ENHANCING DECISION-MAKING THROUGH DATA DRIVEN APPROACHES FOR OPTIMAL ORGANISATION PERFORMANCE OF INFORMATION TECHNOLOGY COMPANIES IN SRI LANKA

MAHATHELGE SHAMIRA CHINTHANA DIAS

ASIA e UNIVERSITY

2025

ENHANCING DECISION-MAKING THROUGH DATA DRIVEN APPROACHES FOR OPTIMAL ORGANISATION PERFORMANCE OF INFORMATION TECHNOLOGY COMPANIES IN SRI LANKA

MAHATHELGE SHAMIRA CHINTHANA DIAS

A Thesis Submitted to Asia e University in
Fulfilment of the Requirements for the
Doctor of Business Administration

January 2025

ABSTRACT

The study titled "Enhancing Decision-Making Through Data Driven Approaches for Optimal Organisation Performance of Information Technology Companies in Sri Lanka" investigates the critical role of data-driven approaches in improving organisational performance, emphasizing the need for a data-driven culture, data availability, and effective decision-making processes in today's data-rich environment. Addressing the limited understanding of how these elements influence performance outcomes specifically within Sri Lanka's private sector IT context, the research evaluates the relationships among organisational performance, data-driven culture, data availability, and decision-making processes, with data quality as a moderating variable. Targeting approximately 120,000 IT executives across 300 companies, the study employs a quantitative approach grounded in deductive methodology, with data collected through structured surveys and analyzed using statistical techniques to test six hypotheses, all revealing strong correlations. The findings indicate that a robust data-driven culture, high data availability, and effective decision-making processes significantly enhance organisational performance, with data quality playing a crucial moderating role. In conclusion, the research underscores the importance of fostering a data-driven environment in private sector IT companies for optimal performance, recommending future studies to explore a broader range of variables, utilize advanced analytical methodologies, and integrate diverse theoretical perspectives to further enrich understanding of data-driven approaches in organisational contexts.

Keywords: Data-driven decision-making, organisational performance, data-driven culture, data availability, data quality

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the Doctor of Business Administration

The student has been supervised by: **Professor Dr. Juhary Ali**

The thesis has been examined and endorsed by:

Professor Dr. Balakrishnan Parasuramn
Universiti Malaysia Kelantan
Examiner 1

Professor Dr. Norzaidi Hj Mohd Daud
Asia e University
Examiner 2

This thesis was submitted to Asia e University and is accepted as fulfilment of the requirements for the Doctor of Business Administration

……
Dr. Khairul Nizam Bin Mahmud
Asia e University
Chairman, Examination Committee
[28 January 2025]

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the requirements for the Doctor of Business Administration is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: MAHATHELGE SHAMIRA CHINTHANA DIAS

Signature of Student: **Date**: 28 January 2025

ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude to all those who supported me in completing my DBA thesis titled "Enhancing Decision-Making Through Data-Driven Approaches for Optimal Organisational Performance of Private Sector IT Companies in Sri Lanka. “First and foremost, I extend my deepest appreciation to Professor Dr. Juhary Ali, my supervisor, for his invaluable guidance, expertise, and unwavering support. His insightful feedback and encouragement expanded my knowledge and inspired me to strive for excellence. I am truly grateful for his mentorship and belief in my potential. I also acknowledge my colleagues and peers for fostering a collaborative and stimulating academic environment. Their diverse perspectives and constructive discussions helped refine my ideas and enriched this thesis. My sincere gratitude goes to the private sector IT companies in Sri Lanka that participated in this study. Their willingness to share valuable insights and data was crucial to the success of this research, and I am thankful for their openness and cooperation. Lastly, I express my profound thanks to my family for their unwavering support, encouragement, and sacrifices. They have been my pillar of strength and a constant source of motivation. I dedicate this thesis to them. This work is a culmination of collective support and collaboration. I sincerely thank everyone who contributed to this endeavor and made this journey an enriching experience.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION

AI	Artificial Intelligence
Bi	Business Intelligence
CRM	Customer Relationship Management
CVR	Content Validity Ratio
DDBM	Data-Driven Business Model Framework
DDD	Data Driven Decision
DDDM	Data Driven Decision Making
DQA	Data Quality Act
ERP	Enterprise Resource Planning
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IFS	Industrial & Financial Systems
IGRM	Information Governance Reference Model
KBV	Knowledge-Based View
KPI	Key Performance Indicators
MIT	Millennium Information Technology
ML	Machine Learning
OMS	Outcomes Measurement Systems
QOI	Quality of information

