Imagine walking to your local post office in order to pick up your latest purchase from your favorite e-tailer, and suddenly realizing at home when opening the package, that only half of the products are there. Attached to the invoice is a note telling you that the remaining products will arrive tomorrow, in another package. This phenomenon is called a split delivery, and a case study at H&M Online shows that the amount of split deliveries can be substantially reduced by incorporation split deliveries in the development of new order fulfillment and return decision policies.

With increasing volumes and larger markets within fashion e-commerce, the phenomena of split deliveries is getting more common. The reason why a split delivery occurs is that when you are shopping online, you are not only exposed to the products in stock in a single warehouse, but to several warehouses whose stock levels of different products are aggregated in the e-tailer’s inventory system. So when you place an order on a shirt and a pair of trousers, it could be so that the shirt is sent from a warehouse in Austria and the trousers from a warehouse in the Netherlands. This is of course both troublesome for you as a customer and expensive for the company that sold the products.

The benefits of avoiding a split delivery is two-fold by reducing logistics costs and increasing customer satisfaction. Logistics costs are reduced by merging two deliveries into one, avoiding both handling and distribution at one warehouse. Customer satisfaction is increased as all products are guaranteed to arrive at the same time, all products can be returned in the original package and there is no risk for confusion.

H&M Online is the e-commerce division of one of the world’s biggests fashion companies; H&M. Due to their rapid growth over the last couple of years, H&M Online is now expanding its warehouse network and encountering the issue of split delivers for the first time. During the fall of 2016, a study was conducted resulting in a framework for how e-tailers, like H&M Online, should tackle this new problem. The framework can be used by fashion e-tailers to assess their supply chain in order to find ways to reduce the number of split deliveries. It provides a clear structure so that relevant trade-offs are identified and taken into consideration.

By applying the developed framework at H&M Online and proposing new decision policies for the fulfillment and return process, the number of split deliveries could be reduced by 93 %. This is shown by simulating sales and returns for a full year at three of H&M Online’s markets in Europe; Austria, the Netherlands and Germany. The simulation shows both to what extent split deliveries can be reduced as well as how other important factors such as distributions costs and warehouse activities are affected. In the case of H&M Online, distribution costs turned out to be the main trade-off when configuring the policies to reduce the amount split deliveries. New policy decisions taken by H&M Online when expanding their warehouse system will therefore depend a lot on the distribution cost for delivering their packages to the end customers.