MEASURING STRATEGIC BUSINESS VALUE OF DIGITAL TRANSFORMATIONS IN THE RETAIL INDUSTRY

by

Deepak Kota, B.COM, ACA, CMA

DISSERTATION

Presented to the Swiss School of Business and Management Geneva

In Partial Fulfilment

Of the Requirements

For the Degree

DOCTOR OF BUSINESS ADMINISTRATION

SWISS SCHOOL OF BUSINESS AND MANAGEMENT GENEVA

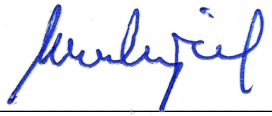
SEPTEMBER 2023

MEASURING STRATEGIC BUSINESS VALUE OF DIGITAL TRANSFORMATIONS IN THE RETAIL INDUSTRY

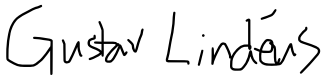
by

Deepak Kota

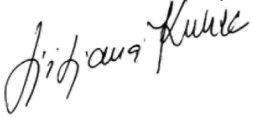
APPROVED BY



<Chair's Name, Degree>, Chair



<Member's Name, Degree>, Committee Member



<Member's Name, Degree>, Committee Member

RECEIVED/APPROVED BY:

SSBM Representative

Dedication

This thesis is dedicated to the curious minds that never stopped asking 'why,' the patient hearts that listened, and the unwavering believers in the power of knowledge. To my teachers, mentors, and all those who have ignited the flames of curiosity within me, your impact is woven into every word on these pages. To my family, whose unwavering support, encouragement, and love have been my pillars of strength throughout this journey. This accomplishment is as much yours as it is mine.

Acknowledgements

Embarking on another significant chapter of my life's journey, I find myself humbled and deeply grateful for the unfolding of my doctoral aspirations. To the Divine, whose unwavering support has made it possible, I attribute this achievement not to my own merit, but to His boundless grace.

I extend my heartfelt gratitude to my esteemed mentor, Dr. Gustav Lindéus, for his unending guidance, timely insights, invaluable counsel, and unwavering encouragement that have propelled me forward in the development of this dissertation. Without your steadfast support, the completion of this research would have remained an unattainable goal.

As I reflect on this journey, I am acutely aware of the profound debt of gratitude I owe to my ever-supportive mother, Mrs. Pushpa Bala Jagam, who has been my pillar of strength throughout. Her unwavering encouragement and understanding have provided me with the steadfast support needed to overcome challenges and press forward. A special mention of appreciation goes to my cherished daughters, Shruti and Shreya, I am profoundly thankful for creating an environment that allowed me the necessary space to delve into my studies.

To the practitioners, experts, and executives who contributed to this research, I extend my heartfelt thanks. Your precious insights, thoughtful survey responses, constructive criticisms and valuable suggestions have steered my efforts in the right direction. May the Divine shower His blessings upon each of you, rewarding your generosity. I am honored to forever remain indebted to your support and encouragement, Thank you.

ABSTRACT

MEASURING STRATEGIC BUSINESS VALUE OF DIGITAL TRANSFORMATIONS IN THE RETAIL INDUSTRY

Deepak Kota

2023

Dissertation Chair: <Chair's Name>

Co-Chair: <If applicable. Co-Chair's Name>

The Retail industry is going through a paradigm shift and the next generation of customers are leaning towards purpose-driven retail, demanding new levels of value like instant delivery, and seamless experiences at best prices. Retailers are enabling value creation with differentiated physical and digital shopping experiences driven by innovative business capabilities. CXOs are making significant investments in digital transformation initiatives adopting technologies like artificial intelligence, cloud, Internet of Things, and augmented reality.

Chief Financial Officers (CFOs) are challenged in evaluating the business case and measuring success of these digital programs due to inadequate and inconsistent valuation practices. Existing academic research indicates that traditional return on investment (ROI) measurement frameworks are limited in their ability to deliver insights on true business value achieved through digital investments. Traditional measurement methods of transformation benefits like free cash flows or net present value involve long payback

cycles and typically have intangible outcomes. The value impact of digital technology investments is a challenge at enterprise level and monitoring this performance extends beyond traditional methods to non-financial metrics aligned to the business objectives of the program.

The proposed study would examine the value provided by digital transformations implemented in the global retail business. The study has a long-term goal of providing CFOs the required tools to measure transformation benefits through a unified digital ROI framework aligned to the retail business value chain. It assesses the business outcomes of these initiatives, including their impact on financial performance, cash flows, and the prospect of defining an all-encompassing business value framework.

A research approach involving a digital survey was conducted to gather insights from practitioners of Digital technology transformations regarding their perspectives on methodology, approach, challenges, and recommendations for evaluating and optimizing ROI benefits.

The outcome of this research was a structured benefits evaluation framework, Smart Gems, which is enriched by the fusion of real-world experiences and processional wisdom. Smart Gems enables business metric definition and effective measurement across the retail transformation value chain. CFOs should now be able to navigate confidently as they evaluate and approve complex digital initiatives and design effective governance practices for value management.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I:
INTRODUCTION

1.1 Introduction

The retail industry's worldwide sales in 2022 is expected to grow 5% year-on-year (YoY) and exceed $27.33 trillion with e-commerce channels contributing to 20% of total sales (Yuen, 2022). By 2025, the global sales are expected to be $31.3 trillion, with an average growth rate of 4.7% from 2022 to 2025.

According to Raydiant (2022), 44% of shoppers prefer shopping in person for the in-store experiences and 63% will support the brand online if the experiences were positive. Omnichannel is increasingly a prerequisite for every retailer and is driving significant investments in re-imagining store operations to deliver best-in-class experiences and services to their customers. Increased adoption of technology by consumers is propelling retailers to create immersive experiences through unique and virtual stores enabled by personalization, intuitive engagement, convenience, and superior customer service.

A tech-enabled store of the future can potentially double the retailer's earnings before interest and tax (EBIT) margins through better customer experience and employee engagement (McKinsey & Company, 2020b). Retailers are making significant investments in digital initiatives to transform their operations but are struggling to clearly define their strategy and show results. They are measuring digital returns, but the progress is slow with

poor visibility on the digital spend and the value yielded (Ulrich, Prabhakaran and McGarrity, 2022).

1.1.1 Digital transformation in context of retail

This section outlines concepts of digital transformation, strategies and challenges faced in the retail industry, their digital initiatives and value management practices to measure outcomes of these investments.

a. Definition and evolution of digital transformation

Industry 4.0 or the fourth industrial revolution harnesses digital technology innovations to build resilient business operations enabling an efficient digital ecosystem. The desired business outcomes from a successful digital transformation are improved customer experience, agile and frictionless business processes, profitable market share expansion, innovating new products and services, driving internal efficiencies resulting in enhanced employee engagement and empowerment.

Only digitization of processes is not sufficient to drive synergies, adaptation of the business strategies to the possibilities enabled by digital technologies and its successful integration across business value chains ensure that organizations can realize the potential of the transformation. Retailers are innovating to bridge the gap between customer experiences at a physical store and a digital world by delivering a seamless brand engagement. This integrated brand presence known as Phygital (physical plus digital), combines the best of both channel designs, reduces friction.

Digital transformation is an evolutionary process that leverages digital capabilities and technologies to enable business models, operational processes, and customer experiences to create value (Morakanyane, Grace and O'Reilly, 2017). Digital business transformation is "the application of technology to build new business models, processes, software and systems that results in more profitable revenue, greater competitive advantage, and higher efficiency" (Schwertner, 2017). There are different interpretations, value creation is a common outcome expressed by authors emphasizing the need to define, measure and quantify the success of the digital transformation initiatives.

b. Challenges driving digital transformation in retail industry.

The retail industry is going through a paradigm shift, the next generation of customers are leaning towards purpose-driven retail, demanding new levels of value like instant delivery, seamless experiences at best prices. This expectation of a unified brand experience aligned to values can be delivered through digitization of business processes, integration of ecosystems and seamless engagement with customers.

The abundance of data enabled through connected devices, customer micro-segmentation, their choices and increased buying power of new growth economies is powering this transformation. This digital adoption has further accelerated due to Covid-19 pandemic which has transformed consumer behavior with increased propensity towards online shopping experiences.

This future of retail increases the need to invest in innovative business models to create value for consumers and the ecosystem by embracing intelligent digital technologies. Retail leaders are challenged with making decisions on spending their time

and resources towards disrupting their industry or enhancing their customer experience in a profitable manner. Disruptive market entrants with innovative business models, digital-first strategies and vertically aligned services are challenging traditional businesses and gaining market share.

c. Retail value chain digital transformation objectives and scenarios

The strategic priorities of retailers to pivot into a digital leader can be classified into stores reimagination, customer centricity, digital supply chains, personalization and innovating new business models.

Stores reimagination i.e., smart store delivers a Phygital experience with real-time insights powered by smart apps, sensors for customer identification, engagement, and seamless checkouts.

Customer centricity pertains to understanding the customer demand, capturing sentiments, and consumption signals for predictive assortment planning, promotions, and inventory optimization.

Digital supply chain enables flexible omni-channel fulfillment and delivery options enabled by digitalized track and trace across the manufacturing to consumer value chain. Fulfillment from anywhere, return from anywhere through global inventory, dynamic sourcing, and last mile delivery.

Personalization - segment of one, drives higher brand loyalty through personalized experiences across brands, formats, and channels. Customer insights to predict preferences, make recommendations and offers including product or service customization at scale.

With significant disruption due to digital technologies and globalization, retailers are focused on Innovating new business models to stay resilient. These include, new offerings, markets, new segments, and categories, monetize data, extending businesses, ecosystems, and platforms at scale.

d. Disruptive technologies enabling retail digital transformation.

The key digital technologies powering retail transformation are combinatorial in nature. By harnessing scalable compute capabilities with anytime, anywhere mobile operations, implementing cognitive processes through application of algorithmic retailing with real-time data-driven decisions, retailers are unlocking exponential business value. The following section outlines briefly the technologies leveraged by retailers and their usage scenarios across the retail value chain.

Artificial Intelligence and Machine Learning (AI/ML)

Real time and dynamic decisions by leveraging advanced algorithmic techniques and integrating data insights across the retail value chain. Retailers have been dependent on traditional analytics to run their business, with AI/ML a data scientist has access to numerous data models and algorithms to simulate and recommend strategies with a higher degree of confidence. AI/ML has gained a lot of prominence in the supply chain function - responsive replenishment, last mile delivery, omni-channel fulfillment, hyper personalization by analyzing customer behavior and preferences are some of the scenarios.

Augmented reality and Virtual reality (AR/VR)

Experiential immersive experiences, bringing a virtual world together with real world providing customers an enriched engagement across their buying journey.

Customers can scan product codes to know more about them or virtually tour production facilities to experience the process. Simulation of buying experiences e.g., visualizing by placing furniture in the home, purchasing spectacles online by visualizing the perfect frame, trying cosmetics or buying a car after reviewing its features and interiors are few of the examples.

Computer vision

Computer vision (CV) can be defined as artificial intelligence solutions that leverage Image and Video content to analyze, predict and recommend actions. The key scenarios where CV is leveraged in retail are customer behavior analysis, real-time assistance and engagement, scan & go or cashier less checkouts, shelf space monitoring, store safety and employee wellness, virtual mirrors for apparel shopping, store footfall and heat map, loss prevention.

Autonomous execution

Robots, automated warehouses, drones have gained significant mindshare and investments over these years. With the advent of high speed 5G internet, devices today can operate autonomously, freeing time for employees to engage with customers or address other critical processes. Robots assisting customers or autonomous scans of the store shelves to prevent stock outs, drones monitoring warehouse inventory or delivering parcels to customers, or warehouses completely being automated and managed by robots are key business use cases being adopted in the retail industry.

Cloud computing

Cloud computing has revolutionized the way companies procure hardware, store, and access data, monitor their infrastructure operations and deploy new business critical applications. This technology has simplified IT application development and management by enabling companies to become agile while reducing IT costs, improving experiences of both customers and employees, and accelerating digital technology adoption. By migrating their applications to the cloud, retailers can operate their e-commerce websites with a higher efficiency to manage spikes in volumes during peak holiday season. Big data analytics requiring high volumes of data in real-time from stores and other third-party sources can be analyzed with minimal effort and costs.

Internet of Things (IoT)

IoT is an interconnected technology ecosystem where sensors, devices collect, transfer and communicate data with applications on the cloud to deliver a seamless experience. IoT solutions are further enhanced with AI and ML to make dynamic business decisions by monitoring critical events and exceptions. Traditional brick and mortar shops are transforming their customer experience and reducing operational costs through its adoption. Automated checkouts, personalized offers and advertisements, smart shelves to monitor real-time inventory levels, store layout and shelf planning, track, and trace inventory, monitor freshness of perishable items are few business scenarios where IoT technology has gained industry acceptance.

Blockchain

Blockchain is a disruptive technology that offers a decentralized, distributed, and immutable digital ledger and facilitates recording business transactions across multiple networks of computers. Blockchain increases trust, confidentiality, transparency, and traceability of these business transactions resulting in a wider adoption of this technology across industries. Select implementation scenarios in retail are (a) provenance i.e. authenticity of a product in the luxurious goods industry is a challenge with increasing number of counterfeits in circulation, (b) inventory tracking for real-time supply chain and product quality (c) customer loyalty and identity protection, (d) secured online payment mechanisms, acceptance of cryptocurrency (e) fleet tracking and maintenance increasing efficiency of last mile delivery service levels (f) automating vendor, third party and back office administration activities.

Digital Core

Realization of technology innovations and adoption in retail has not kept pace with digital transformations across other industry verticals. The technology shortcomings due to legacy IT infrastructure, heavily customized business applications and traditional operative models have limited the adoption and success of these digital initiatives. A robust integration of these disruptive technologies with the business application layer can deliver a modern and resilient business model. Retailers are digitizing and modernizing their traditional back-office applications like (a) enterprise applications - ERP, customer relationship management (CRM), (b) point of sale applications (c) web portals, ecommerce and digital marketing applications (d) supply chain planning and Inventory management

solutions (e) warehouse management applications. The digital core enables an end-end retail value chain infrastructure and application modernization to enable seamless adoption of these next generation technologies.

e. Select examples of transformations in retail.

This section illustrates a few examples of global retailer digital transformations, while they may have met the objectives of the technology or business, there is scope to review and understand the true financial impact to the company which in some situations may be determined only after a long time. This summary has been compiled by the author based on the research from the retailer investor presentations, press releases and other public references.

Case study 1

Woolworths group is Australia and New Zealand's largest food and everyday needs retailer with more than 1,400 stores. They wanted to transform their data capabilities and enable an agile and improved decision-making process. This was achieved through implementation of a common data platform on Google cloud integrating strategic business data from their sales, finance, and supply chain functions. These self-service analytics, coupled with AI/ML enabled a single source of truth for their employees to localize its products at stores, dynamically adjust their prices, predict sales patterns, and improve supply chain performance. This not only enhanced their customer and employee experience, but also gave them an edge against other competitors in the market to deliver incremental business value to their stakeholders.

Case Study 2

The Body Shop, a leading cosmetics retailer was established in 1976 in the UK and continues to grow and operates out of 70+ countries with over 3000 stores, franchisee partners, online sales and 30000+ home at sales consultants. Their legacy IT systems were not agile or integrated and struggled to meet the business expectations of a resilient unified application enabling business agility. They deployed a new order management portal for franchisees along with a new cloud-based ERP (SAP S/4HANA) as the digital core to transform financial, supply chain and e-commerce processes. With these new platforms, The Body shop can expand their omni-channel capabilities to provide seamless store and online experiences to their customers, improve its franchisee operations through better stock forecasts, sourcing efficiencies and leverage real-time data for strategic decision-making.

Case study 3

FILA is a leading sport and leisure footwear brand established over a century ago and the company's products are worn by professional athletes and celebrities around the world. The North America business' digital experience was a priority after the pandemic impacted its store sales, the online customer experience was not optimized and lacked the connection with its brand. Their strategy was to deploy a dynamic customer experience ecosystem with Salesforce commerce cloud as a foundation, Salesforce service cloud to provide prompt and accurate data to customer-service agents, and MuleSoft for Application Programming Interface (API) based integration with customer, order, and inventory

applications. This enabled an innovative unified shopping experience with increased sales over the new FILA.com channel.

f. Value management and its relevance in digital transformations

Value management is a structured practice to define, measure and evaluate strategic business value of transformation initiatives. This practice assists organizations in managing their business investments across the life cycle of their programs and analyzing the performance against the established business case and financial goals of the transformation. An organization defines the value management framework adapted to their business processes and governance practices. Typically, the following aspects are considered in the design of the framework:

- Understanding the business imperative and business case for transformation
- Prioritization of business initiatives aligned to strategy and value creation potential.
- Governance practices for design, evaluation, and continuous measurement
- Strategy to measure the data analytics and information generated during and after the transformation lifecycle.
- Assessment, benchmark against best practices and continuous improvement initiatives to drive value.

The scale, value of investments, business impact and complexity of digital transformation programs necessitates a focused approach towards value management. The success is underscored by a well-defined business case, associated business goals, value

potential and most importantly alignment of key business stakeholders to the vision and desired business objectives.

g. The retail value chain and key metrics

A value chain is a business process framework illustrating the key activities and functions prevalent in the industry. The value chain framework as described originally by Porter (1985) illustrates how a business creates value for the market. These business activities are divided into two categories.

- Primary activities which directly enable the development of the product or service e.g., Inbound logistics, outbound logistics, operations, marketing, and sales.
- Secondary activities are those which support the primary activities e.g., human resource management, procurement, finance, technology & infrastructure.

The objective of digital transformation initiatives is to improve the primary activities, the secondary activities or both, it is imperative that the outcome expected from these initiatives are defined and key performance indicators (KPI) measured against them. Figure 1 below illustrates the retail value chain.

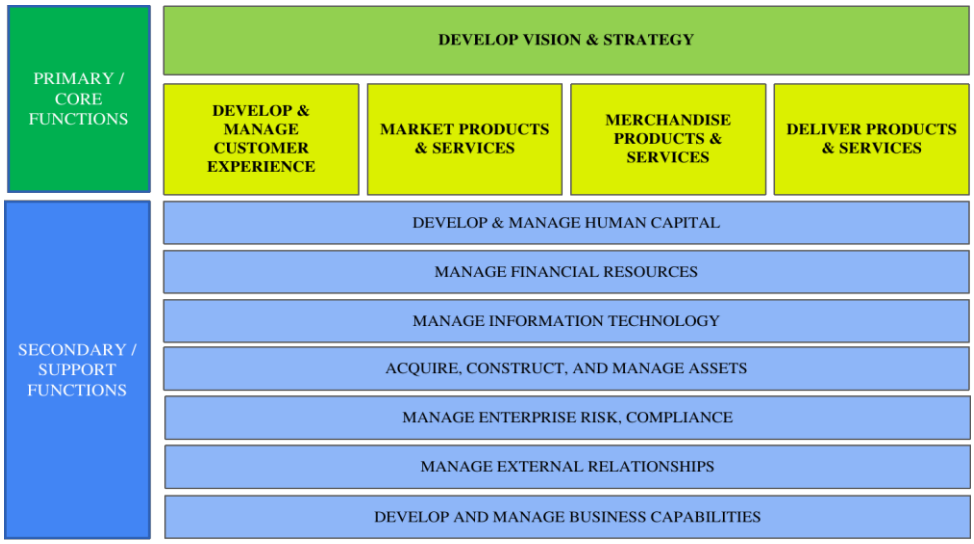


Figure 1. Retail value chain
Source: APQC's Process Classification Framework® (PCF)

The following section outlines the core business functions of retail, and their key performance indicators or value drivers.

Marketing and customer experience - The primary goal of this function is to deliver a unified customer experience, plan and execute digital campaigns to increase conversions, improve engagement through personalized offers and build customer loyalty to the brand.

- % reduction / optimization in digital marketing spend
- % increase in effectiveness of promotions
- % reduction / optimization in trade promotion spend
- % reduction in sales cycle time

Merchandising - Analyze customer preferences to plan and optimize the merchandise and assortments. Align with the campaigns and promotions to improve customer brand experience and accelerate new product or services introduction.

- % reduction in time to market new products

- % increase in revenue from new products and services
- % increase in revenue from cross-sell/up sell
- % improvement in sales forecast accuracy

Sourcing and procurement- Source responsibly from local or global partners to deliver against plans.

- % improvement in savings in sourcing spend
- % reduction in revenue loss due to fulfillment delays
- % reduction in inventory carrying cost
- % reduction in inventory days

Supply Chain - Plan and forecast the demand, fulfill the demand through the right channel i.e., store or direct to customers. Managing the warehouse, transportation, and logistics networks.

- % improvement in on-time delivery performance
- % reduction in logistic costs
- % reduction in order fulfillment lead time
- % reduction in losses due to stock outs

Omni-channel operations - Deliver a seamless experience across stores and online formats, engage customers through smart stores, digital storefronts, and e-commerce.

- % improvement in customer satisfaction
- % increase in revenue share from new customers
- % increase growth from new digital channels
- % reduction in customer churn

The emergence of innovative digital technologies enables differentiated business outcomes contributing to both top-line and bottom-line improvements and maximizes shareholder value through strategic and transformational best practices. It is important to socialize the vision of the transformation and secure a buy-in across the organization. Senior leadership direction and active engagement through the lifecycle of the initiative is critical to drive ownership and acceptance.

h. Role of CFO in digital transformations

Digitization has transformed business strategies, operating models, organization structures to drive synergies between store and digital channels. CFOs are playing a broader role in sponsoring transformations, evaluating the business case, establishing the baseline of transformational goals and validating improvement initiatives for the business value delivered. Driving ownership of the budget commitments, implementation of measurement practices and definition of the underlying measures have become an integral part of finance function and responsibilities in enabling the success of a digital transformation.

While CFOs are working hard to fulfill executive leadership demands to increase investments for digital initiatives, corporate finance is also transforming itself to adopt newer technologies and enable an agile, iterative planning function. The diverse nature of digital investments is a challenge to traditional business case evaluation, budgeting practices and measures to quantify returns. The absence of a formal value driver model to manage digital business performance constrains the evaluation of costs and business growth potential. This defensive and risk mitigation approach is causing delays in

investments by companies, resulting in them becoming laggards in digital adoption in comparison to new generation i.e., digital born and legacy competitors. An approach to mitigate these delays is to adopt a staged investment process through agile proof of concepts managed through a flexible investment governance mechanism.

The CFO organization has also stepped in to establish governance practices to enable faster, efficient decisions on capital investments. Organizations are adopting more non-financial measures i.e., objectives and key results (OKR) instead of or in addition to traditional KPI in the overall evaluation and effective capital allocation decisions. Business teams implementing digital initiatives are very comfortable with this transition due to the transparency and alignment of the financial goals with measurable qualitative objectives set by them.

Collaboration between business functional leaders, IT and finance is critical to navigate the complexity of the changes proposed and ensure high-risk material investments are monitored adequately.

1.2 Research Problem

The pandemic has caused significant disruption to the retail industry, 42% of CFOs expect to restructure or reorganize their business and companies will continue to operate in a difficult financial environment (BDO, 2021). Capital infusion to stabilize the operations or pursue digital initiatives is a challenge; government Covid-19 stimulus has only provided short-term relief with sale, divestitures, bank loans or private equity financing coupled with cost optimization initiatives becoming CFOs' priorities to mitigate

the financial risks and rebuild a resilient business. These investments together with funding of operations have strained retailer's cash flows, requiring CFOs to prioritize their investments in digital and define effective ROI and value management practices. ROI is a financial metric to evaluate investments and measure their probable returns. 48% of CFOs are concerned about the accurate evaluation of ROI of their digital transformation programs and willing to fund initiatives with clear business outcomes that grow investor value (Dimensional Research and Rimini Street, 2021).

Traditional measurement methods of transformation benefits like free cash flows or net present value involve long payback cycles and typically have intangible outcomes. The value impact of digital technology investments is a challenge at enterprise level and monitoring this performance extends beyond traditional methods to non-financial metrics aligned to the business objectives of the program. As retailers race for leadership and invent their business models, there is limited research to enable decisions based on a holistic perspective of the different dimensions (customer, product / services, partners, employees, financial, and process) impacted due to the choice of technology strategy and business process transformed.

1.3 Purpose of Research

The proposed research has a long-term goal of providing CFOs the required tools to measure transformation benefits through a unified digital ROI framework aligned to the retail business value chain. Its purpose is to understand the strategy, impact and benefits

achieved by retailers across key geographies and micro-verticals through their digital transformation initiatives.

The research has the following specific sub-objectives:

1. To explain the digital transformation drivers for the retail industry, technology enablers and challenges faced in measuring success of these programs.
2. To identify value management practices adopted during the business transformation life cycle.
3. To understand the value delivered through adoption of different digital technology enablers.
4. To Illustrate models to evaluate business benefits, elaborate the retail business value framework.
5. To identify potential opportunities to define a framework for micro-verticals like grocery, pharmaceutical, apparel & fashion.

The outcome of this research would be a structured benefits evaluation framework for business metric definition and effective measurement across the retail transformation value chain. CFOs should be able to navigate confidently as they evaluate and approve complex digital initiatives and design effective governance practices for value management. Furthermore, the outcome of this research will be helpful in appropriate allocations of capital expenditures (CapEx) and operational expenditures (OpEx) funding and optimize scarce financial resources towards building a resilient business.

1.4 Significance of the Study

CFOs of retail organizations are navigating complex and unique challenges of balancing the CapEx and OpEx spend to stay resilient and lead growth. There is a shift towards digitization of store operations, customer engagement practices, partner enablement and collaboration, and differentiated omni-channel capabilities. These strategies require significant technology investments, however measuring the return on capital is a challenge considering blurring of the channels and varying metrics. Rapid technology evolution necessitates agile capital allocations to maintain the competitive edge. The redeployment of the capital from critical business operations like inventory to emerging technology innovations will need the finance team to equip themselves with tools and techniques to evaluate the business case and measure the business benefits of their investments.

The literature review revealed the gaps and opportunities for further research on the digital investment ROI practices especially in the retail sector. The following observations are noted to support the proposed study and its importance for the CFOs organization

- Quantifying value created from digital investments for online and offline retail as they embrace digital retail strategies
- Define and address transformational effects on different aspects of the organization
- Reporting business performance against the KPI measures that affect value and cash flows

- Industry specific metrics measurement framework across six focus areas namely customers, employees, operations, safety and soundness, infrastructure, disruption and innovation.
- TCO comparison method excludes specifics of business case and value delivered
- Longevity and higher risk of digital retail transformations make options value framework, payback time methods ineffective
- Finance organization is expected to define new risk and performance metrics to monitor the organization's success of its digital initiatives

There is a greater need to understand the KPI measures adopted in real industry scenarios against different digital initiatives and technology implementations. This understanding cannot be obtained without conducting an extensive, holistic study of leading global retailer strategies and business outcomes of their digital investments. To summarize, this research, to measure strategic business value of digital transformations is of high importance and would contribute to a greater understanding of impact of digital spend across retail value chain and identification of KPI aligned to individual technology and business processes.

1.5 Research Purpose and Questions

Most studies in this domain provide a siloed view of technology adoption and/or business process transformation opportunities. Further, these studies do not evaluate the actual business benefits achieved by companies who have completed these transformations to demonstrate value delivered. The upcoming study will aim to gain insights by answering the following research questions, among others:

- What digital transformation initiatives have been adopted by retailers worldwide?
- Have these transformation programs improved specific business processes and met long-term business and long-term IT objectives?
- What KPI and ROI measures have been defined for these programs and are they measurable?
- Have traditional measurement methods been effective for CFOs to determine the business value of their IT spend?
- Can a standard framework enable efficient IT spend governance?

1.6 Outline of the thesis

The thesis will be structured in six chapters. In this first chapter of the thesis, digital transformation concept, retail industry value chain, its priorities and examples of digital initiatives were explained as well as demonstrated. The disruptive technologies that enable digital transformation in retail were explained as well as key business processes and their KPI. The problem statement, research questions and significance of them were also demonstrated in the first part of the thesis. In the second chapter, relevant academic literature shall extensively be reviewed, both empirical and theoretical to give adequate support and foundation to the rest of the chapters in the thesis. Few concepts relevant to the study will also be reviewed in detail to eliminate any form of ambiguity.

In the third chapter, methodological frameworks, including models will be elaborated. These methodological frameworks will help in the evaluation of the financial

statements to support the various objectives of the study. In the fourth chapter of the thesis, major findings as well as results of the research shall be presented and evaluated. A discussion of all the previous parts of the thesis will be presented in the fifth chapter. Lastly, in the sixth chapter, a summary, including implications as well as suggestions for future research will be demonstrated.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

The global retail industry is undergoing a transformation driven by advancements in technology, changing consumer behaviors, and the shifting economic landscape. Digital investment is a key strategy for retailers in the global market to remain competitive and meet changing consumer demands.

There are a variety of financial tools available to assess the ROI of IT projects. Net Present Value (NPV), Internal Rate of Return (IRR), Cost-Benefit Analysis (CBA), Balanced Scorecardand, Economic Value Added (EVA), Time to Value (TTV) are some of the most commonly used tools . Each of these methods has advantages and disadvantages, and it is critical to use them in the context of the particular project and organization. Furthermore, to obtain a complete picture of the project's ROI, these methods should be used in conjunction with other evaluation methods such as qualitative and non-financial analysis.

These financial tools are essential for assisting management with prioritization, resource allocation, and assessing post-implementation business value delivered. Traditional methodologies are ineffective for measuring Digital Transformation initiatives, which typically have a long-term enterprise-wide impact by improving customer experience, business processes, and employee efficiency.

According to Shantz (2021), CFOs are challenged with the availability of concrete data to evaluate their technology investment decisions. This is compounded by the

emergence of digital technologies with limited historical evidence of value delivered to businesses and methods to measure them. This is a long and complex process requiring measurement against the strategic goals during the lifecycle of the transformation program.

According to Hirji and Geddes (2016), business transformation metrics designed should be both qualitative and quantitative in nature aligned to the industry focus, geography and overall enterprise strategy. The Digital ROI framework guides potential metrics measurement across six focus areas namely customers, employees, operations, safety and soundness, infrastructure, disruption and innovation. There is scope for extending this to an industry-specific framework and also address the micro-vertical measurements for a Grocery, Apparel, Pharma and Specialty Retailer. Additionally, traditional brick and mortar i.e. traditional street side businesses have diverse metrics from their online-only competitors which need further elaboration.

In this literature review, digital transformation in retail and value management practices will be evaluated. The first part will consist of several sub-sections : digital transformation concept, retail industry challenges, priorities and trends, retail business process transformation, technology enablers for retail transformation. The second part covers value management practices adopted in digital transformation initiatives. In conclusion, major contributions from the research will be summarized and the significance of the topic in relation to the research literature will be addressed.

2.2 Theoretical Framework

The conceptual framework for this study delves into comprehending the influence of digital transformations on financial performance. It entails an exploration of methodologies used to gauge business benefits and ROI stemming from these transformations. This framework is designed to unfold in three primary segments, each focusing on a distinct aspect of the research - Digital Transformations and Financial Performance, Approaches and Methodologies for Business Benefits Measurement, Standardizing a Framework for Digital Transformation Evaluation.

2.2.1 Introduction

The global retail industry is undergoing a transformation driven by advancements in technology, changing consumer behaviours, and the shifting economic landscape. Digital investment is a key strategy for retailers in the global market to remain competitive and meet changing consumer demands.

There are a variety of financial tools available to assess the ROI of IT transformation projects. NPV, IRR, CBA, EVA, TTV are some of the most used tools. Each of these methods has advantages and disadvantages, and it is critical to use them in the context of the project and organization. Furthermore, to obtain a complete picture of the project's ROI, these methods should be used in conjunction with other evaluation methods such as qualitative and non-financial analysis.

These financial tools are essential for assisting management with prioritization, resource allocation, and assessing post-implementation business value delivered.

Traditional methodologies are ineffective for measuring Digital Transformation initiatives, which typically have a long-term enterprise-wide impact by improving customer experience, business processes, and employee efficiency.

According to Shantz (2021), CFOs are challenged with the availability of concrete data to evaluate their technology investment decisions. This is compounded by the emergence of digital technologies with limited historical evidence of value delivered to businesses and methods to measure them. This is a long and complex process requiring measurement against the strategic goals during the lifecycle of the transformation program.

As per Hirji and Geddes (2016), business transformation metrics designed should be both qualitative and quantitative in nature aligned to the industry focus, geography, and overall enterprise strategy. The Digital ROI framework guides potential metrics measurement across six focus areas namely customers, employees, operations, safety and soundness, infrastructure, disruption, and innovation. There is scope for extending this to an industry-specific framework and address the micro-vertical measurements for a Grocery, Apparel, Pharma and Specialty Retailer. Additionally, traditional brick and mortar i.e., traditional street side businesses have diverse metrics from their online-only competitors which need further elaboration.

In this literature review, digital transformation in retail and value management practices will be evaluated. The first part will consist of several sub-sections: digital transformation concept, retail industry challenges, priorities and trends, retail business process transformation, technology enablers for retail transformation. The second part covers value management practices adopted in digital transformation initiatives. In

conclusion, major contributions from the research will be summarized and the significance of the topic in relation to the research literature will be addressed.

2.2.2 Digital Transformation Concept

The process of using digital technologies to fundamentally change how an organization operates and delivers value to its customers is referred to as digital transformation. Automating processes, using data and analytics to make better decisions, and developing new digital products and services are all examples of this. The goal of digital transformation is to boost efficiency, competitiveness, and growth. It is applicable to any industry, such as healthcare, finance, retail, and government.

There are different perceptions and definitions of digital transformation, its strategies, approaches, elements, and categories. Value creation is the common theme, while authors have reflected on various characteristics impacted during a transformation in their definitions.

Digital transformation as defined by Morakanyane, Grace and O'Reilly (2017) is "an evolutionary process that leverages digital capabilities and technologies to enable business models, operational processes and customer experiences to create value". According to Schwertner (2017), digital business transformation is "the application of technology to build new business models, processes, software and systems that results in more profitable revenue, greater competitive advantage, and higher efficiency". The emphasis of this definition is on business outcomes which implies the need to define, measure and quantify the success of transformation initiatives.

Operational improvements through improved products, organizational structures or workflow automation is described by Clohessy et al.(2017). While, Schallmo et al.(2017) implies that digital transformation "changes all spheres of business - organizations, current or future business models, way of running business processes, ecosystems, services and products".

This diverse interpretation of digital transformation has been simplified in a conceptual model with three blocks representing the "Drivers", "Categories" and "Results" of the digital transformation (Jelena Titko, 2019).

The Deloitte Digital Maturity Model provides organizations with a roadmap for improving their digital capabilities and driving business outcomes through digital technologies. Organizations can create a digital strategy that aligns with their business goals and drives sustainable growth by assessing their digital maturity level across five dimensions: customer experience, data and analytics, digital operations, digital talent, and culture and leadership and identifying areas for improvement (Deloitte Consulting LLP, 2018).

Most digital transformation maturity models provide an incomplete picture of digital maturity, and that the description of digital maturity stages varies across models. Furthermore, most existing digital maturity models are focused solely on the manufacturing domain. Other domains, such as service, are noticeably underrepresented and that future research should focus on specific dimensions of digital transformation maturity and provide practical recommendations for companies to improve their digital transformation maturity (Teichert, 2019).

A unified retail industry view of the digital transformation priorities is not adequately defined, also there is an opportunity to elaborate business priorities of customer experience, resilient supply chain and enterprise agility, their drivers for transformation and impact to a retail enterprise.

2.2.3 Retail industry challenges, priorities, and trends

The retail industry faces several challenges, including increased competition, changing consumer behaviour, and the rise of online commerce. Consumers increasingly use smartphones to research products and make purchases, and they expect a consistent, personalized experience across all channels. The rise of e-commerce has made it easier for consumers to shop around for the best deals, making it more difficult for brick-and-mortar stores to compete on price (McKinsey's Consumer & Retail Practice, 2022).

