

# DATA WAREHOUSE - PROJECT

## 2016 - 2017

### The context

A property insurance company (automobile, real estate, civil liability) has a transactional application which allows managing its customers' insurance policies (contracts) as well as the accidents declared by these customers.

### Policy management

To manage policies, the insurance agents can make the following transactions:

- Create, update or delete an insurance policy,
- Create, update or delete a risk (for a given policy),
- Create, update or delete the insured properties (car, house) on a risk,
- Calculate (assess) or refuse the risk,
- Validate or refuse the policy.

We record in these transactions a lot of data, in particular:

- the date of the transaction,
- the effective date (contract term start date),
- the customer (person, legal entity),
- the operator (employee, risk manager, general approver),
- the risk (product sold by the insurance company),
- the cover (description of the insured properties product),
- the policy (policy number, rating of the policy or the risk),
- the transaction (code transaction).

### Accidents management

To manage the accidents declared by the customers, the insurance agents can use the following transactions:

- Create, update or delete an accident claim,
- Create, update or delete an expertise,
- Create, update or delete payments,
- Close the accident.

These transactions contain in particular: the date of the transaction, the effective date (reception date of the accident claim), the customer, the operator, the risk, the sinister properties, the policy, the third-party involved in the accident, the financial amounts (limits, now paid, to be paid,...), the transaction code.

From this transactional application, we are willing to create a Data warehouse allowing answering the following questions:

- for every insured property, we want to know the amount of the insurance premium (annual amount paid by the customer to insure the property) associated with the insured property, and the number of transactions executed during a month for this property.
- we want also to be able to build dashboards by disaster with the total paid in the month and the total received in the month for this disaster.

## The purpose

Draw up the project charter concerning the construction of this data warehouse.

To help you to structure your thought, here are the different steps I suggest you to follow:

1. Define the decision-making model to be set up: indicators (facts) to be measured and the axes of analysis (dimensions) proposed.
2. Specify the nomenclatures chose on every dimension.
3. Identify the possible doubtful and degenerate dimensions.
4. Define the informative scope of the data warehouse :
  - identify the data sources,
  - locate these sources (intern to the company, external data),
  - audit the data quality of the sources according the answers you got on point ③.
5. Define the public target of the data warehouse and deduct its type (EIS/DSS or data mining system) and engine (ROLAP/MOLAP/HOLAP).
6. Propose the most coherent technical architecture according to the geographical location of the target users.
7. Calculate the size of the target data base in **TB** and propose a configuration machine / data base which is adapted to the problem.

8. Propose relevant application architecture by detailing tools chose for the processes of :
  - data supply, by giving the refresh rate of the warehouse for every source defined in point ④ and the meta data essential to the harmonization of the collected data,
  - storage, by indicating the storage life of data (number of months or years),
  - publication and access to the data.
9. Propose one or two report models which can be obtained with the display tools detailed in point ⑤.
10. Indicate how will be made the change management with the users.
11. Define the processes of governance (how will be piloted the project ?) and of production (how will be developed the data warehouse ?).
12. Identify the main risks of failing for the project.
13. Compile all these items to constitute the project charter (you will find in appendix a template of project charter).

## The schedule

- ☞ **8<sup>th</sup> and 9<sup>th</sup> February 2017**: kick-off of the project with delivery of the subject and constitution of the project's teams (2 students maximum).
- ☞ **1<sup>st</sup> April 2017**: sending of the project charter to [jpdamestoy@hotmail.com](mailto:jpdamestoy@hotmail.com).
- ☞ **7<sup>th</sup> April 2017**: publication of the teams' results.

## APPENDIX: template of project charter

### **Drivers of the project**

1. Purpose of the data warehouse
2. Main actors: contracting authority, customer, and other stakeholders
3. Users of the product
4. Governance of the project
5. Main identified risks

### **Constraints on the project**

6. Conventions of naming and definitions
7. Facts and useful hypotheses

### **Functional requirements**

8. Informative perimeter of the data warehouse
9. Data model proposed
10. Functional requirements and requirements on the data
11. Applicative architecture proposed

### **Technical requirements**

12. Technical architecture proposed
13. Mains tools of the solution

### **Non Functional requirements**

14. Appearance and perception: ergonomics of the solution
15. Performance
16. Security of the system