RBV	Resource-Based View
SCM	Supply Chain Management
SLASSCOM	Sri Lanka Association for Software and Services Companies
SPSS	Statistical Package for Social Sciences
TDQM	Total Data Quality Management

CHAPTER 1

INTRODUCTION

1.0 Background of Study

The global context:

We are at present experiencing a trend, where large organisations have begun to streamline their resources into functionalities such as data collection, storage, data securing and finally data analyzing. Over two-thirds of executives interviewed by Chris Brahm and Lori Sherer in a recent survey had mentioned that their company invests profoundly in data analytics. Nevertheless, more than 50% of these executives envisage transformational returns on investments (Brahm & Sherer, 2018).

Bokman et al. (2021) demonstrate that 'Data' is of utmost importance. They identified that enterprises that are data driven are 23 times more likely to acquire customers, 6 times as likely to retain customers, and 19 times as likely to be profitable. This is an astounding discovering, and definitely a secret formula that needs to be put in to practice. Therefore, it is not surprising that world famous companies (i.e Jaguar Land Rover, Lenovo) are utilizing "data" as their secret weapon towards game changing insights. The outcome of this has been promising, it has resulted in strong bonds with customers, improvements in business operations and improvements in overall decision making.

Creating a data-driven business is a tedious process. On their own data and technology cannot hold the door open for success, they need to be supported by a change in the mindset as well as efforts of both the management as well as the employees. Both the mind and body of the company need to be on board, need to have one goal and need to work together to bring about this change. They need to be both

agile and proficient with their data. The vision, mission as well as the end goal will be achievable with all this and an active community (Fisher, 2016).

Change involves transformation. Therefore, as mentioned by Cindi Howson (chief data strategy officer at analytics platform provider ThoughtSpot) (Parenteau et al., 2016) we as an organisation first need to look inwards and identify what is holding us back from achieving this dream turning into a data-driven company.

While there is enough proof that a data driven company experiences increased revenue, efficient operations, greater profits, and better-quality customer service (Westerman et al., 2015) only one fifth (1/5) of organisations authorize their frontline workers with data. This is not an acceptable situation. We need to look in to the question "what does it take"

When making the decision to become a data-driven company, there is no one right path to take. It may commence with formulating the perfect data team (Brown, 2020) or it may involve investing in technology or incorporating analytics into the strategy for digital transformation.

At times executives will have to face hurdles such as deep-rooted business processes or a top management that is resisting change. Therefore, on the one hand a company new in the game (i.e a new business / start up) has an advantage, where they can incorporate data within the framework of their company (Baskin, 2020).

In order to become a data driven organisation, one must first and foremost construct a data culture. A recent survey has unveiled the shocking statistic of 61% of the respondents stating that it is the culture of a company and not the people (or lack of) or the technology that stands as a barrier towards becoming a data driven company. This discovery was proved to be more thorough, when during the recent pandemic

organisations attempted to identify the importance of data at a faster pace and they had to face the culture of the company as a hurdle (Brown, 2020).

Data is expanding, overnight not just in one part of the world, but globally: from a mere 45 zettabytes in 2019 to a projected 175 zettabytes in 2025. This exponential growth is due to increased use of the internet and broadband as well as increase in use of mobile phones and social media (Roser et al., 2015).

Accumulating data is not fruitful if one is unaware of what to do with this information. 'Data' has the ability to set trends, and these trends are in the process of disrupting norms and brining about new practices, it is a sink or swim situation, in order to exist within the new trends and to be in par with the competition one has to adopt to this new data- driven culture. If not, you would inevitably fall behind and your competitors will have the win. A report on Forrester states that data driven organisations are displaying an annual growth greater than 30% (Hopkins et al., 2018).

Are we able to define this data driven culture? This is a culture that identifies with use of both data and analytics to obtain insights into businesses, in the hope that it would bring about improvements. Numerous proof has pointed to the fact that these data driven companies have a competitive advantage over those who have not embraced this new culture. Risk taking in business is accepted, however this risk has to be calculated and not be taken blindly. Data driven is a strategy, it is a process where one applies insights obtained from analyzing data to recognize new business opportunities, grown in their sales, improve their operations and ultimately serve customers at best. Organisations are thus able to use this data, which are evidence based, not only to plan and implement decisions but also to fulfil business objectives. A decision that has been arrived on based on data can be labeled as experimental

evidence. Evidence, that allows the leaders of an organisation to take informed actions. Actions that will ultimately give rise to beneficial business outcomes.