Globalization and a greater reliance on just-in-time inventory have increased the vulnerability of supply chains to disruptions such as natural disasters and political instability. Customers expect faster and cheaper delivery options, so the cost and complexity of last-mile delivery have become a significant challenge for retailers. Retailers face the challenge of managing and analysing massive amounts of data collected from various sources such as point-of-sale systems, e-commerce platforms, and customer relationship management systems. Also, retailers face an increased risk of data breaches as they collect more customer data, which can harm their reputation and result in financial losses.

The retail industry is constantly evolving, and new innovations are emerging. Typically, retail CXO strategy focuses on leveraging technology to drive business growth and improve the customer experience. Implementing systems for inventory management, e-commerce, data analysis, and customer relationship management are examples of this. A retail CXO may also concentrate on implementing technologies like artificial intelligence and machine learning to improve decision-making and automate certain tasks. Cybersecurity, mobile and omnichannel strategy, and data governance are also important areas of focus. A retail CXO strategy's goal is to use technology to streamline operations, increase sales, and improve the overall customer experience.

To facilitate sales during the pandemic, vertically integrated retailers invested in e-commerce platforms and logistics partnerships. The CFO and finance team are analysing sales volumes to determine the impact of their omni-channel strategies and plan their next steps. A driver-based model deconstructs the Profit and Loss (P&L) and links it to operational KPIs, providing the finance team with an understanding of which projects and initiatives require immediate time and attention. (Agraval, A et al., 2020).

Innovative digital technologies have enabled transformation of the retail industry largely due to the proliferation of internet and mobile devices. Online retailers like Amazon are investing in building a portfolio of stores to deliver elevated experiences leveraging immersive technologies, integrated in-store app functionalities, hyper personalization - segment of one and payment technologies.

The platform economy is transforming the retail industry where multi-sided digital platforms like Amazon, eBay can provide a seamless digital user experience as consumers

can access all the services through one digital channel. These platforms pose a threat to incumbent retail business models and digital services facilitated through an ecosystem becomes the de-facto standard of retail in the future, this will require a new business model altogether to respond and stay on top of consumer expectations (Hänninen, Smedlund and Mitronen, 2018).

A new hybrid retailing model emerges with no clear borders between e-tailors and traditional retailing driven by adoption of omni-channel, smaller and smarter retailing formats, increased efficiency and optimization through AI/ ML, marketing based on behavioural data, and utilization of augmented reality to provide enhanced shopping experience (Gligorijevic, 2019).

72% of retail sales in the US by 2024 are forecasted to be from brick-and-mortar stores i.e., traditional street side businesses. Differentiated experiences to e-commerce savvy customers would be delivered through a "6E" strategy (Engage customers, emulate e-commerce, expand impact, empower associates, Enable insights) and "purpose-designed" stores (Wilson, 2021).

The global pandemic has accelerated long-term transformational strategies while navigating short-term headwinds to turn into profitable and resilient enterprises. The next era of retail would challenge both traditional and online retailers, driving opportunities for digitization, re-imagining store formats, higher revenue stream offerings, adopting ESG best practices, enhancing data and privacy, and future-ready workforce. (Deloitte United States, 2022).

2.2.4 Retail business process transformation

Retail business process transformation is the process of identifying, redesigning, and implementing new or improved business processes to increase efficiency, reduce costs, and improve the customer experience. Here are a few examples of how retailers' business processes have been transformed:

By implementing e-commerce platforms to sell their products online, many retailers have transformed their business processes. This enables them to reach a larger audience and provide customers with a more convenient shopping experience. Retailers have transformed their inventory management processes by implementing systems that optimize stock levels and reduce waste using real-time data and analytics.

Many retailers have transformed their business processes by implementing omnichannel retailing strategies, which enable customers to shop seamlessly across multiple channels, including in-store, online, and mobile apps. To improve accuracy and efficiency, retailers are automating their warehouse and logistics processes, such as using robots for picking and packing, drones for delivery, and automated material handling equipment.

To improve their ability to understand and interact with customers, retailers have transformed their business processes by implementing CRM systems. Data collection on customer demographics, purchase history, and preferences can be used to personalize the shopping experience and improve customer satisfaction. AI and machine learning are being used by retailers to gain insights from data, automate processes, and personalize the customer experience. Retailers, for example, use AI-powered chatbots to answer customer

questions, ML algorithms to forecast demand and optimize pricing, and computer vision for in-store navigation.

Most retailers have begun a technological transformation, but they are still in the "emerging" stage in terms of both architecture and operating model. As a result, they lack the necessary tools, processes, and capabilities to address next-generation retail challenges. Best-in-class players, on the other hand, have reached the "maturing" stage and are focused on continuous improvement (McKinsey's Consumer & Retail Practice, 2022).

Customer interfacing technologies have been at the forefront of transformation initiatives, especially accelerated in a post Covid-19 scenario. According to Ingolstadt and Juni (2021), retail customer experience may be divided into four dimensions: (a) emotional or sensory, (b) functional or cognitive, (c) social or relational, and (d) technological or digital, all of which are interconnected and impact each other.

The ROI of digital marketing technologies and strategies, which employ new technologies and practices, can be difficult to measure, express cogently, and concisely. Bridging this gap is a key challenge for marketers as these sets of tools and practices can be hard to completely quantify. Experts find that many companies lack the rigorous data systems to put together a metric, or set of metrics, that can accurately define the ROI of their digital marketing (Lopresti, 2014).

The Retail landscape in America transformed significantly from just 4% of 500 largest retailers offering "Buy online and pickup in store" (BOPIS) and same day delivery to 44% by the end of the summer of 2021. BOPIS provides adaptable digital shopping experiences, bridging the gap between the ease of e-commerce and the profitability of in-

store buying. It has been observed that retailers witness a decline in online sales and an increase in in-store sales following the implementation of BOPIS, where customers benefit from increased discounts but also make spontaneous purchases in store. (Ketzenberg and Akturk, 2021). There is scope to further investigate the impact of BOPIS beyond the sample size researched and correlate this with other aspects of profitability, customer satisfaction and same-store sales.

2.2.5 Technology enablers for retail transformation

Retailers are investing in disruptive technologies to create new efficiencies, enhance customer experiences and build new business models. These digital capabilities are evolving at a rapid pace requiring dynamic leadership and a comprehensive approach to drive synergies across initiatives as well as deep understanding of these advanced technologies. Retailers have been able to improve their operations, improve the customer experience, and increase revenue thanks to digital technology.

The classification of Technology as cost-saving or service-enhancing by Sethuraman and Parasuraman (2005) are attribute or benefit-driven insights rather than process-driven, while the customer-interfacing retail technologies framework conceives them as an enabler and enhancer of customer's purchase journey (Roggeveen and Sethuraman, 2020).

IoT will be a disruptive force in retail operations, and early adopters will be positioned to more quickly deliver IoT-enabled capabilities that can increase revenue, reduce costs, and drive a differentiated brand experience. Retailers are experimenting with ways to use intelligent, connected devices to offer new services, reshape experiences and

enter new markets by creating digital ecosystems. A strong partnership between Business and IT is essential to identify opportunities aligned with the business strategy, define an approach to prioritize impact and benefits of IoT investments around customers' needs (Gregory, 2015).

As retailers modernize their stores adopting smart technologies adopting varied business scenarios like out of shelf detection, planogram compliance, optimizing inventory, the generation of a positive ROI was expected by the service providers to be one to one and half years. However, the specific ROI expectations were not addressed citing challenges in baseline of existing retail processes, difficulty in evaluating improvements e.g., time saving in shelf controls and the lack of sufficient data from the deployments which in most cases were POC installations (Kellermayr-Scheucher, Hörandner and Brandtner, 2022).

In areas such as personalized marketing, inventory management, price optimization, fraud detection, chatbots, image recognition, predictive maintenance, and autonomous retail stores, AI technology has the potential to bring significant benefits to the retail industry by increasing efficiency, personalization, and security, as well as improving the customer experience. AI-powered systems can analyse customer data to create more effective personalized marketing campaigns, this has the potential to boost sales and customer engagement. Artificial intelligence-powered systems can analyse sales data to predict inventory needs and optimize stock levels, lowering the risk of stockouts and overstocking. AI-powered systems can analyse data to optimize pricing strategies, assisting retailers in increasing profits. AI-powered image recognition can be used to improve

product search and navigation on e-commerce websites, making it easier for customers to find the products they need.

According to Anica et al. (2021), the customer experience, cost, and revenue framework (here after CECoR) helps Retailers understand the risks and benefits of their AI implementations by providing a common guideline for integrating AI in their Information systems. AI-enriched solutions involve a complex technology mix - cloud computing, big data, neuro- linguistic programming, machine learning, deep learning which are not very affordable and easily accessible to retailers. While AI has a positive impact on the retail business processes, the success lies in efficient management of the risks in the adoption.

The increasing availability of customer data and advances in analytical techniques are allowing retailers to better understand consumer behaviour and make more informed decisions about inventory management, pricing, and marketing. It is important to examine the ethical and privacy implications of big data and predictive analytics in retailing, and the development of best practices for responsible data use. Actual ROI of big data and predictive analytics can be difficult to quantify, as it can depend on many factors, such as the size and complexity of the data, the availability of relevant data sources, and the quality of the predictive models. The ROI can vary depending on the specific applications of big data and predictive analytics in retailing, with some applications having a greater potential for cost savings or revenue growth than others. For example, predictive analytics can be particularly effective in areas such as inventory management, where it can help retailers to reduce waste and improve efficiency (Bradlow et al., 2017).

Blockchain technology has the potential to provide a variety of solutions for retailers. By increasing efficiency, security, and transparency in areas such as supply chain management, payment processing, smart contracts, identity and access management, loyalty programmes, traceability and provenance, and data management, blockchain technology has the potential to significantly benefit the retail industry. Blockchain can be used to create a secure and transparent record of all transactions in the supply chain, from product sourcing to customer delivery. This can aid retailers in product tracking, reducing fraud, and increasing efficiency. Blockchain can be used to process payments securely and transparently, making retailers and customers more secure. This can help to reduce the risk of fraud while also increasing trust in the payment process. Blockchain can be used to track and trace products and goods, assisting retailers in ensuring product authenticity and origin and increasing customer transparency.

As blockchain projects are currently private and require permission to access, it can be difficult to find more granular information on investment ROI, costs, and risks. Most businesses use broad characterizations such as benefits and barriers to describe initial pilot projects and lessons learned from implementation. Traditional metrics can be used to evaluate some projects, but calculating blockchain ROI is more difficult. Without a thorough understanding of what matters most to the company and how blockchain can solve those pain points or enable areas of opportunity, determining a ROI relevant to the company will be difficult (Global Supply Chain Institute (GSCI), The University of Tennessee, 2021).

Adoption of blockchain technology in retail has the potential to deliver significant business benefits such as improved product transparency, more efficient supply chain management, a better loyalty management system, improved customer profiling, counterfeiting prevention, and so on, leading to increased customer satisfaction and higher profit margins for retailers. This is still a developing technology with few applications in industry, and the benefits, challenges, and risks have not been entirely studied and published. (Chakrabarti and Ashesh Kumar Chaudhuri, 2017).

2.2.6 Value management and measurement practices

Value management and measurement practices are a set of techniques and methods used to ensure that an organization is achieving the maximum value from its resources, including its employees, equipment, and materials. Retailers face several challenges such as intense competition, rising labour costs, supply chain challenges, and increased investments in technology that can impact their operating margins, and they must adapt to these challenges in order to remain profitable. Value management practices assist retailers in improving their performance and bottom line by providing the best value to their customers while reducing costs and risks. Techniques such as Value engineering, Value Analysis, Total quality management (TQM), Lean Management, Six Sigma, Target costing are adopted to enhance business value.

Value measurement practices such as Balanced Scorecard, NPV, CBA, EVA, are used to make informed decisions about how to allocate resources and improve overall performance.

Performance management, on the other hand, focuses on measuring and evaluating the effectiveness and efficiency of an organization's processes and systems. This approach involves setting performance targets, collecting, and analysing data to evaluate performance against these targets, and making data-driven decisions to improve performance (Neely, Gregory and Platts, 1995)

Value management and performance management are often complementary and used together to achieve organizational objectives. By measuring performance, organizations can identify areas for improvement and maximize the value they deliver to stakeholders. At the same time, by focusing on maximizing value, organizations can ensure that their performance measurements are aligned with their overall goals and objectives.

Value creation is defined as the key impact brought by digital transformation, realized by both the organization and its customers, and includes many factors, but not limited to operational efficiencies, improved customer experiences; enhanced business models; strategic differentiation, competitive advantage, improved stakeholder relationships, cost savings, etc. (Nylén and Holmström, 2015).

While omnichannel retail can provide significant benefits to retailers, it also necessitates significant investment in technology and changes to business processes, and not all retailers will benefit equally from this approach. To realize the full potential of digital transformation, digital firms need to measure the performance improvements on KPIs to facilitate learning and fine-tune the business model. The relevance and use of KPIs may differ across the phases of digital transformation (Verhoef et al., 2021).

Value management practices, their adequacy, depth, methodologies, and accuracy have always been debated by practitioners. This section summarizes key research on this topic in general and in the context of retail business and digital transformations.

2.2.7 Effectiveness of value measurement practices

Measuring the ROI of a digital transformation project can be challenging for retailers for several reasons. It can be difficult to separate the impact of digital initiatives from other factors influencing a retailer's performance, such as economic changes or changes in consumer behaviour. Retailers may struggle to track and measure the specific outcomes of a digital initiative, such as increased sales or increased customer satisfaction. Retailers may lack access to the data or metrics required to accurately calculate the ROI of a digital initiative. Many digital initiatives provide long-term benefits that are difficult to measure and quantify, such as customer retention, brand loyalty, and advocacy. Retailers may have difficulty in quantifying soft benefits of digital initiatives, such as improved customer experience, are difficult to quantify financially.

More research on the goals and metrics of digital transformation is necessary to assess which sets of intermediate and outcome-based metrics should businesses use to evaluate value creation and business performance as they progress through the stages of digital transformation. How do firms' metrics use, and importance evolve as they progress through the stages of digital transformation? (Verhoef et al., 2021).

Tracking intermediate results through process-related metrics is essential for businesses to understand the impact of their digital business model and make informed

decisions about how to optimize and improve it. Process-related metrics help businesses to understand the specific ways in which their digital business model is creating value to their customers, as well as identify any areas for improvement in terms of cost reduction and operational efficiency (Libert, Beck and Wind, 2016).

The most prevalent hurdle to scaling adoption is difficulty in articulating the business case. With so many possibilities currently available, it appears that enterprises are having difficulty determining how to best employ new technology to generate economic value. Risk teams have the chance to generate a true commercial advantage for their organizations by establishing governance processes that minimize time to value. (Deloitte LLP, 2019).

With rapid technology evolution it has become more complex for CFOs to approve digital investments. It is important to understand the value created by different types of digital technologies, their capabilities and impact to specific functions of the organization. There is insufficient literature on transformational effects on different aspects of the organization and to different industries (Morakanyane, Grace and O'Reilly, 2017).

To manage the uncertainty of digital product and service innovation, a framework providing a holistic view of digital innovation across three dimensions, the firm's products, environment, and organization enables continuous evaluation and adjustment (Nylén and Holmström, 2015). This framework provides flexibility to define quantitative or qualitative measures and there is scope for integration of digital process and product innovations with retail industry specific guidance.

As technology has an increasingly pivotal role in transforming retail customer interfacing processes, understanding the purpose for the tool, analysis of factors

determining new technology introduction and measurement of investments to predict likely monetary benefits requires more research (Roggeveen and Sethuraman, 2020).

According to Fichman (2004), options value framework uses a discounted cash flow approach by conceptualizing technology platforms as investment options for projects that may lead to enhanced revenues. A critical challenge in using the options value framework is that it requires an estimation of uncertainty, which is rather high in the retailing context in the COVID-19 and beyond scenario (Shankar et al., 2020). Retailers take into account both strategic (long-term) and tactical (short-term) considerations in making the technology management decision. An important area of concern for retailers is how to evaluate the success of a technology. Different approaches to evaluation exist (Shankar et al., 2020).

TCO factors outlined in legacy digital transformation TCO and ROI analysis (Kiran Mallidi, Sharma, and Singh, 2021) compares the cost incurred on the new environment against the current environment costs which include hardware, operating system, web & applications servers, database servers, application maintenance, other integration systems, migration cost (modernization efforts and time), decommission cost, parallel run cost, and maintenance. This model does not consider the business value delivered as an outcome of the strategic IT investment and only addresses the cost differential - Initial investment and annual cost of operations in considering the TCO.

Measuring the progress of innovation remains a challenge, most CFOs measure progress and output in the overall business context. ROI and payback time methods for measuring innovation can be ineffective and counteract radical innovation (Joelsson and

Ragnell, 2020). Higher risk-profile, longer-term horizon, and unexplored markets typical of a radical Innovation are effectively measured through KPIs by reporting business performance against the measures that affect value aligned to key business strategy and objectives (Kristiansen and Ritala, 2018).

CFOs will also need to help the organization measure its return on investment in the digital space, which can be a less-concrete exercise than determining traditional ROI. Activities in the digital space, such as social media engagement, do not necessarily lend themselves to traditional ROI measures, and CFOs will be relied upon to develop new risk and performance metrics to monitor the organization's success (Ozzimo, 2015).

Business value of a transformation is only measurable relative to a meaningful baseline, companies tend to use previous year's financials as a baseline, but one-time adjustments or business performance may not accurately reflect the momentum of the business. CFOs use their technical skills and judgment to define which assumptions to include in their projections of how a business is likely to perform in the absence of a major transformation. Reporting business performance against the measures that affect value clarifies what really matters with respect to cash flow (McKinsey & Company, 2017).

According to Cakir, Bezbradica and Helfert (2019), most of the strategic financial indicators in Retail are focused on accounting measures, while in the operational metrics a variety of financial metrics are well-established. Examples of financial metrics are order cycle time, purchase frequency, inventory costs as well as non-financial metrics are customer referral behaviour, in-store experience. There is a rising awareness of non-financial measures over these years and there is a cause-and-effect relationship between

the financial and non-financial drivers, also influencing the general strategic financial indicators like ROI or impact shareholder value. There is potential to investigate further into the relationship between online and offline retail as they transition into Digital retail.

Overall, measuring the ROI of digital transformation projects can be challenging for retailers due to the difficulty of isolating the impact of digital initiatives, tracking, and measuring outcomes, and determining costs and long-term benefits. Retailers may need to consider combining financial and non-financial metrics to estimate the long-term benefits of initiatives.

The CFOs organization plays a crucial role in coaching the business domain teams to measure process and performance improvements. Stakeholder visibility of enterprise-wide initiatives, understanding underlying measures that impact financial performance and cash flows drives the need for a unified ROI measurement framework that aligns with retail digital priorities and business value chain. It has been observed that research in this subject is limited and not holistic addressing the retail business value chain. A drawback in traditional methods is that they are more time consuming, not accurate and have no baseline to validate against.

2.3 Summary

The CFO faces several challenges in retail digital transformation. While the ROI of digital transformation can be significant, it also varies greatly depending on factors such as the size and type of company, the specific technologies used, and the level of investment.

When calculating the ROI of digital transformation initiatives, CFOs must carefully consider these factors.

There are several ways to quantify the value created from digital investments for both online and offline retail. One of the main challenges in quantifying the value from digital investments for online and offline retail is determining the causality between the investments and the resulting outcomes.

To address the transformational effects on different aspects of the retail organization, it is important for the organization to have a clear understanding of what changes are needed, and the reasons for those changes. Additionally, it is important to monitor and measure the impact of the changes to make sure that they are having the desired effects, and make adjustments as needed.

Measuring and reporting business performance against KPIs that affect value and cash flows is an important aspect of managing and growing a business. It is also important to compare performance to industry benchmarks or previous periods to evaluate business performance, communicate performance against these KPIs to stakeholders such as investors, management, and employees, and use this information to make informed business decisions.

There are several KPIs and metrics in the retail industry that can be used to track and report on business performance across six focus areas: Customer, Employee, Operations, Safety and Security, Disruption and Innovation. It is critical to note that the specific KPIs and metrics used will be determined by the specific retail industry as well as the organization's goals and objectives . It is also important to regularly review and assess

the KPIs and metrics being used to ensure they remain relevant and aligned with the organization's goals and objectives.

TCO calculations may fail to account for the specific business case and the value delivered by a specific solution in terms of increased productivity, customer satisfaction, brand image, and so on. As a result, TCO should be used in conjunction with other evaluation methods that take into account the value delivered in order to provide a more comprehensive and accurate assessment of the true cost and value of various options.

Traditional evaluation methods, such as options value framework and payback time, may be ineffective in assessing the true value of digital retail transformations due to their length and higher risk. These methods are primarily concerned with the short-term costs and benefits of a project and may fail to capture the long-term impact and potential risks of a digital transformation initiative.

The finance department is critical in monitoring and assessing the success of a company's digital initiatives. Traditional financial metrics and KPIs may not accurately reflect the organization's progress and success in the context of digital transformation. As a result, finance organizations must develop new risk and performance metrics that are better suited to the unique challenges and opportunities of digital initiatives. Finance organizations can provide valuable insights into the success of digital initiatives and help guide the organization's digital transformation strategy by monitoring these and other relevant metrics.

Determining the strategic business value of digital transformations requires a comprehensive and multi-dimensional evaluation of the impact of these initiatives on the

retailer's overall business objectives, customer experience, operations, competitiveness, and financial performance. By regularly monitoring these metrics, retailers can make informed decisions about their digital transformation strategies and drive long-term success.

This research is important and relevant because it has the potential to address a gap in knowledge and improve decision-making in the retail industry. Digital transformation initiatives are becoming increasingly popular in retail, with companies investing in new technologies and strategies to improve customer experience, operational efficiency, and financial performance. However, there is a lack of data and insights into the actual financial impact of these initiatives, making it difficult for retailers to determine their ROI and make informed decisions about future investments. This research will be valuable to retailers, investors, and industry experts, as it will provide data and insights into the actual financial benefits of digital transformation initiatives and help inform future investments. It will also contribute to the academic literature on digital ROI and provide a foundation for future research in this area.

CHAPTER III:

METHODOLOGY

3.1 Introduction

In this chapter, we will examine the approach used for this study in more detail. To begin, we will provide a brief recap of the research problem to refresh the reader's memory. Next, we will outline the process of operationalizing the theoretical constructs, clarifying how these concepts were translated into measurable variables. This will be followed by a discussion on the research purpose and questions, where we will articulate the goals and inquiries driving this investigation. Moving further, we will describe the research strategy and methods employed for this study, including the overarching framework and methodology used to collect and analyze data.

We will then address the important aspect of population and sample selection, shedding light on how participants were chosen and the rationale behind it. We will detail the tools, surveys, or instruments used to gather data and measure variables of interest. We will also go over the data analysis strategies used to glean relevant insights from the collected data. It is critical to recognize the constraints of the study design adopted, which will be discussed in this chapter. We will mention any potential constraints or limitations that may have influenced the study's conclusions, providing transparency and context for interpreting the findings. Ethical aspects will also be discussed, emphasizing the efforts taken to safeguard the participants' well-being and secrecy, as well as adherence to ethical principles and standards.

3.2 Overview of the Research Problem

To provide value to their customers, retailers throughout the world have undergone significant business transformations and are progressively investing in new digital technologies such as e-commerce, mobile applications, cloud computing, and artificial intelligence. These transformations are complicated, necessitating a thorough understanding of both the retail industry and digital technological innovations. Retailers evaluate the benefits of digital transformation through different ROI methods such as TCO, NPV, IRR, and Payback Period, which provide a way to assess the financial impact to the company. There are challenges in applying these methods, such as difficulty in accurately estimating the costs and benefits, uncertainty of future outcomes, and the need for ongoing monitoring and evaluation.

The goal of this research was to address this business challenge to get useful insights into the factors that can drive the adoption of different methods, the challenges faced by companies in adoption, and the actual benefits realized by companies from their digital transformation initiatives. We now can gain a better understanding of the applicability of different methods in these digital transformations and how retailers can leverage these techniques to optimize the benefits of these transformations and drive successful outcomes.

CFOs are under pressure to manage the limited resources effectively, understand the value of the digital initiatives, make informed decisions on the allocation of resources and prioritization of these investments. The insights from this research can assist in evaluating the impact of the digital transformations on the financial performance of the

company. Furthermore, CFO's can assess and identify areas where cost savings can be achieved, revenue growth can be maximized, and operational efficiency can be improved. Overall, the research problem of measuring the business value of digital transformations and ROI practices in retail can provide valuable insights to the CFO community, helping them to make informed decisions, drive financial performance, and communicate the value of these initiatives to stakeholders.

3.3 Operationalization of Theoretical Constructs

The operationalization of theoretical constructs in the context of the effectiveness of value management and ROI practices adopted in a retail enterprise required a combination of quantitative and qualitative methods. This included using a variety of data sources and analysis techniques to gain a comprehensive understanding of the complex phenomena being studied and contribute to the broader understanding of this important topic. The theoretical constructs that were relevant to this research problem included business value, digital transformation, and ROI. This involved identifying the key variables that contributed to the effectiveness of value management and ROI practices, such as cost savings, revenue growth, customer satisfaction, and employee engagement, among others.

To operationalize these constructs, the following steps have been taken:

a. Analyse the financial performance of publicly listed retail companies.
b. Survey digital transformation practitioners on the value measurement and ROI practices adopted in these initiatives.

c. Understand the role of technology innovations in driving transformation and their integration into existing systems and processes to achieve exponential business value.

The analysis of the financial statements of publicly listed retail companies involved the identification of key metrics that demonstrated improvement in financial performance, which can be attributed to digital transformation initiatives implemented during the period of assessment. In this study, five years of financial data from 2018 to 2022 have been analysed. This includes an analysis of the financial data, such as revenue growth, profitability, and cost improvements during this period, and adopting statistical techniques to evaluate the relationship between these variables and the digital programs.

The survey administered to digital transformation practitioners focused on understanding their experiences, learning, gaps, and recommendations for a framework that would assist in the evaluation and measurement of ROI. It also covered questions to understand the perceptions of the practitioners with regards to the effectiveness of these practices and whether they can attribute their financial performance to these practices.

Selection, implementation, and adoption of digital technologies play a critical role in business transformation and achieving the desired improvements in financial performance and value creation for stakeholders. The research construct evaluated the effectiveness of cloud, artificial intelligence, digital marketing, the internet of things, and blockchain technologies in achieving specific business benefits like enhanced personalized experiences, store performance, inventory optimization, and operational cost improvements.

3.4 Research Purpose and Questions

The research aims to identify the key variables that contribute to the effectiveness of value management and ROI practices, and to evaluate the impact of digital transformation programs on financial performance and value creation. This research can help retail organizations to better understand the effectiveness of value management and ROI practices adopted in digital transformation programs in the retail industry. Figure 2 summarizes the research focus areas:

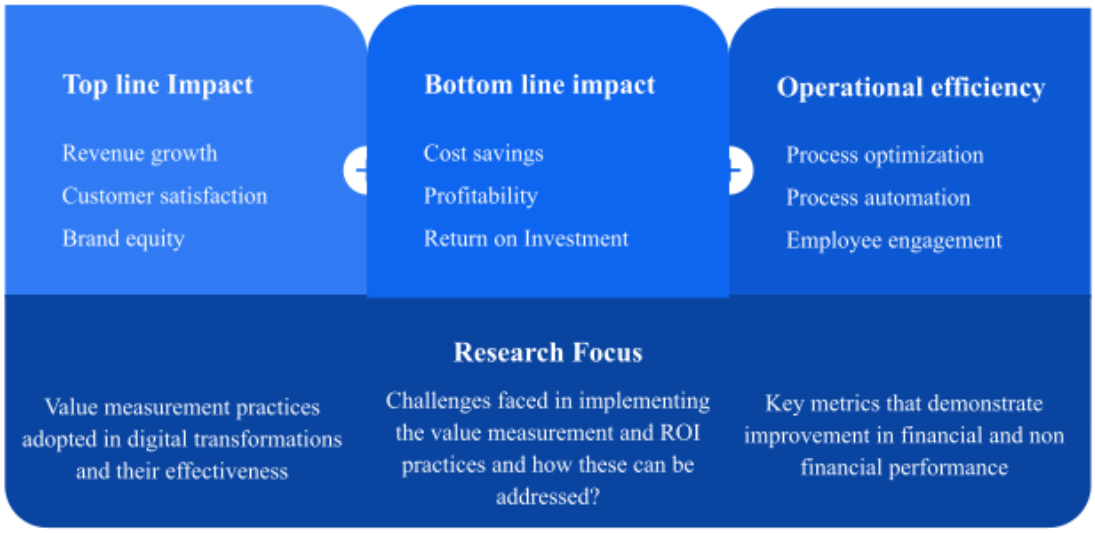


Figure 2: Research focus.
Source: Kota (2023).

The following research questions can provide insights into the effectiveness of the practices and identify opportunities for adoption of best practices to manage and measure the benefits delivered by digital transformation initiatives.

1. What are the key value management and ROI practices adopted in digital transformation programs in the retail industry?

2. What are the challenges faced by digital transformation practitioners in measuring and managing value and ROI in these programs?
3. What are the key metrics that demonstrate improvement in financial performance that can be attributed to digital transformation programs implemented in publicly listed top retailers across North America, Europe, and UK?
4. What is the relationship between digital transformation programs and financial performance in the retail industry, and how can this relationship be quantified?
5. What are the best practices for technology adoption and implementation in the context of digital transformation programs in retail, and how can these practices contribute to improved financial performance and value creation?

3.5 Research Design

A mixed methods approach was adopted for this study since the use of quantitative and qualitative data collection and analysis provides a comprehensive understanding of the impact of the financial performance, as well as the perceptions of the digital transformation practitioners on the benefits and limitations of the practices. Figure 3 provides an illustration of the research design, summarizing the approach adopted for qualitative and quantitative analysis.

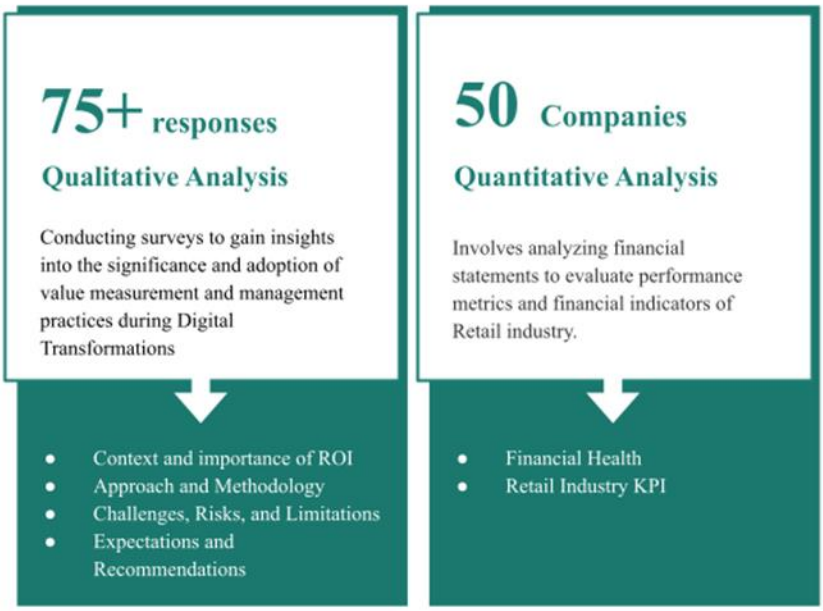


Figure 3: Research design
Source: Kota (2023)

The quantitative study of retailer financial data gives objective and verifiable indicators of the influence of digital initiatives on financial growth, whereas the qualitative interviews provide insights into the transformation practitioners' subjective experiences and viewpoints. The research can gain a deeper understanding of the complex and multifaceted nature of digital transformations and their impact on organizational performance by integrating these two techniques.

3.6 Population and Sample

Companies that have implemented digital initiatives make up the population of this survey. Purposive sampling was used to choose the sample, with a focus on businesses with publicly accessible financial data and recent digital initiatives (within the last five years). The population target was 250 global top retailers, as listed in the Global Powers of

Retailing 2023 Report (Deloitte, 2023). The sample strategy was to select top ranked retailers who are publicly listed companies across a diverse mix of retail sub verticals. The sample retailers analysed operate in three regions - United States, Europe, and United Kingdom as summarised in table 3.1 below.

Table 3.1
Retailers sampled for the study

Region	Top Retailers	Sample	%
Europe/UK	90	19	21%
United States	79	34	42%
Total	**169**	**53**	**31%**

Source: Global powers of Retailing 2023.

This sample was further classified into micro-verticals within the retail industry. The following section summarizes the characteristics of these micro-verticals.

a) Hypermarkets: Hypermarkets sell a variety of products such as food, household goods, electronics, clothing, and more and are known for their wide variety, competitive pricing, and convenient one-stop shopping. Self-service hypermarkets offer additional facilities such as cafes, pharmacies, and entertainment venues.
b) Supermarkets: Supermarkets are smaller than hypermarkets, they nonetheless offer a wide variety of goods, with a focus on groceries and household essentials. They provide an in-person shopping experience that emphasizes accessibility, range of produce, packaged goods, and numerous food categories. Additionally, non-food items like cleaning supplies and personal care items may be sold in supermarkets.
c) Department stores: Department stores are large retailers that offer a variety of products across multiple departments or sections within a single store. They usually offer a variety of goods, including clothing, accessories, cosmetics, home goods, appliances,

electronics, furniture and more. Department stores aim to provide a one-stop shopping experience, catering to the diverse needs of customers.

d) Home Improvement: Home improvement retailers focus on products associated with home upkeep, transformation, and construction. They offer a wide range of items along with constructing materials, equipment, appliances, fixtures, paint, flooring, and garden materials. Home improvement retailers cater to both DIY (do-it-yourself) homeowners and expert contractors, with products and expertise for numerous domestic improvement projects.

e) Apparel & Fashion / Speciality: Apparel & fashion retailers offer specialized clothing, accessories, footwear, and related products catering to particular consumer preferences and niche markets. Examples of specialty retailers include those specializing in sportswear, luxury fashion, children's clothing, maternity wear, or specific fashion styles.

f) Electronic retail: Electronic retailers specialize in selling consumer electronic items such as smartphones, computers, laptops, televisions, audio equipment, home appliances, and other electronic devices. They also provide additional services such as product demonstrations, technical support, and repair services.

g) Pharma or Drug retail: Pharma or drug retailers sell prescription and over-the-counter medications, health and wellness products, vitamins, personal care items, and related healthcare supplies. They also offer services like pharmacy consultations, prescription fulfilment, and health advice. Pharma/drug retailers play a vital role in providing essential healthcare products to consumers.

h) Club or wholesale retail: Club or wholesale retailers sell products in bulk quantities at discounted prices to their members and target businesses, organizations, or individual customers who prefer to buy in large quantities. They require membership to access their stores. Clubs offer a wide range of products, including groceries, household items, electronics, office supplies, and more.

i) Discount retail: Discount retailers specialize in offering products at significantly discounted prices compared to traditional retailers. and aim to attract budget-conscious shoppers by providing affordable options. They sell a wide range of items, including household goods, clothing, electronics, furniture, and more.

j) Online: No-store or online retailers operate exclusively through e-commerce platforms, without a physical retail presence and provide home delivery and other fulfilment options. These retailers leverage digital channels to showcase and sell products to customers, offering convenience, wider product selection, and the ability to shop from anywhere at any time.

The table 3.2 below summarizes the overall population and proposed sample for the financial statement analysis. The coverage proposed was to analyse and determine the benefits delivered across companies that operate in the similar format but across different regions.

Table 3.2
Retailer region and micro vertical distribution

Region	UK/Europe	United States	Total Sample
Hypermarket	3	3	6
Supermarket	3	3	6
Department Store	1	5	6
Home Improvement	1	2	3

Apparel, Footwear & Speciality	6	10	16
Club/ Wholesale	1	2	3
Electronic	2	1	3
Pharma/Drug	0	3	3
Discount	1	3	4
No-Store/Online	1	2	3
Total	**19**	**34**	**53**

Source: Global powers of Retailing 2023.

