

# PRACTICAL PROBLEMS OF DATA WAREHOUSE USING IN PRACTICE

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## Abstract

*Article describes detailed use of data warehouse in practice. There is mentioned specifically areas and requirements for data warehouse by insurance company and also there is drafted the impacts on business processes after its implementation.*

## Key words

*data warehouse, processes, practical problem, data warehouse in insurance company*

## Introduction

Begins the time when companies are required not only recovering themselves business from the crisis, but even the increase profits before this period. This is mainly because during the intervening period capital is invested in training their staff, upgrading equipment and other innovations. Also they were improving process of government on all its levels from top management through the project and line management to process management. Governance is based on quality information, which are actually transformed and enriched data with experiences. And currently the process management as an area of automation helps us in processing large amounts of data, based on daily production.

The correct setting processes can make company incredibly flexible and independent from support for the production, where often times many companies waste significant resources on ineffective procedures and unreliable employees. The exact opposite can be seen mainly in the bureaucratic machinery of national governments and multinational institutions, where may be noticed a much larger number of bad processes' settings and their management.

During mature management of processes are used data warehouses. The task of using data warehouses for management of processes is stored data in so-called dimensions, where the advantage of a multidimensional approach (OLAP) is a movement along several dimensions (as time, location, quantity) compared to relational access (OLTP), where data are stored in two-dimensional tables [1, 6].

## **Theoretical utilization**

The first authorized question is always the question: "How to actually use the company data warehouse?". Of course, there are many objections that required reports and information can still be obtained from the primary systems. Not to mention how to build a data warehouse is difficult and requires further period of considerable amount of its maintenance or need to be complied with licensing conditions. Yes, these claims are justified but a data warehouse solution is not enterprised for small business but for medium and larger sizes corporations. In such corporations begin to be generating reports from relational databases ambiguous and cannot guarantee their strict view. Of course that we still have a realistic look at business demands is necessary to updated data constantly, as also other reports and analysis. This view then becomes difficult sustainable for production systems. Since their hardware is built to other (transaction) operations on first site and many queries limited functionality in their current performance with not a little impact on the primary activities of company. This is only the type of problems which there will be added problems with large package of code and so on. These solutions then bring on fragmentation of objectives and ultimately reduce efficiency of work [7].

A lot of definitions about using a data warehouse can be found on the Internet. They mainly focus on general outputs as

- Integration of data from different sources into one system.
- A data warehouse contains history, available data for the past few years.
- Data are ordered by individual operators.
- Data are stored at different levels of aggregation.
- Data are periodically read from the operating system (usually at night and weekends).
- Users only read data, i.e. not exercise their input or alter them.
- Data from the data warehouse are used by a wide range of methods for data analysis and presentation [2].

These empty phrases are assigned for top managers, who decide about the investments and cash flow. These phrases only support questions how will be improved the situation in the company after the implementation of data warehouse and data mining.

- What else is important for our decision?
- What are the alternatives we offer and what we need to know?
- We have about all this data and we are able to register [2]?

In this case, we cannot be really surprised from distrust of the effectiveness of building a data warehouse and subsequent use.