On the other hand, decisions can be made on speculation, gut feelings and assumptions, this is the exact opposite of data driven decision making. While listening to your 'gut' instinct is important, for a leader in a data driven company it cannot be the only way forward. The action will always follow what the data reveals. MicroStratergy has outlined several benefits of depending on data to make organisational decisions. Business leaders in data-driven organisations understand the benefits of relying on data insights. The report goes on to explain that a data driven organisation is 20 times more likely to gain new customers, and 6 times more likely to retain them. However, these leaders need to depend on people who are experts in data handling and management (i.e data professionals) and on technology tools that will be used to analyze this data. These professionals will direct the leaders on data collection, storage and analysis and point out how to protect this data. Organisations have thus been utilizing data to improve the effectiveness of their processes and to drive innovation. From early days both human resources as well as physical assets are considered as company assets. These assets require "scientific" management techniques, which will help the leaders of the company to reap maximum benefits from these assets. However, recent years have witnessed the birth of new tools and technologies, in addition to new data sources and types of data. This has resulted in an ever-changing landscape both in the sense of planning the business and carrying out various innovations.

The data driven organisation has evolved today into an insight driven business. This type of organisation is growing at a faster pace (> 30% annually) (Hopkins et al., 2018). These organisations are at present dominating their respective sectors, they are

also inventing novel markets by producing practical insights. All this has been possible through data collection and analytics. An organisational leader needs to understand various characteristics of data driven businesses; they need to also understand various factors that will help companies catch up with leaders.

The Sri Lankan Context:

Taking a look at Sri Lanka, the island is known for its beauty, its diversity and its culture. However, Sri Lanka is now at the brink of being known for something else, it is fast becoming the number one Information and Communication Technology (ICT) center of excellence in Asia.

We are living in a time where ICT has managed to bring the world closer. While previous giants in the industry are now facing problems, Sri Lanka is striving. The island is steadfast in its journey towards claiming the title of top ICT hub in Asia. This achievement can be attributed to its talented human resources.

Sri Lanka has a talent pool that can outsmart most other nations. The island is at present ranked among the top 25 outsourcing destinations, globally. In addition, Global services magazine has named Sri Lanka as a top 20 emerging city.

Sri Lanka welcomes global enterprises with open arms, and these enterprises can enjoy the ever-expanding talent pool. We see niche competency centers sprouting within the island at a rapid pace. The country serves several Fortune 500 companies, as well as several leaders in the industry in countries such as the United Kingdom, Australia, North America, Norway and Japan. This service has been mainly twofold, as an offshore development center as well as a joint venture development center.

The country has several overseas bodies who have identified Sri Lanka as their source of talent (i.e human resource), some of these top companies are Virtusa, WNS, Industrial & Financial Systems (IFS), HSBC, Millennium Information Technology

(MIT), Amba Research, WNS and RR Donnelley. In addition to these companies, there are more than 300 local IT companies. Google, Microsoft, Emirates, Qatar Airways and JP Morgan are some of the renowned international customers of Sri Lanka.

The Sri Lankan ICT Sector:

The services rendered by the Sri Lankan ICT sector span across several industries. Apparel sector, banking sector, communication, health, manufacturing, media, retail, transport, and travel to name a few. The length and breadth of the ICT sector in Sri Lanka is quite vast, it spans from specialized applications such as CAD / CAM / CAE, to lower level and lower cost functionalities such as data entry and Call Centre Services. In addition, it is utilized in essential services such as KPO services seen in Financial and Legal Analysis and in HR information systems.

Looking at rising trends in annual figures (US$ 348.0 Mn in the year 2010, US$ 440.0 Mn in the year 2011 and US$ 533.0 Mn in the year 2012), the success experienced by the island's ICT exports is evident. This identifies the ICT sector among the top 5 exporters of the country.

There are several factors (Export Development Board [EDB], 2021) that identify Sri Lanka as a top contender in the international arena, namely;

Sri Lanka has established itself as a prominent player in the global Business Process Outsourcing (BPO) sector, consistently ranking among the top emerging global destinations. According to Global Services Magazine, Sri Lanka is recognized for its strategic advantages, making it an attractive location for offshore services. The country has been awarded the title of “Offshore Destination of the Year” by the National Outsourcing Association in 2013, 2014, and 2019, highlighting its sustained excellence in the industry.