The following section includes the sample list of retailers that represents each region, namely North America, Europe, and UK This sample selection allows for a comprehensive analysis of the retail industry across these major regions.

A. Region: North America

In the North America region, the sample of retailers from the research report comprises prominent companies operating in the United States and Canada. These retailers are representative of the retail landscape in North America, which is characterized by a mix of different retail formats as well as emerging online retail.

Table 3.3
Retailers sample from North America region

SL No.	Sub-Vertical	Name	Country	Rank (Change - 2019)	Revenues FY 2021 (US$M)
1	Hypermarket	Walmart Inc	USA	1 (None)	572,754
2	Hypermarket	Target Corporation	USA	10 (None)	104,611
3	Hypermarket	Loblaw Companies Limited	Canada	27 (-2)	41,683
4	Supermarket	The Kroger Co.	USA	6 (None)	136,971
5	Supermarket	The Albertsons	USA	18 (-2)	71,887
6	Supermarket	Metro Inc.	Canada	85 (-6)	14,456
7	Department Store	Macy Inc.	USA	50 (+8)	24,460

8	Department Store	Kohl's Corporation	USA	62(+4)	18,471
9	Department Store	Nordstrom, Inc.	USA	86(+19)	14,402
10	Department Store	Burlington Stores, Inc	USA	125 (+65)	9,322
11	Department Store	Dillard's, Inc	USA	186(56)	6,431
12	Home Improvement	The Home Depot, Inc.	USA	5 (None)	151,157
13	Home Improvement	Lowe’s Companies Inc.	USA	12 (None)	96,250
14	Apparel, Footwear & Speciality	The TJX Companies, Inc.	USA	23 (+10)	48,550
15	Apparel, Footwear & Speciality	Ross Stores, Inc.	USA	61 (+24)	18,916
16	Apparel, Footwear & Speciality	The Gap, Inc.	USA	71(+3)	16,670
17	Apparel, Footwear & Speciality	Dick's Sporting Goods, Inc.	USA	100 (+15)	12,293
18	Apparel, Footwear & Speciality	Foot Locker, Inc.	USA	129 (+16)	8,958
19	Apparel, Footwear & Speciality	Ulta Beauty, Inc	USA	138(+41)	8,372
20	Apparel, Footwear & Speciality	Bath & Body Works, Inc.	USA	151(New)	7,882
21	Apparel, Footwear & Speciality	Signet Jewelers Limited	USA	155(+53)	7,757
22	Apparel, Footwear & Speciality	lululemon athletica inc.	Canada	196(+43)	6,257
23	Apparel, Footwear & Speciality	Tapestry, Inc.	USA	207(+4)	5,925
24	Club/Wholesale	Costco	USA	3 (None)	195,929
25	Club/Wholesale	BJ’s Wholesale club Holdings Inc.	USA	72 (-8)	16,667
26	Electronics	Best Buy Co, Inc.	USA	22 (-2)	51,761
27	Drug store/ pharmacy	Walgreens Boots Alliance, Inc.	USA	8 (-1)	122,045

28	Drug store/ pharmacy	CVS Health Corporation	USA	11 (None)	100,105
29	Drug store/ pharmacy	Rite Aid Corporation	USA	66 (-4)	17,495
30	Discount	Dollar General Corporation	USA	33 (-1)	34,220
31	Discount	Dollar Tree Inc.	USA	44 (-4)	26,321
32	Discount	Big Lots, Inc	USA	199(-26)	6,151
33	No Store/Online	Amazon	USA	2 (None)	239,150
34	No Store/Online	Williams-Sonoma, Inc.	USA	139(+22)	8,246

Source: Global powers of Retailing 2023.

B. Region: UK & Europe

The Europe & UK region sample includes retailers from various European countries, with a focus on key markets such as the United Kingdom, Germany, France, Spain, Italy, and others. This region showcases the diverse retail sector in Europe, which encompasses both established multinational retailers and local market leaders.

Table 3.4
Retailers sample from UK & Europe region

SL no.	**Sub-Vertical**	**Name**	**Country**	**Rank, (Change from 2019)**	**Revenues FY 2021 (US$M)**
1	Hypermarket	Tesco PLC	UK	14 (+1)	82,881
2	Hypermarket	J Sainsbury PLC	UK	30 (-3)	40,414
3	Hypermarket	Casino Guichard-Perrachon S.A.	France	31 (-3)	36,117
4	Supermarket	Ahold Delhaize	Netherlands	13 (None)	89,381
5	Supermarket	Spar Holding AG	Austria	77(-5)	14,979
6	Supermarket	Colruyt Group	Belgium	122 (-9)	9,562

7	Department store	Marks and Spencer Group plc	UK	80 (+9)	14,866
8	Home Improvement	Kingfisher PLC	UK	63 (None)	18,117
9	Apparel, Footwear & Speciality	LVMH Moët Hennessy Louis Vuitton S.A.	France	20 (+10)	56,305
10	Apparel, Footwear & Speciality	Inditex, S.A.	Spain	35 (+10)	32,567
11	Apparel, Footwear & Speciality	H & M Hennes & Mauritz AB	Sweden	52 (+2)	23,343
12	Apparel, Footwear & Speciality	Kering S.A.	France	69 (+26)	16,898
13	Apparel, Footwear & Speciality	JD Sports Fashion Plc	UK	107(+34)	11,391
14	Apparel, Footwear & Speciality	Hermès International SCA	France	120(+44)	9,663
15	Club, Wholesale	Metro AG	Germany	48 (-4)	24,620
16	Electronics	Ceconomy AG	Germany	45 (+1)	25,527
17	Electronics	Curry's PLC	UK	89 (-11)	13,777
18	Discount	Jerónimo Martins, SGPS, S.A.	Portugal	47 (+2)	24,697
19	No Store/Online	Zalando SE	Germany	101(+21)	12,241

Source: Global powers of Retailing report 2023.

3.7 Participant Selection

The qualitative survey focused on engaging participants who have actively participated in digital transformation initiatives either as practitioners or in roles as business Subject Matter Experts (SMEs) or IT leaders. I leveraged my personal professional network for the qualitative survey reaching out to colleagues within the

industry who I knew had experience and knowledge in digital transformation initiatives. Leveraging the power of LinkedIn, I utilized my network connections and reached out to contacts who fit the criteria of active participants in digital transformation projects. By utilizing these trusted sources, I was able to engage participants who had firsthand experience as practitioners, business Subject Matter Experts (SMEs), or IT leaders. This approach ensured a pool of respondents who could provide valuable insights and perspectives based on their involvement in digital transformation initiatives.

The primary objective of the survey was to gather insights into real-industry scenarios and challenges related to measuring business benefits of digital transformation. By involving individuals with hands-on experience in implementing and driving digital transformation, the survey aimed to understand the practical needs and requirements for a business benefits framework that can facilitate evaluation of digital transformation ROI.

Participants who have been involved in digital transformation initiatives bring valuable perspectives and firsthand knowledge of the complexities and obstacles faced during the ROI process. Their experiences as practitioners, business SMEs, or IT leaders enabled them to provide insights into various aspects that address the research objectives.

The survey intended to explore the approach and methodology, understand the challenges, risks, limitations encountered by participants. By gathering a comprehensive understanding of these challenges, their expectations, and their recommendations, the survey aimed to identify the key areas where a framework can provide guidance and support to organizations undergoing digital transformation.

By involving industry practitioners and professionals with direct experience, the survey sought to ensure that the resulting framework is grounded in the realities of measuring benefits of digital transformation initiatives. The insights gathered from these participants have contributed to the development of a framework that addresses practical needs, aligns with industry trends, and assists organizations in overcoming challenges during their digital transformation journeys.

3.8 Instrumentation

The quantitative analysis for the research involved conducting a comprehensive financial statement analysis to assess various aspects of the organization's performance. The analysis focused on several key areas, including liquidity ratios, solvency ratios, profitability ratios, efficiency ratios, retail KPIs such as customer experience, marketing and sales, supply chain and logistics, as well as operations and efficiency. The figure 4 below provides a concise summary of the research instrumentation approach.

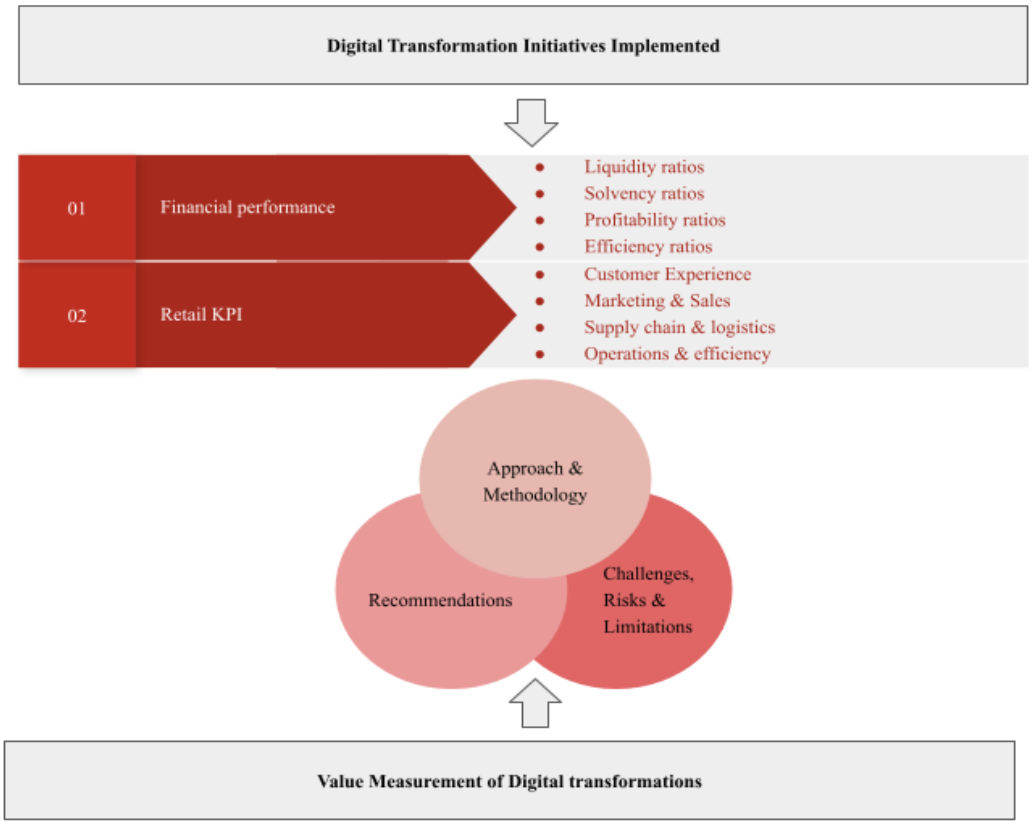


Figure 4: Research instrumentation approach.
Source: Kota (2023).

Liquidity ratios were calculated to evaluate the organization's ability to meet short-term obligations. Key ratios such as current ratio and quick ratio will provide insights into the availability of liquid assets to cover current liabilities.

Solvency ratios were employed to assess the long-term financial stability of the organization. Ratios like debt-to-equity ratio and interest coverage ratio shed light on the organization's ability to repay its long-term debts and meet interest payments.

Profitability ratios were analysed to determine the organization's ability to generate profits from its operations. Gross profit margin, net profit margin, and return on investment ratios were examined to evaluate the overall profitability and efficiency of the organization.

Efficiency ratios were calculated to assess the organization's operational efficiency and resource utilization. Inventory turnover ratio, accounts receivable turnover ratio, and asset turnover ratio provide insights into how effectively the organization manages its resources.

In addition to financial ratios, the analysis also considered retail KPIs to evaluate sales performance, customer experience metrics to assess customer satisfaction and loyalty, marketing and sales data to understand the effectiveness of marketing campaigns, supply chain and logistics data to optimize operations and minimize costs, and operational efficiency metrics to identify areas for improvement.

By conducting this quantitative analysis based on financial statement analysis and incorporating various performance indicators, the research aimed to gain a comprehensive understanding of the organization's financial health, operational efficiency, customer experience, and overall performance. The findings from this analysis helped to identify areas of strength and areas that require improvement, enabling a good understanding of the overall performance of the organization over the period.

Interviews with transformation experts who have expertise implementing digital initiatives in their organizations were conducted. Based on their background and level of knowledge in the subject of digital transformation, the participants were chosen. The surveys were designed to collect data on the adoption of digital initiatives as well as the constraints in evaluating the benefits of these programs. Interviews were conducted via an online survey with open-ended questions designed to encourage participants to provide thoughtful answers.

Questions were designed to elicit information about the participants' experiences with digital initiatives, including their assessments of their effectiveness and any challenges they experienced during the implementation process. The online survey also asked participants for feedback on the difficulty of analysing the business benefits of digital projects, as well as any suggestions for assessing the value offered.

Leveraging a variety of instruments allowed us to get a diverse set of data for the study. By analysing financial statements and conducting online surveys, we found out more about the relationship between digital initiatives and retail organization's success as well as the challenges in evaluating the benefits of these digital transformation programs. This proposed approach helped address any potential research design limitations while also enabling to complete the research objective and provide answers to the research questions.

3.9 Data Collection Procedures

The quantitative data was compiled from the financial statements of publicly traded large retailers across geographies. Key metrics that reflect financial performance improvement that may be linked to digital transformation programs were examined. This entails analysing financial data such as revenue growth, cost savings, and profitability over time.

The sources for financial statements and information on digital transformations were researched from multiple website sources and the data for reliability was verified and compared for accuracy and consistency. Appendix A provides the links to the company websites and the reference sites accessed for relevant data for this study.

Table 3.5
Data sources for financial statement analysis

Country	Data Sources for Financial Statements
USA	Company websites, SEC EDGAR, financial databases such as Bloomberg, Reuters, Morningstar, Yahoo Finance, Google Finance, and MarketWatch.
Europe	Company websites, national stock exchanges (e.g., Euronext, London Stock Exchange, Deutsche Börse), financial databases like Bloomberg, Reuters, Morningstar, Financial Times Markets, and Google Finance.
UK	Company websites, London Stock Exchange, Financial Conduct Authority (FCA), financial databases such as Bloomberg, Reuters, Morningstar, Financial Times Markets, and Google Finance.

Source: Kota (2023).

The qualitative data was gathered through an online survey with digital transformation practitioners. Google forms survey was leveraged to collect the responses online in a secure and anonymous manner. The target was to consolidate perspectives from a minimum of 75 practitioners who have been engaged in consulting and the implementation of digital transformation initiatives.

The survey questionnaire was structured into 5 sections with a total of 72 questions.

1. Profile and Demographics - 14 questions
2. Context and importance of ROI - 17 questions
3. Approach and Methodology - 20 questions
4. Challenges, Risks, and Limitations - 15 questions
5. Expectations and Recommendation - 6 questions

3.10 Data Analysis

The data analysis focused on exploring and interpreting data related to three distinct data sets. Each of the data scenarios involved different data analysis tools and techniques to gain insights and draw meaningful conclusions. The Integrated Framework for Assessing Digital Transformation, Financial Performance, and ROI Measurement is illustrated in the figure 5 below.

Figure 5: Evaluating business transformation success.
Source: Kota (2023).

a. Research on Retailer Digital Transformation Initiatives:

The digital transformation initiatives implemented by the shortlisted retailers was researched from their websites, press releases, and other online sources. The data was summarized in an excel spreadsheet identifying the types of digital initiatives adopted, such as cloud, e-commerce, AI, mobile applications, or data analytics. This data was correlated with financial data to understand the influence and impact of these digital initiatives on the Retailer's performance.

b. Analysis of Retailer Financial data

The financial statement data was analysed over a period of five years. The data analysis involved employing ratio analysis and KPI analysis techniques. Ratio analysis enabled a comprehensive assessment of a retailer's financial health, profitability, liquidity, and efficiency. Various financial ratios such as liquidity ratios, profitability ratios, and solvency ratios were calculated and compared over the five-year period. This analysis provided insights into the financial performance trends of the retailers and to identify areas of strength or improvement.

c. Survey Feedback on ROI Practices and Challenges

The data collected from the survey was compiled and analysed using Excel and visualized using Google Looker Studio. The responses were mapped to the research questions and summarized leveraging simple statistical techniques such as Descriptive statistics, Cross-tabulation, Bar charts and Pie-Charts. Descriptive statistics such as means, medians, and standard deviations were leveraged to summarize the data. These statistics provided insights into the central tendency, variability, and distribution of the responses. For example, calculated the mean percentage of responses for each choice to understand the average preference among survey participants. Cross-tabulation, enabled to examine the relationship between two categorical variables and identify patterns and associations. This technique helped in exploring how the distribution of responses varied based on different demographic variables or other factors. Visualizing the survey data using bar charts, pie charts provided a clear representation of the percentage distribution of responses for each choice. This graphical approach helps in understanding the relative frequencies of different choices and facilitates easy comparison between them.

3.11 Research Design Limitations

This study has some limitations, including the use of publicly accessible financial data that might not be representative of all retailers that have adopted digital initiatives. The data collected from annual reports may not provide a complete perspective of the financial and non-financial performance of retailers, as some companies may not report all relevant financial indicators. This study also had constraints, including the availability of financial data and the retailers' willingness to participate and share internal metrics for comparison and benchmarking.

Access to financial information can be limited due to the prevalence of paid sources such as Reuters, Bloomberg terminal that provide comprehensive data. These were expensive for my research and not leveraged. While free sources exist, they do not offer the same depth of coverage which are covered in subscription and freemium models such as Financial Times. In this study, all the sources presented in table 3.5 were free sources where the company sites were the baseline for their financial data and ratios were analysed from Morningstar. Appendix A has listed the links to investor sites of the companies researched and the sources of financial information used for the purposes of the study. Furthermore, the lack of standardization in financial reporting, with variations between IFRS (International Financial Reporting Standards) and non-IFRS practices, adds complexity to obtaining consistent data across regions.

Another challenge lies in generating retail KPIs since they are typically not published alongside financial statements. Instead, retail KPIs often need to be derived or calculated using financial statements and other company reporting data, requiring

additional effort for analysis and interpretation. These limitations emphasize the need for careful consideration and cross-referencing of multiple sources to gather a comprehensive and accurate understanding of financial information and retail performance.

It's possible that the qualitative portion of the study's sample size may be smaller due to the study's concentration on transformation practitioners who have knowledge of evaluating the benefits of digital initiatives. Since the sample will only consist of digital transformation consultants who are willing to participate in the study, it may not be representative of all practitioners in the consulting industry. Another consideration is that the survey data may be subject to bias due to the self-reported responses provided by the respondents, which could be influenced by various factors such as personal biases or individual perspectives.

Another limitation is that the feedback obtained from respondents in the survey may be influenced by their individual experiences as technical or business Subject Matter Experts (SMEs) and their years of experience in transformation initiatives. 80% of the respondents had over 15 years of experience in the industry, this rich experience base brings valuable depth and expertise to their responses, but it's important to acknowledge that it can also introduce a potential bias based on their unique backgrounds and professional journeys. Their individual perspectives and insights may have been shaped by their long-standing involvement in the field.

Although efforts have been made to include a diverse mix of participants, it is important to acknowledge that these varied perspectives may lead to differing viewpoints and interpretations of the challenges and scenarios faced during digital transformation.

Therefore, it is essential to carefully analyse and interpret the survey results, considering the potential variations in perspectives resulting from the participants' backgrounds and experiences.

Despite these limitations, the study provides insightful information about how digital initiatives and corporate success are related, as well as the limitations of assessing the benefits of these programs.

3.12 Ethical considerations

The study adhered to ethical principles, including informed consent, confidentiality, and anonymity. The participants in the survey were informed of the purpose of the study, and that their identities will be kept confidential, and pseudonyms will be used in the analysis and write-up to protect the participants' privacy. The study also adheres to data protection laws; the responses to the survey are accessible only to the researcher, and the data is stored securely.

3.12 Conclusion

The goal of this research was to understand the challenges of measuring the business value of digital transformations and ROI practices adopted in the retail sector. The purpose of the study was to derive insights into the variables that influence the use of various digital transformation value measurement techniques, the difficulties retailers face in implementing and adopting these practices, and the actual benefits realized from their digital transformation initiatives. This research aimed to improve understanding of the

relationship between digital initiative implementation and growth, as well as the benefits and limitations of these programs.

To operationalize the theoretical constructs, the research focused on defining and measuring key variables related to digital transformations and ROI practices in the retail context. Theoretical constructs such as digital transformation maturity, ROI measurement methods, adoption factors, challenges, and benefits were operationalized using appropriate measurement scales and indicators.

The research approach was to gain insights into the effects of digital transformations on the financial performance of publicly listed retailers across different regions, including North America, Europe, and UK. The research design adopted a mixed approach, combining quantitative analysis of retail financial statements for a period of five years with qualitative surveys and research on digital transformations implemented by retailers.

The population for this study consists of publicly listed retailers selected from the Global Powers of Retailing 2023 report (Deloitte 2023). The selection criteria ensured representation from different geographic locations and retail sub-verticals.

For the qualitative aspects of the research, participants were selected based on their active involvement in digital transformation initiatives within the retail and consumer industry. These participants included practitioners, business Subject Matter Experts (SMEs), and IT leaders who possessed relevant experience and knowledge in implementing digital initiatives and assessing the advantages of these digital efforts.

Quantitative data collection involved compiling financial statements and performance metrics from publicly available sources. Data on digital transformations, ROI

practices, and challenges were collected through surveys and interviews with selected participants. Multiple website sources were researched to gather comprehensive and reliable information on digital transformations and their financial impact.

By comparing the financial and non-financial performance metrics with the investments made in digital transformation initiatives, the research aimed to identify any potential correlations or patterns. The analysis sought to answer questions such as whether retailers that have invested more in digital transformation initiatives have experienced improved financial performance or higher customer satisfaction compared to those with lesser investments.

However, the research design has some limitations, including the availability of publicly accessible financial data, retailer willingness to share internal metrics, and potential limitations in accessing comprehensive financial information. Additionally, the focus on transformation practitioners may result in a smaller sample size, and survey responses may be influenced by potential biases in the survey responses influenced by participants' individual experiences.

The research design, population selection, data collection procedures, and analysis techniques were carefully chosen to provide meaningful insights into the research objectives. The findings of this analysis contribute to understanding the relationship between digital transformation investments and retailer performance. It provides valuable insights for retailers and industry stakeholders to make informed decisions regarding the allocation of resources and investments in digital transformation initiatives. Ultimately, the

research aimed to contribute to the existing knowledge and understanding of the impact of digital transformation on the performance of retailers.

CHAPTER IV:

RESULTS

4.1 Introduction

The findings of the research will be reviewed in this chapter. There will be separate sections dedicated to analysing and responding to each of the research questions from Chapter I. Each research question will be stated at the start of the section to serve as a reminder to the reader. The research questions are followed by a presentation of the specific findings, including figures and tables. The targets will each be assessed separately before the sections are concluded and a summary of the results is provided. Concise responses to the research questions are provided in the summary of findings section, supported by the three previous research question parts. Research question one is based on quantitative analysis of the relationship between retailer performance and digital initiatives, while research questions two and three are based on the survey questions responded to by digital transformation consultants for their qualitative views on benefits measurement practices of these initiatives. As a reminder, for research questions two and three, which were based on the survey questions, the sub questions of the survey have been mapped to the respective primary research question two and three and summarized in the Appendix B.

4.2 Research Question One

The first research question was the following:

Have retailers' digital transformation projects enhanced certain business processes and achieved their long-term IT and business goals? How can the relationship between digital transformation initiatives and the financial performance of the retailer be measured?

This section will evaluate the impact of digital transformation projects, both directly and indirectly, on a retailer's financial performance. Retailers have increasingly embraced online platforms and marketplaces to expand their reach and cater to the growing demand for online shopping through e-commerce websites and mobile applications to provide a seamless shopping experience to customers. Retailers have implemented omnichannel strategies, integrating physical stores with online channels, enabling customers to have a consistent experience across multiple touchpoints, such as in-store, website, mobile app, and social media platforms.

Personalized marketing campaigns, customer segmentation, and targeted promotions, have enhanced customer engagement and loyalty, leading to improved customer satisfaction and retention. Supply chain transformation initiatives such as inventory management, demand forecasting, real-time tracking, and efficient logistics management have been implemented with the objective of reducing costs and improving inventory turnover.

By implementing these digital transformation strategies, retailers anticipate achieving long-term business benefits. Retailers can differentiate themselves from competitors and attract a larger customer base to gain a competitive edge in the market by adopting innovative technologies to enhance customer experiences. These digital

initiatives have facilitated business growth for retailers, increased their online sales, improved customer loyalty, and optimized supply chain operations, resulting in revenue growth and market expansion.

Through the automation of manual processes, optimizing inventory, and improving decision-making, retailers can streamline operations, reduce costs, and achieve higher productivity. Retailers have invested in modernizing their IT infrastructure, including cloud computing, big data platforms, AI frameworks, and cybersecurity measures. By upgrading IT infrastructure to ensure scalability, agility, and data security, retailers can effectively implement and sustain their digital transformation efforts.

The results are summarized in the following sections by analysing peer companies who have improved or fallen in their rankings. When a company moves up a ranking it signifies effective strategies, operational improvements, and adaptability to market shifts. Benchmarking against peers provides a realistic context for evaluating a competitive position and this becomes even more important as companies may show improvements in rankings driven by technology advancements, but this may not necessarily translate into immediate financial growth. To understand this better, we compared the ratios across Revenue, Financial Health, Cash Flow, and Operating efficiency. The following section summarizes the analysis of the financial ratios and is presented for peers in Hypermarkets, Super Markets and Department stores micro-vertical considered for this study. The other micro-vertical retailer data is summarized in Appendix and summarized in discussion chapter. The global ranking summary information has been summarized from Global

powers of Retailing report 2023 (Deloitte 2023) and Global powers of Retailing report 2022 (Deloitte 2022).

4.2.1 Hyper Markets - Walmart, Target, and Tesco are market leaders; what sets them apart from Loblaw and Sainsbury, who fell a few points in the rankings?

Table 4.2.1.a
Hypermarkets Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Target Corporation	10	10	0	1,04,611	92,400	13%	8.50%
Walmart Inc	1	1	0	5,72,754	5,59,151	2%	3.30%
Loblaw Companies Limited	27	25	-2	41,683	38,663	8%	2.90%
Tesco PLC	14	15	1	82,881	73,888	12%	1.90%
J Sainsbury PLC	30	27	-3	40,414	36,997	9%	2.70%
Casino Guichard-Perrachon S.A.	31	28	-3	36,117	36,370	-1%	-3.20%

Source: Global powers of Retailing 2022 and 2023.

Target Corporation maintained its 10th position in 2023, with a 13% increase in revenue compared to the previous year. The company has shown steady revenue growth with a compound annual growth rate (CAGR) of 8.50% over the past five years. Walmart Inc retained its top position in the ranking in 2023, with a 2% increase in revenue. The company has shown consistent growth over the years with a CAGR of 3.30%.

Loblaw Companies Limited dropped two positions to 27th in the ranking but achieved an 8% increase in revenue. Their CAGR over the past five years is 2.90%. Tesco PLC improved its ranking from 15th to 14th and experienced a 12% increase in revenue. However, their revenue CAGR over the past five years is 1.90%.

J Sainsbury PLC dropped three positions to 30th in the ranking but achieved a 9% increase in revenue. Their CAGR over the past five years is 2.70%. Casino Guichard-

Perrachon S.A. dropped three positions to 31st in the ranking and experienced a slight decrease of 1% in revenue. Their revenue CAGR over the past five years is negative at -3.20%, indicating a decline in revenue.

These retailers adopted strategies to the evolving consumer behaviour and the increasing importance of digital technologies and data-driven strategies in staying competitive. Target has invested heavily in its digital infrastructure, enhancing its e-commerce capabilities, and expanding its same-day delivery services. They have also improved their in-store technology, integrating digital solutions for a seamless shopping experience.

Walmart has focused on leveraging data for improved customer experiences and operational efficiency. They have expanded their online grocery and delivery services and invested in automation and AI-driven supply chain management. Loblaw has embraced digital transformation by optimizing its supply chain and introducing innovative solutions like click-and-collect services. They have also emphasized data-driven decision-making to enhance customer engagement.

Tesco has been working on a digital transformation journey, emphasizing online grocery shopping, and enhancing their mobile app. They have also adopted data-driven strategies for inventory management and personalized marketing. J Sainsbury has focused on streamlining operations and enhancing customer experiences through digital means. They have expanded their online grocery services and invested in data analytics to understand customer preferences better.

The following section analyses the various financial ratios for the retailers for a broader time frame of years from 2018 to 2022.

Table 4.2.1.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr.%**	**3 Yr. %2**	**5 Yr. %**
Target Corporation	12.05	8.81	29.6	12.48
Walmart Inc	3.65	3.34	5.72	2.65
LobLaw Companies Limited	5.56	3.88	13.76	6.03
Tesco PLC	-1.34	1.88	7.76	17.35
J Sainsbury PLC	1.01	2.66	54.74	12.48
Casino Guichard-Perrachon S.A.	-1.25	-2.11	-2.04	-2.05

Source: Morningstar.com/stocks.

Target Corporation and J Sainsbury PLC have shown strong growth in both revenue and operating income, while Walmart Inc and Tesco PLC have experienced moderate growth. LobLaw Companies Limited has also shown consistent growth. On the other hand, Casino Guichard-Perrachon S.A. has struggled with negative growth rates in both revenue and operating income.

Table 4.2.1.c
Financial health summary

	Current Ratio		**Quick Ratio**		**Debt Equity**		**Book Value/Share**	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Target Corporation	0.95	0.99	0.27	0.33	0.97	1.25	20.49	29.29
Walmart Inc	0.76	0.93	0.16	0.26	0.47	0.63	25.79	29.8
LobLaw Companies Limited	1.34	1.32	0.65	0.7	0.54	1.33	24.35	25.24
Tesco PLC	0.71	0.76	0.55	0.57	0.68	0.9	2.27	2.34
J Sainsbury PLC	0.76	0.68	0.59	0.47	0.22	0.81	4.4	4.06
Casino Guichard-Perrachon S.A.	1.03	0.71	0.34	0.36	1.01	4.18	—	27.01

Source: Morningstar.com/stocks.

Target has improved its liquidity position with an increase in both the Current and Quick Ratios, while its Debt Equity Ratio has increased significantly, indicating higher

leverage or debt relative to equity. Walmart has also enhanced its liquidity position, with improvements in the Current and Quick Ratios and its Debt Equity Ratio has increased, indicating higher leverage. Loblaw has maintained a relatively stable Current Ratio but improved its Quick Ratio and the Debt Equity Ratio has significantly increased, indicating higher reliance on debt financing. Tesco has improved its Current and Quick Ratios, reflecting a better liquidity position but its Debt Equity Ratio has increased, indicating higher leverage. J Sainsbury has experienced a decrease in both the Current and Quick Ratios, indicating potential liquidity challenges, also Debt Equity Ratio has increased substantially, suggesting increased reliance on debt. Casino Guichard-Perrachon has seen a decrease in both the Current and Quick Ratios, which may raise liquidity concerns. Also, its Debt Equity Ratio has increased significantly, indicating a higher level of debt relative to equity.

Table 4.2.1.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Target Corporation	6.11	4.79	1.5	0.73	8.35	11.93
Walmart Inc	3.65	1.93	1.85	0.81	6.18	6.05
Loblaw Companies Limited	2.5	5.63	1.52	1.66	3.71	7.36
Tesco PLC	1.99	4.2	0.95	1.74	0.12	-0.03
J Sainsbury PLC	2.33	1.04	2.15	0.46	0.27	0.65
Casino Guichard-Perrachon S.A.	0.83	-1.46	-5.69	1.57	—	0.01

Source: Morningstar.com/stocks.

Target, Walmart, and J Sainsbury have generally experienced decreases in their cash flow ratios, indicating a potential reduction in cash flow relative to sales and net income. Loblaw Companies Limited and Tesco PLC have improved their cash flow ratios, indicating better cash flow efficiency. Casino Guichard-Perrachon S.A. has shown

significant fluctuations in its cash flow ratios, with improvements in cash flow per share but negative cash flow from sales.

Table 4.2.1.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Target Corporation	28.87	29.28	6	8.44	4.08	6.55
Walmart Inc	25.37	25.1	4.08	4.53	1.97	2.39
Loblaw Companies Limited	30.32	31.81	4.12	5.91	1.64	3.38
Tesco PLC	5.83	7.55	2.72	4.23	2.1	2.41
J Sainsbury PLC	6.61	7.91	1.82	3.87	1.02	2.26
Casino Guichard-Perrachon S.A.	25.05	23.22	3.22	3.26	-0.27	-0.93

Source: Morningstar.com/stocks.

Target, Loblaw Companies Limited, and Tesco PLC have generally improved their gross, operating, and net margins, indicating better financial performance and efficiency. Walmart Inc has maintained relatively stable margins, with a slight increase in profitability. J Sainsbury PLC has shown significant improvements in all margin categories, indicating a positive turnaround. Casino Guichard-Perrachon S.A. has faced challenges, with a decrease in gross margin and a significant deterioration in net margin, which may require attention to enhance profitability.

Table 4.2.1.f
Operating efficiency-Returns

	Return on Asset		**Return on Equity**		**Days Inventory**	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Target Corporation	7.68	13.22	25.89	50.95	60.56	59.78
Walmart Inc	4.89	5.5	12.67	16.66	42.44	43.16
Loblaw Companies Limited	2.35	5.11	6.15	17.02	51.83	52.2
Tesco PLC	2.66	3.11	14.26	10.58	15.38	14.18
J Sainsbury PLC	1.39	2.6	4.07	9.01	24.62	22.69
Casino Guichard-Perrachon S.A.	-0.27	-1.02	-1.43	-11.4	50.58	47.91

Source: Morningstar.com/stocks.

Target, Loblaw Companies Limited, and J Sainsbury have generally experienced improvements in both return on assets and return on equity, indicating enhanced profitability and efficiency. Walmart and Tesco have seen modest improvements in profitability metrics, with slightly better returns on assets and equity. Casino Guichard-Perrachon S.A. continues to face profitability challenges, with negative returns on assets and equity.

Table 4.2.1.g
Turnover

	Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**
Target Corporation	6.03	6.11	2.89	3.54
Walmart Inc	8.6	8.46	2.48	2.3
Loblaw Companies Limited	7.04	6.99	5.63	4.39
Tesco PLC	23.73	25.75	3.14	2.67
J Sainsbury PLC	14.83	16.09	2.86	2.19
Casino Guichard-Perrachon S.A.	7.22	7.62	5.64	3.52

Source: Morningstar.com/stocks.

There are varying levels of efficiency in managing inventory and utilizing fixed assets to generate revenue. Tesco stands out with a significant improvement in inventory turnover, indicating efficient management of inventory. Target and Casino Guichard-Perrachon S.A. have shown slight improvements in inventory turnover. In general, these retailers have experienced a decrease in fixed asset turnover, suggesting a potential decline in the efficiency of using fixed assets to generate revenue.

A comparative analysis of the financial ratios for 2018 and 2022 provides an interesting perspective of how the individual metrics have contributed to the overall growth

and performance of the company. The summary ranking across the years 2018 and 2022 is shown in the table below.

Table 4.2.1.h
Ranking 2018 & 2022

	Rank	
Company	**2018**	**2022**
Target Corporation	1	2
Walmart Inc	3	3
Loblaw Companies Limited	2	1
Tesco PLC	4	4
J Sainsbury PLC	5	5
Casino Guichard-Perrachon S.A.	6	6

Source: Kota (2023).

The rankings of most companies remained relatively stable over the years, with only Loblaw Companies Limited experiencing a significant improvement in its rank, moving from 2nd to 1st place. the ranking order of these companies did not change significantly, reflecting consistency in their performance.

The FY 2022 ranking for the individual metrics were further analysed in areas of revenue, financial health, cash flow and operating efficiency. The rankings are presented in the table below.

Table 4.2.1.i
Metrics ranking summary

FY 2022	**Revenue**	**Financial Health**	**Cash Flow**	**Operating Efficiency**
Company	**Rank**	**Rank**	**Rank**	**Rank**
Target Corporation	1	3	2	1
Walmart Inc	4	2	4	3
Loblaw Companies Limited	2	1	1	2
Tesco PLC	5	4	3	4
J Sainsbury PLC	3	5	6	5

Casino Guichard-Perrachon S.A.	6	6	5	6

Source: Kota (2023).

