





/* the Business Intelligence Free Platform */

Laboratorio SpagoBl Case Study e Inventory

Testimonianza di: Daniela Tura

daniela.tura@eng.it



Questions to start



Who my customer is?

- What is his business?
- How is he organized?
- What his technological level is?
- What are his critical points?

Who are my potential users?

- Business roles
- What they manage
- What analysis habits they have
- Inefficiencies and troubles

Needs

- General and particular needs
- Urgencies and positive or negative effects

Data management

What are the areas with better or worst data organization?

Don't start immediatly developing reports!

Don't start to satisfy all areas in one shot!

Identify your first customer in customer

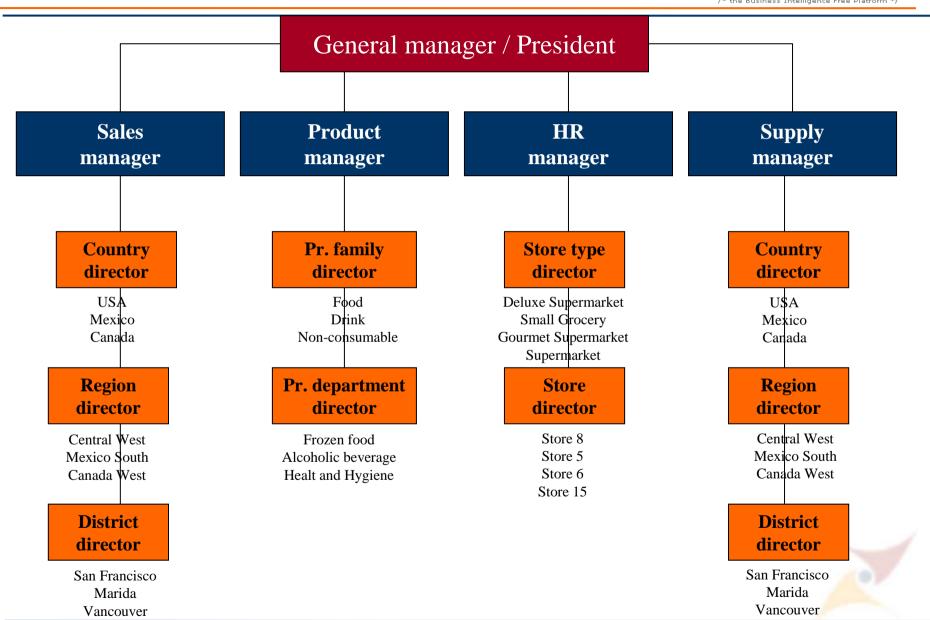
Don't start from area with the worst data

Evolutive plan



Case study







Case study – starting point



General manager / President Sales **Product** HR **Supply** manager manager manager manager **Country** Pr. family Store type **Country** director director director director USA Food Deluxe Supermarket USA Drink Mexico Small Grocery Mexico Canada Non-consumable Gourmet Supermarket Canada Supermarket Pr. department **Region** Store Region director director director director Central West Central West Frozen food Store 8 Store 5 Mexico South Mexico South Alcoholic beverage Canada West Canada West Store 6 Healt and Hygiene Store 15 **District District** director director San Francisco San Francisco Marida Marida Vancouver Vancouver



Case study – starting point



Aims:

- satisfy the users' analytical needs
- regulate the visibility on data and documents in relation to the users' roles and business responsibilities
- set up a representative model of the users behaviour
- choose the rigth tools for every category of users and analysis need
- build a customized model and analytical environment, with different freedom degrees
- set up an evolutionary development plan



Analytical questions



General director:

- Are the profits in line with my expectations?
- What's the value of the effort to reach the annual aims?
- How am I with respect to my competitors?
- What are the product lines with best performances?
- What are the distribution lines with best performances?
- What is my position on the market?
- What is my factor of competitiveness?
- What are the growth rates with respect to last year?
- What is the company's state of health?
- What are the critical states on the internal costs management?
- What are the structure costs to optimize?
- What are the greater inefficiency factors?
- What is the costs optimization degree?
- ...



Analytical questions



General director:

- Are the profits in line with my expectations?
- What's the value of the effort to reach the annual aims?
- How am I with respect to my competitors?
- What are the product lines with best performances?
- What are the distribution lines with best performances?
- What is my position on the market?
- What is my factor of competitiveness?
- What are the growth rates with respect to last year?
- What is the company's state of health?
- What are the critical states on the internal costs management?
- What are the structure costs to optimize?
- What are the greater inefficiency factors?
- What is the costs optimization degree ?
- •



Analytical questions



Sales manager (Country Sales director, Regional Sales director partially):

- Am I respecting the sale aims?
- What about the sales with respect to last year?
- What are the most difficult zones?
- How the sales are distribuited over geography?
- How do the promotions act on the sales?
- Why are the sales of a product fallen in a few zones?
- **–** ...

