

**THE FUTURE OF SUPPLY CHAIN RISK MANAGEMENT:
BIG DATA, DISRUPTIONS, AND BUILDING RESILIENT
NETWORKS**



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THESIS REPORT

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**MANAGEMENT STUDY PROGRAM
FACULTY OF BUSINESS
UNIVERSITAS MULTIMEDIA NUSANTARA
TANGERANG
2024**

**THE FUTURE OF SUPPLY CHAIN RISK MANAGEMENT:
BIG DATA, DISRUPTIONS, AND BUILDING RESILIENT
NETWORKS**



Thesis Report

Submitted as One of the Conditions to Obtain
Bachelor's degree in Business Management

Musa Theodore Ephraim

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MANAGEMENT STUDY PROGRAM

FACULTY OF BUSINESS

2024

i

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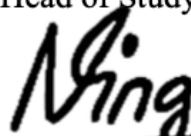
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ENDORSEMENT PAGE

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PREFACE

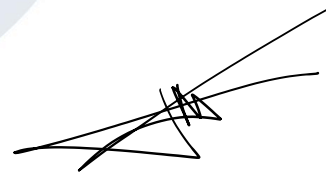
My journey at Multimedia Nusantara University, specifically within the Business Management program, has been an enriching and transformative experience. Since joining the class of 2020, I've been consistently impressed by the dedication of the faculty and the stimulating learning environment. The challenges and opportunities presented throughout my studies have equipped me with valuable knowledge and critical thinking skills that I'm eager to apply. With that being said, I'm Musa Theodore Ephraim would likely giving my highest praise and thanks to,

1. Dr. Ninok Leksono, M.A., as Multimedia Nusantara University Chancellors
2. Dr. Florentina Kurniasari T., S.Sos., M.B.A., as the Dean Faculty of Multimedia Nusantara University.
3. Ms. Purnamaningsih, S.E., M.S.M., C.B.O, as the Head of Business Management Study Program Multimedia Nusantara University.
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6. Jesus Christ has also guided me spiritually every day, specifically throughout my hard times looking for the respondents. He always gives me guidance and sedates me, so with His help, I rarely experience stress during this phase.
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8. My Family, who also supported me spiritually, physically, and financially while this dissertation was being written, has also been there for me, and helping me distribute my questionnaire all across the country.
9. My pets, who have also mentally supported me every day when I need them, will reassure me that everything will go well.
10. My friends also supported me in finishing this dissertation.

This dissertation, titled "The Future of Supply Chain: Big Data Analytics, Disruptions, and Risk Resilience," represents the culmination of these years of dedication. It delves into a critical topic for the ever-evolving world of business. While this work fulfills the academic requirements for graduation, my hope extends far beyond that. I aspire for this research to contribute valuable insights that can benefit future generations navigating the complexities of supply chains.

Tangerang, 10 may 2024



(Musa Theodore Ephraim)

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THE FUTURE OF SUPPLY CHAIN RISK MANAGEMENT: BIG DATA, DISRUPTIONS, AND BUILDING RESILIENT NETWORKS

Musa Theodore Ephraim

ABSTRAK

Meskipun penelitian yang ada mengeksplorasi Big Data Analytics (BDA) untuk memitigasi gangguan dalam struktur rantai pasokan saat ini, disertasi ini memperluas cakupan untuk membuktikan jaringan ini di masa depan menggunakan Pemodelan Persamaan Struktural Partial Least Squares (PLS-SEM) kuantitatif. Kesenjangan penelitian terletak pada identifikasi gangguan yang muncul dan bagaimana BDA dapat secara proaktif membangun ketahanan terhadap gangguan tersebut, yang berpotensi memerlukan restrukturisasi jaringan. Selain itu, penelitian yang ada sering kali berfokus pada manajemen risiko masing-masing perusahaan. Penelitian ini menyelidiki manajemen risiko kolaboratif di seluruh jaringan rantai pasokan, menyelidiki peran BDA dalam membina kemitraan yang tangguh dan mempertimbangkan implikasi etis dari berbagi data dalam struktur kolaboratif ini. Selain kesenjangan yang berfokus pada jaringan, penelitian ini mengeksplorasi interaksi manusia-mesin dalam ketahanan yang didorong oleh BDA, implikasi ekonomi dan sosial dari ketahanan jaringan pascapandemi, dan aspek keberlanjutan yang lebih luas yang dapat dicapai melalui rantai pasokan yang dioptimalkan BDA.