Loblaw Companies Limited stood out as the top-performing retailer in terms of financial health, cash flow, and operating efficiency. Target Corporation performed well in revenue and operating efficiency. Walmart Inc and Tesco PLC had mixed rankings across categories but generally maintained a decent overall performance. J Sainsbury PLC had a relatively lower ranking in financial health, cash flow, and operating efficiency despite a decent revenue rank. Casino Guichard-Perrachon S.A. consistently ranked lower in all categories, suggesting challenges in various aspects of its performance.

Financial metrics and the actual benefits of digital transformation are related but not directly correlated. While digital transformation can certainly impact financial performance, it's important to understand that financial metrics often reflect a wide range of factors, not just digital initiatives. It's essential to consider a broader range of qualitative and quantitative factors when evaluating the true impact and influence of digital transformation initiatives on an organization's financial health and success.

4.2.2 What did Kroger do to maintain their ranking while Metro dropped six spots and Colruyt dropped nine?

Table 4.2.2.a
Supermarkets Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
The Kroger Co.	6	6	0	1,36,971	1,31,620	4%	3.50%
The Albertsons	18	16	-2	71,887	69,690	3%	3.80%
Metro Inc.	85	79	-6	14,456	13,376	8%	7.40%
Ahold Delhaize	13	12	-1	89,381	85,177	5%	3.90%
Spar Holding AG	77	72	-5	14,979	13,864	8%	6.10%
Colruyt Group	122	113	-9	9,562	9,756	-2%	2.40%

Source: Global powers of Retailing 2022 and 2023.

The Kroger Co. maintained its rank at 6 in 2023. It reported a revenue of $136,971 million in FY21, showing a 4% increase compared to FY20. The compound annual growth rate (CAGR) of revenue from FY16 to FY21 was 3.50%. The Albertsons dropped two positions in its ranking from 16 in 2022 to 18 in 2023. Its revenue for FY21 was $71,887 million, indicating a 3% increase from FY20. The revenue CAGR for the five-year period (FY16-21) was 3.80%. Metro Inc. experienced a decrease in ranking from 79 in 2022 to 85 in 2023. It reported revenue of $14,456 million in FY21, showing an 8% increase from FY20.

The revenue CAGR over the five-year period (FY16-21) was 7.40%. Ahold Delhaize dropped one position in its ranking from 12 in 2022 to 13 in 2023. The company's revenue for FY21 was $89,381 million, indicating a 5% increase from FY20. The revenue CAGR over the five-year period (FY16-21) was 3.90%. Spar Holding AG saw a decrease in ranking from 72 in 2022 to 77 in 2023. It reported revenue of $14,979 million in FY21, showing an 8% increase from FY20. The revenue CAGR for the five-year period (FY16-21) was 6.10%. Colruyt Group experienced a significant drop in ranking from 113 in 2022 to 122 in 2023. Its revenue for FY21 was $9,562 million, with a slight decrease of -2% compared to FY20. The revenue CAGR over the five-year period (FY16-21) was 2.40%.

Supermarkets are focusing on providing a seamless shopping experience across online and in-store. This includes options for online grocery ordering, curb side pickup, buy online pickup in-store etc. Supermarkets have invested in robust mobile apps for shopping lists, rewards, coupons, payments etc. to enhance customer engagement. Loyalty

programs are integrated with digital wallets. Digital tools have helped supermarkets optimize supply chain operations, reduce wastage, better manage inventories, and track products from farm to shelf. Technologies like self-checkout kiosks, scan & go, computer vision and contactless payments are reducing checkout times. Using customer purchase data and AI, supermarkets provide personalized recommendations, targeted offers, customized assortments to drive higher average baskets and repeat purchases. Advanced analytics helped supermarkets gain deeper customer understanding, identify trends, predict demand more accurately and make data-driven business decisions.

The following section analyses the various financial ratios for the retailers for a broader time frame of years from 2018 to 2022.

Table 4.2.2.b
3 and 5-year revenue performance

	Revenue			
	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr.%**	**3 Yr. %2**	**5 Yr. %**
The Kroger Co.	4.19	4.86	-12.73	-5.48
The Albertsons	5.9	3.79	45.44	30.48
Metro Inc.	4.05	7.47	7.31	11.25
Ahold Delhaize	9.5	6.7	12.28	11.11
Spar Holding AG	7.4	7.27	3.45	3.92
Colruyt Group	2.13	1.14	-8.84	-4.67

Source: Morningstar.com/stocks.

Ahold Delhaize, The Albertsons, and Metro Inc. demonstrated strong revenue and operating income growth, indicating robust financial performance. Spar Holding AG and Colruyt Group have experienced moderate revenue growth, with relatively stable operating income. The Kroger Co. has seen revenue growth but faced challenges in maintaining operating income, suggesting potential profitability issues.

Table 4.2.2.c
Financial health summary

	Financial Health							
	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Kroger Co.	0.78	0.75	0.22	0.29	1.74	2.04	7.07	13.09
The Albertsons	1.22	1	0.26	0.41	8.37	4.15	—	4.73
Metro Inc.	1.17	1.12	0.48	0.41	0.47	0.58	16.47	20.41
Ahold Delhaize	0.88	0.72	0.51	0.38	0.34	0.98	14.67	17.42
Spar Holding AG	1.13	0.99	0.87	0.69	0.67	2.06	2.36	2.37
Colruyt Group	0.77	0.8	0.43	0.41	0.01	0.25	18.82	20.36

Source: Morningstar.com/stocks.

The Albertsons and Metro Inc. have generally improved their financial ratios, including debt equity and book value per share, indicating potential financial stability. Ahold Delhaize and Spar Holding AG have seen decreases in their liquidity ratios (current and quick ratios), which may suggest a need for improved liquidity management. The Kroger Co. has significantly increased its debt equity ratio and book value per share, potentially indicating a shift in capital structure and improved shareholder value. Colruyt Group has maintained relatively stable liquidity ratios and showed improvements in book value per share.

Table 4.2.2.d
Cash Flow

	Cash Flow					
	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Kroger Co.	0.49	2.59	0.32	2.16	1.15	3.81
The Albertsons	2.58	2.23	-11.41	1.18	—	3.88
Metro Inc.	3.01	4.45	0.25	0.99	1.36	2.26
Ahold Delhaize	6.88	7.02	2.41	2.4	4	5.41
Spar Holding AG	1.16	0.49	0.64	0.31	0.06	0.25
Colruyt Group	1.17	0.14	0.28	0.05	0.56	1.63

Source: Morningstar.com/stocks.

The Kroger Co., Metro Inc., and Ahold Delhaize have generally improved their cash flow ratios, indicating better cash flow generation and utilization. The Albertsons improved Cash Flow/Net Income but saw a decrease in Cash Flow/Sales. Spar Holding AG and Colruyt Group faced challenges in cash flow generation, with decreases in most cash flow ratios.

Table 4.2.2.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Kroger Co.	22.01	22.01	1.7	2.52	1.54	1.19
The Albertsons	27.3	28.83	0.23	3.37	0.08	2.25
Metro Inc.	19.65	20.03	5.7	6.97	11.93	4.48
Ahold Delhaize	27	26.78	3.81	4.33	2.86	2.93
Spar Holding AG	10.68	12.02	0.78	2.31	1.81	1.59
Colruyt Group	26.02	27.38	5.37	3.56	4.13	2.86

Source: Morningstar.com/stocks.

The Albertsons and Metro Inc. showed significant improvements in operating margin, suggesting better cost management. The Kroger Co. improved its operating margin but saw a slight decrease in net margin. Ahold Delhaize and Spar Holding AG maintained relatively stable margins. Colruyt Group exhibited an increase in gross margin but faced challenges in maintaining operating and net margins.

Table 4.2.2.f
Operating efficiency-Returns

	Return on Asset		Return on Equity		Days Inventory	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Kroger Co.	5.13	3.35	27.74	17.23	4.89	4.78
The Albertsons	0.2	5.92	3.34	65.3	37.22	31.4
Metro Inc.	20.23	6.27	28.1	8.59	30.88	30.21
Ahold Delhaize	5.34	5.4	11.96	17.48	24.97	23.9
Spar Holding AG	26.7	23.93	15.31	7.14	15.68	18.14
Colruyt Group	9.16	5.32	17.89	11.53	32.58	38.85

Source: Morningstar.com/stocks.

The Albertsons showed significant improvements in profitability (ROA and ROE) along with better inventory management (lower days inventory). The Kroger Co., Metro Inc., and Colruyt Group faced challenges in maintaining profitability, with decreases in return metrics. Ahold Delhaize demonstrated stability in return metrics, and Spar Holding AG had mixed results with decreases in return on asset and return on equity but a slight increase in days inventory.

Table 4.2.2.g
Turnover

	Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**
The Kroger Co.	14.61	15.53	5.83	4.62
The Albertsons	9.81	11.63	5.38	4.69
Metro Inc.	11.82	12.08	6.71	4.37
Ahold Delhaize	14.61	15.28	5.75	4.05
Spar Holding AG	23.29	20.12	14.94	8.31
Colruyt Group	11.2	9.4	4.33	3.78

Source: Morningstar.com/stocks.

The Kroger Co., The Albertsons, Ahold Delhaize, Metro Inc. improved their inventory turnover, indicating efficient management of inventory. However, they all had a decrease in fixed asset turnover, suggesting a potential decrease in efficiency in utilizing fixed assets. Spar Holding AG and Colruyt group experienced a decrease in both inventory turnover and fixed asset turnover, suggesting potential challenges in managing inventory efficiently and utilizing fixed assets effectively.

The Kroger Co expanded online ordering and delivery through partnerships with companies like Instacart, DoorDash and others. They also launched Kroger Pay, a digital payment solution. Acquired meal kit company Home Chef and plant-based food company Simple Truth. Invested in developing and acquiring technology around artificial

intelligence, machine learning and digital experiences. Albertsons rolled out curb side pickup nationwide and expanded delivery options through partners, launched private label brands and expanded organic/natural offerings. Albertsons acquired meal kit company Plated to expand e-commerce options and upgraded technology infrastructure around data analytics, digital shelf tools and supply chain.

Metro Inc, launched online grocery shopping and delivery service in Quebec and Ontario, expanded private label brands and meal solutions offerings. Metro Inc acquired Jean Coutu pharmacy group to expand health/beauty categories and implemented new digital tools for supply chain optimization and personalized promotions. Ahold Delhaize rolled out online ordering and delivery across Europe brands like Albert Heijn and bol.com. They acquired online retailer FreshDirect in the US and focussed on private label and healthy lifestyle brands. Ahold also invested in data analytics, digital shelf tools and automated fulfilment centres. Spar Holding AG launched e-commerce platforms in Austria, Slovenia and Croatia and expanded premium private label brands. They implemented new digital tools for supply chain, promotions, and store operations. Colruyt Group launched online grocery website and delivery service Collect&Go and focussed on private label and organic/fresh offerings.

Table 4.2.2.h
Ranking 2018 & 2022

Company	**RANK**	
	2018	**2022**
The Kroger Co.	5	4
The Albertsons	6	3
Metro Inc.	2	2
Ahold Delhaize	1	1
Spar Holding AG	3	5

Colruyt Group	4	6

Source: Kota (2023).

Ahold Delhaize maintained its top ranking throughout the period. Both The Kroger Co. and The Albertsons improved their rankings. Spar Holding AG and Colruyt Group experienced a decrease in their rankings.

Table 4.2.2.i
Metrics ranking summary

Company	Revenue Rank	Financial Health Rank	Cash Flow Rank	Operating Efficiency Rank
The Kroger Co.	5	3	2	5
The Albertsons	3	5	3	2
Metro Inc.	2	1	4	3
Ahold Delhaize	1	4	1	1
Spar Holding AG	4	6	5	4
Colruyt Group	6	2	6	6

Source: Kota (2023).

Ahold Delhaize leads as the top-performing retailer, ranking 1st in revenue, cash flow, and operating efficiency. Metro Inc. excels in financial health, ranking 1st in that category. The Albertsons and The Kroger Co. perform average in specific areas but have lower overall rankings in financial health and revenue, operating efficiency respectively. Spar Holding AG and Colruyt Group face challenges in financial health and cash flow, impacting their overall rankings.

4.2.3 All department stores have risen significantly in the rankings; what propelled them to this growth?

The table 4.2.3.a below summarizes the sample department stores considered for the analysis and their overall ranking as reported in 2022 and 2023.

Table 4.2.3.a
Department stores Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Macy Inc.	50	58	8	24,460	17,346	41%	1.10%
Kohl's Corporation	62	66	4	18,471	15,031	23%	-0.20%
Nordstrom, Inc.	86	105	19	14,402	10,357	39%	-0.10%
Burlington Stores, Inc	125	190	65	9,322	5,764	62%	10.80%
Dillard's, Inc	186	242	56	6,431	4,213	53%	1.00%
Marks and Spencer Group plc	80	89	9	14,866	11,951	24%	0.50%

Source: Global powers of Retailing 2022 and 2023.

Several retailers improved their rankings in 2023 compared to 2022. Macy Inc. improved its ranking from 58th place in 2022 to 50th place in 2023. It also experienced significant revenue growth of 41% from FY20 to FY21. Kohl's Corporation improved its ranking by 4 positions and achieved a 23% increase in revenue from FY20 to FY21. Nordstrom, Inc. significantly improved its ranking by 19 positions and achieved substantial revenue growth of 39% from FY20 to FY21. Burlington Stores, Inc. made a considerable improvement in its ranking, moving up by 65 positions. It also achieved substantial revenue growth of 62% from FY20 to FY21, with a strong CAGR over the past five years. Dillard's, Inc. significantly improved its ranking by 56 positions and achieved substantial revenue growth of 53% from FY20 to FY21. Marks and Spencer Group plc improved its ranking by 9 positions and achieved a 24% increase in revenue from FY20 to FY21, although it had a relatively lower CAGR.

The following section provides an overview of key transformation initiatives undertaken by the retailers in the recent past.

Macy’s launched Story concept stores focused on experiences, expanded omnichannel capabilities like buy online pickup in store, curb side pickup. Partnered with

Toys"R"Us to open shops within stores after Toys"R"Us filed for bankruptcy. Invested in mobile point-of-sale technology and augmented reality fitting tools. Focused on private label brands and exclusive partnerships to increase average selling price.

Kohl's partnered with Amazon to accept returns for items bought on Amazon at Kohl's stores nationwide. Expanded Sephora shops within stores and online beauty assortment. Launched Kohl's Pay payments platform and mobile app for easier checkout. Invested in self-checkout technology and smart mirrors for virtual styling. Shifted to more casual apparel and activewear brands like Nike and Under Armour.

Nordstrom opened smaller format Nordstrom Local service hubs with no inventory. Expanded online selection, fulfilment capabilities and loyalty program benefits. Acquired Trunk Club, a personalized styling service, to reach more male customers. Partnered with brands like Topshop, BP., and Madewell for exclusive collections. Invested in order management technology and ship-from-store capabilities.

Burlington remodelled stores with improved lighting, wayfinding, and merchandise displays. Expanded assortment of national brands beyond off-price apparel and accessories. Launched Burlington app for mobile shopping, payment, and loyalty rewards. Invested in price optimization technology and inventory management systems. Focused on exclusive merchandise unavailable at department stores.

The following sections summarizes the performance of these retailers that has propelled them to grow significantly in their individual rankings.

Table 4.2.3.b
3 and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %**	**5 Yr. %**

Macy Inc.	-0.58	-0.38	15.52	3.88
Kohl's Corporation	-1.33	0.79	4.67	4.18
Nordstrom, Inc.	-2.3	0.04	-16.23	-13.26
Burlington Stores, Inc	8.01	7.96	23.16	25.55
Dillard's, Inc	0.62	0.63	60.95	27.93
Marks and Spencer Group plc	1.61	0.49	-0.57	-3.07

Source: Morningstar.com/stocks.

Retailers like Burlington Stores, Inc. and Dillard's, Inc. demonstrated strong growth in both revenue and operating income. Macy Inc. and Nordstrom, Inc. faced challenges in revenue generation, but Macy Inc. significantly improved its operating income. Marks and Spencer Group plc experienced modest revenue growth but struggled to maintain its operating income. Kohl's Corporation had steady growth in both revenue and operating income over the analysed periods.

Table 4.2.3.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Macy Inc.	1.47	1.25	0.36	0.37	1.03	1.77	13.89	10.29
Kohl's Corporation	2.01	1.53	0.49	0.54	0.81	1.4	29.93	37.64
Nordstrom, Inc.	1.07	0.96	0.4	0.17	2.74	7.59	5.13	2.25
Burlington Stores, Inc	0.98	1.31	0.18	0.59	12.84	5.37	-1.62	10.78
Dillard's, Inc	1.66	1.98	0.22	0.78	0.33	0.38	55.84	83.09
Marks and Spencer Group plc	0.72	0.92	0.29	0.57	0.57	1.22	2.38	1.69

Source: Morningstar.com/stocks.

Macy Inc. experienced a decrease in both current and quick ratios from 2018 to 2022, indicating potential liquidity challenges. Additionally, its debt equity ratio increased, suggesting increased debt. Kohl’s Corporation also experienced a decrease in current ratio and an increase in the debt equity ratio from 2018 to 2022. Nordstrom, Inc. saw a decrease

in both current and quick ratios, indicating potential liquidity challenges. Burlington Stores, Inc. improved its current and quick ratios, indicating better liquidity. Its debt equity ratio also decreased. Dillard's, Inc. improved its current ratio and quick ratio, indicating better liquidity. Its debt equity ratio remained relatively stable. Marks and Spencer Group plc improved both current and quick ratios, indicating enhanced liquidity. However, the debt equity ratio increased.

Table 4.2.3.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Macy Inc.	4.77	8.36	0.77	1.48	3.59	2.47
Kohl's Corporation	5.34	8.57	1.19	1.78	5.94	11.13
Nordstrom, Inc.	4.32	1.35	1.53	1.12	3.58	-0.44
Burlington Stores, Inc	5.55	5.15	0.88	1.17	4.01	9.55
Dillard's, Inc	2.24	17.75	0.65	1.36	10.07	44.97
Marks and Spencer Group plc	4.68	10.29	19.48	3.65	0.51	0.63

Source: Morningstar.com/stocks.

Macy Inc. demonstrated an improvement in cash flow as a percentage of sales, indicating efficient cash generation. Cash flow per share declined over the same period. Kohl’s Corporation experienced an increase in cash flow as a percentage of sales, indicating improved cash generation efficiency. Cash flow per share also increased significantly over the same period. Nordstrom, Inc. faced a significant decrease in cash flow as a percentage of sales, indicating potential challenges in cash generation. Cash flow per share turned negative. Burlington Stores, Inc. maintained a relatively stable cash flow as a percentage of sales. Cash flow per share increased significantly, indicating improved cash generation per share.

Dillard's, Inc. experienced a substantial increase in cash flow as a percentage of sales, indicating significant improvements in cash generation. Cash flow per share also increased significantly. Marks and Spencer Group plc showed an increase in cash flow as a percentage of sales, indicating improved cash generation efficiency. Cash flow per share also increased slightly over the same period.

Table 4.2.3.e
Operating Efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Macy Inc.	38.99	40.87	6.26	9.05	6.23	5.65
Kohl's Corporation	36.23	41.15	7.42	8.65	4.5	4.83
Nordstrom, Inc.	36.1	36.82	5.98	3.33	2.82	1.2
Burlington Stores, Inc	41.75	41.69	7.96	8.24	6.3	4.39
Dillard's, Inc	34.61	43.43	4.22	16.88	3.45	13.02
Marks and Spencer Group plc	37.83	34.49	6.27	5.43	0.24	2.82

Source: Morningstar.com/stocks.

Macy Inc. experienced improvements in gross margin and operating margin, indicating better control over costs. However, the net margin slightly decreased, suggesting that other expenses might have risen. Kohl's Corporation demonstrated significant improvements in both gross margin and operating margin, indicating enhanced profitability. The net margin also increased, suggesting effective cost management. Nordstrom, Inc. maintained a relatively stable gross margin but faced a decline in operating and net margins. This suggests challenges in controlling operating expenses.

Burlington Stores, Inc. maintained a consistent gross margin and operating margin. However, there was a decrease in net margin, indicating potential challenges in managing other expenses. Dillard's, Inc. saw substantial improvements in both gross and operating margins, indicating a significant boost in profitability. Net margin also increased

significantly, suggesting effective cost management. Marks and Spencer Group plc experienced a slight decrease in gross margin but maintained stable operating and net margins. The increase in net margin suggests improved profitability.

Table 4.2.3.f
Operating Efficiency-Returns

	Return on Asset		Return on Equity		Days Inventory	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Macy Inc.	7.89	8.1	30.95	46.32	127.4	99.54
Kohl's Corporation	6.38	6.17	16.2	19.03	109.97	90.27
Nordstrom, Inc.	5.47	1.93	47.32	40.18	72.39	81.09
Burlington Stores, Inc	14.29	5.9	2,082.42	66.74	74.58	59.15
Dillard's, Inc	5.85	27.22	12.92	59.64	124.72	105.57
Marks and Spencer Group plc	0.32	3.39	0.84	11.8	42.24	34.06

Source: Morningstar.com/stocks.

Macy Inc. demonstrated improved return metrics and reduced inventory days, indicating better overall performance. Kohl's Corporation maintained stability in return metrics and improved inventory turnover. Nordstrom, Inc. faced challenges with declining return metrics and increased days of inventory. Burlington Stores, Inc. experienced a significant decline in return on asset and return on equity but improved inventory management. Dillard's, Inc. showed substantial improvements in return on asset and return on equity while reducing inventory days. Marks and Spencer Group plc showed improvements in return metrics and reduced inventory days, suggesting enhanced profitability and inventory management.

Table 4.2.3.g
Turnover

	Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**
Macy Inc.	2.87	3.67	3.63	2.93
Kohl's Corporation	3.32	4.04	2.41	2.09
Nordstrom, Inc.	5.04	4.5	3.95	2.85

Burlington Stores, Inc	4.89	6.17	5.59	2.3
Dillard's, Inc	2.93	3.46	3.68	5.16
Marks and Spencer Group plc	8.64	10.72	2.32	2.19

Source: Morningstar.com/stocks.

Macy Inc. improved its inventory turnover, indicating better management of inventory. However, the fixed asset turnover declined, suggesting a potential decrease in efficiency in utilizing fixed assets. Kohl's Corporation increased its inventory turnover, which is a sign of efficient inventory management. However, the fixed asset turnover declined slightly, indicating a potential decrease in the efficiency of utilizing fixed assets. Nordstrom, Inc. experienced a decrease in both inventory turnover and fixed asset turnover. This suggests potential challenges in managing inventory efficiently and utilizing fixed assets effectively. Burlington Stores, Inc. significantly improved its inventory turnover, indicating better inventory management. However, the fixed asset turnover decreased substantially, suggesting a potential decline in the efficiency of utilizing fixed assets. Dillard's, Inc. improved both inventory turnover and fixed asset turnover, indicating better inventory management and more efficient utilization of fixed assets. Marks and Spencer Group plc increased both inventory turnover and fixed asset turnover, suggesting improved inventory management and more efficient use of fixed assets.

Table 4.2.3.h
Ranking 2018 & 2022

Company	RANK	
	2018	2022
Macy Inc.	3	4
Kohl's Corporation	2	3
Nordstrom, Inc.	4	6
Burlington Stores, Inc	1	2
Dillard's, Inc	5	1

Marks and Spencer Group plc	6	5

Source: Kota (2023).

Dillard's, Inc. notably improved its ranking, becoming the top-ranked retailer in 2022. Burlington Stores, Inc. moved from the first to the second position. Macy Inc. and Kohl's Corporation both experienced slight drops in rank. Nordstrom, Inc. had a larger drop in rank, indicating a relatively weaker performance. Marks and Spencer Group plc showed a small improvement in its ranking within the group.

Table 4.2.3.i
Metrics ranking summary

Company	Revenue	Financial Health	Cash Flow	Operating Efficiency
	Rank	Rank	Rank	Rank
Macy Inc.	5	4	4	3
Kohl's Corporation	3	2	2	4
Nordstrom, Inc.	6	5	6	6
Burlington Stores, Inc	1	2	5	2
Dillard's, Inc	2	1	1	1
Marks and Spencer Group plc	4	3	3	5

Source: Kota (2023).

Dillard's, Inc. stands out as the top-performing retailer, leading in financial health, cash flow, and operating efficiency. Burlington Stores, Inc. ranks first in revenue and performs well in financial health and operating efficiency. Macy Inc. ranks lower in revenue but is relatively stronger in financial health, cash flow, and operating efficiency. Kohl's Corporation has performed well in revenue and financial health but ranks lower in operating efficiency. Marks and Spencer Group plc maintains a balanced ranking across all categories. Nordstrom, Inc. faced challenges as it ranks lower in all categories.

4.3 Research Question Two

The second research question was the following:

What are the most fundamental value management and ROI methods used in retail digital transformation initiatives? What are the difficulties that practitioners of digital transformation have in evaluating and measuring the business value and impact of these initiatives?

Digital transformation has become an essential strategy for retailers throughout the world. Assessing the value and ROI of digital transformation initiatives in the retail industry, on the other hand, poses difficulties for organizations. This section focuses on research questions relating to the core value management and ROI approaches applied in retail digital transformation initiatives, as well as the challenges that practitioners confront in evaluating and measuring the business value and effect of these initiatives.

Two important elements of retail digital transformation initiatives are the focus of this study. In the beginning, it aims to pinpoint the fundamental value management and ROI techniques frequently used in such ventures. The goal of the research is to develop a thorough understanding of how value and return on investment are managed and quantified by looking at the common methodologies employed by practitioners. Second, the research looks into the difficulties experienced by practitioners when determining the financial worth and effects of these projects. The research intends to shed light on the challenges faced by practitioners and offer insights into potential solutions for properly monitoring and quantifying the results of retail digital transformation programs by examining these

challenges. A summary of the analysis of the responses is presented in the sections below, and the details of the mapping to research questions are included in Appendix B.

4.3.1 Demographics of the survey participants

The demographics of the respondents sampled in the survey, which specifically targeted practitioners of digital transformation in both the retail industry and other sectors.

Table 4.3.1
Participant role within the organization

Your primary role or function within the organization.	Number
Senior Management (VP, Director, Head of Department, etc.)	40
Middle Management (Manager, Supervisor, Team Lead, etc.)	26
Executive Management (CEO, COO, CFO, CMO, CIO, etc.)	7
Staff (Individual Contributor, Analyst, etc.)	5
Sr Director	1
Analytics consulting	1
Grand Total	**80**

Source: Kota (2023).

In the survey, we received a rich set of responses from various levels of the organization. 9% of the submissions came from Executive leadership positions, including CXOs. A significant contribution of 50% represented Senior management individuals, holding influential roles such as VPs, Directors, and Heads of departments. Additionally, 32% of the responses were contributed by middle management personnel, comprising managers, supervisors, and team leads.

The survey results provided comprehensive coverage of various departments or functions within the organization. 71% of the respondents belonged to the Information Technology department, and 10% of the participants represented corporate management and leadership roles, Sales and marketing accounted for 8% of the respondents, while Operations and Supply Chain professionals contributed 5%, reflecting the diverse perspectives included in the survey.

Table 4.3.2
Participant Department or function

Department or Function	Number
Information Technology	57
Corporate Management / Leadership	8
Sales and Marketing	7
Operations and Supply Chain	4
Research and Development	2
Customer Service	1
Consulting	1
Grand Total	**80**

Source: Kota (2023).

Survey participants displayed a wealth of industry experience, with a significant portion having over 20 years of working experience, accounting for 50% of the respondents. Additionally, 30% of the participants fell within the range of 15 to 20 years of experience, demonstrating a substantial pool of seasoned professionals. Moreover, 11% of the respondents had a working experience of 10 to 15 years, while 5% represented individuals with 5 to 10 years of industry experience, showcasing a mix of mid-career and early-career professionals contributing to the survey.

Table 4.3.3

Years experience as digital transformation consultant

What is your level of experience as a digital transformation consultant?	Number
5-10 years	33
10-15 years	16
2-5 years	11
>20 years	9
15-20 years	7
Less than 2 years	4
Grand Total	**80**

Source: Kota (2023).

When it comes to experience levels as digital transformation consultants, the survey revealed a wide range of expertise. Impressively, 11% of respondents reported effectively implementing transformation initiatives for more than 20 years, demonstrating their broad experience and in-depth comprehension of the subject. Furthermore, 20% had 10 to 15 years of experience, while 9% had worked for 15 to 20 years, indicating a high percentage of professionals. Furthermore, 41% of respondents had between five and 10 years of experience, implying that a large proportion of respondents were consultants who actively worked on newer technology-led digital transformation initiatives. Finally, 14% of the participants had experience ranging from 2 to 5 years, adding new viewpoints and dimensions to the subject of digital. The collective experience of these professionals offered a valuable blend of expertise and innovative solutions gained over the years.

The respondents exhibited a wide range of industry experience related to digital transformation initiatives. Almost 76% of participants had expertise in the retail industry, highlighting the sector's significant involvement in efforts to undergo digital

transformation. Additionally, 60% of respondents had taken part in projects for the manufacturing sector's digital transformation, while 32% had experience in the life sciences and 54% had experience in the consumer products industry. Additionally, 28% of respondents had experience in banking and financial services, while 23% had worked in healthcare, 20% in travel and hospitality, 20% in services, and 18% in utilities. This rich expertise across different domains and industry verticals demonstrated a diverse pool of knowledge and valuable insights for digital transformation initiatives.

4.3.2 Defining and Measuring Digital transformation benefits

The survey revealed that both the respondents and their client organizations have placed a significant emphasis on digital transformation activities over the previous 12 months.

Table 4.3.4
Digital transformation initiatives implemented in last 12 months

Have you / your client organization implemented any digital transformation initiatives in the last 12 months?	Number
Yes, multiple initiatives	64
Yes, one initiative	11
Yes, we have not progressed beyond MVP/Proof of Concept	4
No, and we have no plans to in the next 12 months	1
Grand Total	**80**

Source: Kota (2023).

Impressively, 80% of the respondents stated that their companies had carried out multiple initiatives during this time, demonstrating a proactive attitude towards adopting digital transformation. Furthermore, 13% of the respondents acknowledged that at least

one initiative had been successfully carried out within their organization, demonstrating advancement in their transformational path. However, 5% admitted that they had stopped at the proof-of-concept or Minimal viable product stage, which suggests that there had been some difficulties or delays with their implementation attempts. Overall, the survey highlighted the organizations surveyed substantial traction and dedication towards digital transformation activities.

(a) How important is measuring the benefits of digital transformation for your /customer's organization? How important do you believe a KPI framework is in measuring the business benefits of a digital transformation?

Measuring the benefits of digital transformation holds immense importance for both the surveyed practitioners and their customer organizations.

Table 4.3.5
Importance of measuring benefits of digital transformations

How important is measuring the benefits of digital transformation for your /customer's organization?	Number
Extremely important	42
Very important	37
Not at all important	1
Grand Total	**80**

Source: Kota (2023).

A majority of 52% believed that measuring these benefits was extremely important, emphasizing the need for tangible outcomes and ROI evaluation. 46% considered it very important, showcasing widespread recognition of the value of tracking and quantifying the impact of digital transformation initiatives. Interestingly, only 1% felt that measuring the benefits was not important at all, indicating a small minority with a different perspective.

On the importance of a KPI framework in measuring the business benefits of digital transformation, the respondents held a similar viewpoint.

Table 4.3.6
Importance of KPI framework in measuring business benefits

How important do you believe a KPI framework is in measuring the business benefits of a digital transformation?	Number
Extremely important	44
Very important	34
Moderately important	2
Grand Total	**80**

Source: Kota (2023).

55% believed that a KPI framework was extremely important in this regard, highlighting the need for specific metrics to assess and track the success of digital transformation efforts. 42% considered it very important, underscoring the significance of a structured and well-defined measurement framework to gauge the business benefits effectively.

(b) What are the key business benefits that you have achieved in your digital transformations?

The digital transformations undertaken by the respondents have resulted in a range of key business benefits. 87% of the participants reported improved operational efficiency as a primary outcome, indicating streamlined processes and optimized resource utilization. 66% highlighted increased revenue and profitability, demonstrating the positive impact of digital transformation on the financial performance of organizations.

80% emphasized the enhanced customer experience resulting from their digital transformations, emphasizing the importance of delivering personalized and seamless

interactions. Additionally, 55% acknowledged better data analytics capabilities, indicating the ability to leverage data-driven insights for informed decision-making.

Other notable benefits included 48% reporting improved agility and innovation, showcasing the ability to adapt quickly to market changes and drive continuous improvement. 32% highlighted improved employee productivity, indicating that digital transformation initiatives have contributed to creating a more efficient and collaborative work environment. These key business benefits reflect the transformative power of digital initiatives, spanning operational efficiencies, financial growth, customer-centricity, data-driven decision-making, innovation, and productivity improvements.

(c) To what extent has your / customer's organization been able to achieve its expected business benefits through digital transformation?

When assessing the extent to which organizations have achieved their expected business benefits through digital transformation, the survey results provide valuable insights.

Table 4.3.7
Achieving business benefits through digital transformation

To what extent has your / customer organization been able to achieve its expected business benefits through digital transformation?	Number
Mostly achieved	42
Partially achieved	26
Completely achieved	10
Not measured	2
Grand Total	**80**

Source: Kota (2023).

Only a small portion of 12% reported having completely achieved their expected benefits, indicating a successful and comprehensive realization of the anticipated outcomes. The majority, comprising 52% of the respondents, stated that they had mostly achieved their expected business benefits, suggesting a significant degree of success in attaining the desired results.

However, 32% acknowledged that they had only partially achieved their expected benefits, indicating that there may be some gaps or challenges in fully realizing the anticipated outcomes of their digital transformation initiatives. It's worth noting that a small fraction of 2.5% mentioned that the benefits achieved were not measured, which suggests a potential need for better monitoring and evaluation mechanisms.

Overall, these responses reflect varying levels of success, substantial progress, some challenges, and a need for more comprehensive measurement and evaluation processes to ensure the full realization of business benefits from digital transformation initiatives.

(d) How would you rate the overall value and impact of the digital transformation value management and ROI assessment process on your/customer's digital transformation initiatives?

When assessing the value and impact of the digital transformation value management and ROI assessment processes, the survey respondents provided insightful feedback.

Table 4.3.8
Value and impact of Value management and ROI process

How would you rate the overall value and impact of the digital transformation value management and ROI assessment process on your/customer's digital transformation initiatives?	Number
Very high value and impact	42
Moderate value and impact	31
Limited value and impact	5
Not measured effectively	2
Grand Total	**80**

Source: Kota (2023).

A majority of 52% rated the overall value and impact as very high, indicating that the process had significantly contributed to understanding and quantifying the value generated through digital transformation initiatives. Furthermore, 39% considered the value and impact to be moderate, suggesting that while the assessment process had provided valuable insights, there may be room for improvement in optimizing its effectiveness.

A small percentage of 6% mentioned limited value and impact, indicating potential challenges or shortcomings in the current value management and ROI assessment processes. Interestingly, 2.5% of the respondents stated that the value and impact were not measured effectively, suggesting a need for better evaluation mechanisms to accurately assess the value and impact of digital transformation initiatives. These responses highlight the significance of robust value management and ROI assessment processes in understanding and maximizing the impact of digital transformation efforts. While a substantial portion of respondents recognized the high value and impact, there is still scope for improvement to ensure the effectiveness and accuracy of the assessment process.

(e) How do you calculate the ROI of digital transformation initiatives in your organization? What is your typical approach for measuring the business value of digital transformations?

The survey responses shed light on the diverse approaches adopted by organizations.

