IT Business Analytics, Reality and Challenges

Nino Tsiklauri
e-mail: nino.tsiklauri036@ens.tsu.edu.ge
Computer Science,
Faculty of Exact and Natural Sciences
Ivane Javakhishvili Tbilisi State University,
Building XI,
Tbilisi, University St. 13

This Master's research examines the current landscape of IT Business Analytics, focusing on its practical implementation and the challenges organizations face in leveraging data for decision-making. The study explores how businesses utilize analytical tools to gain insights, improve performance, and forecast future trends.

Special attention is given to the gap between theoretical frameworks and their application in real-world environments, including issues related to data quality, integration, and skill shortages.
A significant part of the research is dedicated to the Monte Carlo method and algorithm, which are analyzed as valuable tools for enhancing the accuracy and reliability of business forecasts. By simulating a wide range of possible outcomes, the Monte Carlo technique helps organizations better understand risk and uncertainty in strategic planning.

The research combines literature review and case-based analysis to evaluate the effectiveness of this approach within the broader context of business analytics. Findings highlight both the potential and the limitations of current analytics practices and suggest practical recommendations for overcoming the identified challenges.
This work contributes to the ongoing discourse on data-driven decision-making and offers actionable insights for both practitioners and researchers in the field.

References

1. Monte Carlo Concepts, Algorithms and Applications - George S. Fishman
2. Exploring Monte Carlo Methods – William L. Dunn, J. Kenneth Shultis
3. Monte Carlo Methods in Financial Engineering – Paul Glasserman