BUSINESS INTELLIGENCE INSTRUMENTS FOR HR MONITORING

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Business Intelligence is the combination of the information from several sources, and presenting results in a form that can be used in taking business decisions. Processed and presented in an intelligent way, this information gives the company the advantage necessary to face competition.Implementing a BI solution is more than simply applying technology to achieve a particular business objective or to address a problem. Business Intelligence allows end users to interact with business information and answer ad hoc questions without advanced knowledge of the underlying data sources. These tools support query generation and basic report authoring, as well as integrated analysis. In this article,I will present a BI solution, implemented through QlikView Application, thanks to which it is possible to monitor the company personnel.

We can define Business Intelligence as the platform for the presentation of information in a correct, useful and specific manner to decision makers in due time to help them make efficient decisions.

Even though most applications offer an easy reporting system, a BI application does not analyze the information from one source but from different applications. At the basis of a BI application there is a common data warehouse for all applications that makes 80% of the time to be used for data analysis. The key to understanding BI is to figure out the way in which data is transformed in information and then analyzed and integrate it in BI architecture, tools and applications. BI does not produce data; it uses the data created by enterprise applications: ERP, CRM, SCM etc.

Even though in Romania the interest in such solutions cannot be compared to that on developed markets, the situation has changed lately. In spite of this, at a world level, new changes appear in the basic philosophy of "business intelligence" software solutions.

Due to the increase in the rhythm of business development in today's world, the managers need more and more to exercise a more precise and sophisticated control, giving up outdated practices and trying to base their decisions on more accurate information. What is more, delegation in decision making could not function properly without adequate access to information.

The effects of installing a BI system are amazing, since it produces the needed information exactly when it is needed, ensuring at least one of the ingredients of business success. BI can offer answers to the essential problems of an organization. Answers are found based on the analysis and comparisons of historical data, both of those within the organization and of those from external sources. Collecting and analyzing the data allows managers to understand business tendencies, the weak points and strong points, to analyze the competitors and the market situation.

The labor force is no doubt the most important resource within a company. The efficient use of the labor force and the possibility to evaluate employees, the optimal development of the recruiting processes, the development of programmes for personnel training – are only some of the elements that contribute to the business success. Human resource management plays the most important part in increasing the profitability of a company. In this context, the use of BI solutions to carry out informational and analysis processes related to human resources is a compulsory requirement.

In Romania the management centered on internal processes still prevails over the management centered on customer and finally, on the human resources. Thus, in the context of the revolution experienced by the Romanian economy with regard to the cost and human resource fluctuation, the lack of a strategy for all employees results in huge loses, difficult to measure and prove.

A good administration of human resources allows not only a decrease in the costs of personnel management but also the increase in individual profitability. The final aim should be to place the employee at the centre of the enterprise strategy and to integrate him in the totality of traditional functions for the management of human resources.

More and more companies that use ERP solutions have developed specialized modules to analyze and synthesize of management information. The integration of advanced BI technologies, with solutions based on reference data on the market, allows companies to implement functions for an efficient processing of the data collected by the means of this kind of solutions.

In order to build the monitor of personnel application we made use of the QlikView application, a strong and complete pack of Business Intelligence software and of data analysis which offers a better means of handling the data of a business.

Qlik View is the business intelligence solution that extends the concept of simplifying the analysis for everybody, further than ever. The extended facilities for personalizing and visualizing information, combined with advanced co-operative work abilities make QlikView easily adapted within organizations (companies and public institutions) that use intensively electronic data stocks.

Qlik View offers:
- personalized dashboards;
- a powerful reporting engine – fast and easily combines and distributes data from multiple sources;
- flexible solutions - Qlik View users can connect to the internet;
- personalized applications – the possibility to develop very fast 100% personalized solutions.

Data referring to human resources is processed in due time and analyses such as: the analysis of labour force, absenteeism, productive hours, personnel expenses, training days etc can obtained. The simple and comparative analyses, the examples and statistics shown in a corresponding chart are important means to support decision, the solution meeting the needs of the company in the short, medium and long term.

For exemplification I have built, by the means of QlikView application the following three calculation pages:

1. Gross income analysis: where the departments of the company and the positions are shown in a table(see fig.1). For each function and a period of time of four months the following information is calculated: the number of employees holding the same position, the total sum and the monthly average of the gross income for taxation as well as the minimum and maximum gross income assigned over a month.   Of course the graphic can be changed with only a few clicks to obtain the same sheet for each employee. Thus the differences in salary from one month to another and between two employees with the same position can be noticed. The monthly evolution of these parameters is easy to follow, and comparisons can be made between two consecutive months.

