

## Enterprise Performance Management with Business Intelligence Solution

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*Abstract:* - The main objective of this work is to develop decision-performance relationship for all hierarchical levels within a company, by identifying key factors and performance indicators, and present information tools that support performance management and decision making. Premise of this approach is that performance can not be strictly at the employee, but must be correlated with the performance of project teams to which the employee evaluated and integrated into the overall performance of the organization. Only through a continuous flow monitoring and analysis can build a sustainable mechanism to support the performance for an organization.

*Key-Words:* - Business Intelligence, Management, PerformancePoint Server, Scoreboard, Assessment

### 1 Introduction

This paper deals with the new operating environment for both the private and the public sector, the identification of performance criteria that ensure the competitive advantages of successful business development and where information and communications technology offers innovative interconnect solutions that is transposed into advantages for all stakeholders.

The purpose of this paper is to present a solution for business intelligence as a way to sustainable growth and sustainable performance project teams, operating at the level of an organization. Business intelligence solutions provides all the functionality required to identify, integrate and analyze disparate data from heterogeneous sources, allowing policy makers to take decisions and act based on knowledge of the facts to improve their operations.

A primary source for research, development and innovation at the level of organization is the opportunities brought by convergence initiated and developed both from the technologies and also from the areas of activity. The main objective of this work is to present relationship between objective, decision and performance for all hierarchical levels within a company, by identifying key factors and performance indicators, and present information tools that support performance management and decision making. Premise of this approach is that performance can not be strictly at the employee, but must be correlated with the performance of project teams to which the employee evaluated and integrated into the overall performance of the

organization. Only through a continuous flow monitoring and analysis can build a sustainable mechanism to support an organization's performance. From the business intelligence solutions on the market, this paper presents the benefits of implementing the instrument Office PerformancePoint Server 2007 for different decision makers, to identify the level of an organization based on a before-after scenario, presenting the situation after implementation of such a solution for business.

Performance of an organization is ensured by referencing a cumulating of factors, making a continuous and uniform analysis for the performance of employees and project teams, coordinating the organization to ensure the overall effectiveness of it.

Information management solutions improve the performance of project teams, supporting the achievement of project objectives within time and budget defaults.

In addition there are proprietary solutions alternative solutions that companies have available, the purpose of this paper is to present the benefits that using IT can make in the process of performance management at the level of an organization.

Using the potential technology has always proved a success, and presented case study confirms the efficiency level of performance within a company. For the future we will follow the implementation of business intelligence solutions which will improve data management and storage, delivery information and processes of query, reporting and analysis.

## 2 Relationships between Goals - Decisions - Performance

Performance management starts from goals. The objectives define the results that the employees should aim to achieve. The objectives represent the main components that provide the performance of planning, progress, reward and improvement. Without goals, it spends time and energy for activities that contribute very little to the success of the organization. Each company, department and employee needs goals and plans to pursue.

Objectives focus the limited resources and time of the employees to the things that matter the most. Some goals must be shared, communicated. Without communicating these goals, employees will target different directions and the cooperation will be minimal in the project teams, leading to a poor performance.

Moreover, the individual objectives should be correlated with those of departments. In fact, at the level of an organization should exist a hierarchical network of interrelated goals (Figure 1).

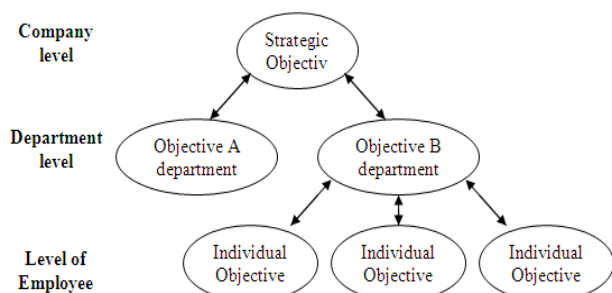


Fig. 1 Hierarchical alignment of the objectives [2]

### 2.1 Considerations in Setting Objectives

Often, at the level of an organization the objectives are confused with activities. While the activities describe how people spend their time, the results show that people want to achieve. When it is confused, many well-intended activities do not bring the expected results and not achieve the desired performance.