Product manager (Product family director partially):

- Where a promotion is useful? Where a promotion is necessary?
- What product could be the most competitive?
- Where and when the launching of a the product is opportune?
- How is the product sales state ?
- What is the most profitable product?
- What is the most expensive product for the company?
- What products are more fashionable?
- What is the product most bought from young people? And from old ones? And from female?

– ...



Toward an answer



Data Analysis

- Identify the relevant indicator to answer to the Analytical questions
 - Grane, historical depth
- What elementary data they involve?
- Where elementary data are ?

Implementation

- How can I reach source data?
 - ⇒ ETL/EAI/EII, loading critreria (time, policy)
- How have I to organize data in order to satisfy the analytical needs?
 - ⇒ Data Model
- What are the meaningfull views?
 - ⇒ Analytical document types and templates
- How user works with analytical documents
 - ⇒ Behavioural model



Data mart - Sales



region time by day product class store region id time id store_id product class id sales city promotion the date store type product subcategory sales state province promotion id the day region_id product category sales district the month store name product department promotion district id sales_region the year store number product family promotion name sales country day of month store street address media_type sales district id week_of_year store_city cost month of vear store state customer start date quarter store_postal_code end date customer id fiscal_period store country product account num store_manager product_id Iname store phone fname product class id store fax mi brand name first opened date sales fact 1998 address1 product name last remodel date product id address2 SKU store_sqft address3 SRP time id grocery saft customer id address4 gross_weight frozen saft promotion_id city net weight meat_sqft sales fact 1997 store_id state province recyclable_package coffee bar postal_code video store low fat product id store sales country units_per_case salad_bar time id store cost customer_region_id cases_per_pallet prepared food customer id unit sales phone1 shelf width florist promotion_id phone2 shelf height store id birthdate shelf_depth store_sales marital status store cost yearly_income unit_sales gender total_children num children at home education date accnt opened member_card occupation houseowner num_cars_owned



Analytical document types and templates



General director

- Are the profits in line with my expectations?
- What's the value of the effort to reach the annual aims?
- How am I with respect to my competitors?
- What are the product lines with best performances?
- What are the distribution lines with best performances?
- What is my position on the market?
- What is my factor of competitiveness?
- What are the growth rates with respect to last year?
- What is the company's state of health?
- What are the critical states on the internal costs management?
- What are the structure costs to optimize ?
- What are the greater inefficiency factors?
- What is the costs optimization degree?

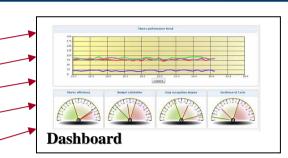
- ..

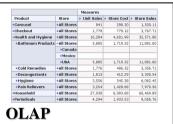
Sales manager (Country Sales director, Regional Sales director partially)

- Am I respecting the sale aims?
- What about the sales with respect to last year?
- What are the most difficult zones?
- How the sales are distribuited over geography?
- How do the promotions act on the sales?
- Why are the sales of a product fallen in a few zones?
- ...

Product manager (Product family director partially)

- Where a promotion is useful? Where a promotion is necessary
- What product could be the most competitive?
- Where and when the launching of a the product is opportune?
- How is the product sales state?
- What is the most profitable product?
- What is the most expensive product for the company?
- What products are more fashionable?
- What is the product most bought from young people? And from old ones? And from female?...











QbE – Query by Example



Analytical document types and templates





















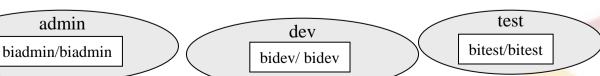
generalManager president/ president productManager prd_mng/prd_mng salesManager sales_mng/sales_mng salesCountryDir sd usa/sd usa sd canada/sd canada salesRegionDir rd usaw/rd usaw rd usac/rd usac rd canadaw/rd canadaw productFamilyDir