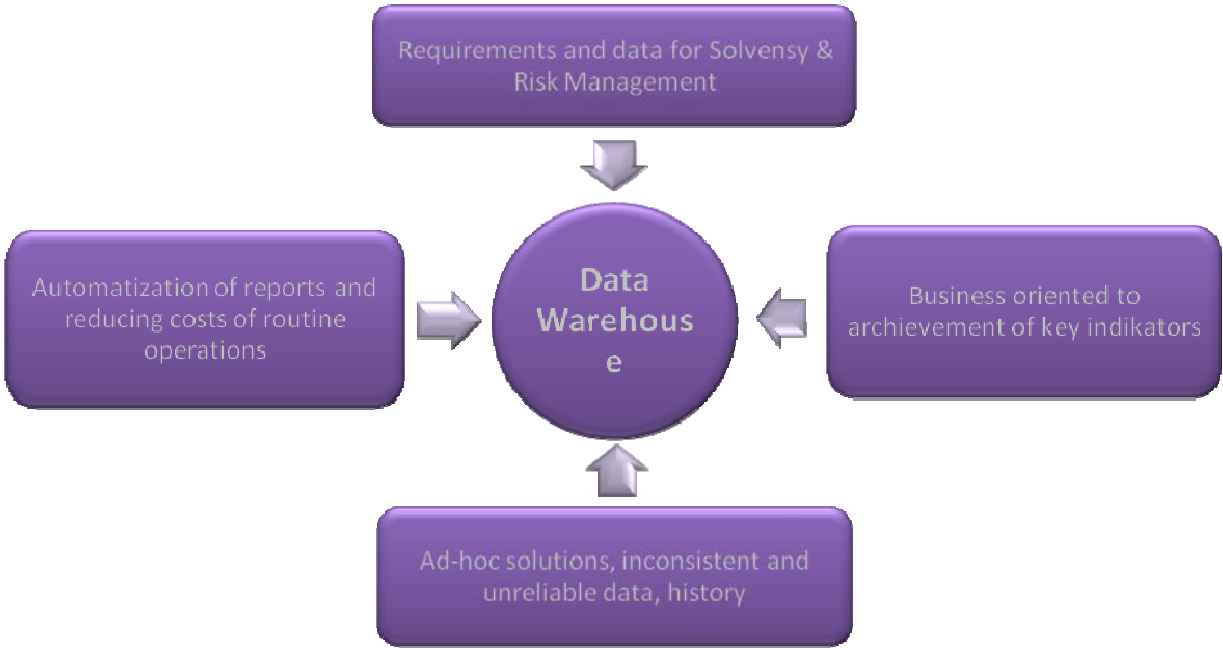
## **Practical problems**

Building a data warehouse delivers solutions that provide the basis for a sufficiently rapid and consistent analysis of historical data [2], from which certain methods we can predict the future.

If I want to be specific, I will describe a practical example from the financial sector - insurance, where reporting is based on the accounting system, what is not showing all the requirements of management, sales channels and not controlling.

Lack of a single data source is then a fundamental barrier to performance measurement of sales channels, products, segments, or their key indicators. Since performance measurement is

one of the most important tools to achieve strategic objectives - building high-quality data warehouse is an essential part of an insurance strategy. The following figure illustrates the motivation for an insurance solution based on the data warehouse:



*Fig. 1 Motivation of implementation the data warehouse*

Implementation of the warehouse is focused to support users in particular those set out areas:

- BUSINESS area
- FINANCE & CONTROLLING area
- RISK MANAGEMENT & SOLVENCY area

Within these main areas incurred in obtaining user requirements and specific sections which can specify a specific name.

**BUSINESS AREA**

**Consolidation of customers and subjects on policies**

Division of subjects is focused on monitoring key indicators covering all the entities entering into a relationship to the insurance company (policy owners, insurance, beneficiaries, insurance payers, etc.). Reports are primarily focused on tracking profiles of entities and their behavior within the Company.

**Sales production**

Section of sales production is focused on monitoring key performance indicators of sales network (agents, direct distribution channels, call center, bank, etc.). With these parameters in combination with the relevant dimension the insurance company is and will continue capable undertaking of very dynamic management and streamline the activities of all sales lines. The insurance company acquires a unified view of the whole structure of business and a full range of performance and evaluative statistics and analysis of performance measurement of sales network and cross selling to enhance trade insurance success.

### **Commission agents / distribution channels**

Using key indicators of section Commission, user follow up as aggregated as well as details of commission agents (calculated, charged and actually paid or even unpaid commissions), and may take initiatives to adapt and change in different types of commissions, or any changes to the commission system.

### **Marketing Campaign**

Section focuses on creating and evaluating marketing campaigns. Key indicators and reports will help insurance company to efficiently create, manage, evaluate and address the existing and new clients.