Each team and resource has a crucial role in the global performance. An instrument that can measure the performance can be of real help in dynamic conditions and realities of business for the moment. Whether public or private, organizations must decide about direction and efficiency of activities.

All management activities are an opportunity to integrate multiple systems of values.

By conflict or consensus, through the voice of authority or by consensus, they should identify different ways to collaborate [1].

Every day the organization must takes decisions about production, marketing, personnel and other decisions that affect costs, sales and profits. The efficient objectives should have the following main features [14]:

- *To generate a sense of ownership in those who will implement;*
- *To involve a consistent effort from the part of employees;*
- *To be achievable;*
- *To be measurable;*
- *Have deadlines;*
- *To be drawn up in writing;*
- *To be flexible.*

### 2.2 The Decisional Process

To obtain optimum performance, a company must align its activities and strategic objectives. Without tools to articulate a strategy, to communicate and follow this strategy within the company, may exists a gap between the strategy defined at the executive level and daily activities performed by employees. To achieve the objectives, companies need solutions that guide and improve decision making at all levels, strategic and operational.

The solutions for a dynamic decision-making meet these challenges by providing software applications in support of decision, in the form of dashboards and predictive analysis applications. With an increasing number of decisions and data, the Business Intelligence needs to adapt for meeting new constraints. To decide more quickly, anticipating, implementing corrective actions have become part of the expectations of users.

Taking into account how important is a performing decisional process for an organization, it is necessary to identify a more complete answer to the question: *Who are the decision makers who are the main directions for each hierarchical level and structural element?* To answer it requires a careful analysis of the processes of performance management, beginning with defining the main level and directions of decisional activity.

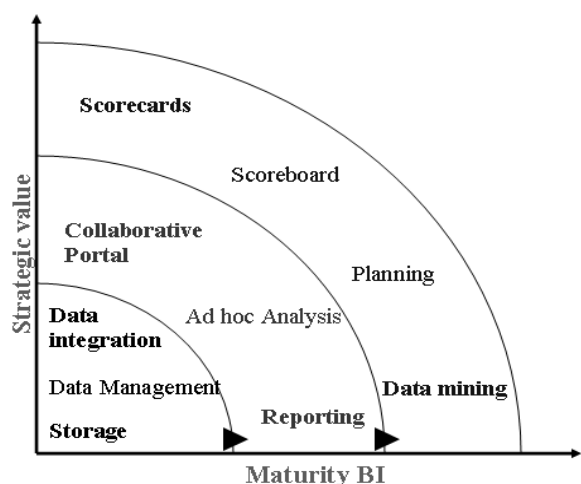


Fig. 2 Relation between strategical level and BI methodes [18]

The main level and directions of decisional activity follow the main functions of the organization:

- General Department of the strategy: operational management, measurement of global performance;
- Marketing department: improved targeting and cost of communications, recruitment and loyalty of the customers;
- Human Resource department: monitoring the evolution of skills, recruitment, analysis of payroll, anticipating the rotation of staff, management the pyramid of age;
- Administrative and financial department: analysis of the margin and costs, control of management and reporting, simulation and forecasting, budget evaluation;
- Logistics department: analysis of suppliers, anticipation of orders and inventory, management of procurement;
- Production department: optimization of production costs, cost control;
- Department after-sales, customer service: analysis of the level of service and customer satisfaction.

### 2.3 Software Solutions for Performance Management

Management needs often reports about performance indicators. When these performance indicators do not reach the desired level, additional information is required, more detailed, which help to determine causes of poor performance. The solution is offered by applications of "Business Intelligence", which includes the facility to calculate the performance

indicators in real time and presenting them in graphical views and synthetic table.

