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DECISION SUPPORT SYSTEMS OR BUSINESS INTELLIGENCE. WHICH IS THE BEST DECISION MAKER?

[1]Sachin Kashyap Research Scholar

Singhania University Rajasthan (India)

[2]Dr. Pardeep Goel , Asso. Professor

Dean Of Science Faculties,

M.M. College Fatehabad (Haryana)

Abstract

It is very difficult for companies to maintain direct contact with large numbers of customers. For this a large number of goal oriented applications (e.g. e-commerce support, call center support) are being used . which develops a new data management challenge. That is really effective way to provide business solutions after integrating enterprise applications . Having studied from the past and forecast the future, The world of tools supporting decision-making process is very wide and full of confusing buzzwords. In this paper, we will throw light on two basic types of software solutions that can be used to support decision making process; DSS-decision support systems and BI-business intelligence.

Key words:

Decision Support tools, Data Warehouse, OLAP, Data Mining.

Introduction:

Business Intelligence: (BI) is a computer based technique used in detecting, digging-out, and analyzing business data, such as sales revenue by products and/or departments, or by associated costs and incomes.

"Business Intelligence is a set of methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information used to enable more effective strategic, tactical, and operational insights and decision-making. Business intelligence also includes technologies such as data integration, data quality, data warehousing, master data management, text and content analytics, and many others.

BI technologies provide historical, current, and futuristic views of business operations. The common functions of business intelligence technologies are reporting, online analytical processing, analytics, data mining, business performance management, benchmarking, text mining, and predictive analytics. This is the aim of Business intelligence to support better business decision-making. Thus a BI system can be called a decision support system (DSS).

A system that helps in making business decisions by analyzing data known as Business Intelligence is also a DSS application. A BI tool deploys processes, technologies and applications to analyze mostly internal, structured data and business

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processes while competitive intelligence gathers, analyzes and disseminates information with specific focus on business competitors. . Business Intelligence (BI) reporting tools, processes, and methodologies are key components to any decision support system and provide end users with rich reporting, monitoring, and data analysis.

Decision Support System: DSS is a collection of integrated software applications and hardware that form the backbone of an organization's decision making process. Companies across all industries rely on decision support tools, techniques, and models to help them assess and resolve everyday business questions. The decision support system is data-driven, as the entire process feeds off of the collection and availability of data to analyze

Generic Requirements for a Decision Support System:

- Data collection from multiple sources (sales data, inventory data, supplier data, market research data. etc.)
- Data formatting and collation
- A suitable database location and format built for decision support -based reporting and analysis
- Robust tools and applications to report, monitor, and analyze the data

Decision support systems have become critical and ubiquitous across all types of business. In today's global marketplace, it is imperative that companies respond quickly to market changes. Companies with comprehensive decision support systems have a significant competitive advantage. Business Intelligence systems can help a corporate understand the factors that are affecting their business, and improve the bottom line by delivering actionable information to the user's desktop.

Executive Information Systems [EIS] also known as Dashboards or Scorecards as they provide graphical presentation are designed to deliver specific key information at a glance to top managers who otherwise have little or no interaction with the system. A decision support system is an analytical application that permits the user to call up information from the data warehouse and manipulate it to derive actionable information.

In a business scenario Decision Support Systems often include features that allow the user to project how a business result would be affected if an underlying assumption were to change. For example, an investment decision might look less attractive if the company's cost of capital is driven up by an increase in the rate of borrowings. The Decision Support System could calculate the cost and the return on investment in several scenarios.

When it comes to business applications of the Decision Support Systems it can be thought of as a model of a business process. It gets some of its data from an underlying data warehouse, but the end result is a calculation based on the rules that govern that process. Some of the rules are known by the people who manage the process, but sometimes predictive relationships are found as a result of analyzing history. When these relationships are captured as an algebraic expression or an algorithm, and made part of the Decision Support System, they can be used to predict the impact of changes in controllable factors on the business process results, which are generally not controllable.

For example, an EIS system might display three gauges for Sales parameter: sales

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yesterday, sales this month-to-date versus goal for the month, and average sales per day this month. A manager looking at this data can determine if yesterday's sales were above or below average for the month, and whether they are on track for the month in total.

On the other hand, a Decision Support System allows the user to slice and dice that information and see what product lines are lagging or leading in sales, in what locations, and to bring in other information like available stocks, promotions, and competitive information that can explain why sales are lagging or leading. With that information, the concerned team or executive will be able to quickly make a decision to take corrective action.

