

USING DASHBOARDS IN BUSINESS ANALYSIS

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Abstract: *Due to the development of information technology, every enterprise has a lot of data, which magnify the difficulties of selecting the most relevant. Hence, appears the mistake of measuring too many things. Owning too much information, will lead to vagueness, the opposite effect of a measuring system. This phenomenon does not depend on the manager's ability to compute and communicate, but rather on the ability to provide adequate information, to take good decisions and to compare results with the planned objectives. These can be done through a user interface – Dashboard, which is a tool that allows the alignment of business processes and strategies implementation. Dashboards are more than a collection of indicators and graphics, they are found in different forms and interfaces. Dashboards answer to many questions of the organization and are addressed to different types of audiences. Before creating a Dashboard, we must answer the following questions: who is our audience, what decisions should be taken after the analysis, in what context will be used, how often should be measured the indicators? Once an enterprise has identified a need for a dashboard, managers must go through the process of defining what they will include in their dashboard (key risk indicators and key performance indicators). This paper shows how this methodology has developed, the main features and benefits of Dashboards, as well as the most used software for creating them. As the main objective of the paper is to discuss how Dashboards can be used in business analysis (BA), in introduction, there are presented some general ideas about BA and benefits of using Dashboards. In the next section, there are presented several definitions for Dashboards and the steps which must be followed for implementing an efficient one. In the case study is created a dashboard for sales analysis of an enterprise, using Tableau Public. The paper ends with some conclusions and with the list of references.*

Keywords: dashboards - key performance indicators – management – business analysis – Tableau Public.

JEL classification: C53, M10

1. Introduction

According to the International Institute of Business Analysis (IIBA), business analysis identifies the weaknesses of the enterprise and tries to achieve those changes that provide added value to stakeholders. Business analysis must be implemented across all levels of the enterprise and help in defining the strategy, the goals, the requirements for projects and the improvement of technology and processes.

Every enterprise needs to magnify the business processes and to focus the activities on a clear set of goals. This can be done by implementing a Dashboard for each strategic objective of the company, which selects, arranges and shows the indicators in order to achieve a synthesis of the enterprise activity on a single glance.

Developed in the 80's, Dashboard is a methodology for analyzing and evaluating the performances and risks of the enterprise, and is currently used by more than 40 percent of the top 2,000 corporations in the world, in their Business Intelligence initiatives. Dashboards enable the success of the enterprise, by offering the right information to the right person at the right time. They may be considered an early warning system for managers, showing the present position in relationship to their strategic objectives. Dashboards can be created in Excel, Tableau Public, Reporting Services, SharePoint, Microsoft SQL Server, Performance Point etc.. All these tools can create dashboards, allow decomposition of business objectives and create a strategy to incorporate the necessary information. However most dashboards are created in Excel, because the cost of implementation is low and can be used to monitor the performance every week, day, and sometimes every hour.

2. Dashboards

In the 80's, managers tried to find a way to transform the strategic objectives of the enterprise in organizational behavior. Two researchers from Harvard, Kaplan and Norton, who are considered the parents of Dashboards, created a system that transformed strategies into actions, based on Balanced Scorecards method. After implementing it, some enterprises achieved successes, while others considered it a generator of additional expenses.

Over time, the model has developed and matured and is now in the third generation, suffering significant improvements. Currently, the model is used by companies around the world (Hilton, Infosys, Ingersoll Rand, Kraft Food, Merck, Lockheed Martin, Marriott, Motorola, Ricoh, Saatchi & Saatchi, Siemens, Cisco, Skandia, Statoil, UPS, US Department of Commerce, US Army, FBI, Royal Air Force). In Romania, among the companies that have implemented such a model are: Petrom, Rompetrol, ING Romania, UniCredit Tiriac Bank, Vodafone, City Pharma, Zentiva, Accor Services, Kraft Food Romania, Brau Union Romania, Danone, Anticoroziv, Romil Group, Ipsos Interactive Services, Siemens România, Michelin România.

The methodology has been implemented also in the public sector in Romania: The Ministry of Finance, Ministry of Internal Affairs, municipalities, county councils and prefectures.