Keywords: *Big Data Analytics (BDA), Future Proofing, Network Resilience, Collaborative Risk Management Sustainability.*

THE FUTURE OF SUPPLY CHAIN RISK MANAGEMENT: BIG DATA, DISRUPTIONS, AND BUILDING RESILIENT NETWORKS

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ABSTRACT

While existing research explores Big Data Analytics (BDA) for mitigating disruptions within current supply chain structures, this dissertation broadens the scope to future-proof these networks using quantitative Partial Least Squares Structural Equation Modeling (PLS-SEM). The research gap lies in identifying emerging disruptions and how BDA can proactively build resilience against them, potentially requiring network restructuring. Furthermore, existing studies often focus on individual company risk management. This research delves into collaborative risk management across the supply chain network, investigating BDA's role in fostering resilient partnerships and considering the ethical implications of data sharing within these collaborative structures. In addition to these network-focused gaps, the research explores the human-machine interaction in BDA-driven resilience, the economic and social implications of post-pandemic network resilience, and the broader sustainability aspects achievable through BDA-optimized supply chains.

Keywords: *Big Data Analytics (BDA), Future Proofing, Network Resilience, Collaborative Risk Management Sustainability.*

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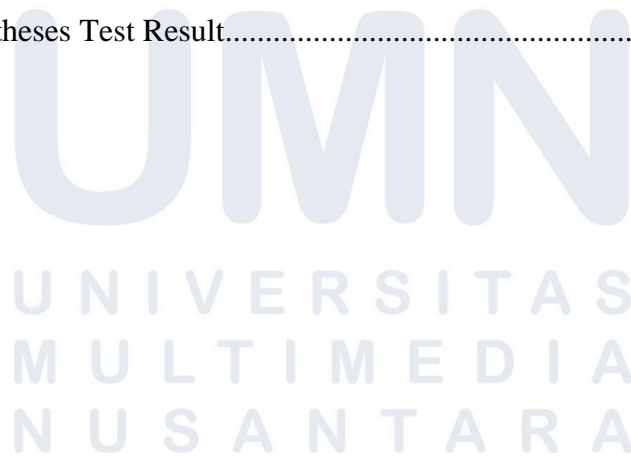
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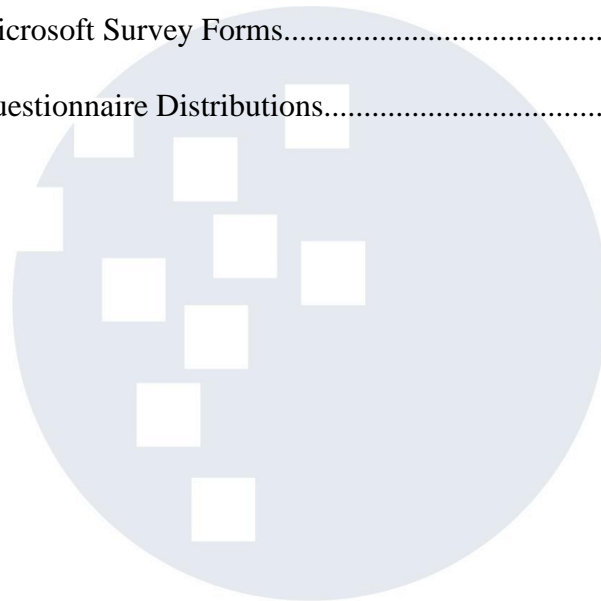
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