SWI 2013

Background

Heineken Global Logistics is our international supply chain knowledge centre, located in Zoeterwoude, the Netherlands. The Corporate Distribution & Logistics Department (CDL) delivers a significant contribution to the development of the Heineken business worldwide through business improvement projects, knowledge development initiatives, and policy making in the area of distribution & logistics. One of the knowledge areas is the management of Returnable Packaging Materials (RPM).

Heineken owns a vast amount of returnable packaging materials (bottles, crates and kegs) worldwide. The company expects to increase the investment in returnable packaging material significantly in the coming years. The use of returnable packaging materials has a great financial impact in the needed investments and, depending on the returnable system, on the Profit and Loss of the company.

When an RPM needs to be replaced, because of an update of design for example, Heineken needs to calculate the total amount of items required. Big black box in this is the market and the investment required to replace the stock in the market. This market stock is not only depending on different drivers (sales volume, seasonality, route-to-market etc.) but also depending on the RPM system (e.g. full-for-empty, deposit system) in place with its specific dynamics.

Assignment description

Task for the study group is to develop a (statistical) model for estimating the amount of RPM items in the different markets Heineken operates in.

We expect that this estimate depends on the circulation time of the RPM items, that is, the time between sale and return. What is an efficient way of sampling the circulation time, taking into account sales volume, seasonality and different customer channels such as on trade (bars, outlets, etc.) and off trade (supermarkets)?

Based on this model

- What is a good estimator for the number of RPM items Heineken needs when replacing/introducing a product in a new returnable packaging material?
- Furthermore, how can the demand of RPM items for the coming years being estimated?
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