Table 4.3.9
Method to calculate ROI of digital transformation initiatives

How do you calculate the ROI of digital transformation initiatives in your organization?	Number
Total cost of ownership (TCO) vs. benefits	48
Net present value (NPV)	9
Non-Traditional methods - Customer Satisfaction or Net Promoter Score	8
Internal rate of return (IRR)	6
Payback period	4
Do not measure the business value of IT spend	2
Multiple- also CSAT and others as appropriate	1
In my current role I do not have visibility to comment.	1
Annualized ROI	1
Grand Total	**80**

Source: Kota (2023).

Notably, 60% of the respondents reported evaluating the Total Cost of Ownership (TCO) against the anticipated benefits, providing a comprehensive assessment of the financial impact. Furthermore, 11% mentioned using the NPV method, which considers the time value of money, to assess the value generated by the initiatives. Additionally, 7% reported using the IRR as a financial metric to measure the profitability of the investments. A smaller percentage of 5% relied on the Payback method, which calculates the time it takes to recoup the initial investment. Interestingly, 10% of the respondents mentioned

adopting non-traditional methods like Customer Satisfaction (CSAT) to measure the business value of digital transformations, highlighting the importance placed on customer-centric metrics and outcomes.

Regarding the typical approach for measuring the business value of digital transformations, the responses indicated a range of methodologies. A significant 30% reported developing a set of KPIs at the start of the program and measuring progress against those indicators throughout the program. This approach enables organizations to track the achievement of specific goals and outcomes. Additionally, 37% mentioned conducting a comprehensive assessment of the organization to identify specific areas where value can be generated. This holistic evaluation allows organizations to pinpoint the potential impact of digital transformation initiatives on different aspects of their business. Moreover, 28% reported using a combination of qualitative and quantitative methods to measure the value, emphasizing the need for a balanced approach that considers both financial and non-financial aspects of the initiatives. However, 4% stated that their organization did not adopt a standard approach for measuring the business value of digital transformations, suggesting a potential opportunity for improvement in establishing consistent methodologies.

These findings illustrate the diverse range of approaches organizations take in calculating the ROI and measuring the business value of their digital transformation initiatives, highlighting the importance of selecting appropriate methods to effectively evaluate the outcomes and impact.

(f) *How frequently did you review and evaluate the results of the digital transformation initiatives? What kind of internal support or resources does your*

Customer/Organisation have for measuring the business benefits of digital transformation?

Reviewing and evaluating the results of digital transformation initiatives is an essential practice to gauge their effectiveness and make informed decisions. The survey results reveal a range of frequencies at which organizations conduct such evaluations.

Table 4.3.10
Review of results of digital transformations

How frequently did you review and evaluate the results of the digital transformation initiatives?	Number
Quarterly	40
No Fixed frequency	21
Monthly	11
Annually	6
Not evaluated	2
Grand Total	**80**

Source: Kota (2023).

A notable 50% reported reviewing and evaluating the results on a quarterly basis, indicating a regular and structured approach to assessing the outcomes.

Moreover, 14% mentioned conducting monthly evaluations, showcasing a higher frequency of monitoring and analysis to ensure timely insights into the progress and impact of the initiatives. Conversely, 8% reported reviewing and evaluating the results annually, suggesting a less frequent but comprehensive assessment of the results. Interestingly, 26% indicated no fixed frequency for their evaluations, which may indicate a more flexible or ad-hoc approach based on the specific needs and circumstances of the organization and its

digital transformation initiatives. Additionally, a small fraction of 2.5% stated that the results were not evaluated, suggesting a potential opportunity for improvement in establishing a formal evaluation process.

When it comes to internal support and resources for measuring the business benefits of digital transformation, organizations employ various approaches. A majority of 51% reported the use of external consultants or advisors, highlighting the importance of external expertise in assessing and quantifying the value generated. Additionally, 46% mentioned having a dedicated analytics team and a dedicated business team, emphasizing the significance of in-house capabilities and expertise in evaluating the business benefits. Furthermore, 21% mentioned the availability of internal training programs, indicating a focus on building internal capacity and knowledge to effectively measure the business benefits of digital transformation.

These findings highlight the diverse range of internal support and resources organizations employ to measure the business benefits of digital transformation initiatives, demonstrating the importance placed on leveraging external expertise, building dedicated teams, and fostering a culture of continuous learning and development.

(g) How do you ensure that the benefits of retail business transformation projects are measured consistently across different departments, business units, or regions?

Consistently measuring the benefits of retail business transformation projects across different departments, business units, or regions is crucial for evaluating their impact and ensuring alignment. The survey responses shed light on the approach's organizations employ to achieve this consistency.

Table 4.3.11
Consistency in measurement of benefits

How do you ensure that the benefits of retail business transformation projects are measured consistently across different departments, business units or regions?	Number
Consistent methodology for selecting and measuring KPIs across projects	28
Joint ownership of benefits measurement across departments	25
Clear roles and responsibilities for measuring benefits across departments	16
Ad hoc- No methodology or framework adopted	11
Grand Total	**80**

Source: Kota (2023).

Approximately 25% reported implementing a consistent methodology for selecting and measuring KPIs across projects. This approach establishes standardized metrics and criteria, enabling organizations to compare and evaluate the benefits consistently across different areas. Moreover, 20% mentioned having clear roles and responsibilities for measuring benefits across departments. This ensures that there is clarity and accountability in the process, with designated individuals or teams responsible for tracking and assessing the benefits within their respective areas.

A significant portion of 31% highlighted the joint ownership of benefit measurement across departments. This collaborative approach involves multiple stakeholders working together to define, track, and evaluate the benefits of retail business transformation projects. This fosters cross-functional collaboration and ensures a holistic view of the benefits across different units or regions.

However, 14% stated that their organization follows an ad hoc approach, indicating a lack of established methodology or framework for measuring the benefits consistently. This suggests a potential area for improvement to establish a more structured and standardized approach.

These findings emphasize the importance of implementing consistent methodologies, clarifying roles and responsibilities, and fostering collaborative ownership in measuring the benefits of retail business transformation projects. By doing so, organizations can ensure alignment, comparability, and a comprehensive evaluation of the impact achieved.

(h) How do you use industry benchmarking to inform your measurement and assessment of digital transformation benefits and ROI? What kind of industry benchmarking and analysis do you consider while measuring the business benefits of a digital transformation?

Leveraging industry benchmarking is a valuable practice for organizations to gain insights and context when measuring and assessing the benefits and ROI of digital transformation initiatives. The survey responses shed light on the approach's organizations employ in this regard.

Table 4.3.12
Use of Industry benchmarking

How do you use industry benchmarking to inform your measurement and assessment of digital transformation benefits and ROI?	Number
Conduct periodic industry benchmarking exercises	35
Regularly compare our results to industry benchmarks	34

Do not use industry benchmarking	11
Grand Total	**80**

Source: Kota (2023).

A significant 42% reported regularly comparing their results to industry benchmarks, indicating a proactive approach to staying informed about industry standards and performance. This enables organizations to gauge their performance relative to their industry peers and identify areas for improvement. Furthermore, 44% mentioned conducting periodic industry benchmarking exercises. This involves dedicated efforts to gather and analyse industry data and metrics, providing organizations with a broader understanding of the digital transformation landscape and allowing them to benchmark their own performance against industry averages or best-in-class performers. Interestingly, 14% indicated that they do not use industry benchmarking, suggesting a potential opportunity for these organizations to leverage industry data and insights to enhance their measurement and assessment of digital transformation benefits and ROI.

When considering the specific types of industry benchmarking and analysis, the responses indicate a comprehensive approach. The majority, 66%, reported considering industry-specific metrics, which provide a targeted view of performance within their specific sector. Additionally, 57% mentioned conducting competitor analysis, which allows organizations to compare their performance and identify competitive advantages or gaps. Moreover, 62% highlighted the consideration of industry best practices, indicating the importance of learning from successful digital transformation initiatives within the industry and adopting proven strategies.

These findings highlight the significance of industry benchmarking in measuring the business benefits of digital transformation. Regularly comparing results, conducting benchmarking exercises, and considering industry-specific metrics, competitor analysis, and best practices all contribute to a comprehensive assessment and informed decision-making process.

(i) *How do you collect and analyse data to measure the business benefits of digital transformation initiatives? What type of tools or methodology do you use to measure the business benefits of a digital transformation?*

Collecting and analysing data is essential for measuring the business benefits of digital transformation initiatives. The survey responses provide insights into the approach's organizations employ in this process.

Table 4.3.13
Process to collect and analyse data

How do you collect and analyse data to measure the business benefits of digital transformation initiatives?	Number
Automated tools and dashboards	41
Custom-built solutions	26
Manual data collection and analysis	13
Grand Total	**80**

Source: Kota (2023).

A majority of 51% reported using automated tools and dashboards, enabling efficient data collection and real-time monitoring of key metrics. These tools streamline the process and provide organizations with actionable insights to measure and track business benefits effectively. Additionally, 32% mentioned using custom-built solutions,

indicating a tailored approach to data collection and analysis. This allows organizations to design solutions that align with their specific requirements and capture relevant data points. Interestingly, 16% reported manual data collection, suggesting a more resource-intensive process involving manual input and analysis. While this approach may require more effort, it highlights the importance placed on obtaining accurate data for measuring business benefits.

Regarding the tools and methodologies used to measure the business benefits of digital transformation, organizations employ various approaches. A significant 70% mentioned utilizing business intelligence tools, which offer robust capabilities for data analysis and visualization, empowering organizations to gain insights and make data-driven decisions. Furthermore, 52% reported using ROI calculators, providing a structured methodology to quantify the return on investment of digital transformation initiatives. This allows organizations to assess the financial impact and justify the value generated. Additionally, 57% mentioned leveraging value realization frameworks, which provide a structured approach to identify, capture, and measure business value throughout the digital transformation journey.

Moreover, 27% indicated the use of benchmarking databases, which enable organizations to compare their performance against industry benchmarks and best practices, providing context and insights for measuring business benefits. However, 11% stated that they have no defined methodology for measuring the business benefits of digital transformation, highlighting a potential opportunity for these organizations to establish a structured approach and leverage appropriate tools.

These findings underscore the importance of using tools and methodologies to collect and analyse data for measuring the business benefits of digital transformation initiatives. Leveraging automated tools, custom-built solutions, and established methodologies such as business intelligence, ROI calculators, and value realization frameworks can enhance the accuracy and effectiveness of the measurement process.

(j) How much time and effort do you typically devote to measuring and assessing the business benefits of digital transformation initiatives?

Measuring and assessing the business benefits of digital transformation initiatives require a significant investment of time and effort to ensure accurate and meaningful results. The survey responses provide insights into the typical allocation of resources for this purpose.

Table 4.3.14
Time and effort allocation to measure benefits

How much time and effort do you typically devote to measuring and assessing the business benefits of digital transformation initiatives?	Number
5-10% of project time	40
Less than 5% of project time	16
10-20% of project time	16
More than 20% of project time	8
Grand Total	**80**

Source: Kota (2023).

Approximately 20% reported dedicating less time and effort to measuring and assessing business benefits compared to the overall project effort and time. This suggests that these organizations may prioritize other aspects of the project and allocate relatively

fewer resources specifically for measurement and assessment. Half of the respondents, accounting for 50%, allocated approximately 5-10% of the project effort and time to measuring and assessing business benefits. This indicates a moderate level of investment, recognizing the importance of evaluating the impact of digital transformation initiatives while balancing them with other project activities. Moreover, 20% mentioned allocating between 10-20% of the project effort and time to measurement and assessment. This suggests a higher level of commitment to accurately capturing and evaluating the business benefits achieved through digital transformation initiatives. Interestingly, 10% reported devoting more than 20% of the project effort and time to measuring and assessing business benefits. This highlights a strong emphasis on comprehensive evaluation and analysis, indicating a deeper commitment to understanding the impact of the initiatives on the organization's performance.

These findings underscore the varying levels of time and effort organizations allocate to measuring and assessing business benefits from digital transformation initiatives. While there is no one-size-fits-all approach, it is essential to strike a balance between measuring benefits and executing the project effectively. Allocating a reasonable percentage of project effort and time ensures sufficient resources are dedicated to accurate measurement and evaluation, enabling organizations to make informed decisions based on the outcomes achieved.

(k) *How much time and effort do you estimate it takes to measure the business benefits of a digital transformation?*

Measuring the business benefits of a digital transformation is a process that requires time and effort to gather and analyse data accurately. The survey responses provide insights into the estimated time frames organizations typically allocate for this task.

Table 4.3.15
Time taken to measure benefits

How much time and effort do you estimate it takes to measure the business benefits of a digital transformation?	Number
1-3 months	19
More than 12 months	17
6-12 months	17
3-6 months	17
Less than 1 month	10
Grand Total	**80**

Source: Kota (2023).

Approximately 12.5% of respondents indicated that they could measure the business benefits in less than one month. This suggests that these organizations have efficient data collection processes and robust measurement methodologies in place, enabling them to swiftly assess the impact of the digital transformation initiatives. 24% estimated that it takes between 1 and 3 months to measure the business benefits. This time frame allows for a more comprehensive analysis of the outcomes achieved, considering various metrics and indicators to assess the overall impact. Furthermore, 21% mentioned a timeframe of 3 to 6 months, indicating a more in-depth evaluation of the business benefits. This duration allows organizations to capture a broader range of data, conduct thorough analysis, and ensure a comprehensive understanding of the transformation's effects.

Similarly, 21% reported allocating 6 to 12 months to measure the business benefits. This suggests a more extensive evaluation process, involving multiple stakeholders and comprehensive data analysis to accurately gauge the outcomes achieved. Lastly, an additional 21% mentioned that measuring the business benefits takes more than 12 months. This timeframe indicates organizations with complex transformation initiatives that require a longer period to gather and analyse data, considering the potential long-term impacts on the business.

These findings highlight the varying timeframes organizations estimate for measuring the business benefits of digital transformation. The duration can depend on factors such as the scope and complexity of the initiatives, the availability of data, and the depth of analysis required. Allocating sufficient time and effort ensures a thorough assessment of the benefits, enabling organizations to make informed decisions and continuously optimize their digital transformation efforts.

4.4 Research Question Three

The third research question was the following:

Have traditional measuring methods helped CFOs evaluate the business value of IT spending? Can a unified framework help with the governance of IT spend?

When it comes to assessing the business value of IT spending for CFOs, conventional measurement techniques have their limitations. The value and impact of IT efforts on the organization may not be fully captured by these methodologies, which frequently concentrate on financial indicators like return on investment (ROI) or cost

savings. Investments in IT now serve as strategic enablers of business innovation and transformation rather than just being cost centers. CFOs are now aware of the necessity for a more thorough and all-encompassing method of assessing the economic value of IT spending. This strategy considers non-financial aspects, including customer happiness, operational effectiveness, and competitive advantage, in addition to financial measures.

The two-part research question is as follows: First, have conventional measurement techniques helped CFOs assess the commercial value of IT spending? Second, can the adoption of a unified framework help with IT spend governance by offering a thorough review strategy that considers both financial and non-financial factors? This study intends to improve CFOs' capacity to evaluate business value and optimize budget allocation for IT initiatives by assessing the shortcomings of conventional measuring methods and investigating the possible advantages of a unified framework. A summary of the analysis of the responses is presented in the sections below, and the details of the mapping are included in Appendix B.

(b) What are your CFO/CXO expectations when it comes to measuring the benefits of digital business transformation projects?

The expectations of CFOs/CXOs regarding the measurement of benefits in digital business transformation projects are crucial for aligning goals and ensuring effective evaluation. The survey responses shed light on the key expectations expressed by these executives.

Table 4.4.1
CFO/CXO expectations for measuring benefits

What are your CFO/CXO expectations when it comes to measuring the benefits	Number

of digital business transformation projects?	
Clear and measurable KPIs	44
Timely and accurate data	14
Real-time tracking of benefits realization	13
Consistent methodology across all projects	5
What is the end state?	1
In my current role I do not have visibility to comment.	1
Implement cutting-edge technologies through cost effective strategies.	1
All the above	1
Grand Total	**80**

Source: Kota (2023).

Approximately 18% of respondents highlighted the importance of timely and accurate data. CFOs/CXOs expect the availability of up-to-date information that is reliable and enables informed decision-making. Timeliness ensures that the data used for measuring benefits is relevant and reflects the current state of the transformation initiatives. 55% emphasized the significance of clear and measurable KPIs. CFOs/CXOs expect well-defined metrics that align with the organization's strategic objectives and allow for a quantifiable assessment of the achieved benefits. Clear KPIs enable a focused evaluation and enable tracking progress against predefined targets. Moreover, 16% of respondents mentioned the expectation for real-time tracking of business benefits. CFOs/CXOs seek visibility into the transformation outcomes on an ongoing basis, enabling them to proactively identify any deviations, make informed decisions, and drive continuous improvement. Additionally, 6% of respondents highlighted the importance of a consistent

methodology across projects. CFOs/CXOs expect a standardized approach for measuring benefits to ensure comparability and facilitate effective decision-making across different digital transformation initiatives.

These findings underscore the expectations of CFOs/CXOs regarding the measurement of benefits in digital business transformation projects. Timely and accurate data, clear and measurable KPIs, real-time tracking, and consistent methodologies are key factors that CFOs/CXOs consider crucial for evaluating the success and impact of digital transformation initiatives. By meeting these expectations, organizations can align their measurement practices with the strategic objectives of the leadership team and ensure a robust assessment of the benefits achieved.

(c) Do you have a formal process for identifying and tracking digital transformation benefits and returns on investment?

The survey revealed varying levels of formal processes for identifying and tracking digital transformation benefits and returns on investment among the respondents.

Table 4.4.2
Formal process for identifying and tracking benefits

Do you have a formal process for identifying and tracking digital transformation benefits and returns on investment?	Number
Yes	38
Unsure	21
No	21
Grand Total	**80**

Source: Kota (2023).

A significant portion of 48% affirmed having a formal process in place, indicating a structured approach to measuring and monitoring the benefits and ROI of their digital transformation initiatives. However, 26% of the respondents indicated that they do not have a formal process, which may indicate a lack of established procedures or frameworks for identifying and tracking the benefits and ROI of digital transformation initiatives. It's important for organizations in this group to consider implementing such processes to ensure a clear understanding of the value generated and to guide decision-making and resource allocation effectively. Another 26% expressed uncertainty about whether they have a formal process, suggesting a low level of awareness regarding the adoption of such practices. This highlights the need for increased education and awareness about the importance of formal processes for tracking digital transformation benefits and ROI.

Overall, these findings emphasize the significance of establishing formal processes to identify and track the benefits and ROI of digital transformation initiatives, as it enables organizations to measure their progress and make informed strategic decisions.

(d) In your experience, how often does your organization use a standard framework for assessing the business value of digital transformation programs? If your organization has adopted a standard framework how effective has it been?

When it comes to using a standard framework for assessing the business value of digital transformation programs, the survey results offer valuable insights.

Table 4.4.3
Use of standard frameworks for assessing value delivered

In your experience, how often does your organization use a standard framework for assessing the business value of digital transformation programs?	Number

Often	38
Sometimes	28
Always	9
Rarely	5
Grand Total	**80**

Source: Kota (2023).

Only a small percentage of 11% reported always utilizing a standard framework, indicating a high level of consistency in assessing the business value of their digital transformation initiatives. A majority of 47% stated that they often use a standard framework, indicating a frequent adoption of a structured approach to evaluate business value. This demonstrates a proactive effort to incorporate standardized methodologies in assessing the impact of digital transformation programs. Furthermore, 35% mentioned that they sometimes use a standard framework, suggesting a variable or ad-hoc approach to assessing business value, potentially depending on the specific circumstances or nature of the digital transformation initiatives.

Table 4.4.4
Effectiveness of standard frameworks

If your organization has adopted a standard framework how effective has it been?	Number
Somewhat effective	47
Very effective	16
Unsure/No opinion	12
Not very effective	5
Grand Total	**80**

Source: Kota (2023).

When respondents were asked about the effectiveness of the adopted standard framework, 20% rated it as very effective, indicating a strong positive impact in evaluating the business value of digital transformation programs. Additionally, 59% found it somewhat effective, suggesting a positive impact, albeit with some room for improvement. A small portion of 6% considered it not very effective, highlighting potential challenges or limitations in the effectiveness of the standard framework. Notably, 15% expressed uncertainty or had no opinion regarding the effectiveness of the adopted framework.

These findings emphasize the importance of standard frameworks in assessing the business value of digital transformation programs. While a significant percentage reported frequent usage, there is an opportunity for organizations to further enhance the effectiveness of the adopted frameworks to ensure a more comprehensive evaluation of business value and drive informed decision-making.

Confidence in the accuracy of ROI calculations is crucial for organizations when evaluating the success and impact of digital transformation projects. The survey responses provide insights into the level of confidence expressed by respondents regarding these calculations.

Table 4.4.5
Confidence on accuracy of the ROI calculations

How confident are you in the accuracy of the ROI calculations for digital transformation projects?	Number
Somewhat confident	32
Neutral	28
Very confident	19

Somewhat not confident	1
Grand Total	**80**

Source: Kota (2023).

Approximately 24% of respondents indicated that they are very confident in the accuracy of ROI calculations for digital transformation projects. This suggests that these organizations have robust methodologies in place, supported by reliable data and comprehensive analysis, which instils a high level of trust in their ROI calculations.

40% of respondents expressed that they are somewhat confident in the accuracy of ROI calculations. While not reaching the highest level of confidence, these organizations still have a reasonable level of trust in the calculations, indicating that they have processes and mechanisms in place to ensure a reasonably accurate assessment of ROI.

35% of respondents maintained a neutral stance, neither expressing high confidence nor lacking confidence in the accuracy of ROI calculations. This could indicate a need for further evaluation or a desire to refine their measurement practices to enhance confidence in the results.

A small percentage, 1% of respondents, reported being somewhat not confident in the accuracy of ROI calculations. This suggests that these organizations may have identified limitations or challenges in their calculation methods or data sources that impact their confidence level.

Overall, the survey findings reveal a range of confidence levels in the accuracy of ROI calculations for digital transformation projects. While a significant proportion expresses at least some level of confidence, there is still a need for organizations to

continuously evaluate and refine their measurement practices to improve accuracy and strengthen confidence in ROI calculations. By ensuring reliable data sources, robust methodologies, and regular validation, organizations can enhance the accuracy and reliability of their ROI calculations, enabling them to make informed decisions and effectively assess the outcomes of their digital transformation efforts.

(f) What are the most significant challenges that you face when measuring the business value of digital transformation initiatives?

Measuring the business value of digital transformation initiatives poses several significant challenges, as highlighted by the survey responses. These challenges can impact organizations' ability to effectively evaluate the outcomes and impact of their transformation efforts.

The most prominent challenge, identified by 58% of respondents, is in defining and quantifying the benefits of the digital transformation initiatives. It can be difficult to clearly articulate and quantify the tangible and intangible benefits brought about by these initiatives, making it challenging to measure their overall value accurately. Additionally, 66% of respondents face a challenge due to a lack of data or metrics to measure the impact of the digital transformation. Without reliable data and appropriate metrics, organizations struggle to assess the true effects of their initiatives and track progress against defined objectives. Another significant challenge, identified by 55% of respondents, is the difficulty in isolating the impact of digital transformation from other factors. Many variables can influence business performance, making it complex to attribute specific outcomes solely to the digital transformation initiatives.

Measuring non-financial benefits of the program also presents challenges for 55% of respondents. While financial metrics are more easily quantifiable, capturing and evaluating intangible benefits such as improved customer experience or employee satisfaction can be more elusive. Adjusting the measurement approach during the program is a challenge faced by 26% of respondents. As digital transformation initiatives evolve, measurement approaches must also adapt to capture new insights and align with changing goals and objectives.

Aligning digital transformation initiatives with business strategy and goals is another challenge, noted by 25% of respondents. Ensuring that transformation efforts are tightly integrated with the broader organizational strategy can be complex, requiring careful planning and alignment. Resistance from employees or stakeholders is identified as a challenge by 34% of respondents. Overcoming resistance and obtaining buy-in from key stakeholders is crucial for successful measurement and evaluation of digital transformation initiatives.

Lastly, 25% of respondents highlighted the lack of necessary talent and skills as a challenge. Effective measurement requires expertise in data analysis, metrics development, and evaluation methodologies, and the absence of these skills can hinder accurate measurement and assessment.

These challenges underscore the complexities associated with measuring the business value of digital transformation initiatives. Overcoming these hurdles requires a combination of clear objective-setting, robust data collection, defining appropriate metrics, and fostering a culture of measurement and evaluation within organizations. By addressing

these challenges head-on, organizations can enhance their ability to assess the impact and value derived from their digital transformation efforts.

g) What are the limitations of using a standard framework for assessing the business value of digital transformation programs?

Using a standard framework for assessing the business value of digital transformation programs offers several advantages, but it's essential to acknowledge the limitations highlighted by the survey participants.

Table 4.4.6
Limitation of standard framework

What are the limitations of using a standard framework for assessing the business value of digital transformation programs?	Number
Lack of standardization across industries / micro-verticals / business functions	30
Inability to capture unique benefits of individual organizations	16
Difficulty in measuring intangible benefits	14
Difficulty in aligning the framework with business goals and objectives	12
Limited flexibility to adapt to changing business needs	8
Grand Total	**80**

Source: Kota (2023).

Approximately 37.50% noted a significant limitation as the lack of standardization across industries, micro-verticals, and business functions. Each sector has distinct operational contexts and objectives, making it challenging for a single framework to comprehensively capture the diverse benefits specific to each area.

Around 20.00% emphasized that the inability of a standard framework to capture the unique benefits of individual organizations is a limitation. Organizations have varying

strategies, cultures, and transformation goals, which can lead to benefits that are not effectively accounted for within a generic framework. Another limitation, mentioned by 17.50% of participants, is the difficulty in measuring intangible benefits. While tangible benefits are quantifiable, intangibles like improved customer satisfaction or enhanced brand reputation are often more complex to measure within a standardized framework.

For 15.00% of respondents, the challenge lies in aligning the framework with the distinct business goals and objectives of an organization. Each digital transformation initiative is undertaken to achieve specific outcomes and ensuring that the framework accurately represents these goals can be intricate. Finally, 10.00% highlighted the limitation of limited flexibility to adapt. Businesses and their transformation strategies evolve, and rigid frameworks might not readily accommodate these changes, potentially hindering accurate assessment.

These limitations underscore the importance of considering both the benefits and constraints when using a standard framework for assessing the business value of digital transformation programs. While standardization promotes consistency, organizations should also tailor the framework to their unique context, seek ways to quantify intangibles, ensure alignment with objectives, and maintain flexibility to adapt to the dynamic nature of digital transformations.

h) How do you address the limitations of using a standard framework for assessing the business value of digital transformation programs in your organization?

Addressing the limitations of using a standard framework for assessing the business value of digital transformation programs requires a thoughtful and strategic approach. The survey responses shed light on the strategies organizations employ to overcome these limitations.

Table 4.4.7
Approach to address the limitations of standard frameworks

How do you address the limitations of using a standard framework for assessing the business value of digital transformation programs in your organization?	Number
Develop a customized framework for assessing the business value of digital transformation programs	44
Supplement the standard framework with additional measures and metrics	20
Modify the framework to better capture unique benefits of the organization	12
None of the above	4
Grand Total	**80**

Source: Kota (2023).

55.00% of respondents indicated that they address these limitations by developing a customized framework tailored to the unique needs of their organization. This approach acknowledges the individual characteristics of the business, ensuring that the framework accurately reflects its specific goals, operations, and transformation initiatives. 25.00% of respondents mentioned supplementing the standard framework with additional measures and metrics. This strategy involves incorporating supplementary indicators that are relevant to the organization's context, enhancing the framework's ability to capture a comprehensive view of the business value.

15.00% of participants reported modifying the standard framework to better capture the unique benefits of their organization. This approach involves adjusting the framework's

components, metrics, or methodologies to align more closely with the specific outcomes and goals of the digital transformation initiatives. 5.00% of respondents indicated that their organization has not adopted any of the above strategies to address the limitations of a standard framework, suggesting that these organizations may still be exploring ways to effectively overcome these challenges.

These findings highlight the proactive approaches organizations take to overcome the limitations of using a standard framework for assessing the business value of digital transformation programs. By customizing frameworks, supplementing with additional measures, or modifying components, organizations can ensure a more accurate and comprehensive assessment of the impact and outcomes of their digital transformation initiatives.

i) What challenges do you anticipate in adopting and implementing a standard framework?

Anticipating challenges in adopting and implementing a standard framework for assessing the business value of digital transformation programs is crucial for effective execution. The survey responses provide insights into the challenges organizations might face.

Table 4.4.8
Challenges anticipated in adoption of standard frameworks

What challenges do you anticipate in adopting and implementing a standard framework?	Number
Difficulty in aligning the framework with business goals and objectives	27
Resistance to change from existing governance practices	25
Limited resources or budget for implementation and maintenance	16

Lack of support from leadership or stakeholders	12
Grand Total	**80**

Source: Kota (2023).

33.75% of respondents expressed concern about the difficulty in aligning the framework with their business goals and objectives. Ensuring that the framework accurately reflects the unique transformation goals of the organization and provides relevant insights can be complex. 31.25% of respondents highlighted potential resistance to change from existing governance practices. Introducing a new framework may disrupt established practices, and overcoming resistance and fostering buy-in from stakeholders can be challenging.

Additionally, 20.00% noted limited resources or budget for implementation and maintenance as a potential challenge. Developing, implementing, and maintaining a framework requires financial and human resources, and resource constraints can hinder effective adoption. Lastly, 15.00% indicated a potential lack of support from leadership or stakeholders. Gaining commitment and understanding from key decision-makers is essential for successful implementation, and a lack of support can impede the framework's adoption.

These findings underscore the importance of addressing potential challenges in adopting and implementing a standard framework. Organizations should prioritize aligning the framework with their goals, fostering stakeholder buy-in, allocating adequate resources, and securing leadership support to ensure a smooth and effective adoption process.

4.5 Summary of Findings

This section will present a summary of the findings from the three study questions. Each of the research questions will be addressed one by one. Furthermore, because this is a summary, the research questions will be answered in a more concise and holistic manner.

Regarding research question one, the retailer digital transformation initiatives and its impact to long term IT and business goals and measuring the relationship between these initiatives and financial performance. In the analysis of global retail rankings for 2022 and 2023, changes in the rankings both positive and negative were observed. These shifts in rankings indicate that the retail landscape is dynamic and subject to various influences, including changes in consumer behaviour, market dynamics, and the effectiveness of retailers' strategies. Upon analysis of more granular financial metrics such as Revenue, Financial Health, Cash Flow, and Operating Efficiency, it became evident that there were differential performances across these metrics, and these contributed to the overall performance of each retailer. However, attributing these differential performances directly to specific transformation initiatives and quantifying their actual impact in percentage terms presented challenges due to the visibility of retailer internal KPIs.

While measuring the relationship between digital transformation and financial performance is crucial, several challenges exist, including the absence of standardized metrics, time lag in outcomes, complexity of attribution, and the impact of qualitative factors. These challenges can be overcome by developing a customized measurement frameworks that align with specific business goals, aligned with industry-specific benchmarks, and considers both quantitative and qualitative aspects of digital success.

This framework would serve as a structured approach to define, measure, and analyse this interrelationship. While direct attribution in percentage terms may be challenging, a comprehensive evaluation can provide valuable insights into the overall success of digital initiatives and their contribution to a retailer's competitiveness and growth. It will enable CFOs to make well-informed decisions that align their digital transformation efforts with their financial objectives, ultimately contributing to sustainable growth and competitiveness in the market.

Regarding research question two, a structured online survey was shared to understand the fundamental ROI methods adopted and challenges faced by practitioners in measuring business value and impact of the digital transformation initiatives. Eighty responses to the survey questionnaire were analysed. 97% of respondents believed a KPI framework was extremely important to measure the business benefits of the transformation programs. Only 12% of respondents had achieved their expected business benefits from the transformations, while 32% had only partially achieved them. Around 60% of respondents adopted TCO method to evaluate the business benefits, 11% adopted NPV and 10% adopted nontraditional methods like NPS, Balance score card and CSAT to measure the business benefits. 44% of respondents conduct a periodic industry benchmarking exercise and 51% reported using automated tools and dashboards enabling efficient data collection and real-time monitoring of the key metrics.

Approximately 50% allocated 5-10% of the project effort and time to measuring and assessing the benefits and 21% indicated a 6–12 month time frame to measure the business benefits. A majority of 51% reported the use of external consultants or advisors to

assist in the evaluation of business benefits and 35% reported implementing a consistent methodology for selecting and implementing KPI across these transformation initiatives.

Regarding research question three, the survey responses were analysed to understand if traditional measuring methods helped CFOs evaluate the business value of IT spending? Also, can a unified framework help with the governance of IT spend?

55% of the respondents shared that their CFOs expect clear, measurable well-defined metrics that align with the organization's strategic objectives and enable focussed evaluation and tracking against predefined targets. 48% of the respondents indicated they have a formal structured process while 26% were unsure and 26% had no formal process for measuring and monitoring the benefits and ROI of the digital transformations. A standard framework to measure business value was adopted by 47%, while 35% suggested an ad hoc approach to assessing business value. On effectiveness of a standard framework, only 20% found them very effective, while 59% suggested the standards were somewhat effective and had room for improvement. 35% of respondents maintained a neutral stance, neither expressing high confidence nor lacking confidence in the accuracy of ROI calculations, while 24% of respondents indicated that they are very confident.

When asked about the challenges faced, 58% of respondents identified that defining and quantifying the benefits of the digital transformation initiatives was a challenge, 66% of respondents faced a challenge due to a lack of data or metrics to measure the impact of the digital transformation and for 55% of respondents it was difficulty in isolating the impact of digital transformation from other factors. Measuring non-financial benefits of the program also presents challenges for 55% of respondents. A significant limitation

identified by 37.5% of respondents was the lack of standardization across industries, micro-verticals, and business functions and 20.00% emphasized that the inability of a standard framework to capture the unique benefits of individual organizations. Regarding challenges in adoption of standard frameworks, 33.75% of respondents expressed concern about the difficulty in aligning the framework with their business goals and objectives, while 31.25% of respondents highlighted potential resistance to change from existing governance practices.

4.6 Conclusion

In this chapter, the results from the research were presented. Three research questions were individually evaluated. The first research question was related to whether retailers digitial transformation initiatives improved business processes and met their long-term IT objectives. Also, if the relationship between digital transformation projects and retailer financial performance can be quantified? The second research question was related to the value management and ROI methods adopted and challenges faced by practioners in analysing and measuring the business benefits delivered. The third and last research question was to understand if traditional measurement methods were beneficial and whether a unified framework can help with the governance of IT spend.

Each of the questions were elaborated with the findings of the research. The first question was a quantiative analysis of the financial statements, while the second and third questions were a summary of the survey findings. In the next chapter, a discussion of the

results of the research is discussed and the findings from the individual research will be further evaluated.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

In this chapter, the discussion of results, presented in the previous chapter, will be presented and evaluated in detail. As a reminder to the reader, each of the research questions will be stated at the beginning of the sections, similar to the results chapter. The research questions will be addressed one by one, and the findings for each of them will be evaluated separately, along with discussions from a more general and holistic perspective.

5.2 Discussion of Research Question One

The first research question was the following:

Have retailers' digital transformation projects enhanced certain business processes and achieved their long-term IT and business goals? How can the relationship between digital transformation initiatives and the financial performance of the retailer be measured?

This research delves into the improvements achieved in business processes and the alignment with long-term IT and business objectives through these initiatives. Moreover, the study seeks to establish a quantifiable relationship between retailers' financial performance and the business strategies associated with their digital transformations.

The research question was approached with 3 perspectives namely, (a) Performance analysis and metrics evaluation; (b) Business strategies and digital transformation initiatives; (c) Correlation between market factors, retailer strategies, and financial performance.

The global rankings published in the Global powers of retailing report (Deloitte 2023) and Global powers of retailing report (Deloitte 2022) was the basis for the sample selection. The table 5.2.1.a below summarizes the changes in ranking in the different bands ranging from 0-100+ and table 5.2.1.b summarizes the global rankings change heat map.