The expression "business intelligence" can be translated as "information about business" [13]. These applications offer the opportunity to examine the primary information used in the calculation of performance indicators, and to create different synthetic panels for each user. For example, executive management can view daily information such as: market share, price of the shares or daily sales; managers of the departments will receive information about stock levels or number of not paid invoices, and the employees will receive information about personal performance.

On the basis of an efficient decision should be a clarified objective, it must define a measurement method, to determine at any time the deviation recorded for daily activity. From the perspective of software solutions, the suppliers of "business intelligence" solutions focus on functionalities for reporting and analysis.

Any organization that has a volume of business that can not be managed only with the human factor is in the position to implement a computerized management system for critical activities: Financial / accounting - usually the first computerized, resource management (ERP - Enterprise Resource Planning), customer relationship management (CRM - Customer Relationship Management), are among the most widespread systems used by the various organizations today. ERP or CRM systems are essentially intended to systematically collect data generated from diverse operations, to order and store it. For this reason, they are called **operational or transactional systems**.

Although these systems allow access to the data, by generating reports and different situations, this set of functionality is limited and usually available only for the responsible managers of the system, people with technical training such as programmers or administrators of databases.

#### **Why „Business Intelligence“?**

Development of business brings with it increasingly complex questions: *What is the most profitable product to sell? What is the evolution of my profit margin for the X product over the past years? How can be operational costs reduced without affecting the performance of business? How can be losses reduced on the supply chain or on the production circuit? What is the volume of business with the Y supplier and what discount could I ask the next period? What is the best performing vendor of mine?*

...And for all of these questions managers need answers NOW!

With such a situation have faced international companies once their businesses have grown in volume and complexity and the markets have become increasingly competitive - a lot of questions that not found his answer in a useful time. Moreover, the economic recession resulted in a greater concentration for maximum performance with minimum cost, so that detailed and accurate information has become crucial to the processes of decisions-making.

Business Intelligence solutions have been unprecedented development in the last decade, and the companies that deliver such software solutions had a spectacular growth despite the economic recession. The functionalities offered to users have become increasingly diverse, covering a wide range of needs, from simple tabular reports or graphs able to follow the main indicators of the organizations performance to concise and synthetic views [3, 11].

If Romanian companies want to survive to the pressure of European competition, Business Intelligence solutions may provide the means to do so. From this point, this paper proposes a solution that allows intelligent and real-time measurement of the company progress, to ensure a sustainable growth of the performance in the MCS Communications Company.

### 3 Business Intelligence Information Solutions

Business Intelligence Solutions enable all stakeholders to improve performance at the strategic, tactical and organizational level. In addressing for each employee, from the computer engineer to the executive director, adding value to every decision and promoting collaboration. There is a comprehensive suite of integrated products providing uninterrupted access to a wide range of applications and reports, covering all aspects of decision making. Business Intelligence solutions can be used by all functions in an organization and in all fields of activity. BI is addressed to all employees of a company and more, customers and suppliers [5].

#### *Strategically*

- Managing business performance
- Risk Management and Compliance

#### *Tactical*

- Customer Relationship Management

- Managing the supply chain and logistics
- Computer analysis
- Financial analysis
- Sales and Marketing Analysis

#### *Operational*

- Control activities
- Operating Reports

### 3.1 Business Intelligence Solutions in Romania

Increased competition in certain sectors of the market makes the adoption of Business Intelligence solutions to become critical also in Romania. Companies, faced with a real competition, are interested to know what the best product on the market is, or the most profitable customer, or what new products could lead to the performance. If apparently a BI project is aimed at IT department of a company, requests for those are made later, in reality, by the business. In many of the banks active on the Romanian market is still performing manual reporting processes, which involved dozens of people and consumed a lot of time [17].

The process of selecting relevant information, analysis and structuring them becomes a difficult task without a right tool. On the Romanian market promote business intelligence solutions more companies, such as:

*SAP Business Intelligence*, provides required functionality to identify, integrate and analyze disparate data from heterogeneous sources, to help managers to implement strategies for long-term successful features [20].