Characteristics of an effective BI tool:

Business Intelligence (BI) reporting tools, processes, and methodologies are key components to any decision support system and provide end users with rich reporting, monitoring, and data analysis.

It should provide the organizations with a unified reporting, analytical, and monitoring platform that essentially forms the core of any Decision Support System.

Some of the important characteristics of an ideal Decision Support System are:

- **Integrated:** The integrated platform should enable administrators and IT professionals to develop data models, perform sophisticated analysis, generate analytical reports, and deliver these reports to end users via different channels (Web, email, file, print and mobile devices). This eliminates the need for companies to spend countless effort purchasing and integrating disparate software products in an attempt to deliver a consistent user experience.
- **Individual and group decision making support:** It should provide a single platform that allows all users to access the same information and access the same version of truth, while providing autonomy to individual users and development groups to design reporting content locally.
- **Comprehensive Data Access:** The software should allow users to access data from different sources concurrently, leaving organizations the freedom to choose the data warehouse that best suits their unique requirements and preferences.
- **Flexibility:** The application should possess sizeable library of APIs to cater to vast functionality. User organizations should be able to choose to leverage the power of the software's flexible APIs to design and deploy solutions tailored to their unique business needs.
- **Easy to Develop and Deploy:** It should be able to deliver an interactive, scalable platform for rapidly developing and deploying projects. Multiple projects can be created within a single shared metadata. As decision support system deployment expands within an organization, the software platform should effortlessly support an increasing concurrent user base.

Some Popular BI Tools:

Business	Version	Vendor

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Intelligence Tool		
Business Objects Enterprise XI	r4	SAP
IBM Cognos Series 10	10.1	IBM
Microsoft BI tools (integrated BI offering*)	2008/2010	Microsoft
Microstrategy	9	Microstrategy
Oracle Enterprise BI Server	11g1	Oracle
Oracle Hyperion System	9	Oracle
SAP NetWeaver BI	7.3	SAP
SAS Enterprise BI Server	9.2	SAS Institute
WebFocus	8	Information Builders

As per experts in future the use of business intelligence systems and other types of decision support software will be in about 80% of the larger and medium sized companies in coming 5 years or so. It is believed that many of these systems will merge into one powered by artificial intelligence (AI) which will enable the computers to locate relevant data, store them in the correct data warehouse and present them as needed. These new systems will be much easier to use and will require almost no training.

Future trends in DSS:

Many popular DSS tools that were the big hit around year 2000 have been transformed into full business intelligence tools instead, where you can get a broad overview over all your live data and easily make those tough decisions based on the facts and data instead of plain guesses. The new versions of decision support systems makes it even easier for you to make the right choices, as they present the data in a much better way than earlier. The data is more accurate and they are able to pull the data from additional sources.

But what can we expect in 10 or 15 years from these DSS tools? In the next 1-2 years we will be seeing a large increase in Apps for tables like the Apple Ipad, smartphones and similar devices. There are already a few of those in the market but the quality isn't that good yet and there are still a lot of room for improvements.

We will see DSS tools that can pull data from an even wider range of sources as more and more data gets stored and filed in the systems. We integrate the various sources more, there is much more logging of data too. This will help the decision support system to provide an even better overview and help you make some more accurate decisions making these types of business intelligence software systems even more valuable than today.

Right now many of the BI systems require a lot of training to use properly. This is

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something which is bound to improve in the near future so that even people with almost no training will be able to get the right data from the various systems and be able to use DSS applications easily. The Interfaces will undergo major changes as most of the tools will most likely to be designed for tablets instead of regular computers. This also means that they will need to either pre process the data on a more powerful computer first or make optimizations for the DSS tools so that they can process the data without having to use some heavy CPU and RAM power in order to do so

CONCLUSION:

The goal of the presented study was to identify general BI benefit factors, challenges, and organizational factors with a special focus on SMEs. Improvements in data support, decision support, and savings (e.g. costs, personnel) were identified as general BI benefit factors. BI challenges are related to usage, solution and data quality and interfaces.

The results of the study can create value for three groups: enterprises that plan to launch a BI solution, BI consultants, and BI suppliers. Prior to the launch of BI, enterprises are able to draw conclusions about their BI benefit and challenge characteristics by calculating the cluster that fits best with their company properties. BI consultants can see the challenges which their clients may possibly have to tackle prior to and during BI implementation according to their individual enterprise properties.

Therefore, they are able to shape the process of the BI launch individually. Finally, by applying the results of the cluster analysis, BI suppliers now have the possibility of customizing product marketing by identifying the enterprise characteristics, checking the fits with each single cluster, and deducing the individual BI benefit characteristics of their target clients.

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