Measuring the Impact of Big Data Adoption on Firm Performance in Large and Medium-Sized Retail Enterprises in Post-Communistic Environment

Aleksandre Iremashvili

A project/thesis submitted to the Faculty of Ilia State University Business, Technology and Education Business School in fulfilment of the requirements for the degree of Master of Business Administration

Thesis Supervisor:
Davit Tutberidze

Ilia State University
T'bilisi 2025

Declaration

As the author of this paper, I declare that this thesis presented for the degree of Master of Business Administration is an original report of my research and has been written by me. Due references have been provided on all supporting literature and resources. I also confirm that this work has not been submitted for any other degree or professional qualification. Some of the work described in this thesis, which was later revised, had been written and submitted in the courses Research Methods and Academic Writing for MBA at Ilia State University Business School (June, 2024).

Aleksandre Iremashvili

May 31, 2025

Signature:

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List of Abbreviations

3V	Three V's (Volume, Velocity, Variety)
AGI	Artificial General Intelligence
AI	Artificial Intelligence
AIC	Akaike information criterion
BD	Big Data
BDA	Big Data Analytics
BIC	Bayesian information criterion
CR	Composite Reliability
CVPAT	Cross-Validated Predictive Ability Test
DOI	Diffusion of Innovations
DVAR	Data Variety
DVEL	Data Velocity
DVER	Data Veracity
DVOL	Data Volume
GR	Government Regulations
HTMT	Heterotrait-monotrait (ratio)
M1	Model 1
M2	Model 2
OR	Organisational readiness

PDPS	Personal Data Protection Service
PLS-SEM	Partial Least Squares Structural Equation Modelling
RA	Relative Advantage
RBV	Resource-Based-View
SME	Small and medium-sized enterprises
SOE	Small Open Economy
TAM	Technology Acceptance Model
TMS	Top Management Support
TOE	Technology-Organisation-Environment
UTAUT	Unified Theory of Acceptance and Use of Technology

Abstract

This study addresses a critical knowledge gap by investigating Big Data Adoption (BDA) within large and medium-sized retail enterprises operating in the post-Soviet economic context, with a particular focus on the Georgian market. By identifying key drivers of BDA adoption and exploring its performance implications in this specific setting, the research enriches the understanding of BDA within this under-researched domain. The research design incorporates a pragmatic philosophical approach, focusing on the practical application of knowledge to address real-world challenges in data analysis and retail operations. The study is grounded in a deductive approach and formulated hypotheses based on the Technology-Organisation-Environment (TOE) framework and Resource-Based View (RBV) theory. Employing a quantitative approach, this study utilises a reflective measurement model, specifically Likert scale questionnaire, and leverages a digital survey for data collection. SmartPLS version 4.0 was used for the Partial Least Squares Structural Equation Modelling (PLS-SEM) statistical analysis. Key findings indicate that factors such as relative advantage, data volume, and top management support significantly impact Big Data adoption, subsequently influencing the firm's performance. The study confirms the importance of robust data analytics capabilities and provides recommendations on how companies can optimally adopt BDA in their organisations.

Keywords: Big Data Analytics Adoption, Firm Performance, Large and Medium-sized Retail Enterprises, Post-Soviet, PLS-SEM, Georgia.

Acknowledgement

The author assumes sole responsibility for the research, including its limitations. Sincere gratitude is extended to all professionals who contributed to the study by completing the questionnaire. The author would like to express particular appreciation to Professor Akaki Liqokeli for their invaluable mentorship and guidance during the Quantitative Methods and Advanced Quantitative Methods courses. This invaluable support enabled the author to independently learn the methodology employed in this thesis. Furthermore, the author would like to thank Nino Pataraia for her immense support throughout the learning process. Additionally, the author would like to express sincere gratitude to David Tutberidze for their contributions to this thesis, which significantly enhanced its clarity and impact. Finally, the author would like to thank his wife Ana for always pushing him to be the best version of himself.