

# Chapter 7

## Digitally Mediated Wardrobes: Advancing Sustainable Consumption in the Fashion Ecosystem

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### **ABSTRACT**

*The fashion industry is facing a pivotal transformation shaped by digital innovation and sustainability demands. Digitally mediated wardrobes, including AI-powered outfit planners, virtual wardrobe platforms, and AR/VR fitting tools, are redefining how consumers interact with clothing. By promoting mindful consumption, rewearing, and optimized apparel use, these technologies reduce waste and encourage circular practices. This chapter explores the intersection of technology, consumer behavior, and sustainability, analyzing their impact on consumption patterns, infrastructure, and environmental outcomes. Ethical issues of data privacy, inclusivity, and digital access are critically examined. Drawing from academic research, case studies, and sustainability reports, the chapter argues that digital wardrobes are not only reshaping the fashion ecosystem but also creating pathways for systemic change. Positioned at the crossroads of culture, policy, and technology, they offer a viable route toward a more sustainable and circular fashion model.*

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## 1. INTRODUCTION

A significant turning point has occurred in the global fashion industry. According to the Ellen MacArthur Foundation (2017), the fashion industry's environmental impact has reached a critical point, making it completely unsustainable. This industry is responsible for about ten percent of the world's carbon emissions and is the second-largest consumer of the world's water supply. As climate change accelerates and ecological boundaries are crossed, it is becoming increasingly indisputable that the sector must undergo systemic reform. Due to the low-cost, high-turnover production model employed by fast fashion, hyper consumption and the disposability of garments have become the norm. This has resulted in the development of a culture in which clothing is regarded as inconsequential rather than precious. The United Nations Environment Programme (UNEP) reports that every second, the amount of textiles disposed of in landfills or burned is equivalent to that of one garbage truck carrying waste (Stevenson, 2023).

In addition to the environmental damage it causes, the fashion industry has also been criticized for its social impact. Exploitation of workers, hazardous working conditions, and unfair distribution of profits are all issues that continue to plague global supply chains. Additionally, the opaque structure of production networks and the outsourcing of manufacturing to countries in the Global South, where laws are less stringent and enforcement is frequently limited, both contribute to the worsening of these problems (Sugadev et al., 2024).

These vulnerabilities were brought to light by the COVID-19 epidemic, which also served as a driving force toward the digital revolution. Both customers and marketers enthusiastically welcomed E-commerce, virtual fashion shows, and remote styling services while the traditional retail industry came to a standstill. Even more significantly, a large number of people reevaluated their spending patterns, leading to an increase in interest in minimalism, resale platforms, and sustainable alternatives. This convergence of crises environmental, economic, and public health has intensified the desire for new solutions that match fashion with larger sustainability goals. Specifically, this convergence has occurred in the fashion industry.

Within the framework of this discussion, digitally mediated wardrobes have emerged as a promising invention. Users can manage, assess, and improve their clothing collections more effectively with the assistance of these systems, which utilize digital technology to enhance their experience. At their essence, they encourage consumers to maximize the value of what they already possess, shifting the focus away from purchase while simultaneously boosting use. These platforms not only encourage users to cultivate more purposeful connections with fashion but also have the potential to significantly change consumer behavior, providing them

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