

# Sustainability Insights: Unveiling the impact of Business Analytics in Shaping Sustainability Practices in the Apparel Industry

Lumini Gajanayake<sup>1</sup>, Dishani Rajapaksha<sup>2</sup>, Tharindu Rukshan<sup>3</sup>, Susith Pathirana<sup>4</sup>, Prof. Samantha Thelijjagoda<sup>5</sup>, Geethma Pathirana<sup>6\*</sup>

<sup>1</sup>Department of Information Management, SLIIT Business School, Sri Lanka Institute of Information Technology Malabe, Sri Lanka [bm21542374@my.sliit.lk](mailto:bm21542374@my.sliit.lk)

<sup>2</sup>Department of Information Management, SLIIT Business School, Sri Lanka Institute of Information Technology Malabe, Sri Lanka [bm21549922@my.sliit.lk](mailto:bm21549922@my.sliit.lk)

<sup>3</sup>Department of Information Management, SLIIT Business School, Sri Lanka Institute of Information Technology Malabe, Sri Lanka [bm21533082@my.sliit.lk](mailto:bm21533082@my.sliit.lk)

<sup>4</sup>Department of Information Management, SLIIT Business School, Sri Lanka Institute of Information Technology Malabe, Sri Lanka [bm21549618@my.sliit.lk](mailto:bm21549618@my.sliit.lk)

<sup>5</sup>Sri Lanka Institute of Information Technology Malabe, Sri Lanka, [Samantha.t@sliit.lk](mailto:Samantha.t@sliit.lk)

<sup>6</sup>Department of Business Management, SLIIT Business School, Sri Lanka Institute of Information Technology Malabe, Sri Lanka, [Geethma.p@sliit.lk](mailto:Geethma.p@sliit.lk)

The Sri Lankan apparels industry has a strategic importance for the national economy as the country has been one of the main exports and employers. But it has sustainability issues such as high resource consumption, increased pollution, and poor labor standards. As the consumption of sustainable and environmentally responsible clothes continues to rise around the world, such concepts as business analytics (BA) present an opportunity to tackle these issues. This study investigates the effects of BA tools and techniques in enhancing sustainability in Sri Lanka apparel industry with regards to waste reduction, efficient resource management and compliance to ethical standards for sustainable driven global business. A qualitative research design was followed and conventional interviews were conducted on key informants from GOTS certified apparel factories. Data were coded and analyzed thematically using MAXQDA software, with reference to the subthemes that emerged in the study, such as waste reduction and increasing efficiency and effective decision-making. It was revealed that BA solutions such as RFID, predictive modelling and dynamic dashboards offered promising improvements to sustainability performance. Techniques like 3D sampling reduced fabric consumption during the generation of prototypes, and dashboard analytics allowed constant tracking of other forms of sustainability KPIs like power use and carbon footprint. They also increased efficiency of cross-functional coordination, integrating sustainability into functions and departments. This study demonstrates how BA enables the sustenance of development within the apparel industry, based on a strategic management of economical, ecological, and social goals. The outcomes would help industry leaders and policymakers in developing improved strategies for sustainability practice to overcome existing gaps between theory and practice and for sustainable and competitive business growth in the context of a world economy moving toward sustainability.

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