Table 5.2.1.a
Global ranking change

Verticals / Range	<0	0	0-5	6-10	11-15	16-20	21-25	26-50	51-100	100+	Total
Apparel, Footwear & Speciality			3	3	1	1	1	5	1	1	16
Club, Wholesale	2	1									3
Department Store			1	2		1			2		6
Discount	3		1								4
Drug store/ pharmacy	2	1									3
Electronics	2		1								3
Home Improvement		3									3
Hyper Market	3	2	1								6
No Store/Online		1					2				3
Supermarket	5	1									6
Total	**17**	**9**	**7**	**5**	**1**	**2**	**3**	**5**	**3**	**1**	**53**

Source: Kota (2023).

Table 5.2.1.b
Global rankings change heat map

Retail Verticals	<0	0	0-5	6-10	11-15	16-20	21-25	26-50	51-100	100+
Apparel, Footwear & Speciality	0%	0%	19%	19%	6%	6%	6%	31%	6%	6%
Club, Wholesale	67%	33%	0%	0%	0%	0%	0%	0%	0%	0%

Department Store	0%	0%	17%	33%	0%	17%	0%	0%	33%	0%
Discount	75%	0%	25%	0%	0%	0%	0%	0%	0%	0%
Drug store/ pharmacy	67%	33%	0%	0%	0%	0%	0%	0%	0%	0%
Electronics	67%	0%	33%	0%	0%	0%	0%	0%	0%	0%
Home Improvement	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Hyper Market	50%	33%	17%	0%	0%	0%	0%	0%	0%	0%
No Store/Online	0%	33%	0%	0%	0%	0%	67%	0%	0%	0%
Supermarket	83%	17%	0%	0%	0%	0%	0%	0%	0%	0%
Total	32%	17%	13%	9%	2%	4%	6%	9%	6%	2%

Source: Kota (2023).

Apparel, Footwear and Specality retailers were the maximum sample size of 16 and it was observed that all of them had an improvement in their ranking with 1 new entrant in the list Bath & Body Works, Inc at rank 151. 5 (31%) of these category of retailers had a significant change in their rankings with a range of 26-50 improvements. On the contrary, out of the Supermarkets selected for the sample, 5 (83%) had negative change in their rankings. Another interesting observation was the Home improvement retailers selected for the study, all 3 (100%) had retained their rankings from the previous year. All 6 of the department stores also recorded a positive change in their rankings over last year, with 2 of them moving up by 51-100. Table 5.2.1.c illustrates the ranking and revenue change.

Table 5.2.1.c
Retailers with high revenue growth%

Sub-Vertical	Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Apparel, Footwear & Speciality	Ross Stores, Inc.	61	85	24	18,916	12,532	51%	8.00%
Apparel, Footwear & Speciality	Ulta Beauty, Inc	138	179	41	8,372	5,967	40%	12.70%
Apparel, Footwear & Speciality	Bath & Body Works, Inc.	151	-	151	7,882	6435	22.5%	15.40%
Apparel, Footwear & Speciality	Signet Jewelers Limited	155	208	53	7,757	5,197	49%	4.00%
Apparel, Footwear & Speciality	lululemon athletica inc.	196	239	43	6,257	4,402	42%	21.70%

Apparel, Footwear & Speciality	Kering S.A.	69	95	26	16,898	11,296	50%	15.40%
Apparel, Footwear & Speciality	JD Sports Fashion Plc	107	141	34	11,391	7,696	48%	30.20%
Apparel, Footwear & Speciality	Hermès International SCA	120	164	44	9,663	6,657	45%	14.40%
Department Store	Burlington Stores, Inc	125	190	65	9,322	5,764	62%	10.80%
Department Store	Dillard's, Inc	186	242	56	6,431	4,213	53%	1.00%
No Store/Online	Williams-Sonoma, Inc.	139	161	22	8,246	6,783	22%	10.20%
No Store/Online	Zalando SE	101	122	21	12,241	9,097	35%	23.30%

Source : Global powers of retailing 2022 and 2023.

It was observed that the top movers had registered significant revenue growth % with a high of 62% in the case of Burlington Stores, Inc. a department store and a minimum of 22% for online retailer, Williams-Sonoma, Inc. All these retailers achieved a healthy componded annual growth rate (CAGR) for the years 2016-21. In comparison, 17 retailers across different sub-verticals like Supermarket, Hypermarket, Electronics, Discount stores, Clubs and Pharmacy had registered a lower ranking from the previous year and it was observed that most of them had very low revenue growth rates and few had registered a negative growth. The table 5.2.1.d illustrates the ranking and revenue change.

Table 5.2.1.d
Retailers with low revenue growth%

Sub-Vertical	Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Club, Wholesale	Metro AG	48	44	-4	24,620	24,277	1%	-8.80%
Club, Wholesale	BJ's Wholesale club Holdings Inc.	72	64	-8	16,667	15,430	8%	6.20%
Discount	Dollar General Corporation	33	32	-1	34,220	33,747	1%	9.30%
Discount	Dollar Tree Inc.	44	40	-4	26,321	25,509	3%	4.90%
Discount	Big Lots, Inc	199	173	-26	6,151	6,199	-1%	3.40%
Drug store/ pharmacy	Walgreens Boots Alliance, Inc.	8	7	-1	1,22,045	1,17,705	4%	4.70%
Drug store/ pharmacy	Rite Aid Corporation	66	62	-4	17,495	16,365	7%	-8.20%
Electronics	Best Buy Co, Inc.	22	20	-2	51,761	47,262	10%	5.60%
Electronics	Curry's PLC	89	78	-11	13,777	13,624	1%	-0.40%

Hyper Market	LobLaw Companies Limited	27	25	-2	41,683	38,663	8%	2.90%
Hyper Market	J Sainsbury PLC	30	27	-3	40,414	36,997	9%	2.70%
Hyper Market	Casino GuichardPerrachon S.A.	31	28	-3	36,117	36,370	-1%	-3.20%
Supermarket	The Albertsons	18	16	-2	71,887	69,690	3%	3.80%
Supermarket	Metro Inc.	85	79	-6	14,456	13,376	8%	7.40%
Supermarket	Ahold Delhaize	13	12	-1	89,381	85,177	5%	3.90%
Supermarket	Spar Holding AG	77	72	-5	14,979	13,864	8%	6.10%
Supermarket	Colruyt Group	122	113	-9	9,562	9,756	-2%	2.40%

Source : Global powers of retailing 2022 and 2023.

To further understand the performance of these companies beyond revenue growth, financial ratios were analyzed for the last five years (2018-2022) and these metrics included revenue, financial health, cash flow, and operating efficiency. The purpose was to assess how these companies were faring in terms of their financial stability and operating effectiveness. It was observed that the performance of these companies varied across key ratios like Operating income growth, Current ratio, Debt Equity, Cash Flow/Sales, Operating margin, Net margin, Return on asset, Days inventory, inventory turnover. There were variances across years and it was evident that these differential performances reflect the success of company strategies. For example, revenue growth may reflect the sales and marketing strategies, while cash flow can indicate liquidity and financial stability strategies.

The table 5.2.1.e below is a snapshot of the performance ranking of the retailers based on the financial ratios. The data sets for reference are 2018 and 2022 and the KPI ranking is for 2022, all ranks were calculated within the sub-vertical of the retailer in the selected sample. It is evident from analysis of the additional financial ratios and KPIs that companies have not been consistent in their performance across the different metrics which

is a likley outcome of their business strategies, operational efficiencies, technology investments and other market conditions that have influenced their results.

Table 5.2.1.e
Retailer KPI ranking summary

Retail Sub-Vertical	Retail Company	Rank 2018	Rank 2022	Revenue Rank	Financial Health Rank	Cash Flow Rank	Operating Efficiency Rank
Apparel, Footwear & Speciality	Ross Stores, Inc.	4	9	10	7	11	4
Apparel, Footwear & Speciality	Ulta Beauty, Inc	8	6	6	11	7	3
Apparel, Footwear & Speciality	Bath & Body Works, Inc.	6	3	13	2	6	2
Apparel, Footwear & Speciality	Signet Jewelers Limited	10	7	7	8	2	10
Apparel, Footwear & Speciality	lululemon athletica inc.	2	2	2	3	3	1
Apparel, Footwear & Speciality	Kering S.A.	3	8	8	9	4	8
Apparel, Footwear & Speciality	JD Sports Fashion Plc	6	5	1	6	8	9
Apparel, Footwear & Speciality	Hermès International SCA	1	1	3	1	1	2
Department Store	Burlington Stores, Inc	1	2	1	2	5	2
Department Store	Dillard's, Inc	5	1	2	1	1	1
No Store/Online	Williams-Sonoma, Inc.	2	1	2	2	1	1
No Store/Online	Zalando SE	3	2	2	1	2	2

Source: Kota (2023).

A review of the retailers´ business strategies and digital transformations inititives over these years was conducted to gain insights into the nature and scope of these efforts and how the retailers were rapidly adapting to the changing digital landscape accelerated post the pandemic in 2020. The findings highlight a range of business process

improvements resulting from retail digital transformation projects, including enhanced customer engagement, streamlined inventory management, personalized marketing, and optimized operational efficiency.These transformations align with long-term IT and business goals, such as improved agility, innovation, and competitiveness in the evolving market landscape.

Quantifying the relationship between financial performance and digital transformation activities presents challenges, but several approaches can be employed. By leveraging a combination of qualitative insights and quantitative data analysis, retailers can gain a deeper understanding of the tangible and intangible benefits of their digital transformation efforts and make informed decisions in the ever evolving retail landsape.

5.3 Discussion of Research Question Two

The second research question was the following:

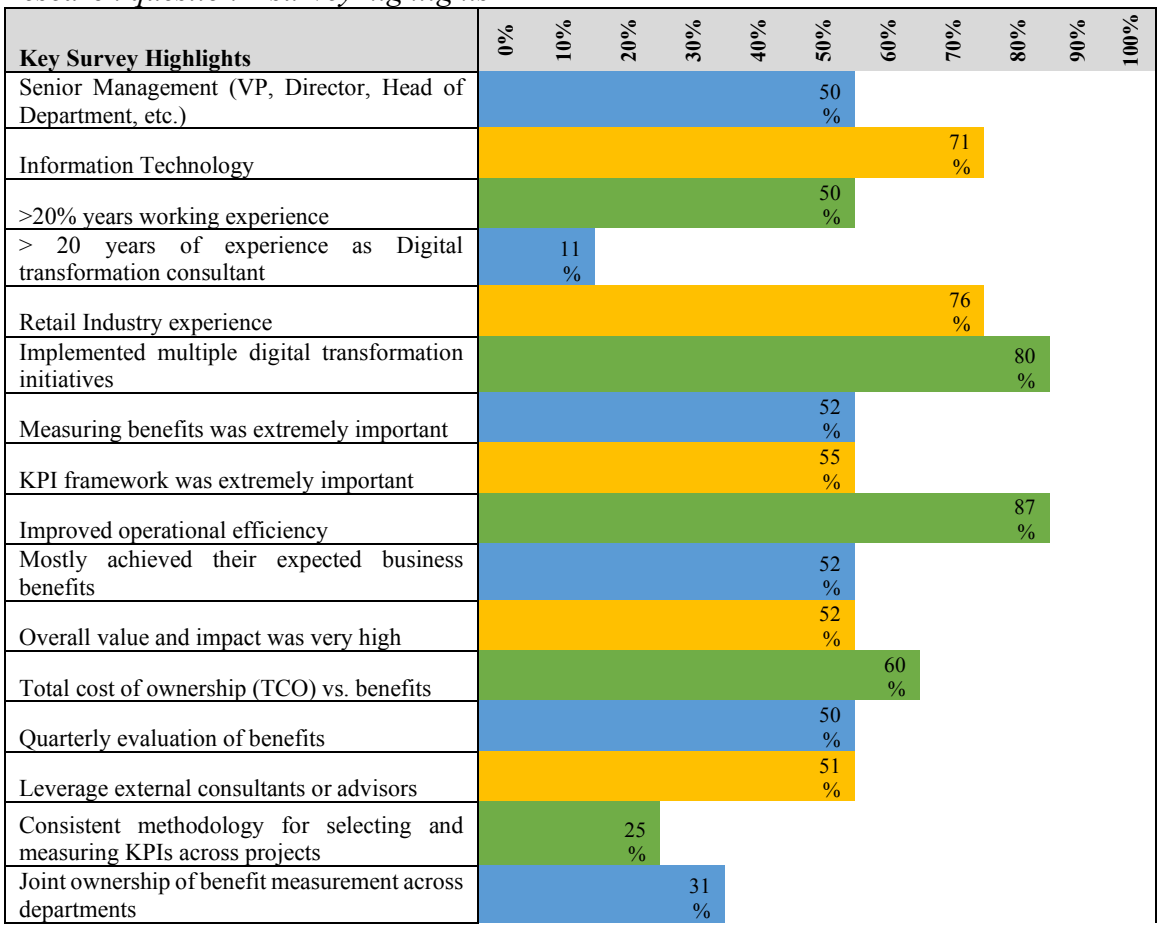
What are the most fundamental value management and ROI methods used in retail digital transformation initiatives? What are the difficulties that practitioners of digital transformation have in evaluating and measuring the business value and impact of these initiatives?

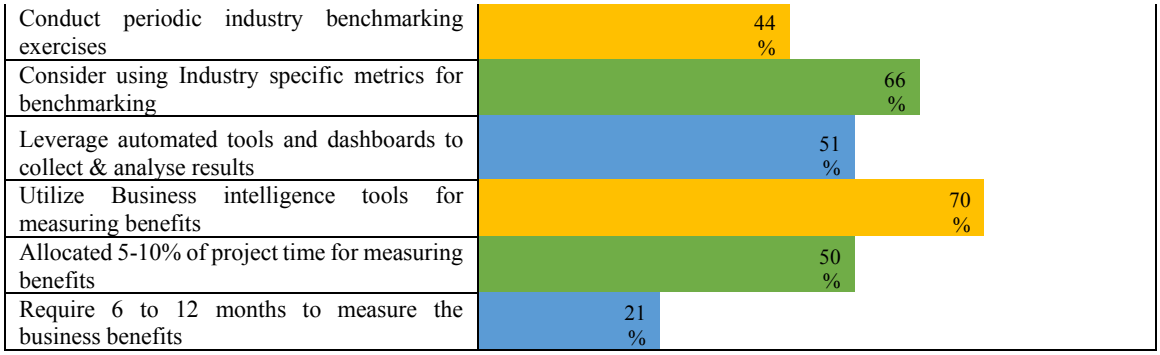
The digital era has ushered in a transformative wave, prompting retailers' to embark on digital transformation initiatives to stay competitive and relevant. The management and assessment of the business impact and ROI of these initiatives have become critical concerns for practitioners. This research question explores the methodologies employed in

assessing the business value and impact of digital transformation initiatives, while also uncovering the difficulties that practitioners encounter in this process.

The findings reveal a diverse range of fundamental value management and ROI methods employed across organizations, such as TCO, cost-benefit analysis, balanced scorecards. While these methods offer valuable insights, practitioners encounter significant challenges in evaluating and measuring the business value and impact of digital transformation initiatives. The table 5.3.1 below summarizes the key takeaways from the survey respondend by 80 practioners who are engaged in digital transformations.

Table 5.3.1
Research question 2 survey highlights





Source: Kota (2023).

In conclusion, most of the practitioners who responded to the survey represented the IT industry with transformation experience primarily in Retail besides other cross domain capabilities. They believed KPI framework was extremely important in measuring the business benefits of the transformations. Majority believed these transformations achieved their business benefits, and the overall value and impact was high. TCO stood out as a primary option for ROI decisions, they adopted a quarterly review of these benefits and leveraged external consultants to work with them to measure the performance.

The lack of consistent methodology for defining and measuring KPIs and low % of joint ownership between IT and cross functional departments in defining these KPIs was reported. While industry benchmarking exercises are conducted, this is limited to a smaller base which is a result of the emerging technology adoption with limited peers to compare and benchmark against and there is reliance on advisory firms and technology partners to share the outcomes of their initial pilots and proof of concepts to take decisions. There is a good adoption of analytical tools and dashboards to measure the KPIs and implementing automation to generate these data seamlessly. Considering the nature of the projects, an average of 6-12 months was required to adequately measure the benefits post

implementation and it took them 5-10% of the project duration to establish strong methods and processes to measure the KPIs identified as an outcome of the transformation initiative.

5.4 Discussion of Research Question Three

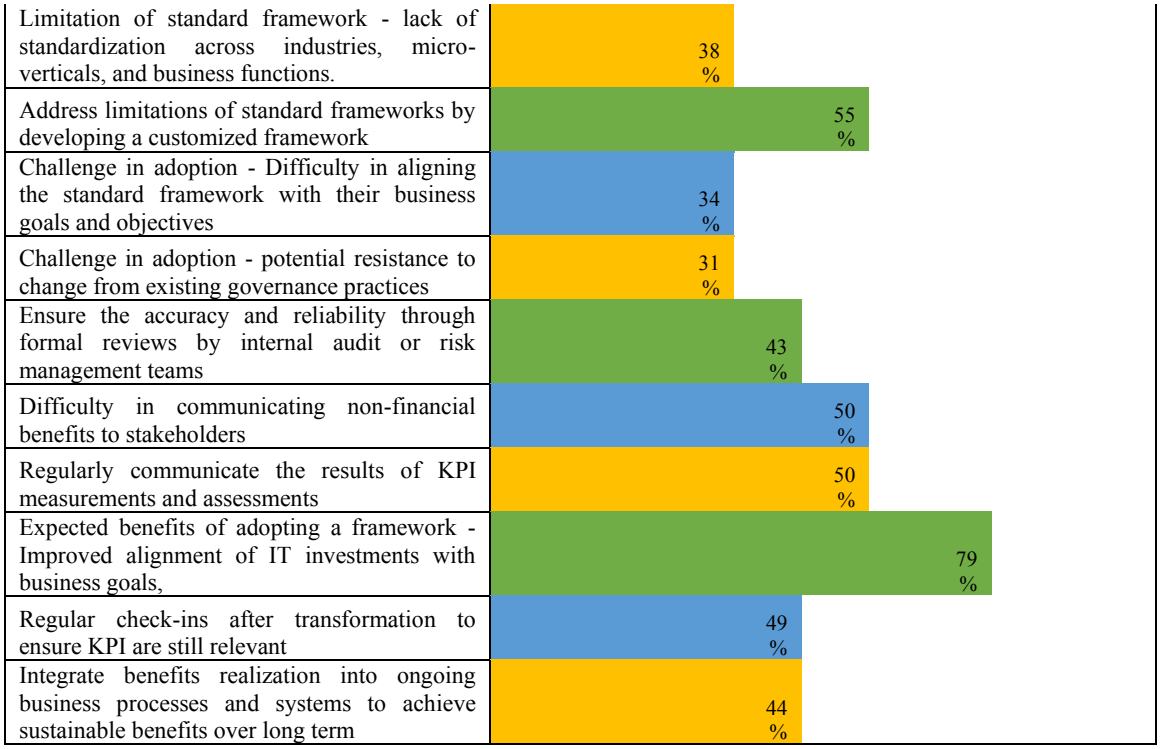
The third research question was the following:

Have traditional measuring methods helped CFOs evaluate the business value of IT spending? Can a unified framework help with the governance of IT spend?

The role of CFOs in evaluating the business value of IT spending has become increasingly critical in the modern business landscape. This research question examines whether CFOs have effectively assessed the business value of IT investments through conventional measurement techniques. Furthermore, the research explores the potential benefits and feasibility of implementing a uniform framework to enhance the oversight of IT expenditure. The table 5.4.1 below summarizes the key highlights of the survey responses from the practioners of digital transformations.

Table 5.4.1
Research question 3 survey highlights

Key Survey Highlights	0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
CFOs/CXOs expect clear and measurable KPIs	55 %
Have a formal process for identifying and tracking digital transformation benefits?	48 %
How often is a standard framework used for assessing the business value?	47 %
Found a standard framework to be very effective	20 %
Expressed high degree of confidence in the accuracy of ROI calculations	24 %
Key challenge - Defining and quantifying the benefits of the digital transformation initiatives	58 %
Difficulty in isolating the impact of digital transformation from other factors	55 %



Source: Kota (2023).

CFOs often use conventional techniques, and these techniques may not effectively capture the full range of IT's impact, particularly its strategic, innovation-driven, and intangible benefits, which are crucial in today's digital age. A uniform framework could provide standardized metrics and measurement methodologies, ensuring consistent evaluation of IT spending across different projects and organizations. This comprehensive assessment framework might incorporate a balanced set of financial and non-financial metrics considering both short-term and long-term financial gains and strategic impact of these initiatives. A uniform framework could help ensure that IT expenditure is directly aligned with the organization's strategic goals and priorities. A framework could enable more informed decision-making on IT investments, resource allocation, and risk management.

There are few challenges and considerations in adopting a standard framework. Organizations vary in terms of industry, size, and complexity, which might make it challenging to create a one-size-fits-all framework. Quantifying intangible benefits and accounting for the contextual differences between projects can be complex. Also, implementing a uniform framework may require changes in organizational culture, data collection practices, and reporting structures. Another key challenge is the framework needs to be flexible enough to accommodate evolving technologies and market dynamics. A very important observation is that availability of accurate and reliable data is crucial for effective implementation of any framework.

In conclusion, the evaluation of the business value of IT spending by CFOs adopting conventional measurement techniques face limitations in capturing the full spectrum of IT's impact. A uniform framework has the potential to enhance oversight of IT expenditure by providing standardized metrics, promoting comprehensive assessment, and aligning IT investments with strategic goals.

5.5 Smart Gems - Suggested framework for benefits evaluation

The following section establishes the relevance of a framework as outcome of this research for measuring the business benefits of digital transformation initiatives. Digital transformation initiatives often involve significant investments over a period in technology, infrastructure, and process reengineering. A well-structured framework allows businesses to quantify and track the impact of these investments, ensuring that the resources allocated to digital transformation are justified by tangible returns. These

initiatives often span multiple departments, processes, and touch points within a company. A comprehensive framework brings cohesion to the assessment process, enabling businesses to evaluate the collective impact of digital transformation efforts across various aspects of the organization. A framework also enables companies to measure the benefits and ROI. Therefore, they can identify areas of success, pinpoint potential bottlenecks, and make data-driven adjustments to maximize the effectiveness of their digital transformation strategies.

Figure 6 is an illustration of the Smart Gems framework, an outcome of the research study that combines the key elements of enterprise focus areas, emphasizing the importance of strategic alignment, agility, results-driven approach, and continuous improvement to achieve transformational excellence and growth. The Smart Gems framework empowers businesses to navigate the complexities of digital transformation by providing a clear roadmap for success.

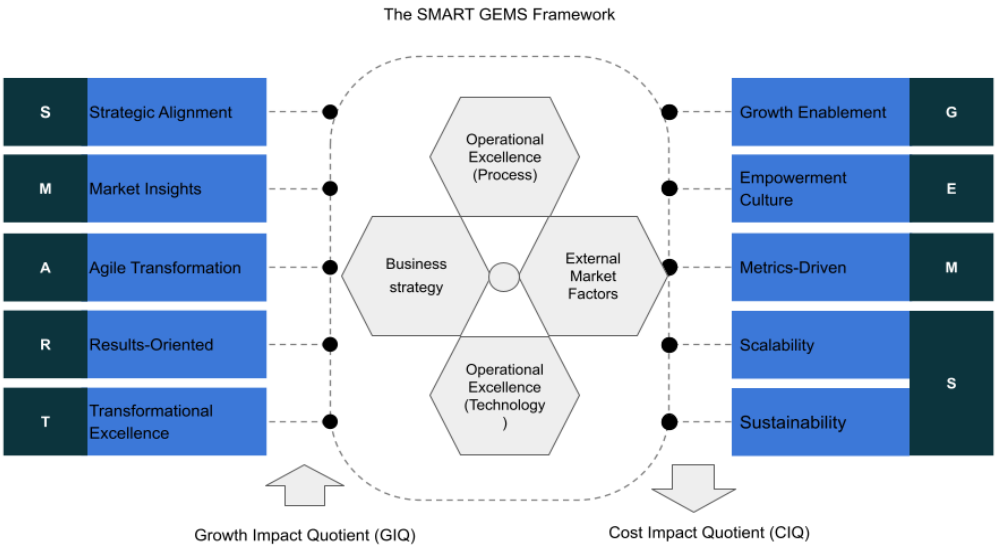


Figure 6: Smart Gems framework.

Source: Kota (2023).

The key tenets of the framework are:

- Strategic Alignment: Aligning Operational Excellence and Business Strategy.
- Market Insights: Analysing External Market Factors for Strategic Decision-making.
- Agile Transformation: Emphasizing Operational Excellence through Process and IT Enablement.
- Results-Oriented: Measuring Metrics and Performance for Continuous Improvement.
- Transformational Excellence: Achieving Business Goals through Synergy and Innovation.
- Growth Enablement: Leveraging External Market Factors and Business Strategy for Growth.
- Empowerment Culture: Encouraging Excellence and Innovation across the Organization.
- Metrics-Driven: Utilizing Data and Metrics to Drive Operational and Strategic Excellence.
- Scalability and Sustainability: Building Resilience for Long-term Business Success.

The framework provides a foundation for understanding the potential impact of key factors on company growth and the actual relationship between these factors and relevance to the overall measurement of benefits of these digital transformation initiatives. The four pillars of influence are (i) External Market Factors (EMF), (ii) Business Strategy (S), (iii)

Operational Excellence -Process enabled (OE-P) and (iv) Operational Excellence - IT enabled (OE-T).

OE(Process) represents the influence of Operational Excellence achieved through process improvements, reduction of inefficiencies, and optimization of operations. OE(Tech) represents the influence of Operational Excellence achieved through technology-enabled processes and solutions, such as automation, digital transformation, and IT infrastructure improvements. S represents the influence of the company's strategic decisions, encompassing product/service offerings, market targeting, mergers and acquisitions, and overall business approach. EMF represents the influence of external market factors, including changes in market demand, economic conditions, competitor actions, regulatory environment, and other external influences.

The following table 5.5.1 summarizes a sample list of KPI across the retail value chain, with impact to Top line or Bottom line and influences by OE-P, OE-T, EMF, and S. Top line impact refers to the effect of a company's strategy or business decision on revenues or sales. Strategies that expand market share, introduce new revenue streams or stores, or other initiatives to boost sales are considered top line impact. Bottom line impact, on the other hand, measures the effect of these decisions on the net profit or net income or net profit. These typically include strategies that involve cost reduction, efficient resource allocation and profit maximization.

Table 5.5.1.a
Value Chain and KPI metric impact

Value Chain Stage	**KPI Metric**	**Impact**	**Category**
Omni-channel Ops	Customer Satisfaction Score	Top Line Impact	OE-P

Omni-channel Ops	Percentage Increase in Total Sales	Top Line Impact	EMF
Omni-channel Ops	Percentage Increase in Revenue from New Digital Channels	Top Line Impact	EMF
Omni-channel Ops	Customer Retention Rate	Top Line Impact	S
Supply Chain	On-Time Delivery Percentage	Top Line Impact	OE-P
Supply Chain	Logistics Cost as a Percentage of Revenue	Bottom Line Impact	OE-P
Supply Chain	Average Order Fulfilment Time	Top Line Impact	OE-P
Supply Chain	Stockout Rate	Top Line Impact	OE-P
Supply Chain	Warehouse Utilization Rate	Bottom Line Impact	OE-P
Supply Chain	Transportation Cost per Unit	Bottom Line Impact	OE-P
Sourcing and Procurement	Savings in Sourcing Spend	Bottom Line Impact	S
Sourcing and Procurement	Percentage of Fulfilment Delays	Top Line Impact	OE-T
Sourcing and Procurement	Average Inventory Cost	Bottom Line Impact	OE-T
Sourcing and Procurement	Days of Inventory on Hand	Bottom Line Impact	OE-P
Merchandising	Time to Launch New Products	Top Line Impact	S
Merchandising	Revenue from New Product Launches	Top Line Impact	EMF
Merchandising	Cross-Sell/Up-Sell Conversion Rate	Top Line Impact	OE-T
Merchandising	Sales Forecast Accuracy	Top Line Impact	OE-T
Marketing & Customer Experience	Digital Marketing Budget Efficiency	Bottom Line Impact	OE-T
Marketing & Customer Experience	Marketing Cost as a Percentage of Revenue	Bottom Line Impact	OE-P

Marketing & Customer Experience	Trade Spend Efficiency	Bottom Line Impact	OE-T
Marketing & Customer Experience	Sales Cycle Time	Top Line Impact	OE-P
Marketing & Customer Experience	Customer Acquisition Cost	Bottom Line Impact	S
Marketing & Customer Experience	Customer Lifetime Value	Top Line Impact	S
Marketing & Customer Experience	Customer Churn Rate	Top Line Impact	S
Stores	Customer Satisfaction with In-store Experience	Top Line Impact	OE-T
Stores	Sales per Square Foot	Top Line Impact	OE-P
Stores	Inventory Accuracy	Bottom Line Impact	OE-P
Stores	Store Conversion Rate	Top Line Impact	OE-T
Stores	Average Basket Size	Top Line Impact	OE-T
Stores	Same Store Sales Growth	Top Line Impact	OE-P

Source: Kota (2023).

The following section explains in detail the KPI and financial impact. For comparison between financial years – Current year (CY) and Previous year (PY) values for the particular variables are considered.

A. EMF represent external variables influencing the company's growth. Some metrics to measure this include:

- Percentage Increase in Total Sales

The formula to calculate the metric is:

$$\frac{CY\ total\ sales - PY\ total\ sales}{PY\ total\ sales} \times 100$$

Interpretation: Higher sales volume indicates market demand, product popularity, and business growth potential. The percentage increase in total sales reflects the growth in revenue compared to the previous year. For example, if a company's total sales in the current year (CY Sales) are $1,200,000, and the total sales in the previous year (PY Sales) were $1,000,000, the percentage increase in total sales would be 20%

- Percentage Increase in Revenue from New Digital Channels

  The formula to calculate the metric is:

$$\frac{CY\ digital\ channels\ revenue - PY\ digital\ channels\ revenue}{PY\ digital\ channels\ revenue} \times 100$$

  Interpretation: Increased revenue from online/digital sales channels reflects successful digital marketing efforts and expansion into new markets. The percentage increase in revenue from new digital channels represents the growth in sales specifically attributed to online/digital platforms. For example, if a company's revenue from new digital channels in the current year (CY Revenue) is $500,000, and the revenue from new digital channels in the previous year (PY Revenue) was $400,000, the percentage increase would be 25%

- Revenue from new product launches

  The formula to calculate the metric is:

$$\sum CY\ total\ revenue\ from\ new\ launches\ in\ the\ year$$

Interpretation: New product revenue contributes to overall revenue growth and diversification of offerings. This is incremental revenue generated from successful business strategies implemented during the year. For example, if a new product generates $100,000 in revenue in its first year, the financial impact would be an incremental $100,000 of revenues for the financial year.

B. Business Strategy (S) metrics encompass key performance indicators that align with the company's strategic objectives. Some metrics to measure this include:

- Customer Retention Rate

  The formula to calculate the metric is:

$$\frac{Number\ of\ customer\ at\ end\ of\ CY - New\ customers\ acquired\ during\ CY}{Number\ of\ customers\ at\ start\ of\ the\ CY} \times 100$$

  Interpretation: Improved customer retention reduces customer churn, reduces customer acquisition costs, and fosters customer loyalty. The financial impact of higher customer retention rate would be a reduction in customer acquisition costs and an increase in revenue from retained customers over their lifetime.

- Savings in Sourcing Spend

  The formula to calculate the metric is:

$$Sourcing\ Spend\ in\ PY - Sourcing\ Spend\ in\ CY$$

  Or alternatively as a %

$$\frac{Sourcing\ Spend\ in\ PY - Sourcing\ Spend\ in\ CY}{Sourcing\ spend\ in\ PY} \times 100$$

Interpretation: Cost savings in sourcing spend contribute to improved profitability and cost-effective procurement. For instance, if the company achieves $50,000 in cost savings from sourcing initiatives, the financial impact would be $50,000.

- Customer Acquisition Cost

  The formula to calculate the metric is:

$$\frac{Total\ Cost\ of\ acquisition\ cost}{Total\ number\ of\ new\ customers\ acquired}$$

  Interpretation: Lower customer acquisition cost leads to improved profitability and cost-effective customer acquisition. Lower costs associated with acquiring new customers improve profitability. If the customer acquisition cost is $200 and optimizing customer acquisition processes reduces the cost by 10%, the financial impact would be (10% * $200) = $20 per customer.

- Customer Lifetime Value

  The formula to calculate the metric is:

  $Average\ Purchase\ Value\ \times Average\ Purchase\ frequency\ \times Customer\ Lifespan$

  Average purchase value is the average value of a customer's purchase. It is calculated as follows:

$$\frac{Total\ revenue}{Total\ number\ of\ customers}$$

  Average purchase frequency is how often, on average a customer makes a purchase within a given time frame. It is calculated as follows:

$$\frac{Total\ number\ of\ purchases}{Number\ of\ unique\ customers}$$

Customer life span is on average, how long a customer is engaged with the business. This can be number of years based on customers purchase history.

Interpretation: Increased customer lifetime value results from strong customer relationships and repeat business. Increased revenue from long-term customer relationships. For example, if the average customer lifetime value is $10,000 and improving customer retention increases the lifetime value by 5%, the financial impact would be (5% * $10,000) = $500 per customer.

- Customer Churn Rate

  The formula to calculate the metric is:

$$\frac{Customers\ lost\ during\ the\ CY\ or\ Period}{Total\ customers\ at\ the\ start\ of\ the\ CY\ or\ Period} \times 100$$

  Interpretation: Reducing customer churn rate increases customer retention and potential revenue from loyal customers. Reduced revenue loss from customer attrition. For instance, if the average revenue per customer is $1,000 and reducing customer churn by 5% leads to retained revenue, the financial impact would be (5% * $1,000) = $50 per customer.

C. Operational Excellence (Process Enabled) refers to how well a company executes its core operations, reduces inefficiencies, and optimizes processes with some reliance on technology. Some metrics to measure this include:

- Customer Satisfaction Score

  The formula to calculate the metric is:

$$\frac{\sum Individual\ satisfaction\ ratings}{Total\ number\ of\ respondents}$$

Or alternatively

$$\frac{Number\ of\ satisfied\ customers}{Total\ customers\ surveyed} \times 100$$

Interpretation: Higher customer satisfaction leads to increased customer loyalty, repeat business, and positive word-of-mouth, which can result in higher revenue and customer retention. Additional revenue generated from improved customer satisfaction is compared to the baseline. For example, if a X% increase in customer satisfaction results in a Y% increase in revenue, assuming a direct correlation, however there are other factors such as customer retention, customer lifeline value that also contribute to the growth.

- On-Time Delivery Percentage

  The formula to calculate the metric is:

$$\frac{Number\ of\ orders\ delivered\ on\ time}{Total\ number\ of\ orders} \times 100$$

  Interpretation: Improved on-time delivery enhances customer satisfaction, repeat business, and reduces costs associated with rework and penalties. Improving on-time delivery can lead to higher customer satisfaction and potential cost savings from avoiding penalties. For instance, if the company incurs an average of $1,000 in penalties per month due to late deliveries and improves on-time delivery by 10%, the financial impact would be (10% * $1,000) = $100 per month.

- Logistics Cost as a Percentage of Revenue

  The formula to calculate the metric is:

$$\frac{Logistics\ cost\ for\ CY}{Total\ Revenue\ for\ CY} \times 100$$

This should be compared with PY or period for any positive or negative impact.

Interpretation: Lower logistics cost as a percentage of revenue indicates improved operational efficiency and cost management. Lower logistics costs as a percentage of revenue indicate improved cost management. If the logistics cost is $50,000 and the revenue is $1,000,000, the logistics cost % is 5% and for the subsequent period it is $60,0000 for revenue of $1,500,000, the logistics cost % has dropped to 4%

- Average Order Fulfilment Time

  The formula to calculate the metric is:

$$\frac{Total\ Time\ taken\ to\ fulfil\ orders}{Total\ number\ of\ orders}$$

  Interpretation: Faster order fulfilment improves customer satisfaction, potentially leading to higher sales and customer loyalty. Faster order fulfilment can lead to increased customer satisfaction and potential revenue growth. For example, if the average order value is $500 and reducing the order fulfilment time by one day increases the number of orders by 50 per month, the financial impact would be (50 orders * $500) = $25,000 per month.

