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Industrial Textile Waste in Mauritian Textile and Garment Industry and its Transition into the Circular Economy.

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The Textiles Industry is a significant and productive sector, but an enormous threat for the environment due to its nature of mass production and creation of wastes. It is connected to the existing linear economy system of take-make-use-dispose. Sustainable development strategies have long been used by the industrial sectors to protect the environment and avoid wastes going to landfills. Business Mauritius with the collaboration of the Ministry of Environment are working on solid wastes management to achieve a greener and safer Mauritius. The transformation to a circular economy requires significant changes in both the production and consumption of textiles and textile apparel. The textile wastes produced by the textile industries need attention to minimize waste and at the same time retain the value of the product for a longer period of time. The study examines the amount of textile waste generated in the Mauritian textile and garment industry and its transition into the circular economy. The relationship between input and output is considered to account how the material has been utilized and how much of that material can be reutilized. It suggests a circular economy model that will not only be a tool aimed at a simple waste prevention and waste reduction, but will represent a long term strategy to be implemented for the re-designing industrial systems and encourage a regenerative economy. This is linked to design; production remanufacturing; distribution; consumption; collection; recycling. It is envisaged to keep materials circulating in the economy for a longer time. The study explores the impact of Artificial Intelligence in the waste management reduction. Fieldwork and both quantitative and qualitative data collection is used to collect data through semi-structured interviews to examine the use of AI (Artificial Intelligence) and propose technology to avoid wastes. The study scrutinizes the barriers to circular economy and seeks solutions to overcome them. Different matrix is proposed for product development to get back the waste into the circular system model. The study aspires to generate strategies to facilitate the transition of wastes to the circular economy model by encouraging and engaging stakeholders through Corporate Social Responsibility (CSR) projects, for dissemination of solutions to adapt to the model. The solutions will offer premeditated benefits, efficiency and eco-innovation. These will also offer exceptional prospects in durability of resources, innovation and employment.