Modern dashboards display key performance indicators (KPIs) and key risk indicators (KRIs), in related charts, maps and scorecards, in order to enable an enterprise focus on the most important performance activities. The purpose of the Dashboard is to display information on a single screen in a clear manner, in order to be understood by everyone. Dashboard is an application or a user interface that helps to measure the performance of the enterprise, understand the organizational units and the business processes.

Due to web development, Dashboards began to be used to reflect financial indicators in a manner understood by everyone. There are three types of dashboards: operational, tactical and strategic.

The executive departments use the strategic and tactical Dashboards, the mid-level management uses all three types of Dashboards, while CEO uses strategic and operational Dashboards.

When implementing a Dashboard should be considered: the objective, the audience, the impact, the data needed to analyse the problem, if are needed filters and in what format will be used the Dashboard (PC, mobile, iPad, etc.).

3. Case study

The Dashboard created in this section was conducted with Tableau Public. Tableau Public, created by a software company in Seattle, enables interactive data visualization and focuses on business intelligence. The product connects to relational databases, cubes and cloud databases. Tableau Public allows the creation of many types of graphs that can be combined in dashboards and distributed on the internet. Currently used in all areas, Tableau Public has imposed by the easy access not requiring programming skills. Among the advantages of using Tableau Public we can mention:

- Speed – is the most important strength of Tableau Public. It is able to analyse millions of rows and provide an answer in few seconds, enabling decision making in real time.
- Ease of use – based on the drag and drop option. Most of times, the graphics are created by importing an Excel file.
- Engaging and interactive Dashboards – enables creation of smart charts and graphs.
- Direct connection to databases (Google Analytics, MySQL, Microsoft PowerPivot, Oracle, SAP, Windows Azure Marketplace DataMarket, Excel, etc.)
- Easy sharing – can be easily distributed on internet and mobile devices.
- Popular Tool of Business Intelligence

Next we built a Dashboard for an enterprise in Romania, which has as main activity the production and sale of engine parts. Shareholders want to know how sales have evolved in 2010, for this demanding a comprehensive report. The first figure illustrates the countries where they shipped the enterprise's products by sales value and sales agent, through whom the transaction was made. It can be seen that most customers are located in Western Europe and preferred FedEx for products delivery.