pd_drink/pd_drink

pd_food/pd_food

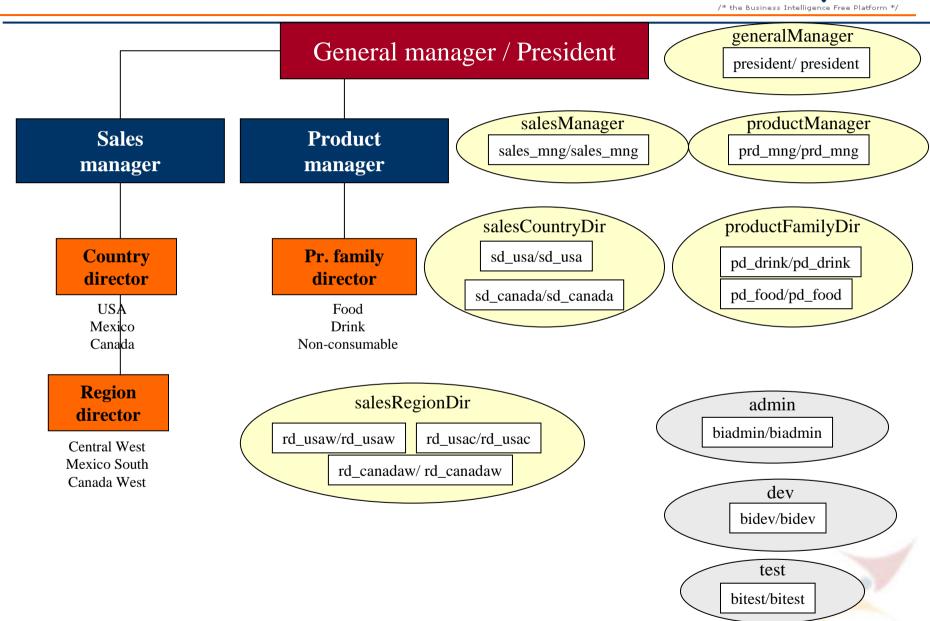
Groups of users in order to regulate:

- What Analytical documents the users can look at
- What data the available Analytical documents show off
- What SpagoBI portlets and functions the users in the group are enabled to use



