

**Topic of the Speech:**

State of the Fashion Industry: Challenges, Opportunities and Barriers to Implement Circular Economy Principles

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Dr. Prabhuraj Venkatraman (Prabhu), Senior Lecturer in Technical Textiles and Sustainable Fashion, Manchester Fashion Institute [MFI], Manchester Metropolitan University, U.K. Prabhu, a technical textile specialist and a Chartered Fellow of the Textile Institute, is a prolific researcher and a dedicated mentor. His research interests include using innovative sustainable materials, developing functional apparel, and technical textiles to improve health. He has made significant advancements in the development of bio-functional finishing of fabrics with antimicrobial properties using plant-based nano-emulsions. His other research areas include the development of socks for diabetic patients to monitor shear force or strain and prevent the formation of ulcers. His current projects include the development of smart face coverings with antimicrobial properties and the development of novel micro and nano-fibres using seaweed (alginate) for healthcare applications. His other research areas include the implementation of a circular economy in textile supply chains and product life-cycle assessments. He regularly disseminates his research at international and national events and is a journal peer reviewer. As a Doctoral college Department lead [DCDL] for Manchester Fashion Institute, he plays a crucial role in postgraduate admissions and progression toward meeting the Institute's strategy of increasing the PGR community. He imparts his knowledge of sustainable fashion and product innovation to PG and UG students, inspiring the next generation of researchers. He has supervised five PhD students and four Master by Research (primary supervisor). He supervises three PhD students and two Masters projects and continues to nurture future scholars. He also serves as a personal tutor, offering pastoral guidance and supporting UG students.

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ABSTRACT (NO MORE THAN 500 WORDS:)

The fast-paced fashion industry delivers new and innovative styles and trends to consumers fuelled by social media influencers, as clothing is consumed at a higher rate and garments are only worn a few times and end up in landfills. A typical garment lifecycle begins from fibre and goes through a series of complex processes before it is available for a consumer to purchase from a retail outlet. Today, most fashion items are processed through a linear business model or cradle-to-grave system, meaning that once a product reaches its end-of-life from a consumer perspective, it is disposed and resources are not recycled. The fashion and textiles industry contributes \$2.4 trillion to global manufacturing and has the largest environmental impact; the industry produces 336,000 tonnes of clothing in landfills or incinerated annually. There is a pressing rationale for implementing a circular economy within the supply chain, where end-of-life products are replaced with resource restoration, eliminating waste through superior design and recycling within the system at a higher utility.

This lecture discusses several methods for implementing circularity within the system, including the designing and planning stage, sourcing and manufacturing stages, and retail and consumer phases. It also discusses the opportunities during the end-of-life stage, including life-cycle extension, recycling, and re-designing. It also discusses the challenges and barriers to implementing these circular business model strategies. Several initiatives the industry has implemented recently will be debated critically, and the pathway will be identified. The role of consumers in the circular economy is recommended as an opportunity to implement circular principles through raising effective awareness by the industry, and it allows products to remain within the system longer.