- Stockout Rate

  The formula to calculate the metric is:

$$\frac{Number\ of\ stockouts}{Total\ number\ of\ items} \times 100$$

Interpretation: Reducing stock outs ensures customer satisfaction and prevents potential revenue loss from unmet demand. Reducing stockout rate ensures customer satisfaction and prevents potential revenue loss from unmet demand. For instance, if the average revenue per product is $50 and the company experiences stockouts on 100 products per month, the financial impact would be (100 products * $50) = $5,000 per month.

- Warehouse Utilization Rate

  The formula to calculate the metric is:

$$\frac{Used\ warehouse\ space}{Total\ warehouse\ space} \times 100$$

  Interpretation: Efficient warehouse utilization reduces storage costs and ensures optimal use of available space. Efficient warehouse utilization reduces storage costs and contributes to improved profitability. If the total warehouse space cost is $100,000 and optimizing warehouse utilization reduces space usage by 10%, the financial impact would be (10% * $100,000) = $10,000.

- Percentage of Fulfilment Delays

  The formula to calculate the metric is:

$$\frac{Number\ of\ Delays}{Total\ orders} \times 100$$

  Interpretation: Reducing fulfilment delays enhances customer satisfaction and loyalty, resulting in potential repeat business and positive word-of-mouth. Improving fulfilment delays can enhance customer satisfaction and potential cost savings from avoiding penalties. If the company incurs an average of $500 in

penalties per month due to fulfilment delays and reduces delays by 5%, the financial impact would be (5% * $500) = $25 per month.

- Sales Cycle Time

  The formula to calculate the metric is:

$$\frac{Total\ Time\ taken\ to\ close\ a\ sale}{Total\ number\ of\ sales}$$

  Interpretation: Reduced sales cycle time increases sales turnover and improves cash flow. Reduced time to complete a sale leads to higher sales turnover. For example, if the average sales cycle time in the current year is 30 days and the average order value is $1,000, the financial impact would be (30/365 * $1,000) = $8.22. This means that the company generated an additional $8.22 in revenue per day by reducing the sales cycle time.

- Average Inventory Cost

  The formula to calculate the metric is:

$$\frac{Total\ inventory\ cost}{Total\ number\ of\ inventory\ units}$$

  Alternatively, the cost can be calculated as

$$\frac{Total\ Cost\ of\ Goods\ sols}{Total\ number\ of\ days\ in\ period - CY}$$

  Interpretation: Lower average inventory cost reflects efficient inventory management and cost control. Lower average inventory cost reflects efficient inventory management and cost control. For example, if the average inventory cost

is $10,000 and reducing it by 10% leads to cost savings, the financial impact would be (10% * $10,000) = $1,000.

- Days of Inventory on Hand

  The formula to calculate the metric is:

$$\frac{Average\ Inventory\ value}{Cost\ of\ Goods\ Sold} \times 365$$

  Interpretation: Reducing days of inventory on hand improves cash flow, reduces holding costs, and enhances working capital management. Reducing days of inventory on hand improves cash flow and reduces holding costs. If the average daily cost of goods sold is $5,000 and reducing days of inventory on hand by 5 days, the financial impact would be (5 days * $5,000) = $25,000.

- Transportation Cost per Unit

  The formula to calculate the metric is:

$$\frac{Total\ transportation\ cost}{Total\ units\ transported}$$

  Interpretation: Lower transportation costs reduce overall expenses and contribute to increased profitability. Lower transportation costs per unit reduce overall expenses and contribute to increased profitability. For example, if the company ships 10,000 units per month and reduces transportation costs by $1 per unit, the financial impact would be (10,000 units * $1) = $10,000 per month.

- Marketing Cost as a Percentage of Revenue

  The formula to calculate the metric is:

$$\frac{Total\ marketing\ Cost}{Total\ revenue} \times 100$$

Interpretation: Lower marketing cost as a percentage of revenue indicates cost-effective marketing strategies. Lower marketing costs as a percentage of revenue indicate efficient marketing operations. For instance, if the company spends $100,000 on marketing and the revenue is $1,000,000, and the marketing cost percentage decreases from 10% to 8%, the financial impact would be ($1,000,000 * (10% - 8%)) = $20,000.

- Time to Launch New Products

  The formula to calculate the metric is:

  $$Date\ of\ product\ launch\ -Date\ of\ product\ conceptualization$$

  Interpretation: Faster time-to-market allows the company to capture market opportunities early and generate revenue sooner. Faster time-to-market increases revenue potential and competitive advantage. For instance, if a new product generates $50,000 in revenue per month and reduces time to launch by one month, the financial impact would be $50,000.

- Same Stores Sales Growth

  The formula to calculate the metric is:

  $$\frac{CY\ store\ sales - PY\ store\ sales}{PY\ store\ sales} \times 100$$

  Interpretation: Positive same stores sales growth indicates improved store performance and potential revenue increase. Positive same stores sales growth indicates improved store performance and potential revenue increase. For example,

if the revenue from same stores in the current year is $2,000,000 and there is a 5% increase compared to the previous year, the financial impact would be (5% * $2,000,000) = $100,000.

D. Operational Excellence (IT Enabled):

Operational Excellence (IT Enabled) involves leveraging technology and digital solutions to optimize business processes. Some metrics to measure this include:

- Sales Forecast Accuracy

  The formula to calculate the metric is:

$$\frac{\sum Absolute\ forecast\ errors}{\sum Actual\ sales} \times 100$$

where absolute forecast errors is calculated as follows:

$$\sum (Actual\ sales - forecasted\ sales)\ for\ each\ data\ point\ (months\ or\ categories)$$

  Interpretation: Improved sales forecast accuracy enhances inventory management, reduces excess inventory costs, and prevents stockouts. More accurate sales forecasts lead to better inventory management and cost savings. If improved forecast accuracy reduces excess inventory by $50,000, the financial impact would be $50,000.

- Digital Marketing Budget Efficiency or Marketing Efficiency ratio (MER)

  The formula to calculate the metric is:

$$\frac{Revenue\ from\ Digital\ channels}{Digitial\ marketing\ budget} \times 100$$

  Interpretation: Digital Marketing Budget Efficiency measures the effectiveness of the digital marketing budget in generating revenue from digital channels. It

signifies that the company is using its resources efficiently and effectively in digital marketing campaigns, resulting in cost savings while still driving substantial revenue from these channels.

- Cross-Sell/Up-Sell Conversion Rate

  The formula to calculate the metric is:

$$\frac{Number\ of\ customers\ who\ accepted\ cross-sell/up-sell\ offers}{Total\ number\ of\ cross-sell/up-sell\ offers\ presented} \times 100$$

  Interpretation: Higher cross-sell/up-sell conversion rates lead to increased revenue from existing customers and better customer lifetime value. Increasing cross-sell/up-sell conversion rate generates additional revenue from existing customers. If the company achieves a 5% increase in conversion rate and the average customer spends $500, the financial impact would be (5% * $500) = $25 per customer.

- Average Basket Size

  The formula to calculate the metric is:

$$\frac{Total\ revenue}{Total\ number\ of\ transactions}$$

  Interpretation: Higher average basket size leads to increased revenue per transaction. Higher average basket size leads to increased revenue per transaction. For instance, if the average basket size is $100 and optimizing cross-selling and up-selling strategies increases the average basket size by 10%, the financial impact would be (10% * $100) = $10 per transaction.

- Store Conversion Rate %

The formula to calculate the metric is:

$$\frac{Number\ of\ transactions}{Total\ store\ visitors} \times 100$$

Interpretation: Improved store conversion rate indicates better sales effectiveness and potential revenue growth. Improved store conversion rate indicates better sales effectiveness and potential revenue growth. For example, if the average customer spends $50 and increasing the store conversion rate by 5% leads to more transactions, the financial impact would be (5% * $50) = $2.50 per customer.

- Trade Spend Efficiency

  The formula to calculate the metric is:

$$\frac{Revenue\ from\ promotion - \ Promotion\ cost}{Promotion\ cost} \times 100$$

  Interpretation: Efficient trade spending leads to better promotion ROI and increased revenue from trade promotions. Improved return on investment from trade promotion activities leads to increased revenue. If optimizing trade spend increases revenue by $50,000, the financial impact would be $50,000.

- Sales per Square Foot

  The formula to calculate the metric is:

$$\frac{Total\ Store\ Sales}{Total\ Store\ space\ (Sq.ft.)}$$

  Interpretation: Increased sales per square foot indicates improved store performance and utilization of retail space. Increased sales per square foot indicates improved store performance and utilization of retail space. If the average revenue

per square foot is $200 and optimizing store layout and merchandising increases sales by 10%, the financial impact would be (10% * $200) = $20 per square foot.

- Inventory Accuracy

  The formula to calculate the metric is:

$$\frac{Actual\ inventory\ count}{Recorded\ inventory\ count} \times 100$$

  Interpretation: Higher inventory accuracy improves order fulfilment and reduces costs associated with inventory discrepancies. Higher inventory accuracy improves order fulfilment and reduces costs associated with inventory discrepancies. If the average cost of resolving inventory discrepancies is $5,000 per month and improving inventory accuracy reduces discrepancies by 20%, the financial impact would be (20% * $5,000) = $1,000 per month.

- Customer Satisfaction with In-store Experience

  The formula to calculate the metric is:

$$\frac{Number\ of\ satisfied\ customers}{Total\ number\ of\ surveyed\ customers} \times 100$$

  Interpretation: Higher customer satisfaction with in-store experience leads to increased customer loyalty and positive word-of-mouth. Higher customer satisfaction with in-store experience leads to increased customer loyalty and positive word-of-mouth. For example, if the average customer lifetime value is $10,000 and improving in-store customer satisfaction increases customer retention by 5%, the financial impact would be (5% * $10,000) = $500 per customer.

In modern business operations, processes and IT are often closely intertwined. IT systems play a vital role in streamlining and optimizing various processes, enabling businesses to achieve operational excellence. IT-enabled metrics are intrinsically linked to achieving operational excellence and both these KPIs contribute to business success and the alignment with strategic objectives. This framework provides a comprehensive overview of how different metrics and KPIs align with the distinct categories of Operational Excellence (Process Enabled and IT Enabled), External Market Factors, and Business Strategy. It can be a useful tool for Business CXOs to assess and optimize the company's performance, identify areas for improvement, and align business decisions with strategic objectives.

5.5.1 Growth Impact Quotient and Cost Impact Quotient

The figure 7 below shows the interwoven relationship between the Growth Impact quotient (GIQ) and the Cost Impact quotient (CIQ).

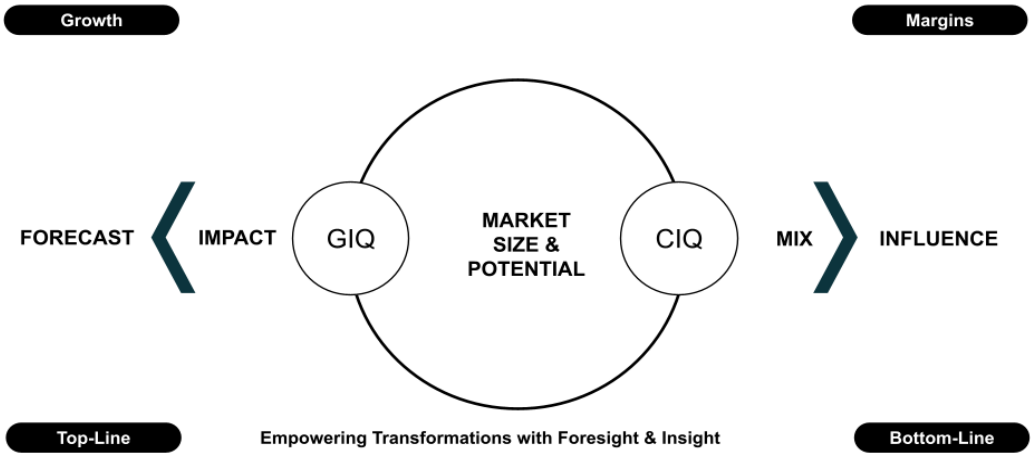


Figure 7: Growth impact & Cost impact relationship.

Source: Kota (2023).

The Growth Impact Quotient (GIQ) is designed to assess the potential impact of key factors on a company's top-line growth. By incorporating Operational Excellence (Process and Tech), Strategy (S), and External Market Factors (EMF) through the respective exponents (a, b, c, d), the GIQ enables businesses to quantitatively evaluate the contributions of each factor to the overall growth. This approach leverages historical data and scenario modelling to project growth drivers accurately and prioritize strategic initiatives effectively. The GIQ empowers decision-makers to make informed choices, optimize resource allocation, and design growth strategies tailored to the unique dynamics of their organization. By aligning performance metrics with the GIQ, businesses can unlock valuable insights into the factors that fuel growth, thereby propelling them toward sustained success in a competitive market landscape.

The formula to calculate the GIQ metric is:

$$k \times (S^a) \times (EMF^b) \times (OEP^c) \times (OET^d)$$

GIQ is the Growth Impact Quotient, representing the potential impact of Operational Excellence (Process and Tech), Strategy (S), and External Market Factors (EMF) on the company's growth.

k is a constant factor representing the overall growth potential. a, b, c, and d are exponents that represent the respective impact of each factor on the company's growth.

The Cost Impact Quotient (CIQ) enables businesses to assess the potential impact of Operational Excellence (Process and Tech), Strategy (S), and External Market Factors (EMF) on the company's bottom-line performance. With corresponding exponents (a', b',

c', d'), the CIQ quantifies the influence of each factor on cost optimization and profitability. By combining historical data analysis and predictive modelling, the CIQ facilitates the identification of cost drivers and highlights areas for improvement, leading to enhanced cost efficiency and financial performance. Through the CIQ, organizations can gain deeper insights into the factors shaping their cost structures, enabling them to make data-driven decisions, streamline operations, and enhance overall profitability. By focusing on cost optimization strategies that align with the CIQ, businesses can achieve sustainable financial growth and maintain a competitive advantage in their industry.

The formula to calculate the CIQ metric is:

$$k1 \times (S^{a1}) \times (EMF^{b1}) \times (OEP^{c1}) \times (OET^{d1})$$

Where:

CIQ is the Cost Impact Quotient, representing the potential impact of Operational Excellence (Process and Tech), Strategy (S), and External Market Factors (EMF) on the company's cost and bottom line.

k' is a constant factor representing the overall cost impact potential. a', b', c', and d' are exponents that represent the respective impact of each factor on the company's cost and bottom line.

The individual KPIs impact on growth is determined by raising the corresponding impact factor (β1, β2, β3, or β4) to the power of its exponent (z1, z2, z3, or z4), respectively. Each KPI is represented by the formula $((1 + \beta)^z)$, where β is the impact factor and z are the exponent. To calculate the impact factor (β) and exponent (z), historical data for the KPI

over a specific period, such as three years, is analysed. The following is the formula for the KPI impact calculations as an example for Strategy and KPI 1 to n.

S.KP1= $(1+\beta 1)^{z1} \times (1+\beta 1)^{z2} \times (1+\beta 1)^{z3} \ldots \times .. (1+\beta 1)^{zn}$

S.KP2 = $(1+\beta 2)^{z1} \times (1+\beta 2)^{z2} \times (1+\beta 2)^{z3} \ldots \times .. (1+\beta 2)^{zn}$

S.KPn = $(1+\beta n)^{z1} \times (1+\beta n)^{z2} \times (1+\beta n)^{z3} \ldots \times .. (1+\beta n)^{zn}$

The calculations are done in a similar manner for the other for KPIs under EMF, OEP and OET.

NPV is a crucial financial metric used to assess the business benefit of an investment. It helps decision-makers evaluate the profitability of a project by comparing the present value of expected cash inflows to the initial investment and future cash outflows, discounted at a specified rate. In the context of leveraging GIQ and CIQ as the baseline and true cash flows, NPV enables a comprehensive evaluation of the project's potential returns. Figure 8 is an illustration of the financial impact and summarizes this relationship.

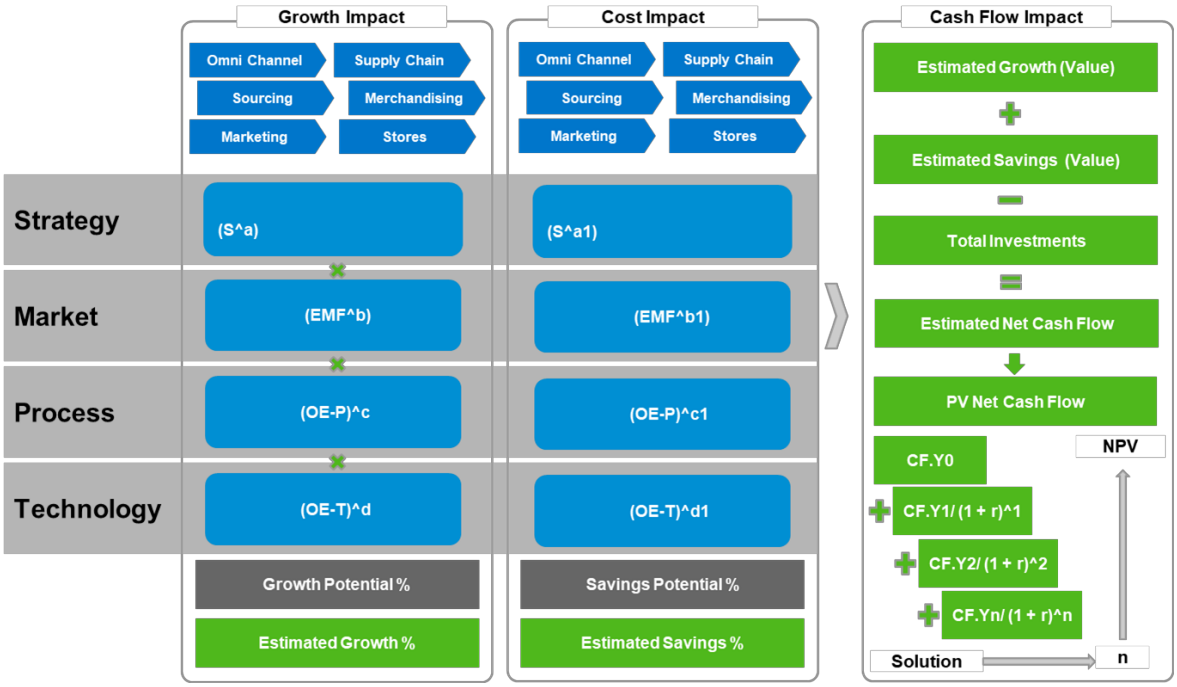


Figure 8: Overall financial impact.
Source: Kota (2023).

The table 5.5.1b below maps various technology solutions to specific areas in the retail value chain. Each solution is associated with typical durations for implementation and achieving ROI. The table also highlights the approach used for each technology, typical duration, and its applicability in the retail value chain. This is particularly relevant to understand the expected timelines to consider for the ROI calculations in the framework. The parameter "n," representing the number of periods in the cash flow analysis, also plays a significant role in determining the tenure of implementation and return on investment. "n" represents the time horizon over which the future cash flows will be discounted to their present value. The nature of the solution itself can influence the appropriate value of "n." Complex or transformative projects may have a longer implementation period, and their benefits may accrue over several years. In contrast, simpler or incremental projects may

have a shorter implementation period, leading to faster returns. the value of "n" impacts the tenure of implementation and return on investment. Projects with longer "n" may require more time and resources but offer potential for substantial returns over time, while projects with shorter "n" can provide faster payback and immediate gains. Careful consideration of the nature of the solution and the company's overall objectives is essential to determine the optimal value of "n" and ensure a successful investment outcome.

Table 5.5.1.b
Typical impact, duration of the projects and applicability

Solution	**Typical Duration for Implementation**	**Typical Duration for ROI**	**Approach**	**Applicability in Retail**
ERP	6 months to 3 years	1 to 3 years	Big Bang across Enterprise or Division	Omni-channel Operations, Supply Chain, Sourcing and Procurement
CRM	3 months to 2 years	6 months to 2 years	By Business Process / Function	Marketing & Customer Experience, Stores
IoT	6 months to 2 years	1 to 3 years	By Smaller Use Cases	Omni-channel Operations, Supply Chain
Blockchain	6 months to 2 years	1 to 3 years	By Business Process / Function	Supply Chain, Sourcing and Procurement

AI/ML	3 months to 1 year	6 months to 2 years	By Smaller Use Cases	Marketing & Customer Experience, Merchandising, Analytics
Robotics	6 months to 2 years	1 to 3 years	By Business Process / Function	Supply Chain, Sourcing and Procurement
AR/VR	3 months to 1 year	6 months to 2 years	By Business Process / Function	Marketing & Customer Experience, Stores
Analytics	3 months to 1 year	6 months to 2 years	By Business Process / Function	Omni-channel Operations, Merchandising, Marketing & CX
Computer Vision	3 months to 1 year	6 months to 2 years	By Business Process / Function	Stores
Cloud Computing	6 months to 2 years	6 months to 2 years	By Business Process / Function	All Business Functions
RPA	1 month to 6 months	3 months to 1 year	By Smaller Use Cases	Supply Chain, Sourcing and Procurement, Stores
Automation	3 months to 1 year	3 months to 1 year	By Smaller Use Cases	Supply Chain, Sourcing and Procurement

Drones	3 months to 18 months	3 months to 1 year	By Smaller Use Cases	Supply Chain, Stores

Source: Kota (2023).

The applicability of each solution to specific business functions in the retail industry can vary based on the retailer's unique requirements and goals. The table provides a general guideline, but it's essential to conduct a detailed analysis before making any decisions. Additionally, the implementation approach may also vary depending on the organization's structure, resources, and strategic objectives.

This framework can be highly useful for businesses to gain valuable insights into their growth dynamics, identify key drivers of growth, and make informed strategic decisions. Here are some of the benefits and applications of this framework:

Understanding Growth Drivers: The Growth Equation provides a conceptual model that helps businesses understand the potential influence of Operational Excellence (Process and Tech), Strategy, and External Market Factors on their growth. It highlights which factors have a more significant impact on growth and allows businesses to prioritize their efforts accordingly.

Quantitative Analysis: The framework incorporates quantitative analysis using historical data and statistical techniques such as regression analysis. This data-driven approach lends credibility to the framework's results and insights, making it more reliable for decision-making.

Strategic Decision Making: By understanding the relative contributions of each factor to growth, businesses can make data-driven strategic decisions. They can allocate resources more effectively, focus on areas with the highest growth potential, and adjust their strategies based on the identified growth drivers.

Scenario Planning: The framework allows businesses to conduct sensitivity analysis to explore different scenarios and their potential impact on growth. This helps in risk assessment and scenario planning, providing valuable insights for future contingencies.

Performance Evaluation: The framework enables businesses to evaluate the effectiveness of their strategies and initiatives. It helps them assess whether their investments in Operational Excellence (Process and Tech), Strategy, and addressing External Market Factors are yielding the expected results.

Identifying Areas for Improvement: The framework can highlight areas of improvement in the business. For example, if the analysis shows that Technology Investments have a significant impact on growth, businesses may identify opportunities to invest in innovative technologies and digital transformation to drive growth further.

Communicating with Stakeholders: The framework provides a clear and structured way to communicate growth drivers and the impact of various factors on company performance to stakeholders, including investors, board members, and senior management.

5.5.2 Limitations and Considerations:

While the framework is valuable, it also comes with some limitations and considerations:

Simplification: The growth equation is a simplified model and may not capture the full complexity of real-world growth dynamics, which are influenced by many interconnected factors.

Data Availability: The accuracy and reliability of the results depend on the availability and quality of historical data. Insufficient or inaccurate data can affect the validity of the framework's conclusions.

Context Dependency: The values of a, b, c, and d are context-dependent and may vary across industries, markets, and business conditions. Therefore, customization of the framework is essential for each specific business.

Qualitative Factors: The framework primarily focuses on quantitative metrics, and while it includes expert input, qualitative factors may also play a significant role in a company's growth.

Dynamic Nature: The business landscape is constantly evolving, and growth drivers can change over time. The framework needs to be regularly updated and recalibrated to remain relevant.

In conclusion, the framework provides a valuable and data-driven tool for businesses to assess growth drivers, evaluate their performance, and make informed decisions. However, it should be used alongside other tools, qualitative assessments, and expert judgment to form a comprehensive understanding of a company's growth dynamics.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

The purpose of this research was to understand the practices in measuring the business of digital transformations, their impact on business processes, short-term and long-term IT, and business goals, as well as the complexities surrounding the quantification of their effects on financial performance. The study aims to provide valuable insights that guide practitioners and decision-makers in navigating the challenges and opportunities presented by digital transformation initiatives.

To comprehensively examine these aspects, a mixed-methods approach combining qualitative and quantitative methodologies was employed. The qualitative phase involved administering an online survey with a total of 72 questions and analysing responses from 80 digital transformation practitioners in the industry to gather insights into the specific ROI methods adopted to measure and quantify improvements achieved in business processes, customer experience, supply chain efficiency, and other relevant areas as a result of digital transformation initiatives.

For the quantitative phase, financial statement analysis was undertaken to shed light on the complex topic of how to quantify the relationship between retailers' financial performance and their digital transformation operations. This research problem stems from the evolving nature of digital technologies, which makes traditional measurement techniques insufficient for capturing the holistic benefits of these initiatives. Over 50

retailers who are publicly listed and have operations in the USA, Canada, Europe, and the UK were part of this study. The relationship between investments made in digital transformation, ROI, and financial performance improvements is complex and multi-faceted. Analysing this relationship involves examining how investments in digital transformation initiatives translate into tangible, i.e., financial, and intangible, i.e., non-financial, benefits that contribute to improved financial performance. Due to the complexity of these initiatives, establishing a direct correlation between financial statements and research on digital transformation programs has proven difficult. Even though financial statements offer essential information about a company's success, the complex effects of digital transformation frequently go beyond the most obvious financial indicators.

The survey feedback from practitioners emphasized the need for a standardized business benefits framework for the rapidly evolving landscape of digital transformation within the retail industry. A benefits measurement framework offers a structured approach to comprehensively assessing the outcomes and impacts of digital initiatives across diverse retail micro-verticals and their value chains. CFOs can evaluate the value delivered from digital transformation initiatives, link them with long-term business objectives, and decide on the allocation of resources and the order of investment priorities with confidence.

The framework Smart Gems recommended in this study seeks to act as a compass to guide CFOs and practitioners through the challenges of digital transformation while enabling accurate assessment and comparison of the benefits it offers in all their varied

forms. This framework also promotes transparency, enhances communication among stakeholders, and fosters accountability for the outcomes of these initiatives.

6.2 Implications

The implications of this study, some of which were already highlighted in the discussion chapter, are multiple, and they may help professionals in the industry and academics engaged in the retail sector select appropriate benefit evaluation methodologies in their research. The implications of this research go beyond a general understanding of how technological solutions, business processes, and linked benefits interplay. They also emphasize the importance of understanding the differences between different micro-verticals within the retail industry. Each micro-vertical, such as hypermarkets, supermarkets, and electronics stores, has its own set of dynamics, consumer habits, and operational complexities. As a result, the translation of digital programs into financial performance and growth differs across various industries.

Digital projects that optimize supply chains and improve consumer experiences can have a direct influence on the income streams of hypermarkets. Cost savings result from operational improvements, while improved customer interactions build loyalty and repeat business. Integration of digital technology in supermarkets can result in streamlined inventory management and personalized shopper experiences. This can lead to improved client retention rates and larger basket sizes, which can improve financial performance. Technology solutions that improve product discovery, customer education, and post-sales assistance help electronics retailers. These changes can increase sales conversions, improve

customer satisfaction, and eventually contribute to revenue development. Initiatives that improve user experiences, optimize e-commerce platforms, and harness data-driven insights can lead to higher conversion rates and increased sales in the online retail industry. Digital solutions that improve patient care, medication administration, and communication with healthcare experts can encourage consumer trust and loyalty, resulting in revenue growth for pharmacies. For apparel, footwear, and specialty retailers, initiatives that assure brand consistency across channels and optimize product assortments based on client preferences can lead to enhanced customer happiness and increased sales, generating financial success.

It is essential to recognize that the translation of digital programs into financial outcomes is not always linear. The impact might not be immediate, and factors such as customer adoption rates, market competition, and economic conditions influence the journey from digital transformation to financial growth. While the fundamental relationship between technology, process transformation, and benefits stays unchanged, the specifics vary depending on operational intricacies and customer needs. This emphasizes the importance of specific assessment procedures that correspond with the aims and difficulties of each micro-vertical. By adopting this contextual strategy, retailers can realize the full potential of digital transformation, generating long-term financial development while accommodating the different dynamics of modern retail.

6.3 Recommendations for Future Research

This study is unique in the field of digital transformation in the retail industry since it examines the complicated interplay between retailers' financial performance and the outcomes of their digital transformation activities. It offers a perspective on the many consequences of digital transformation across various retail contexts, which frequently operate with distinct consumer behaviours, operational complexities, and strategic objectives. The study presents a framework called Smart Gems that acts as a link between technological advancements and the financial benefits realized by retailers. This approach recognizes the complex nature of digital transformation's impact, allowing for both tangible and intangible benefits.

There are a few opportunities for future research in this domain to evaluate the business benefits of retailers' digital transformation initiatives. To begin, future studies might delve into advanced approaches to capture the varied relationships between digital technology deployments and financial implications. Predictive analytics, machine learning, and advanced attribution models could provide more precise insights into causal relationships.

The suggested framework, Smart Gems, offers an exciting avenue for simulation and analysis, particularly in environments where access to both publicly available financial data and internal KPIs is feasible. This integrated approach holds the potential to unlock deeper insights into the impacts of digital transformation initiatives on a retailer's financial performance.

Additionally, the research could extend to exploring the Smart Gems framework's scalability and transferability across multiple industries and geographical regions, which could prove its usefulness outside the world of retail. It may reveal the framework's versatility in capturing business advantages across varied sectors.

6.4 Conclusion

The purpose of this research was to understand the practices in measuring the business benefits of digital transformations, their impact on business processes, short-term and long-term IT, and business goals, as well as the complexities surrounding the quantification of their effects on financial performance. In the first chapter, we lay the foundation to outline the intricate challenge of evaluating the impact of digital transformation on the financial performance of retailers. Understanding the exact relationships between technological investments and quantifiable financial returns has proven difficult in the context of the rapidly evolving retail industry. This is more so due to the seismic shifts brought about by the post-Covid era and the unprecedented challenges posed by changing consumer behaviour. We also presented a comprehensive overview of the digital transformation solutions for the specific requirements of various retail micro verticals and typical business KPIs measured.

The second chapter explores the current literature, summarizing findings from previous studies on digital transformation in the retail industry, financial performance measurement, and benefit assessment frameworks. The review concludes by highlighting significant shortcomings in the literature and limited research on the benefits framework

for the retail industry. Importantly, the assessment confirms the value of a consistent framework for analysing transformative benefits, particularly in assisting CFOs in making investment decisions.

Chapter three details the chosen research methodology, a mixed approach that seamlessly combines quantitative and qualitative methodologies. The rationale behind the selection of retailers listed in the USA, Canada, Europe, and the UK was explained, ensuring diversity in the data pool. Furthermore, practitioners who are actively involved in digital transformation initiatives were chosen to deepen their qualitative understanding of the approach, benefit evaluation methods, difficulties, strategies, and constraints. Google Forms and Microsoft Excel were the tools adopted to collect the responses to the survey and analyse the company's financial data. The limitations of the research design were primarily the availability of in-depth financial statement analysis, which required paid subscriptions, retailer internal business KPIs for correlation with the tangible and intangible benefits of the transformation initiatives, and the dependence on publicly available information on transformation projects implemented with no insights on the investments made.

In Chapter four, we answered three research questions. Regarding the first research question, which was previously stated, "*Have retailers' digital transformation projects enhanced certain business processes and achieved their long-term IT and business goals? How can the relationship between digital transformation initiatives and the financial performance of the retailer be measured?",* we have proven that there is a range of business process improvements resulting from retail digital transformation projects, including

enhanced customer engagement, streamlined inventory management, personalized marketing, and optimized operational efficiency. These transformations align with long-term IT and business goals, such as improved agility, innovation, and competitiveness in the evolving market landscape. However, quantifying the relationship between financial performance and digital transformation activities presents challenges, but there are recommended methods to be deployed. Also, publicly available data did not provide the full context needed to understand the rationale behind specific investments and the complexities of digital initiatives. The effects of digital transformation might not be immediately reflected in financial performance. Long-term impacts can take time to materialize, making it difficult to attribute changes solely to digital initiatives. Beyond digital transformations, financial performance is influenced by a variety of factors, including market developments, business strategies, economic conditions, and competitor actions, making it difficult to isolate the specific impact.

Concluding the second research question, which was previously stated:" What *are the most fundamental value management and ROI methods used in retail digital transformation initiatives? What are the difficulties that practitioners of digital transformation have in evaluating and measuring the business value and impact of these initiatives?",* the findings reveal a diverse range of fundamental value management and ROI methods employed across organizations, such as cost-benefit analysis, net present value, and balanced scorecards. While these methods offer valuable insights, practitioners encounter significant challenges in evaluating and measuring the business value and impact of digital transformation initiatives. A significant challenge lies in quantifying intangible

benefits, such as improved customer experience, increased brand loyalty, and enhanced employee morale, which do not fit neatly into traditional financial metrics. The effects of digital transformation projects can take time to fully develop, making it difficult to attribute changes primarily to these initiatives in the face of several impacting factors. The complexity of modern technology ecosystems can make it difficult to identify direct links between digital transformation activities and business outcomes. Personnel and tools to track and measure the end-to-end value of these transformations, as well as data fragmentation difficulties across a complex environment and various functions, also contribute to these challenges.

Regarding the third research question, which was previously stated: "*Have traditional measuring methods helped CFOs evaluate the business value of IT spending? Can a unified framework help with the governance of IT spend?",* CFOs often use conventional techniques such as ROI, TCO, and cost-benefit analysis to assess the business value of IT spending. These techniques may not effectively capture the full range of IT's impact, particularly its strategic, innovation-driven, and intangible benefits, which are crucial in today's digital age. This question also delved into the applicability of a standardized framework for assessing transformational benefits. The responses affirmed its utility in bridging the gap between technology and measurable improvements, while also unveiling certain limitations in its application.

The discussion chapter evaluates and deliberates upon the results of the research questions. The inference from this chapter is that there is a symbiotic relationship between investments in digital transformations and retailer performance, however the measurement

practices are not standardized and performance cannot be attributed to only the impact due to IT. There is potential for adoption of a standardized framework to enhance benefits evaluation, while acknowleding certain limitations. The Smart Gems framework can assist to navigate through the complexity of benefits evaluation and has the potential to evolve and mature through real-world implementation suggesting a path for its application and enhancement.

In conclusion, the research extends beyond the understanding of the interplay between digital technologies, business processes and their corresponding benefits. The research also underscores the significance of a benefit evaluation framework, while also highlighting the differences between the microverticals within the retail industry. These microverticals operate with discinct dynamics, consumer behaviours and operational intricancies, the translation of digital transformation impact into growth and performance varies across these verticals. The need for a tailored measurement strategy that aligns with the goals and strategies can help retailers harness the true potential of the digital technology, and drive sustainable financial growth.

REFERENCES

Agraval, A, Birshan, M, Grube, C, Maloney, M and Seth, I (2020). *Memo to the CFO: A new approach to 2021 budgeting starts now*. [online] www.mckinsey.com. Available at: https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Memo%20to%20the%20CFO%20A%20new%20approach%20to%202021%20budgeting%20starts%20now/Memo-to-the-CFO-A-new-approach-to-2021-budgeting-starts-now.pdf [Accessed 30 Mar. 2022].

Akhtar, O. (2021). *The 2021 State of Digital Transformation*. [online] *Prophet.com*. Available at: https://www.prophet.com/pdf/the-2021-state-of-digital-transformation/ [Accessed 15 Mar. 2022].