*SolvIT Networks*, Computer Associates Enterprise Partner, offers on the Romanian market for Business Intelligence the QlikView solution, developed by QlikTech company [21]. QlikView, a leading BI solution, has been recognized by IDC as "solution for business intelligence software with the fastest growth over the past 3 years" [15].

*Oracle Business Intelligence*, offers a complete solution for Business Intelligence, designed to address the full spectrum of analysis requirements including queries, reports, data integration and management [19]. Stringent reporting requirements may lead on two possible approaches: the implementation of Business Intelligence applications or the development of an Business Intelligence solutions that respond to requirements

for special reporting. In reality, these approaches coexist - it can say that a complete solution for Business Intelligence is the type of buy & build.

**Penthao**, is a platform for business intelligence platform that includes reporting, analysis (OLAP), panel board, data mining and data integration such as ETL - Extract, Transform, Load - a data warehousing process. It can be used as a complete solution or as module components, accessed through web services [22].

**JasperSoft**, is an independent and operational tool for business integration, used for reporting, analysis and detail of daily operations of a company. It allows sharing, scheduling and distributing critical data [16].

### 3.2 Business Intelligence with Microsoft Office SharePoint Server 2007

Business Intelligence Solution provided by Microsoft is a full suite of applications servers, clients and developers, fully integrated with 2007 Microsoft Office System, which delivers desktop business information into a central and integrated menu [18]. Microsoft Business Intelligence includes back-end servers such as SQL Server, and front-end applications like Excel, Outlook, PowerPoint, Visio and Word, which are used in individual and collaborative SharePoint environments, using desktop technologies or mobile technologies (such as intelligent devices with Windows Mobile system installed) [12].

#### **Microsoft Office PerformancePoint Server 2007**

is an application for performance management that enables organizations to monitor and analyze their business. This tool is important because it allows easy construction of panel board and evaluation records for the organization, under which all employees of an organization can make informed business decisions to align with the strategy and the objectives of the entire company. Business Intelligence with Office SharePoint Server 2007 facilitates decision analysis and information access anytime, anywhere. They have the ability to obtain timely information wherever are the people who work, collaborate and make decisions, on the computer desktop or web. To align employee goals with the goals of management at the company level it is as easy as creating a spreadsheet or a report. The solution allows creation of complex and interactive board panels, business information that

assembles and displays information from disparate sources using built Web components. These Web components include dynamic key performance indicators (Key Performance Indicators - KPI), spreadsheets Office Excel 2007 reports, Microsoft SQL Server 2005 Reporting Services and a collection of Web components for the connectivity of data business that allow viewing the information stored in internal applications (back-end), for each activity area.

Microsoft Business Intelligence solution is designed for interoperability with the data that exists in almost any database source of the company, like Oracle, IBM DB2 or Sybase. For example, SQL Server 2005 Reporting Services can be used to run reports on data stored in an Oracle database or to create evaluation forms using Office Business Scorecard Manager 2005 with data stored in IBM DB2. Also, SQL Server 2005 Integration Services is used to extract data from or to any OLEDB data source.

## 4 Business Intelligence Solutions @ MCS Communications

MCS Communications Company, owner of Say stores, was founded relatively recently, in 2006 and actually started business in May 2007. It is part of the Milomor Trade & Communications companies, shareholder also for the HAT company, official importer of Samsung and FunGate mobile phones, provider of mobile content, distributor of electronic loading and DTH Television, provider of digital television Boom service.

Currently, MCS Communications has more than 320 employees and owns a chain of 90 stores operating by offering public mobile phones, services and products photo, multimedia, digital television and a wide range of accessories. All these stores are located in the main shopping centers, galleries or malls. The strategy expects that until the end of 2009, the Say Company to expand to 200 stores.

### 4.1 Technical Description

Business Intelligence provides business information to all persons within the MCS Communications Company, integrating two major components:

- **Business Intelligence Platform based on Microsoft SQL Server 2005**, which includes the relational database management system, SQL Server Integration Services, SQL Server Analysis Services, SQL Server Reporting Services and SQL Server Data Mining.