In addition to these accolades, Sri Lanka has been ranked in Gartner's list of the 30 leading locations for offshore services, where it stands out as one of the top six countries in the Asia Pacific region. This recognition is a testament to the country's robust infrastructure and skilled workforce, which are critical factors for businesses looking to outsource their operations.

Furthermore, Sri Lanka was ranked 11th in the A.T. Kearney Global Services Location Index (GSLI) in 2017, evaluated on criteria such as financial attractiveness, people skills, and business environment. Notably, it previously held the 5th position in financial attractiveness, surpassing major competitors like India and China.

The IBM Global Location Trends Report also places Sri Lanka 12th among the top-ranking destinations for outsourcing, reinforcing its reputation as a competitive player in the global market. The United Nations e-Government survey ranks Sri Lanka as number one in South Asia for e-Government services, showcasing the country's commitment to leveraging technology for improved governance and service delivery.

This combination of accolades and rankings underscores why Sri Lanka is increasingly viewed as a prime destination for ICT and BPO services, attracting businesses looking for quality and cost-effective solutions.

Overall, Sri Lanka's strategic positioning, coupled with its recognition in various global rankings, makes it a compelling choice for companies seeking to enhance their operational efficiency through outsourcing. The country’s focus on developing its ICT capabilities and fostering a conducive business environment continues to attract international attention and investment in the BPO sector.

In order to achieve this, the Sri Lankan IT sector needs to systematically and scientifically investigate ways and means of improving their profit margin and their revenue. They need to identify ‘what will’ or ‘how to’ improve their success factor.

Hope Wilson, a senior marketing specialist at Skidmore, Owings & Merrill LLP (Skidmore, et al., 2021) defines success as “Running a profitable firm that conducts business with honesty and integrity, making meaningful contributions to the communities it serves and nurturing high-quality, balanced lives for its employees," (Kuligowski, 2021).

Therefore, a successful company makes profits, and the benefits of these profits are reaped by its employees in the form of promotions, increments, training and bonuses. This in turn will lead to an improvement in the quality of lives of these employees.

Most of the organisations are deriving business decisions in an ad-hoc manner, without any basis, rhyme or reason. These decisions are most often not successful.

Sri Lanka is a developing country and both Private and Public organisation growth is pivotal for its economic growth. Therefore, these organisations should take data driven business decisions in order to compete with the global competition. Hence every company should have a very sound data driven decision model and a very effective implementation. However, there are several challenges and limitations in implementing data driven business organisations. Due to this reason the organisation’s decisions are limited only to a piece of document which the management team will not respect.

Therefore, this research focuses on identifying the challenges and limitations of implementing a data driven business organisation in the Sri Lankan private sector.

1.1 Problem Statement

The performance of most companies is significantly impacted by their failure to make timely and informed decisions (Kumar & Perera, 2023). In the context of the current economic crisis in Sri Lanka, it is crucial for organisations to make the right decisions

promptly (Fernando, 2022). However, many companies struggle to do so due to a lack of focus on data utilization, unavailability of critical data, or inadequately processed data that fails to meet quality standards (Rajapaksha, 2021). Consequently, decisions are often made irrationally, relying on subjective opinions rather than objective data analysis (Senanayake, 2020).

Most companies tend to focus primarily on analyzing financial data, often neglecting other critical areas of the business (Smith, 2021). For instance, when a company does not incorporate data analytics in its annual employee appraisals, the evaluation process can become biased, favoring recent activities and overlooking performance over the entire year (Jones & Taylor, 2022). This lack of comprehensive evaluation can lead to unfair assessments and misinformed decisions regarding employee development and promotions (Brown, 2020).

Decision-making is, on one hand, a science, and on the other, an art. It encompasses various aspects, integrating human psychology, sociology, strategy, management, logic, philosophy, and organisational behavior (Mintzberg, 2009). Effective decisions are characterized by rationality, informed judgment, and collaboration among stakeholders (Harrison & John, 2019). The ability to make sound decisions is a crucial skill that all managers must cultivate (Robinson & Judge, 2017). Managers must evaluate the pros and cons of different options and determine the best course of action. There is no singular path to achieving a good decision; the strategies employed are varied (Drucker, 2007). However, it is essential to recognize a few key principles. First and foremost, managers must identify the decision-making style that aligns with their organisation's culture and the specific context of the situation (Vroom & Yetton, 1973).