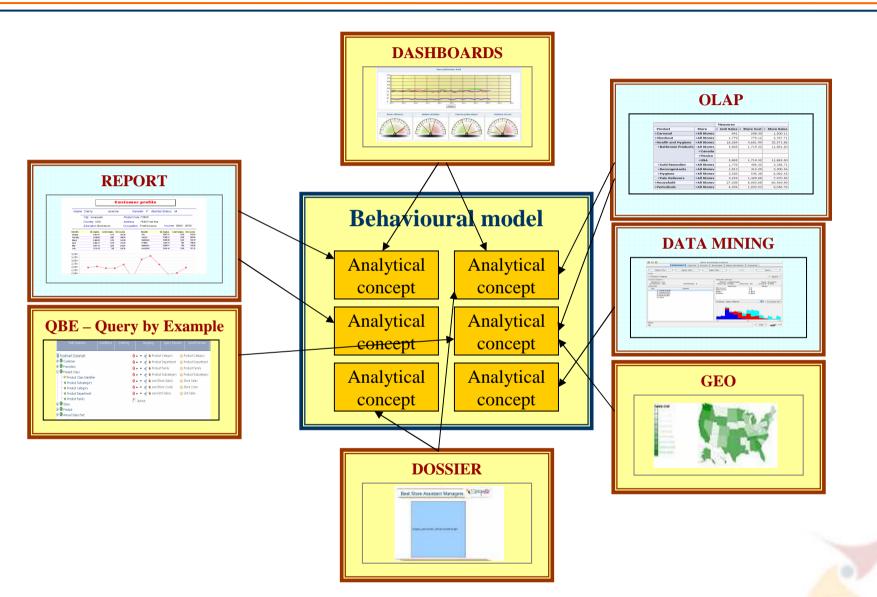






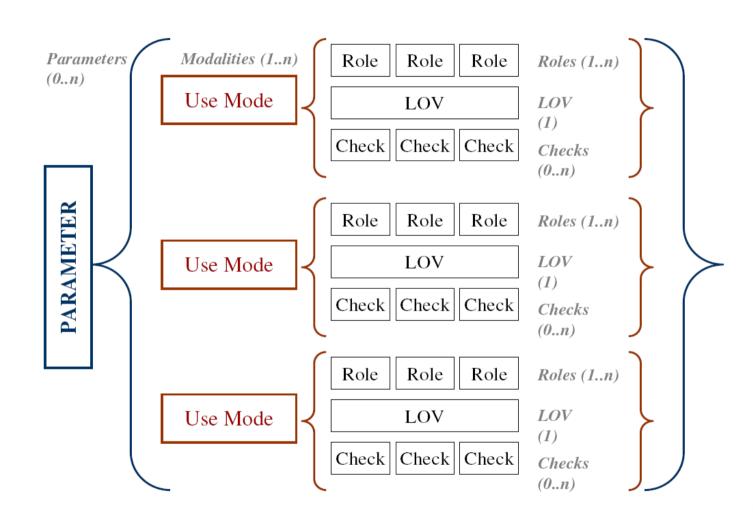






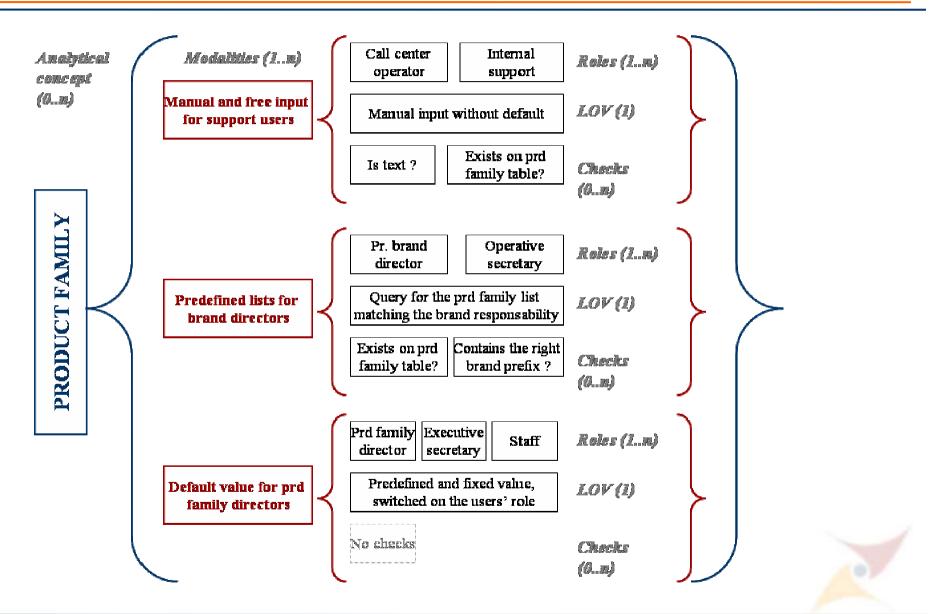














Behavioural model at work







Call center operator

Internal support

Pr. brand director

Operative secretary

Prd family director

Roles

An authenticated user chooses the analytical document to be executed

Analytical document
Structural

configuration

Analytical document
Structural
configuration

Analytical document

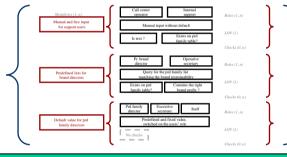
Structural configuration

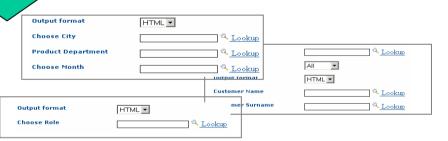
Analytical document

Structural configuration

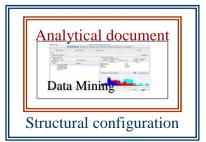
The executive configuration of the analytical document is read and a page is produced for the input of the parameters according to the user's roles

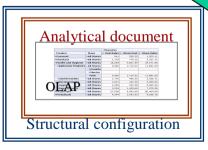


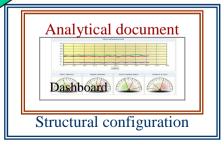




The input values for the parameters are checked according to the user's roles and the final document is come back to the end-user











Inventory (Data mart)



region time by day product product_class store region_id time id product id store id product_class_id sales city the date product_class_id product_subcategory store_type sales state province the_day brand name region id product category sales_district the_month product name product_department store_name sales region the_year SKU store number product_family sales_country day of month SRP store_street_address sales district id week_of_year gross weight store_city month of year net weight store state quarter recyclable package store postal code fiscal_period low fat store_country units per case store manager cases_per_pallet store_phone shelf_width store_fax shelf height first opened date inventory_fact_1997 shelf_depth last_remodel_date product id store saft time id grocery_sqft warehouse id frozen saft warehouse store_id meat_sqft units ordered coffee bar warehouse id warehouse class units shipped video_store warehouse_class_id warehouse class id warehouse_sales salad bar warehouse name warehouse cost prepared_food description wa address1 supply_time florist wa address2 wa address3 wa address4 warehouse_city warehouse state province warehouse postal code warehouse_country warehouse_owner_name warehouse phone warehouse_fax



Inventory (Metrics)



Main metric: Out of stock

Analysis metric:

- Adjustment
- Frequence of order
- Size of order
- Product cost (related to reorder level)
- Store employees (salary, education level)
- Time period
- Promotion on product