

## **USE OF AI INNOVATIVE SOLUTIONS FOR REDUCING FASHION ONLINE RETURNS**

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### **ABSTRACT**

E-commerce has increased in the fashion industry, reaching a significant share of sales. At the same time, online returns cause profit loss (Hu et al. 2019), impact on supply chain performance (Su, 2009), have consequences on reverse logistics, increase the dead stock, and cause troubles with margins. Online returns produce environmental problems: transport (last mile and shipping), emissions of GHG, packaging, and a general waste increase, including textile waste. All these aspects also provoke economic troubles for companies. Although online commerce improves some sustainability indicators, it is also finding major challenges in other aspects because of the increase in online returns. There are different profiles of online consumers, but returns are increasing in all the profiles analysed. Adopting artificial intelligence applications can moderate the impact of returns in e-commerce by helping customers to make more accurate purchase decisions. Therefore, they may help reduce the need for reverse retail operations (Yang, 2022), e.g. chatbots or virtual assistants, virtual fitting rooms; interactive digital mirrors; AI-generated product attribution platforms or personalised purchase boxes through a combination of big data and algorithms, virtual try-on technologies or recommendation systems (Cheng, Song, et al, 2021; Bellini, Palesi et al., 2023).

The objectives of this research are: a) to review the current technology and present a comparative analysis of different implementations of AI applications; b) to present and evaluate the willingness to use them from the consumers side, and c) to extract some insights that could be used by companies to reduce the negative impacts of online returns. The methodology used consists of a literature review, and once the most widely used tools have been identified, two focus groups are assembled with online consumers. One of the groups is composed of Fashion Management students and the other one of general consumers. Results show a predisposition to use those tools in both groups, being more prone to utilise them the ones without specific academic knowledge in fashion. Some of the thirteen tools tested resonated more on customers while one of them have been almost neglected in both focus groups as the participants did not aim to pay a regular fee for receiving curated garments and mainly they did not fully rely on AI to select their purchases.

**Keywords:** Artificial Intelligence AI, Online returns, Sustainability, E-commerce, Virtual assistants, Fashion

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