Calcule - brut pentru impozitare					Numar angajati	Brut pentru impozitare mediu ...	Medie lunara	Minim	Maxim
Dimensiune DEP_NAME ●	FUNCTIE		Luna	NUME_PRENUME					
Total					156	277,531	1,779	0	8,500
		Total			6	4,527	755	577	1,012
				Popescu Ion 3773	1	586	586	586	586
				Popescu Ion 3774	1	1,012	1,012	1,012	1,012
	Analist aplicatie		10/2008	Popescu Ion 3775	1	633	633	633	633
				Popescu Ion 3776	1	766	766	766	766
				Popescu Ion 3914	1	953	953	953	953
				Popescu Ion 3915	1	577	577	577	577
	Analist programator	Total			1	1,870	1,870	1,870	1,870
			10/2008	Popescu Ion 3754	1	1,870	1,870	1,870	1,870
		Total			9	11,226	1,247	633	2,000
				Popescu Ion 3764	1	681	681	681	681
				Popescu Ion 3765	1	633	633	633	633
				Popescu Ion 3766	1	2,000	2,000	2,000	2,000
				Popescu Ion 3767	1	1,528	1,528	1,528	1,528
	Operator		10/2008	Popescu Ion 3768	1	1,541	1,541	1,541	1,541
				Popescu Ion 3769	1	1,239	1,239	1,239	1,239
				Popescu Ion 3770	1	1,462	1,462	1,462	1,462
A	IT			Popescu Ion 3771	1	1,142	1,142	1,142	1,142
				Popescu Ion 3772	1	1,000	1,000	1,000	1,000
		Total			52	103,199	1,985	649	4,357
				Popescu Ion 3755	1	779	779	779	779
				Popescu Ion 3756	1	1,144	1,144	1,144	1,144
				Popescu Ion 3757	1	1,540	1,540	1,540	1,540
				Popescu Ion 3758	1	3,180	3,180	3,180	3,180
				Popescu Ion 3759	1	2,160	2,160	2,160	2,160
				Popescu Ion 3760	1	998	998	998	998
	Operator Calculator		10/2008	Popescu Ion 3761	1	2,945	2,945	2,945	2,945
				Popescu Ion 3762	1	2,849	2,849	2,849	2,849
				Popescu Ion 3763	1	3,447	3,447	3,447	3,447
				Popescu Ion 3887	1	2,569	2,569	2,569	2,569
				Popescu Ion 3888	1	1,638	1,638	1,638	1,638
				Popescu Ion 3889	1	800	800	800	800
				Popescu Ion 3890	1	2,403	2,403	2,403	2,403
				Popescu Ion 3891	1	2,234	2,234	2,234	2,234
				Popescu Ion 3892	1	800	800	800	800

Figure 1 – Gross income analysis

2. Salary expenses that contains, for the company, the total sums regarding the standard wage, the gross salary, total cost, net salary and the total number of employees per month. This analysis is very important as it presents the salary and personnel fluctuations for each month. The report can be modified, by changing the parameters to offer the same information for each department..

Figure 2 – Salary expenses

3. The supervision of employee activity. Is done by recording the days with sick leave and holidays, the number of training days, extra hours, the hours with normal work regime, the hours worked in the night shift or on holidays, for each month(see figure 3).

A simple click can change the chart to visualize information on sick leaves and holidays, the number of extra hours, the number of hours worked in the night shift or normal work regim per employee or change the period of time(one month or nonconsecutive months).

The same information on leaves can be displayed in a chart but grouped on a department, on positions or on budget groups.

