

## **Testing and evaluation of a self-transportation solution for consumers from a retail store**

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Globalization, rapid growth in the use of mobile technology and consumer shopping behaviors are making the organizations to adapt and align their business processes in order to be competitive in the global market. When adapting to these changes the organization faces challenges but creates opportunities for new solutions. In terms of these changing patterns, IKEA a global retailer wants to test and understand the cardboard trolley solution by having their focus on last mile delivery of goods.

The main focus of this master thesis is to increase the understanding of the cardboard trolley solution and analyze it on how consumers can use it as a self-transportation option from a retail store. This understanding is beneficial for the organization and their supplier since it identifies the ease of use and provides information on the quality level by identifying the causes of failure.

The field tests and observation methods were used to gather data by performing 20 tests in order to support the purpose of this master thesis. The tests were performed by gluing the handle and a set of wheels to the box. When providing a customer with a self transportation solution, the material aspects, ergonomic considerations, functionality and durability aspects and uncontrollable factors are important aspects to be taken in to consideration. The field tests and observations were performed to simulate the customer behavior and to voice out the opinion after using it. The initial impressions of using the cardboard trolley was satisfactory and beyond imagination. The ergonomics aspects such as the movements when loaded and unloading were also satisfactory but with some weight restrictions. The uncontrollable factors such as climate, weight, distance and type of road surfaces adds to the complexities. The main issue was with the technical aspects with respect to the material properties of the box, quality of glue and the surface area of the applied glue, which is restricting the implementation of the cardboard trolley solution for the consumer.

The majority of current research focus is on the last mile delivery solutions and self-service technologies considering e-commerce, Omni-channel retailing, leaving the physical shopping self-transportation solutions to be less exposed. The author believes that this key understanding and evaluation of the cardboard trolley solution is vital to the organization in terms of brand image and customer satisfaction.