

# INVESTIGATING THE IMPACT OF INCORPORATING SUSTAINABILITY CONSIDERATION INTO THE PRODUCT DESIGN PROCESS

Tushar Tiwari\*<sup>1</sup> and Noopur Tiwari<sup>2</sup>

<sup>1</sup>Indian Institute of Technology Kharagpur, West Bengal, India, 721302

<sup>2</sup>United World Institute of Design, Karnavati University Gandhinagar Gujrat, 382422

Corresponding Author, Email: [itstushar.tiwari23@gmail.com](mailto:itstushar.tiwari23@gmail.com)

## Abstract

This research examines how sustainability concerns in product design might transform a society where environmental issues and changing customer desires coexist. Sustainable product design is emerging as a critical tactic as firms look for novel ways to lessen their environmental impact, improve resource efficiency, and satisfy the needs of an environmentally conscious consumer [1]. “Inquiries that inform design practices would have to start by acknowledging the simple fact that design is concerned with how we may want to live in future worlds. At any one moment in time, these futures reside in sufficiently compelling narratives to coordinate the stakeholders in these futures and encourage them to do their best to make them real.” (Krippendorff Klaus, in *Design Research, an Oxymoron*, 2007). Our study explores the complex effects of sustainable design, including how it affects brand reputation, financial savings, legal compliance, environmental preservation, and business sustainability. It examines how sustainable design promotes conscientiousness, sets things apart from the competition, and reduces long-term hazards [2]. The study examines the possible advantages of improving the supply chain, including employees and coordinating sustainable product design with an organization's sustainability plan. This research clarifies the concrete and intangible effects of integrating sustainability into the product design process by critically examining the three orders of design encompassing the final design through case studies, questionnaires, and analysis of industry standards. Examining these effects advances our understanding of how sustainability may lead to good changes at the macro and micro levels, eventually promoting a more competitive and environmentally conscious industrial landscape.

**Keywords:** Sustainability, Pluriversal futures, brand credibility, macro thinking, Orders of Design