The charts show the monthly evolution in the number of working hours, the absenteeism or personnel refresher courses.
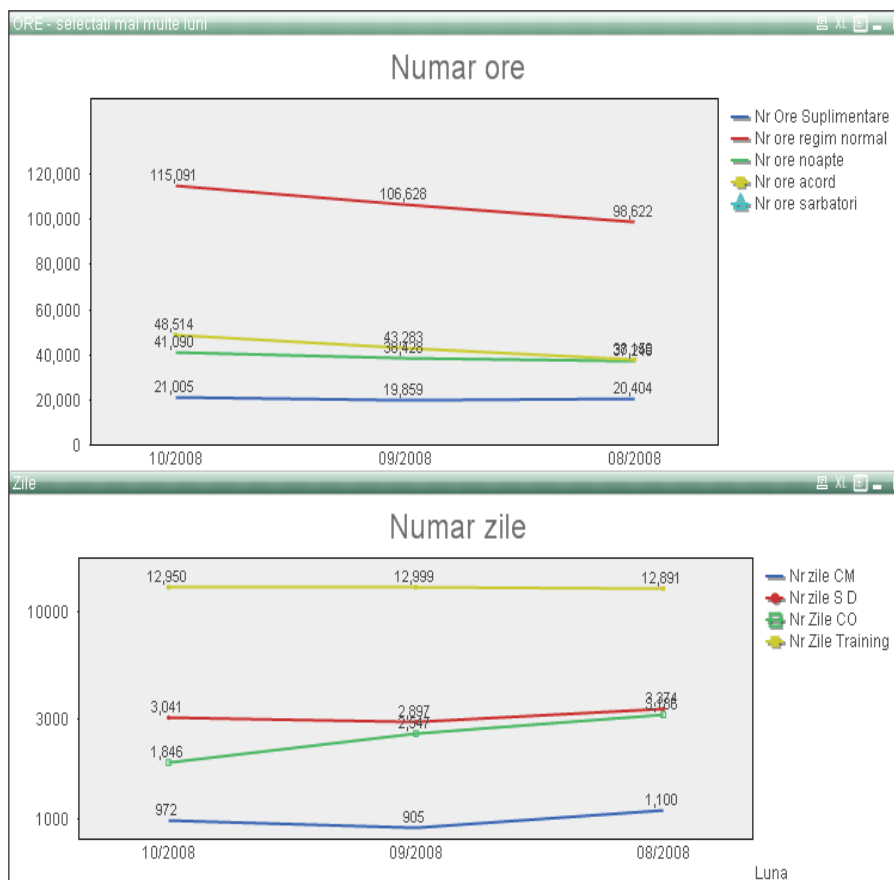
Figure 3 – The supervision of employee activity

4. Bonus calculation includes, for each department of the company, the total number of extra hours, the value of extra hours and the sums of money from the bonus category awarded to employees every month(see fig. 4). The bonus is one of those elements that increase motivation and influence the productivity of the employees' work. Motivating employees improves their spirits and the individual development of the employees, and creates an organizational climate that encourages work and high performances in the organization. The efficient use of motivation by managers requires inborn qualities and special training. In fact, these elements represent the content of leadership which has been highly stressed lately with substantial economic results in the competitive companies of developed countries. The report can be used to create statistics regarding the bonuses awarded to the company employees in a month or over a certain period of time. At the same time, the sums in the incentive category given

by company to its employees can be compared, for the whole company or for each department.and there can be gathered information regarding each employee, to know exactly the degree of satisfaction of the economic expectations of the employees.

Figure 4 – Bonus

5. Evolution of pay rise contains for each employee the minimum standard wage and the maximum standard age the difference between maximum and minimum, the percentage of the difference and the average standard salary over a three month period of time. (See fig. 6). The last column shows the number of months with pay rise. The actual analysis of the salaries can be done when it is needed, for the whole company or only for a small group of employees.

Figure 5 – Evolution of pay rise

This report offers the informational support to control pay rises in a company with decentralized decision, with many employees (the increase percentage of over 20% are automatically signaled – colored in red). In the present example the increases are due to the change of position as well as the pay rise decided directly by the employer.

Conclusions

If Romanian companies wish to survive the pressure of European competitiveness, business intelligence solutions can provide them with the necessary means to achieve it.

The benefits of using some BI systems to monitor human resources can be divided into:

- providing a comprehensive perspective over the labor force and thus foreseeing the impact of HR decisions;
- monitoring employees' performances;
- data security and protection;
- fast access to different information and actions;
- personnel management within the organizational structure of the company;
- the possibility to simulate multiple variants of salary alteration to ensure a proper budget allocation;
- preserving the history of the employee's activity and the material benefits received;
- monitoring the efficiency of the employees' activity and their progress;
- the management of the advance of wages, prizes, salary growth, and deductions,
- cost cutting and increasing activity efficiency within the human resource department.

The list of benefits, compared with the ERP systems ca continue with: saving the time spent with the periodical reports (report collecting, diverse consolidations and adjustments, reducing the amount of time spent on repetitive activities, reducing the part played by the IT department in generating reports in favor of the end-user and, the most important thing, reducing the time for decision making. When the decision is better documented due to the quality of the available information we can finally talk about an organization ready to face any changes that might occur on the market no matter how fast or sudden they are.

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