Business Intelligence solution is built on a scalable and reliable platform, SQL Server 2005, which is integrated with development platform Microsoft Visual Studio 2005;

- **2007 Microsoft Office System**, which deliver information through tools that users already know and which they can be based. Users can share interactive spreadsheets using capacities for formulas and charts creating, an increased number of columns and rows, mechanisms for advanced filtering and sorting and PivotTable and PivotChart views. The information can be shared and widespread safely with spreadsheets server based, allowing access for central management but also for colleagues, customers and partners through the web. Maps of strategy simplifies the visualisation of key areas, where the user can see the trends, identify quickly the areas with problems, maximize the success area and to monitoring the performance in real time, depending on the main goals.

#### 4.2 Functionalities

The solution implemented at MCS Communications provides the following functions:

- *Evaluation and Scoreboard*: expanding the range of business information and allowing every employee for management of performance through the customized evaluation forms based on the Web;
- *Analysis*: allow better and faster decisional process, through advanced viewing capabilities for analytical data;
- *Planning*: allow more effective planning and provisioning of the budget, helping users to create detailed models and flexible plans that synchronize data between departments and organizational hierarchies.

With Office PerformancePoint Server 2007, for each hierarchical level we can obtain the follow main functionality:

##### **For the Executive Manager:**

- *Alignment the business at the company level;*
- *Promoting the responsibility.*

Through detailed view of the Scoreboard and assessment records, users can align actions with strategic objectives. Users will be informed about business and will collaborate more efficiently using detailed, contextual analysis, obtained on the basis of structured and unstructured information. Users can assume responsibility for the results of an evaluation sheet, attracting aligning of the responsibility at the whole organization level.

##### **For the Financial Manager:**

- *Monitoring, analysis and planning with an integrated solution;*
- *Integration of advanced solutions for financial intelligence;*
- *Obtaining a unified business view;*
- *Supporting the consistency of the process for performance management.*

**For the Marketing Manager**, this must understand the business, the customers and the market, being responsible with the revenue of the organization:

- *Automatically centralization of data in a single location, for detailed access and analysis;*
- *The development of more accurate planning.*

## 4 Conclusion

In this paper we present the benefits of Business Intelligence solutions and a case study of implementation of such application that confirms the high level of performance within a company that is using the potential of Business Intelligence software tools.

Business Intelligence includes two major components: business information platform (SQL Server 2008) and tools for the end user, for example, Office PerformancePoint Server 2007. Business Intelligence provides an effective business solution for organizations of all sizes. Companies have the opportunity to implement reporting solutions in a small workgroup or a department, using SQL Server 2008 Reporting Services. Also, make queries and analysis using Excel Services, the new version of Microsoft Office 2007 with Microsoft Office SharePoint Server 2007. This combination provides the analytical capabilities and Web-based query for each user in a format easy to use and centrally managed and secured.

This proprietary solution is not the only alternative that firms have to implement, but it can offer a good example of the benefits of such a method.

The benefits of the solution implemented by MCS Communications are evident at the individual level and for all teamwork:

- In a traditional scenario the evaluation is carried out at intervals of time e.g. annually, by this assessment can be done at any time;
- In the past, the evaluation had an individual character, now it is done on three levels: individual, team and company. This fact provides a detailed and global overview much improved;

- With these solutions the evaluation of the performance is achieved in a more transparent way, the time of intervention is significantly improved;
- Provide in real-time of information about performance enable all levels of decision from a company to take corrective action, which removes the propagation of errors chain and lead to increased efficiency;
- The assessment process becomes multi-dimensional and the number of involved actors is significantly higher. This provides a higher degree of objectivity, unlimited to the capacity of coverage for the evaluation factor.

Using the potential technology has always proved a success, and presented case study confirms that the level of performance within the ERM Communications was significantly improved. In the future, the company M.C.S. Communications will implement other business intelligence solutions that improve their data management and storage, delivery information and processes of query, reporting and analysis.

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