

Abstract

This research explores the role of data analytics in sustainability reporting, focusing on how companies use data-driven insights to enhance transparency, accuracy, and accountability in their environmental, social, and governance (ESG) practices. As businesses face growing pressure from stakeholders to demonstrate their commitment to sustainability, data analytics offers a powerful tool to track, measure, and report on sustainability initiatives. This study investigates how organizations are integrating data analytics into their sustainability reporting processes and the impact it has on corporate practices and public perception.

A mixed-methods approach is employed to provide a comprehensive understanding of data analytics' role in sustainability reporting. The quantitative phase involves analyzing corporate sustainability data, such as energy consumption, waste management, and carbon emissions, to assess the effectiveness of data analytics in improving reporting accuracy and meeting regulatory requirements. Statistical techniques are used to evaluate the correlation between data-driven practices and improved sustainability outcomes. The qualitative phase consists of interviews with sustainability managers, data analysts, and corporate leaders to explore how data analytics is applied in practice, the challenges faced, and the benefits of using analytics to enhance sustainability reporting.

The findings highlight the growing importance of data analytics in improving the quality and transparency of sustainability reports. By combining both data-driven insights and expert perspectives, the study provides actionable recommendations for companies seeking to leverage analytics to enhance their sustainability practices, comply with regulations, and build trust with stakeholders.