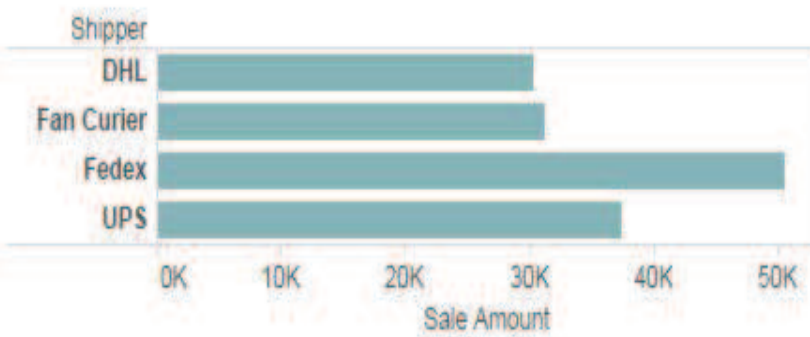
Salesperson

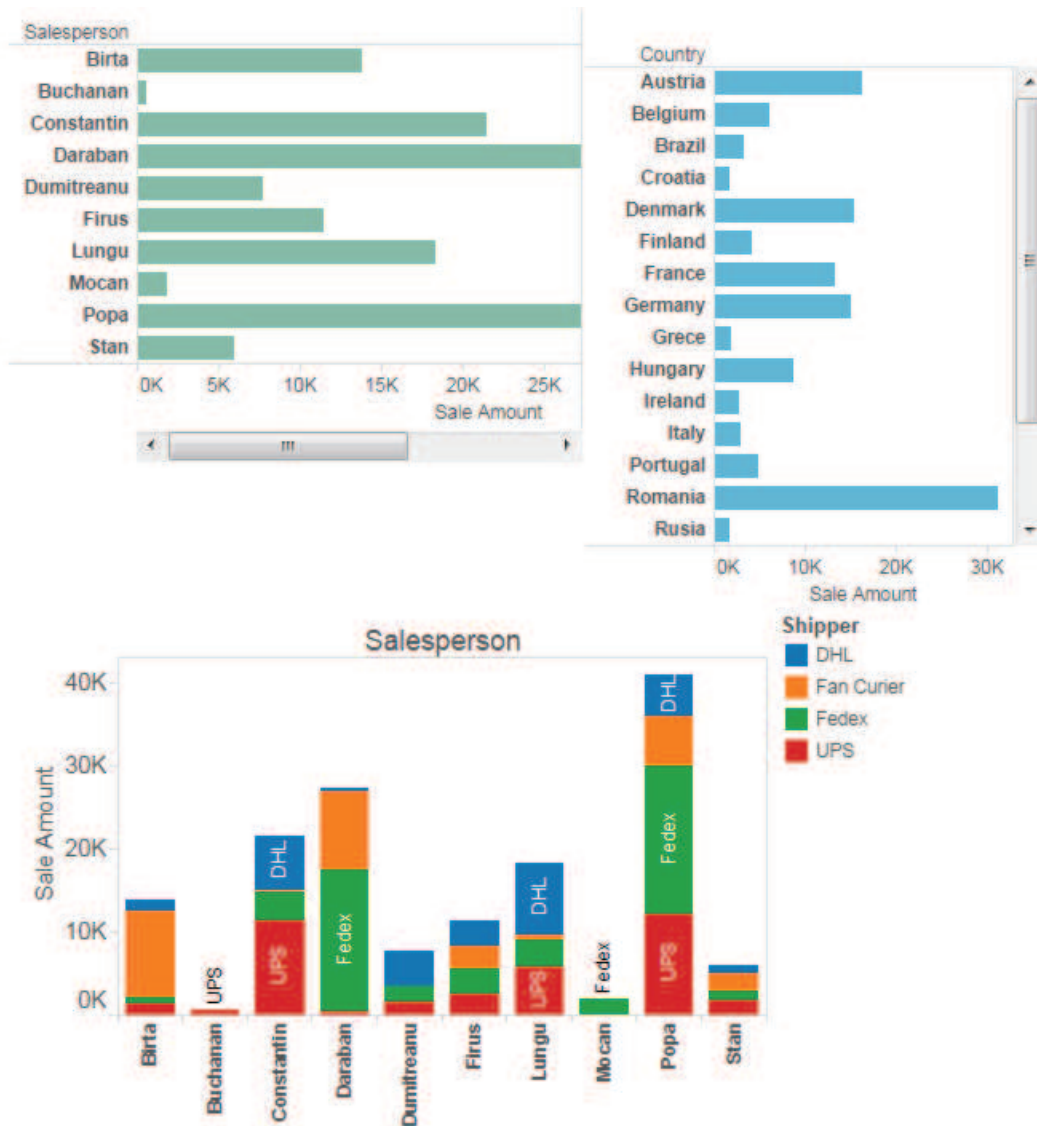
- Birta
- Buchanan
- Constantin
- Daraban
- Dumitreanu
- Firus
- Lungu
- Mocan
- Popa
- Stan

Sale Amount

- 176
- 2.000
- 4.000
- 6.000
- 8.000
- 10.000
- 11.188

Sale's Dashboard





The other graphs show the products sold in each country, the products sold by each salesperson and the customer preference for courier companies. After studying this Dashboard, were made decisions about in which countries should be more promoted the enterprise products, the introduction of a remuneration system for employees according to their sales performances and renegotiating contracts with the courier companies preferred by clients.

4. Conclusions

Dashboards might be implemented at all the levels of the enterprise, as a tool that changes the business culture. One of the most important benefit of using Dashboards is the fact that managers can analyse a single screen where are monitored the key risk indicators, or the key performance indicators and can make decisions and undertake actions to mitigate the risks and improve the performance of the enterprise.

Tableau Public is a useful tool for creating interactive Dashboards, that analyse millions of data in seconds. A Dashboard that monitors the evolution of sales, enables the

manager to make decisions regarding: the market position, the potential customers, the performance of employees, who are the most efficient suppliers and collaborators etc..

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