un Data Warehouse mediante analisi analitica on-line strumenti di elaborazione. Per OLAP si intende “software for manipulating multidimensional data from a variety of sources that has been stored in a data warehouse. The software can create various views and representations of the data. OLAP software provides fast, consistent, interactive access to shared, multidimensional data. These systems are used to discover trends, analyze critical factors and perform statistical analysis.” (Sito\_vedi glossario)

Riassumendo, possiamo affermare che lo scopo principale della tecnologia dei Data Warehouse è proprio quello di riorganizzare e sintetizzare le informazioni immagazzinate dai sistemi operazionali permettendo di condurre analisi immediate sull’andamento di determinati processi.

Definiamo Data warehousing come *“the process of constructing and using data warehouses”*[13]*.* Completata la fase di datawarehousing, si può passare all’analisi dei dati contenuti nel DW. Questa fase è detta OLAP: *“OLAP (On-Line Analytical Processing) refers to a set of data analysis techniques developed for analyzing data in data warehouses since 1990s.”*[14]

**DA INSERIRE**

DSS : “Decision support systems (DSS) are computer technology solutions that can be used to support complex decision making and problem solving.”[12].

After the information has been extracted from the data the information is yet to be interpreted the process used to interpret and derive value from information is often called as information value chain. The first step in the value chain is the extraction of data from different sources; applying different logics and business contexts to this data creates information; information is then consumed by BI users; Based on these information different decisions are made and executed; thus increasing the business value. [1]

BUSINESS INFORMATION TECHNOLOGIE

“An effective Business Performance Information System is built and maintained by business users to support the decision-making process especially at strategic level, making use of various indicators –quantitative and qualitative, lagging and leading – balanced against targeted objectives and/or industry benchmarks.” [15]

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