

# Design of Circular Supply Chain For Textile and Clothing Industry



**Prof. Abhijit Majumdar**  
Department of Textile and Fibre  
Engineering  
IIT Delhi



**Prof. Surya Prakash Singh**  
Department of Management studies  
IIT Delhi



**Abhishek Kumar**  
M.Tech (Industrial Engineering & Management)  
IIT (ISM) Dhanbad  
Phd Research Scholar (SIRe), IIT Delhi  
[Sr208738@sire.iitd.ac.in](mailto:Srz208738@sire.iitd.ac.in)

The traditional linear supply chain relied for years on the principles of take-make-use and dispose. This has created enormous environmental problems due to the inordinate use of non-renewable natural resources and discharge of pollutants. Textile and clothing supply chain is one of the most polluting supply chains. In recent years, the focus of supply chain has shifted towards sustainability and circularity. However, textile and clothing supply chain is facing challenges as segregation of materials based on fibre and colour before the recycling operation is complicated and cumbersome. Besides, the consumer perception about the recycled products is not very positive. To implement circularity, it is important that all the actors of supply chain, namely supplier, manufacturer, retailer, consumer and reverse logistics provider, should act in unison. The objective of this research would be to address the issues related to the circular supply chain network design for textile and clothing industry. The outcome of the proposed research would be some qualitative and quantitative models to ensure circular supply chain for textile and clothing industry.