### **Portfolio**

Section insurance portfolio is aimed on monitoring key indicators that testify to the state, structure, quality, additions, disposals of portfolio, so about the cancellation rates and increases in existing policies. Users also dispose of data about reinsurance in different areas (eg geographic) and therefore it permits for example more effective targeting of marketing campaigns (younger clients, a specific region, segmentation by object of insurance ...).

### **Insurance regulations and insurance premiums, including reinsurance**

Key Indicators section of the insurance regulations are aimed at monitoring the overall financial situation of insurance company. Users can provide quality and consolidated data on the payment behavior of clients, details of claims or to respond to bad payment morale. Financial analyst also has available a robust tool for liquidity management of insurance and for planning the overall cash flow of funds. Finally, it is necessary to mention indicators for communication with the reinsurance companies and reports of the status of the capital value and reports of structure of investment funds.

### **Claims (including reinsurance)**

Claims division is focused on monitoring key indicators of claims settlement. It includes the whole set of key indicators which provide information about the liquidation, liquidators performance, help maintain claims record for the projected amount, or reveal hidden trends in the process of liquidation.

### **Reserves including reinsurance premiums**

The content of this section is directly related to the previous section – premium billings and monitored parameters specify information about the financial aspects of insurance business. Analyst is received accurate and timely global indicators of financial indicators and a global view of the evolution of reserves, surrenders, or a portfolio of the fund.

## **FINANCE & CONTROLLING AREA**

### **Profit and Loss**

Profit and Loss section is specialized on monitoring key indicators affecting profit of insurance company. It encompass the whole set of key indicators that provide detailed information on individual cost and revenue items of the profit and loss accounts in the detail of individual controlling objects on a certain date and also indicators that provide information of type of profit and loss.

### **Balance sheet**

Section balance sheet is aimed on monitoring key indicators affecting the assets management and liability of insurance. It includes the entire set of key indicators which provide detailed information of individual items of passive and active balance in given date.

### **Reconciliation**

Section of reconciliation is an additional area for the Profit and Loss and Balance sheet and its role is to ensure consistency / accuracy of the reported indicators between accounting, accounting system as other source systems of insurance at level of reconciliation general ledger accounts by detail of policies, products, acquisition clerks, insurance loss.... As a part of this section is the holding / recording of all accounting transactions for the purposes of accounting audit and account management.

### **Cost allocation & Profitability**

Cost allocation & Profitability section is an add-section of the Profit and Loss, its role is to ensure equity of measure performance of separately controlling objects (product, segment, customer, distribution channel...). The scope of data warehouse does not deal with the rules of allocation indirectly attributable costs and revenues for individual controlling objects, but provide the possibility of loading these allocations from another, to a dedicated system and ensure the opportunity of demonstrating profit and loss before and after these allocations through detached dimension.

### **Business and financial plan**

Business -financial plan section is additional area of several mentioned section and its role is to provide an opportunity to compare indicators of achievements and planned magnitudes especially in areas related to performance measurements.

## **RISK MANAGEMENT & SOLVENCY AREA**

The content of this data warehouse area is to prepare the data associated with the calculation of solvency as well as internal risk management insurance.

### **Conclusion**

The results of the implementation of a data warehouse are noticeable in some areas already within the first weeks in others it will take time until processes will be changed. It is clear already that higher number of people is not involved in the creation of reports and summaries. Most of them can be given rightly on implementation of the results, which are brought by the establishing of data warehouse and OLAP reporting. Others who worked on its design are dedicated to analyzing reports and new reports are no longer difficult alchemy but question a few minutes or hours.

The establishment of a data warehouse means therefore clear benefits in the direction of the company. It brings focus on real problems and creates business more competitive by specialists, who can aim just on their goals and do not deal support for managers. Company is able to change the operational requirements of the needs of the market, which we can predict by help of reporting. We currently monitor the market and direct investment, as well as keep track which products in which area are more or less profitable. Or at least provides important information on the solvency of the company against its creditors.

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