



Research School for Operations  
Management and Logistics

**Studies on alternative waste-reduction strategies for online supermarkets**

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In the research three different topics will be studied that can all contribute to the reduction of waste of perishable items sold by online supermarkets. The first strategy is the use of dynamic pricing of substitutable products. By increasing the price of a product that is sold more than expected and reducing the price of a product that (partially) substitutes the first product and is sold less than expected, some customers might be convinced to buy the second item instead of the first. In the long run, less inventory is needed to serve the same amount of customers. Because of the perishable nature of the product this will reduce the amount of items wasted. The second strategy is to introduce a so called 'opaque product'. An opaque product is one of the products within a group of substitutable products of which not all details are revealed to the customer. For example instead of specifying the brand of milk, the item will be described as '1 litre of milk'. The supermarket can dynamically assign the item that is sold relatively less than expected within the product group to be the opaque product and set a lower price in order to sell overshoot inventory. The third strategy is to convince customers to order their groceries ahead of time by offering discounts. With this 'advance demand information' the total demand will become more predictable. Increased predictability will decrease the amount of waste because lower safety stock is needed.