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The Ethical Disconnect: Unpacking the Friction Between Advanced Textile Engineering and Corporate Design Thinking

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Abstract

The transition toward a sustainable, closed-loop creative economy is currently paralyzed by a deep systemic decoupling. On one hand, advanced textile engineering achieves unprecedented milestones in material circularity, bio-synthetic functionalization, and green chemistry. On the other hand, these highly engineered materials are routinely deployed within a marketplace dictated by corporate design thinking—a paradigm historically optimized for consumption velocity, frictionless user experience, and short-term market viability. This literature review and meta-analysis synthesize interdisciplinary research from engineering, cognitive psychology, and branding ethics to diagnose the structural friction generated at this intersection.

Through an examination of scholarly evidence, this paper charts the cascading dangers of this disconnect, identifying the phenomenon of behavioural nullification where technical innovations fail due to behavioural and cognitive mismatches. We map the acute moral anxiety and metacognitive deficits experienced by design professionals, alongside the profound cognitive overload that fractures consumer loyalty. Ultimately, the synthesis demonstrates that traditional design thinking has been co-opted to obscure corporate accountability. We conclude by establishing the critical necessity for a paradigm shift toward an upstream framework of interrogative design ethics, proposing a structural blueprint for institutional interventions capable of realigning technical capability with systemic morality.

Keywords: Ethics, Interrogative Design Ethics, Cognitive Psychology, Engineering, Design Thinking