

## Abstract

### ***“Order-picking layout design”***

#### **Area**

Logistics, warehouse logistics

#### **Keywords**

Warehouse layout, order picking, route optimisation, picking performance optimisation, efficiency

#### **Study/project**

Project, part of the “Retail Management Projects” module

#### **Starting point/project assignment/objective**

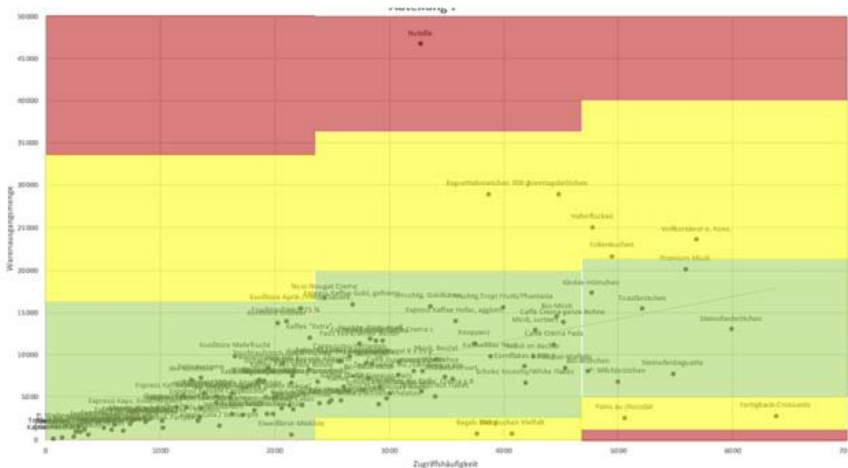
Success and sales growth result in increased product volumes and, usually, an expanded range. Changes to product ranges and the associated allocation of warehouse and order-picking space usually lead to suboptimal results. An existing logistics area had reached its limits. Extending this would have created more room for logistics and supported efficient management of the same.

Analysis of the order-picking characteristics relating to the product range structure was the starting point. Based on this, a concept was to be drawn up for the location and size of the order-picking zones and the respective products with the objective of picking products for orders and making them available for delivery using optimised routes, reflected in shorter route distances/times and an increased pick rate. Consideration had to be given to the store layout when developing the order-picking concept.

#### **Procedure**

- Analysis of product-specific data of relevance to order picking
- Identification of “critical” products (frequency of selection and quantities involved)
- Consideration of delistings and listings
- Analysis of the in-store placement sequence
- Identification of possible order-picking strategies

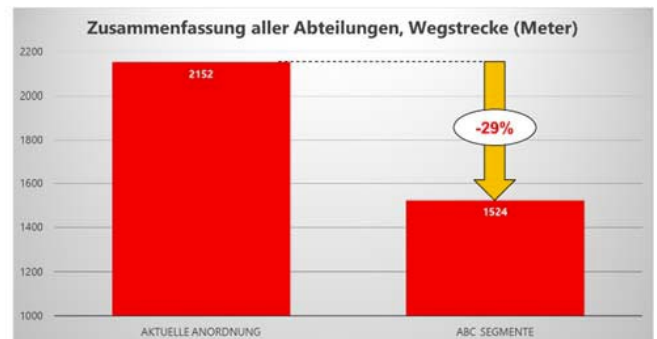
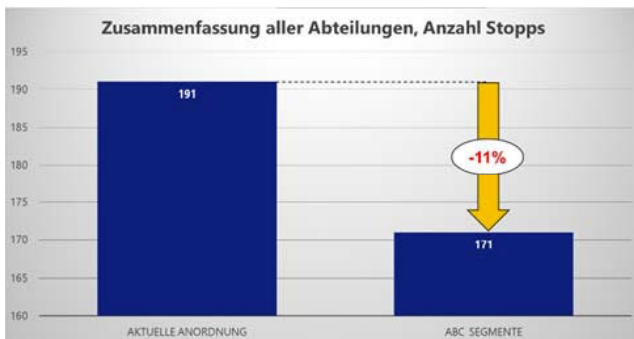
- Product area and product layout aligned with the order-picking strategy
- Monetary and non-monetary assessment of the option based on specific order-picking orders



### Results/findings

The order-picking strategy and associated product layout that satisfied the requirements described above were chosen. This resulted in an 11% reduction in stops and 29% reduction in route distance (measured in metres).

	Aktuelle Lageranordnung		ABC-Platzierung „Gang 1“		Aktuelle Lageranordnung		ABC-Platzierung „Gang 1“	
	Aktuelle Lageranordnung Abteilung 7	ABC-Platzierung nach akt. Anordnung	ABC-Segmente	ABC-Segmente	Aktuelle Lageranordnung	ABC-Platzierung „Gang 1“	ABC-Segmente	„Gang 1“
Strecke (in Meter)	147 Meter	102 Meter	84 Meter	117 Meter	96 Meter	123 Meter	76 Meter	84 Meter
Anzahl Stopps	18 Stopps	17 Stopps	15 Stopps	19 Stopps	12 Stopps	13 Stopps	7 Stopps	8 Stopps



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