Case description

This case provides a more complete description of the application of a number of modelling techniques to the case of a European hire car company – HiCar.

Business Model

A number of statements categorised in terms of the elements of a Business Motivation Model are presented below (OMG, 2007):

- **Vision**: to be the car rental brand of choice for business users in the countries within which we operate.
- **Goal**: to provide industry-leading customer service.
- **Goal**: to provide well-maintained cars.
- **Goal**: to have vehicles available for rental when and where customers want them.
- **Objective**: by end of current year to be rated in the top 6 car rental companies in each operating country in the European Union.
- **Objective**: by end of current year to score 85% on the company’s quarterly customer satisfaction survey.
- **Objective**: during the 4th quarter of the current year, no more than 1% of rentals need the car to be replaced because of mechanical breakdown (excluding accidents).
- **Mission**: to provide a car rental service across Europe and North America for business and personal customers.
- **Strategy**: to operate nation-wide at major airports in each country within the European Union and compete effectively with other premium car rental companies.
- **Strategy**: to manage car purchase and disposal at local level following practices conformant with national guidelines.
- **Strategy**: to join an established rewards scheme run by a third party supplier.
- **Tactic**: encourage rental extensions.
- **Tactic**: to issue each member of the sales force with a digital assistant able to access central pricing and booking systems.
- **Tactic**: create standard specifications for car models to be used across the group for purchasing.
- **External influencer: competitor**: the presence of ‘premium-brand’ car rental companies such as Hertz and Avis.
- **External influencer: supplier**: car models, prices and contract terms and conditions offered by car manufacturers

Information model

HiCar is a car hire company which operates in most states of the European Union. HiCar maintains two types of organisational unit: depots and hire-points. Depots are places where hire cars are held, serviced and maintained. Hire-points are places where customers hire cars.

Any one hire-point has access to many depots. Each depot may supply cars for many different hire-points.

Customers pick-up cars from depots and return cars to depots. A given customer must pick-up a hire car from a specific depot but may return cars to a depot of their choice.

Employees of HiCar are categorised as either hire-point or depot employees. Depot employees remain at a particular depot. Hire-point employees frequently move between a fixed number of hire-points.

An information model documenting these requirements is presented in figure 1.

The requirement is to build an ICT system that keeps tracks of where cars are being held, where and who has hired them and the movement of employees.

![Figure 1: Information Model for HiCar](image-url)
Business rules
A number of business rules relevant to the discounting of car hire are presented below:

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Day Rental
AND Customer ISA Club Customer
AND Booking => 3 Days in Advance
THEN Customer Discount = 10%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Day Rental
AND Customer ISA Club Customer
AND Booking <= 3 Days in Advance
THEN Customer Discount = 5%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Week Rental
AND Customer NOT ISA Club Customer
AND Booking => 3 Days in Advance
THEN Customer Discount = 15%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Week Rental
AND Customer NOT ISA Club Customer
AND Booking <= 3 Days in Advance
THEN Customer Discount = 10%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Month Rental
AND Customer ISA Club Customer
AND Booking => 3 Days in Advance
THEN Customer Discount = 20%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Month Rental
AND Customer ISA Club Customer
AND Booking <= 3 Days in Advance
THEN Customer Discount = 10%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Month Rental
AND Customer NOT ISA Club Customer
AND Booking => 3 Days in Advance
THEN Customer Discount = 5%

RULE
IF Customer rents Car
AND Car Rental Group ISA Compact
AND Rental Period ISA Month Rental
AND Customer NOT ISA Club Customer
AND Booking <= 3 Days in Advance
THEN Customer Discount = 0%

Commentary
This case study provides a number of snapshots of the application of modelling to various aspects of the business systems relevant to HiCar. This can be used as the basis for extension. For instance, activity and process models as well as information system models can be developed for a typical hire car company.

Keywords
- Organisation
- Private Sector
- Organisation
- Business model
- Business motivation model
- Information
- Information model
- Knowledge
- Business rules

Source