Allagiannis, I., Lohiya, A. and Mirijamdotter, A. (2021). *Omnichannel Retail and Business Model Transformation*. doi:https://doi.org/10.15626/lscit2020.05.

Anica, I., Liana-Elena Anica-Popa, Radulescu, C. and Marinela Vrîncianu (2021). *The Integration of Artificial Intelligence in Retail: Benefits, Challenges and a Dedicated Conceptual...* [online] ResearchGate. Available at: https://www.researchgate.net/publication/349167313_The_Integration_of_Artificial_Intelligence_in_Retail_Benefits_Challenges_and_a_Dedicated_Conceptual_Framework [Accessed 1 Apr. 2022].

BDO (2021). *2021 BDO RETAIL CFO OUTLOOK SURVEY*. [online] *2021 BDO RETAIL CFO OUTLOOK SURVEY*. Available at: https://www.bdo.com/BDO/media/CFO-Outlook-Survey/IND_2021-Retail-CFO-Survey_WEB.pdf [Accessed 26 Dec. 2021].

Blackburn, S., Laberge, L., O'toole, C. and Schneider, J. (2020). *Digital strategy in a time of crisis Now is the time for bold learning at scale*. [online] Available at:

https://kolnegar.ir/wp-content/uploads/2020/07/Digital-strategy-in-a-time-of-crisis.pdf.

Bradlow, E.T., Gangwar, M., Kopalle, P. and Voleti, S. (2017). "The Role of Big Data and Predictive Analytics in Retailing." *Journal of Retailing*, [online] 93(1), pp.79–95. doi:https://doi.org/10.1016/j.jretai.2016.12.004.

Cakir, G., Bezbradica, M. and Helfert, M. (2019). "*The Shift from Financial to Non-financial Measures During Transition into Digital Retail – A Systematic Literature Review*." [online] *Business Information Systems*, pp.189–200. doi:https://doi.org/10.1007/978-3-030-20485-3_15.

Chakrabarti, A. and Chaudhuri, A.K. (2017). "Blockchain and its scope in Retail. In: *International Research Journal of Engineering and Technology (IRJET)*." [online] Available at: https://www.irjet.net/archives/V4/i7/IRJET-V4I7616.pdf [Accessed Jan. 2022].

Clohessy, T. (2022). *The Impact of Cloud-Based Digital Transformation on ICT Service Providers' Strategies*. [online] Academia.edu. Available at: https://www.academia.edu/33584871/The_Impact_of_Cloud_Based_Digital_Transformation_on_ICT_Service_Providers_Strategies [Accessed 23 Mar. 2022].

Deloitte (2018a). *Global Powers of Retailing 2022*. [online] Deloitte.com. Available at: https://www.deloitte.com/content/dam/assets-shared/legacy/docs/industry/consumer/2022/gx-global-powers-of-retailing-2022.pdf [Accessed 18 Sep. 2022].

Deloitte (2018b). *The potential of blockchain in retail industries*. [online] Deloitte United Kingdom. Available at: https://www2.deloitte.com/uk/en/pages/consumer-industrial-products/articles/new-tech-on-the-block.html [Accessed 4 Feb. 2023].

Deloitte (2023). *Global Powers of Retailing 2023 Revenue growth and continued focus on sustainability*. [online] Available at: https://www.deloitte.com/content/dam/assets-

shared/legacy/docs/gx-Global-Powers-of-Retailing-2023-report.pdf [Accessed 1 Mar. 2023].

Deloitte Consulting LLP (2018). *Digital Maturity Model Achieving Digital Maturity to Drive Growth*. [online] Available at: https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Technology-Media-Telecommunications/deloitte-digital-maturity-model.pdf.

Deloitte Global (2021). *Global Powers of Retailing 2021*. [online] Available at: https://www2.deloitte.com/content/dam/Deloitte/fr/Documents/consumer-business/global-power-of-retailing-2021.pdf.

Deloitte LLP (2019). *Global Digital Risk Survey 2019*. [online] *www2.deloitte.com*. Available at: https://www2.deloitte.com/content/dam/Deloitte/es/Documents/riesgos/deloitte-digital-risk-survey.pdf [Accessed 29 Mar. 2022].

Dimensional Research and Rimini Street (2021). *2021 CFO Peer Insights: Digital Transformation and IT Spending Priorities A Global CFO Survey 2021 CFO Peer Insights: Digital Transformation and IT Spending Priorities A Global CFO Survey*. [online] pp.10–12. Available at: https://www.riministreet.com/resources/research-report/2021-cfo-digital-transformation-and-it-roi/ [Accessed 25 Dec. 2021].

Dimitrova, V. (2021). *The effect of the COVID-19 pandemic on Digital Transformation in retailing: a Master's thesis*. [online] Available at: http://essay.utwente.nl/88025/1/Dimitrova_MA_BMS.pdf.

Fichman, R.G. (2004). Real Options and IT Platform Adoption: Implications for Theory and Practice. *Information Systems Research*, 15(2), pp.132–154. doi:https://doi.org/10.1287/isre.1040.0021.

García, D. (2006). *PROCESS AND OUTCOME FACTORS OF ENTERPRISE*

TRANSFORMATION: A STUDY OF THE RETAIL SECTOR A Dissertation Presented to The Academic Faculty. [online] Available at: https://smartech.gatech.edu/bitstream/handle/1853/11512/garcia_dominie_200608_phd.pdf [Accessed 27 Dec. 2021].

Gligorijevic, B. (2019). Retailing transformation, technology and immersive shopping experience. In: *ANZMAC 2019*. Victoria University of Wellington, New Zealand.

Global Supply Chain Institute (GSCI), The University of Tennessee (2021). *A DECISION GUIDE FOR SUPPLY CHAIN PROFESSIONALS WHEN IS (N'T) BLOCK-CHAIN RIGHT?* [online] Available at: https://supplychainmanagement.utk.edu/wp-content/uploads/2022/03/2021-04-When-Isnt-Blockchain-Right.pdf.

Gregory, J. (2015). *The Internet of Things: Revolutionizing the Retail Industry*. [online] Accenture. Available at: https://www.conexxus.org/sites/default/files/book_files/Accenture-The-Internet-Of-Things.pdf.

Hänninen, M., Smedlund, A. and Mitronen , L. (2017). "Digitalization in retailing: multi-sided platforms as drivers of industry transformation | Emerald Insight." *Baltic Journal of Management*, [online] Volume 13(Issue 2). doi:https://doi.org/10.1108//BJM.

Hirji, N. and Geddes, G. (2016). *Realizing the value of digital investments What's your digital ROI?* [online] Available at: https://www.strategyand.pwc.com/ca/en/media/whats-your-digital-roi.pdf.

Ingolstadt, I. and Juni (2021). *Retail Customer Experience: A Systematic Literature Review Working Paper*. [online] Available at: https://www.thi.de/fileadmin/daten/Working_Papers/thi_workingpaper_61_fend.pdf [Accessed 29 Mar. 2022].

Jean-Paul Van Belle and Dyk, R. (2019). *Factors Influencing the Intended Adoption of Digital Transformation: A South African Case Study*. [online] www.semanticsscholar.org. Available at: https://www.semanticscholar.org/paper/Factors-Influencing-the-Intended-Adoption-of-A-Case-Belle-Dyk/ed477b15e8df9dffd70e758dcd8f44339c23da53 [Accessed 5 Jan. 2023].

Jelena Titko (2019). "*Digital transformation: conceptual framework*." [online] Proceedings of 6th International Scientific Conference Contemporary Issues in Business, Management and Economics Engineering '2019. Available at: https://www.academia.edu/54738809/Digital_transformation_conceptual_framework?bulkDownload=thisPaper-topRelated-sameAuthor-citingThis-citedByThis-secondOrderCitations&from=cover_page [Accessed 18 Mar. 2022].

Joelsson, E. and Ragnell, L. (2020). *Graduate School Master Degree in Innovation and Industrial Management How can the CFO be a valuable ally for innovation? A multiple-case study on what current methods CFOs are using for fostering innovation in an organisation*. [online] Available at: https://gupea.ub.gu.se/bitstream/handle/2077/65772/gupea_2077_65772_1.pdf?sequence=1&isAllowed=y.

Kellermayr-Scheucher, M., Hörandner, L. and Brandtner, P. (2022). "Digitalization at the Point-of-Sale in Grocery Retail - State of the Art of Smart Shelf Technology and Application Scenarios." *Procedia Computer Science*, [online] 196(2022), pp.77–84. doi:https://doi.org/10.1016/j.procs.2021.11.075.

Ketzenberg, Dr.M. and Akturk, Dr.M.S. (2021). *How 'Buy Online, Pick Up In-Store' Gives Retailers an Edge*. [online] Harvard Business Review. Available at: https://hbr.org/2021/05/how-buy-online-pick-up-in-store-gives-retailers-an-edge [Accessed 1 Apr. 2022].

Kiran Mallidi, R., Sharma, M. and Singh, J. (2021). "Legacy Digital Transformation: TCO and ROI Analysis." *International journal of electrical and computer engineering*

systems, [online] 12(3), pp.163–170. doi:https://doi.org/10.32985/ijeces.12.3.5.

Kristiansen, J.N. and Ritala, P. (2018). "Measuring radical innovation project success: typical metrics don't work." *Journal of Business Strategy*, [online] 39(4), pp.34–41. doi:https://doi.org/10.1108/JBS0920170137.

Libert, B., Beck, M. and Wind, Y. (2016). *The network imperative: how to survive and grow in the age of digital business models*. Boston, Massachusetts: Harvard Business Review Press.

Lopresti, M.J. (2014). *Overcoming the Challenges of Calculating Digital Marketing ROI*. [online] ResearchGate. Available at: https://www.researchgate.net/publication/291342567_Overcoming_the_Challenges_of_Calculating_Digital_Marketing_ROI [Accessed 30 Mar. 2022].

Malenkov, Y., Kapustina, I., Kudryavtseva, G., Shishkin, V.V. and Shishkin, V.I. (2021). "Digitalization and Strategic Transformation of Retail Chain Stores: Trends, Impacts, Prospects." *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), p.108. doi:https://doi.org/10.3390/joitmc7020108.

Marian, K., Burt, M., Hammond, M., Karki, H., Hetu, R. and Unni, S. (2021). *Top Trends in Retail Digital Transformation and Innovation for 2021*. [online] Available at: https://emtemp.gcom.cloud/ngw/globalassets/en/information-technology/documents/trends/739178-top-trends-in-retail-digital-transformation-and-innovation-for-2021.pdf [Accessed 16 Feb. 2022].

McKinsey (2021). *The future of shopping: Technology everywhere The Next Normal*. [online] Available at: https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/The%20Next%20Normal/The-Next-Normal-The-future-of-shopping.pdf.

McKinsey & Company (2020a). *Perspectives on retail and consumer goods*. [online]

Available at: https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/Perspectives%20on%20retail%20and%20consumer%20goods%20Number%208/Perspectives-on-Retail-and-Consumer-Goods_Issue-8.pdf [Accessed 15 Jan. 2022].

McKinsey & Company (2020b). *The Next Normal – The future of shopping: Technology everywhere | The Next Normal*. [online] McKinsey & Company. Available at: https://www.mckinsey.com/featured-insights/the-next-normal/shopping [Accessed 18 Sep. 2022].

McKinsey & Company (2017). *McKinsey Special Collection The Role of the CFO Selected articles from the Strategy and Corporate Finance Practice*. [online] Available at: https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Strategy%20and%20Corporate%20Finance/Our%20Insights/Strategy%20and%20corporate%20finance%20special%20collection/Final%20PDFs/McKinsey-Special-Collections_RoleoftheCFO.ashx.

McKinsey's Consumer & Retail Practice (2022). *The tech transformation imperative in retail*. [online] Available at: https://www.mckinsey.com/~/media/mckinsey/industries/retail/our%20insights/the%20tech%20transformation%20imperative%20in%20retail/the-tech-transformation-imperative-in-retail.pdf?shouldIndex=false [Accessed 4 Feb. 2023].

Morabito, V. (2014). *Trends and Challenges in Digital Business Innovation*. [online] Cham: Springer International Publishing. doi:https://doi.org/10.1007/978-3-319-04307-4.

Morakanyane, R., Grace, A. and O'Reilly, P. (2017). Conceptualizing Digital Transformation in Business Organizations: A Systematic Review of Literature. In: *30th Bled eConference Digital Transformation – From Connecting Things to Transforming Our LivesAt: Bled, Slovenia*. doi:https://doi.org/10.18690/9789612860431.30.

Neely, A., Gregory, M. and Platts, K. (1995). “Performance measurement system design A literature review and research agenda.” *International Journal of Operations & Production Management*, [online] 15(4), pp.80–116. Available at: https://pessoas.feb.unesp.br/vagner/files/2009/02/Aula-4_Neely-Gregory-Platts-1995.pdf.

NRF and BCG (2021). *2021 RETAIL & FASHION DIGITAL and TECHNOLOGY BENCHMARK*. [online] *https://cdn.nrf.com/*. Available at: https://cdn.nrf.com/sites/default/files/2021-11/2021%20Retail%20%26%20Fashion%20Digital%20Tech%20Benchmark.pdf [Accessed 14 Jan. 2022].

Nylén, D. and Holmström, J. (2015). “Digital innovation strategy: A framework for diagnosing and improving digital product and service innovation.” *Business Horizons*, [online] 58(1), pp.57–67. doi:https://doi.org/10.1016/j.bushor.2014.09.001.

Ozzimo, A. (2015). Leading transformation: the CFO as digital change agent. *Financial Executive*, [online] 31(1), pp.10–12. Available at: https://go.gale.com/ps/i.do?id=GALE%7CA408509407&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=08954186&p=AONE&sw=w&userGroupName=tel_oweb&isGeoAuthType=true [Accessed 30 Mar. 2022].

Raydiant (2022). *State of Consumer Behavior 2022*. [online] Raydiant.com. Available at: https://www.raydiant.com/blog/state-of-consumer-behavior-2022 [Accessed 18 Sep. 2022].

Reinartz, W.J., Wiegand, N. and Imschloss, M. (2018). *The Impact of Digital Transformation on the Retailing Value Chain*. [online] doi:https://doi.org/10.1016/j.ijresmar.2018.12.002.

Roggeveen, A.L. and Sethuraman, R. (2020). “Customer-Interfacing Retail Technologies in 2020 & Beyond: An Integrative Framework and Research Directions.” *Journal of Retailing*, [online] 96(3), pp.299–309. doi:https://doi.org/10.1016/j.jretai.2020.08.001.

Sandner, P., Lange, A. and Schulden, P. (2020). The Role of the CFO of an Industrial Company: An Analysis of the Impact of Blockchain Technology. *Future Internet*, [online] 12(8), p.128. doi:https://doi.org/10.3390/fi12080128.

Schallmo, D., Williams, C.A. and Boardman, L. (2017). *DIGITAL TRANSFORMATION OF BUSINESS MODELS — BEST PRACTICE, ENABLERS, AND ROADMAP*. [online] ResearchGate. Available at: https://www.researchgate.net/publication/321394754_DIGITAL_TRANSFORMATION_OF_BUSINESS_MODELS_-_BEST_PRACTICE_ENABLERS_AND_ROADMAP [Accessed 24 Mar. 2022].

Schwertner, K. (2017). "Digital transformation of business." *Trakia Journal of Science*, 15(1), pp.388–393. doi:https://doi.org/10.15547/tjs.2017.s.01.065.

Shankar, V., Douglass, T., Hennessey, J., Kalyanam, K., Setia, P., Golmohammadi, A., Tirunillai, S., Bull, J.S. and Waddoups, R. (2020). "How Technology is Changing Retail." *Journal of Retailing*, [online] 97(1). doi:https://doi.org/10.1016/j.jretai.2020.10.006.

Shantz, P. (2021). How to calculate digital transformation ROI: Simplify and prioritize the digital vision for smart factory upgrades and consider hard and soft savings in the return calculations. *Control Engineering*, [online] 68(9), pp.26–28. Available at: https://go.gale.com/ps/i.do?id=GALE%7CA676471918&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=00108049&p=AONE&sw=w&userGroupName=tel_oweb&isGeoAuthType=true [Accessed 15 Mar. 2022].

Sides, R. and Skelly, L. (2022). *2022 Retail Industry Outlook*. [online] *Deloitte United States*. Available at: https://www2.deloitte.com/us/en/pages/consumer-business/articles/retail-distribution-industry-outlook.html [Accessed 27 Mar. 2022].

TCS (2019). *PERSPECTIVES COMPETING IN DIGITAL ECOSYSTEMS AND AN AGE OF ABUNDANCE*. [online] Available at: https://www.tcs.com/content/dam/tcs/pdf/perspectives/volume-13/perspectives-13.pdf

[Accessed 4 Mar. 2022].

Teichert, R. (2019). Digital Transformation Maturity: A Systematic Review of Literature. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 67(6), pp.1673–1687. doi:https://doi.org/10.11118/actaun201967061673.

Ulrich, P.O., Prabhakaran, S. and McGarrity, L.A. (2022). *How can your digital investment strategy reach higher returns.* [online] Ey.com. Available at: https://www.ey.com/en_us/strategy/digital-investment-report [Accessed 18 Sep. 2022].

Verhoef, P.C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N. and Haenlein, M. (2021). "Digital transformation: A multidisciplinary reflection and research agenda." *Journal of Business Research*, [online] 122(January 2021), pp.889–901. doi:https://doi.org/10.1016/j.jbusres.2019.09.022.

Wilson, M. (2021). *Forrester: Physical stores to account for 72% of U.S. retail sales in 2024*. [online] Chain Store Age. Available at: https://chainstoreage.com/forrester-physical-stores-account-72-us-retail-sales-2024 [Accessed 1 Apr. 2022].

With, B. and Littleton, A. (2017). *The 2017 State of Digital Transformation INCLUDES SURVEY DATA FROM 528 DIGITAL TRANSFORMATION LEADERS AND STRATEGISTS.* [online] Available at: http://library.meetliquid.com/wp-content/uploads/2018/02/Altimeter_DT2017.pdf.

World Economic Forum and Accenture (2017). *Insight Report A World Economic Forum project in collaboration with Accenture Shaping the Future of Retail for Consumer Industries*. [online] Available at: https://www3.weforum.org/docs/IP/2016/CO/WEF_AM17_FutureofRetailInsightReport.pdf [Accessed 3 Jan. 2022].

World Economic Forum and Accenture (2018). *Digital Transformation Initiative In collaboration with Accenture Unlocking $100 Trillion for Business and Society from*

Digital Transformation EXECUTIVE SUMMARY. [online] Available at: http://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/dti-executive-summary-20180510.pdf.

Yuen, M. (2022). *Retail trends: 2022 retail industry stats, trends and forecasts*. [online] Insider Intelligence. Available at: https://www.insiderintelligence.com/insights/future-retail-trends-industry-forecast/ [Accessed 18 Sep. 2022].

ZoBell, S. (2018). Council Post: Why Digital Transformations Fail: Closing The $900 Billion Hole In Enterprise Strategy. *Forbes*. [online] 13 Mar. Available at: https://www.forbes.com/sites/forbestechcouncil/2018/03/13/why-digital-transformations-fail-closing-the-900-billion-hole-in-enterprise-strategy/?sh=5004ae4a7b8b [Accessed 29 Mar. 2022].

APPENDIX A:

REFERENCE WEBSITES FOR COMPANY FINANCIAL INFORMATION

This section lists the Financial websites and references leveraged for analysis of the company information. Two primary sources of information are shared below.

A. Company Websites

The following tables A1.1 and A1.2 showcase a comprehensive list of publicly listed retailers in North America, UK and Europe, Asia Pacific These retailers operate in various sectors and provide a diverse range of products and services to consumers. The table includes the company names and corresponding URLs for their investor sites, where investors and stakeholders can access relevant financial information and updates. Only one link per company is included in these tables for practical reasons, and the investor site was deemed to be the most appropriate include for the reasons stated above.

Table A1.1
Region: North America

SL #	**Company Name**	**Investor Site URL**
1	Amazon	https://ir.aboutamazon.com/
2	Bath & Body Works, Inc.	https://www.bbwinc.com/investors
3	Best Buy Co, Inc.	https://investors.bestbuy.com/
4	Big Lots, Inc	https://www.biglots.com/corporate/investors
5	BJ's Wholesale Club Holdings Inc.	https://investors.bjs.com/

6	Burlington Stores, Inc	https://www.burlingtoninvestors.com/
7	Costco	https://investor.costco.com/
8	CVS Health Corporation	https://investors.cvshealth.com/
9	Dick's Sporting Goods, Inc.	https://investors.dicks.com/investors/default.aspx
10	Dillard's, Inc	https://investor.dillards.com/overview/default.aspx
11	Dollar General Corporation	https://investor.dollargeneral.com
12	Dollar Tree Inc.	https://corporate.dollartree.com/investors
13	Foot Locker, Inc.	https://investors.footlocker-inc.com
14	Kohl's Corporation	https://investors.kohls.com/investors/default.aspx
15	LobLaw Companies Limited	www.loblaw.ca/en/investors-overview
16	Lowe’s Companies Inc.	https://ir.lowes.com/
17	lululemon athletica inc.	https://investor.lululemon.com/home/default.aspx
18	Macy Inc.	https://www.macysinc.com/investors/
19	Metro Inc.	https://corpo.metro.ca/en/investor-relations.html
20	Nordstrom, Inc.	https://investor.nordstrom.com/
21	Rite Aid Corporation	https://www.riteaid.com/corporate/investor-relations

22	Ross Stores, Inc.	https://investors.rossstores.com/investor-overview
23	Signet Jewelers Limited	https://www.signetjewelers.com/investors.html
24	Tapestry, Inc.	https://www.tapestry.com/investors/
25	Target Corporation	https://corporate.target.com/investors
26	The Albertsons	https://investor.albertsonscompanies.com/
27	The Gap, Inc.	https://www.gapinc.com/en-us/investors
28	The Home Depot, Inc.	https://ir.homedepot.com/
29	The Kroger Co.	https://ir.kroger.com/
30	The TJX Companies, Inc.	https://investor.tjx.com/
31	Ulta Beauty, Inc	https://ir.ulta.com/home/default.aspx
32	Walgreens Boots Alliance, Inc.	https://investor.walgreensbootsalliance.com
33	Walmart Inc	https://stock.walmart.com/

Source: Kota (2023).

Table A1.2
Region: UK & Europe

SL#	Company Name	Investor Site URL
1	Tesco PLC	www.tescoplc.com/investors
2	J Sainsbury PLC	www.about.sainsburys.co.uk/investors
3	Casino GuichardPerrachon S.A.	www.groupe-casino.fr/en/investors

4	Ahold Delhaize	www.aholddelhaize.com/investors
5	Spar Holding AG	https://thespargroup.com/investors/
6	Colruyt Group	www.colruytgroup.com/en/invest
7	Marks and Spencer Group plc	corporate.marksandspencer.com/investors
8	Kingfisher PLC	www.kingfisher.com/investors
9	LVMH Moët Hennessy Louis Vuitton S.A.	www.lvmh.com/investors
10	Inditex, S.A.	www.inditex.com/en/investors
11	H & M Hennes & Mauritz AB	hmgroup.com/investors
12	Kering S.A.	www.kering.com/en/finance
13	JD Sports Fashion Plc	https://www.jdplc.com/investor-relations
14	Hermès International SCA	https://finance.hermes.com/
15	Metro AG	www.metroag.de/en/investor-relations
16	Ceconomy AG	www.ceconomy.de/en/investor-relations
17	Curry's PLC	www.currysplc.com/investors
18	Jerónimo Martins, SGPS, S.A.	www.jeronimomartins.com/en/investor-relations
19	Zalando SE	https://corporate.zalando.com/en/investor-relations

Source: Kota (2023).

B. Financial & other Market research

The table A1.3 below provides a comprehensive list of URLs for various data sources commonly used to obtain financial statements. These sources include regulatory bodies, stock exchanges, financial databases, and company websites, ensuring reliable access to financial information.

Table A1.3
Financial data sources

Data Source	**URL**
Bloomberg*	www.bloomberg.com
Deutsche Börse	www.deutsche-boerse.com
Euronext	www.euronext.com
Financial Conduct Authority (FCA)	www.fca.org.uk
Financial Times Markets	markets.ft.com
Google Finance	www.google.com/finance
Investing.com	www.investing.com
London Stock Exchange	www.londonstockexchange.com
MarketWatch	www.marketwatch.com
Morningstar	www.morningstar.com
Reuters	www.reuters.com
SEC EDGAR	www.sec.gov/edgar
Yahoo Finance	finance.yahoo.com

Source: Kota (2023).

APPENDIX B:

RESEARCH QUESTIONS AND SURVEY QUESTIONNAIRE MAPPING

The following section summarizes the survey questions mapped to the individual Research questions 2 and research questions 3 detailed in Section 4.3 and 4.4 respectively.

B.1 Research Question 2:

What are the most fundamental value management and ROI methods used in retail digital transformation initiatives? What are the difficulties that practitioners of digital transformation have in evaluating and measuring the business value and impact of these initiatives?

B.1.1 Demographics of respondent

- Name of the participant
- Your primary role or function within the organisation.
- Department or Function
- Industry where you currently work in?
- Name of your Organisation
- How many years of working experience do you have in the industry?
- What is your level of experience as a digital transformation consultant?
- Which of the following industry sectors have you worked in for digital transformation initiatives?
- Which micro-verticals of the Retail industry have you had experience in?

- Which type of retailers do you have experience in implementing digital transformation initiatives?
- In which types of digital transformation initiatives do you have experience?
- Which of the following best describes your role in digital transformation initiatives?
- In which geographic regions have you had digital transformation experiences?
- What is your current geographic location?

B.1.2 What digital transformation initiatives have been adopted by retailers worldwide?

- Have you / your client organisation implemented any digital transformation initiatives in the last 12 months?
- What digital transformation initiatives have been implemented by you/your customer's?

B.1.3 What KPI and ROI measures have been defined for these programs and are they measurable?

- How important is measuring the benefits of digital transformation for your /customer's organisation?
- How important do you believe a KPI framework is in measuring the business benefits of a digital transformation?
- Do you have a formal process for identifying and tracking digital transformation benefits and returns on investment?
- How do you calculate the ROI of digital transformation initiatives in your organisation?

- What is your typical approach for measuring the business value of digital transformations?
- How do you measure the ROI of retail business transformation projects, and how does this impact future investment decisions?
- How do you determine which benefits to measure in your business transformation process?
- Which of the following practices do you think are critical to measuring business value ROI of digital transformation in retail?
- What approach do you adopt when measuring business value ROI of digital transformation?
- How frequently did you review and evaluate the results of the digital transformation initiatives?
- What kind of internal support or resources does your Customer/Organisation have for measuring the business benefits of digital transformation?
- How do you ensure that the benefits of retail business transformation projects are measured consistently across different departments, business units or regions?
- What kind of data analytics tools and techniques does your customer / organisation use to measure the business benefits of digital transformation?
- How does your customer/organisation communicate the results of its digital transformation initiatives to stakeholders, such as customers, employees, and investors?

- How do you use industry benchmarking to inform your measurement and assessment of digital transformation benefits and ROI?
- What kind of industry benchmarking and analysis do you consider while measuring the business benefits of a digital transformation?
- What type of tools or methodology do you use to measure the business benefits of a digital transformation?
- How do you collect and analyse data to measure the business benefits of digital transformation initiatives?
- How do you ensure that the value measurement practices are integrated with the project management and governance processes?
- How much time and effort do you estimate it takes to measure the business benefits of a digital transformation?
- How do you ensure that the value measurement plan is regularly reviewed and updated throughout the digital transformation project?
- How do you ensure business stakeholder engagement while measuring the business benefits of a digital transformation?

B.1.4 Have these transformation programs improved specific business processes and met long-term business and long-term IT objectives?

- What are the key business benefits that you have achieved in your digital transformations?
- What are the key technology benefits that you have achieved in your digital transformations?

- To what extent has your / customer organisation been able to achieve it's expected business benefits through digital transformation?
- What challenges do you face when communicating the benefits of retail business transformation projects to stakeholders?
- How do you ensure that the metrics and KPIs used to measure the business value of a digital transformation are aligned with the organisation's overall strategy and objectives?
- How do you ensure that the benefits of retail business transformation projects are sustainable over time, and not just short-term gains?
- How do you ensure that your/client organisation can sustain and continue to measure the business value of a digital transformation project after the program has ended?
- How can organisations balance the expectations of different stakeholders when assessing the business value of retail digital transformation efforts?
- How do you balance short-term and long-term benefits when measuring the success of retail business transformation projects?
- How do you manage the expectations of business stakeholders with regards to the value of digital transformation initiatives?

B.2 Research Question 3:

(a) Have traditional measuring methods helped CFOs evaluate the business value of IT spending? Can a unified framework help with the governance of IT spend?

B.2.1 Have traditional measurement methods been effective for CFOs to determine the business value of their IT spend?

- How would you rate the overall value and impact of the digital transformation value management and ROI assessment process on your/customer's digital transformation initiatives?
- How would you rate your/customer's current level of maturity in terms of digital transformation value management and ROI assessment practices?
- What is your/customer's long-term strategy for digital transformation value management and ROI assessment?
- What are your CFO/CXO expectations when it comes to measuring the benefits of digital business transformation projects?
- How would you rate the level of stakeholder engagement when it comes to measuring the benefits of digital business transformation projects?
- Do you feel that your organisation has adequate resources and expertise to effectively measure the business benefits of digital transformation initiatives?
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Alignment with business goals and strategy]
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Accurate measurement of ROI]

- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Definition and tracking of relevant KPIs]
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Data-driven decision-making]
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Continuous improvement of ROI over time]
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Adequate resources and infrastructure]
- Please rank the following factors in order of importance for assessing the business value of digital transformations: [Clear communication of ROI results to stakeholders]
- How involved is the CFO in selecting and measuring KPIs for retail business transformation projects?
- How do you ensure the accuracy and reliability of your measurements of digital transformation benefits and ROI?
- How much time and effort do you typically devote to measuring and assessing the business benefits of digital transformation initiatives?
- How confident are you in the accuracy of the ROI calculations for digital transformation projects?
- To what extent do you agree that defining and measuring the business value of digital transformation is challenging?

- What are the most significant challenges that you face when measuring the business value of digital transformation initiatives?
- What are your expectations for ongoing value management and ROI assessment after the completion of the digital transformation?
- What is the key expectations you/your customer's have from a digital transformation consultant in terms of measuring the ROI of a project?
- What recommendations would you make to improve the process of measuring and assessing the business benefits of digital transformation initiatives?

B.2.2 Can a standard framework enable efficient IT spend governance?

- In your experience, how often does your organisation use a standard framework for assessing the business value of digital transformation programs?
- If your organisation has adopted a standard framework how effective has it been ?
- What are the limitations of using a standard framework for assessing the business value of digital transformation programs?
- How do you address the limitations of using a standard framework for assessing the business value of digital transformation programs in your organisation?
- What challenges do you anticipate in adopting and implementing a standard framework?
- Would you recommend using a business benefits framework to measure KPIs in future retail digital business transformation projects?

- What benefits do you expect to gain from adopting a standard framework for IT spend governance and measuring ROI?
- Which tools, technologies or best practices do you recommend for assessing the business value of digital transformations in retail?

APPENDIX C:

FINANCIAL RATIO ANALYSIS AND RANKING SUMMARY

The following section is a summary of the retail global ranking, financial KPIs reported in 2018 and 2022, and ranking of their performance across the different ratios. The data and summary for Super Markets, Hypermarkets and Department stores has been included in the section 4.2 Research question one.

C 1.1 Apparel, Footwear & Specialty

Table C.1.1.a Apparel, Footwear & Specialty Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
The TJX Companies, Inc.	23	33	10	48,550	32,137	51%	7.90%
Ross Stores, Inc.	61	85	24	18,916	12,532	51%	8.00%
The Gap, Inc.	71	74	3	16,670	13,800	21%	1.40%
Dick's Sporting Goods, Inc.	100	115	15	12,293	9,584	28%	9.20%
Foot Locker, Inc.	129	145	16	8,958	7,548	19%	2.90%
Ulta Beauty, Inc	138	179	41	8,372	5,967	40%	12.70%
Bath & Body Works, Inc.	151	-	151	7,882	6435	22.5%	15.40%
Signet Jewelers Limited	155	208	53	7,757	5,197	49%	4.00%
lululemon athletica inc.	196	239	43	6,257	4,402	42%	21.70%
Tapestry, Inc.	207	211	4	5,925	5,170	15%	9.20%
LVMH Moët Hennessy	20	30	10	56,305	35,856	57%	14.40%

Louis Vuitton S.A.							
Inditex, S.A.	35	45	10	32,567	23,431	39%	3.50%
H & M Hennes & Mauritz AB	52	54	2	23,343	20,099	16%	0.70%
Kering S.A.	69	95	26	16,898	11,296	50%	15.40%
JD Sports Fashion Plc	107	141	34	11,391	7,696	48%	30.20%
Hermès International SCA	120	164	44	9,663	6,657	45%	14.40%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.1.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %**	**5 Yr. %**
The TJX Companies, Inc.	7.6	7.91	4.07	4.32
Ross Stores, Inc.	8.08	8.01	4.56	5.29
The Gap, Inc.	0.18	1.45	-15.91	-7.42
Dick's Sporting Goods, Inc.	13.37	9.19	66	35.23
Foot Locker, Inc.	3.05	2.39	-0.8	-2.39
Ulta Beauty, Inc	11.33	11.65	22.06	15.85
Bath & Body Works, Inc.	-15.87	-8.92	14.57	0.06
Signet Jewelers Limited	7.8	4.08	72.49	13.41
lululemon athletica inc.	26.79	25.08	24.75	28.4
Tapestry, Inc.	3.51	8.29	13.04	8.35
LVMH Moët Hennessy Louis Vuitton S.A.	13.84	13.18	22.72	20.42
Inditex, S.A.	1.96	3.52	-0.58	1.27
H & M Hennes & Mauritz AB	-1.34	2.25	-25.51	-19.01
Kering S.A.	8.61	5.63	5.36	13.65
JD Sports Fashion Plc	21.98	29.2	41.02	32.72
Hermès International SCA	19	15.89	26.75	19.67

Source: Morningstar.com/stocks.

Table C.1.1.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The TJX Companies, Inc.	1.66	1.27	0.7	0.66	0.48	1.82	3.67	5.46
Ross Stores, Inc.	1.64	1.77	0.72	1.2	0.1	1.23	7.48	11.33
The Gap, Inc.	1.86	1.27	0.84	0.31	0.4	2.03	7.78	7.51
Dick's Sporting Goods, Inc.	1.41	1.88	0.12	1	0.03	1.92	17.44	33.47
Foot Locker, Inc.	4.14	1.36	1.55	0.54	0.05	0.87	21.92	34.39
Ulta Beauty, Inc	2.64	1.46	0.77	0.43	—	1.02	26.5	37.98
Bath & Body Works, Inc.	1.62	2.33	0.9	1.72	-7.69	-3.96	-3.97	-6.6
Signet Jewelers Limited	3.32	1.8	0.97	0.71	0.28	0.74	35.35	30.75
lululemon athletica inc.	4.91	1.86	3.45	0.95	—	0.25	11.31	20.69
Tapestry, Inc.	2.59	1.75	1.69	0.97	0.49	1.29	10.9	10.07
LVMH Moët Hennessy Louis Vuitton S.A.	1.4	1.26	0.54	0.51	0.19	0.42	13.64	21.59
Inditex, S.A.	1.96	1.69	1.39	1.27	0.07	0.28	2.51	2.67
H & M Hennes & Mauritz AB	1.39	1.16	0.44	0.43	0.18	1.16	0.73	0.63
Kering S.A.	1.1	1.37	0.49	0.65	0.32	0.58	83.79	117.51
JD Sports Fashion Plc	1.42	1.42	0.72	0.8	0.01	1	0.18	0.47
Hermès International SCA	3.15	3.94	2.38	3.29	0.01	0.13	52.55	104.61

Source: Morningstar.com/stocks.

Table C.1.1.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The TJX Companies, Inc.	5.49	4.15	0.75	0.61	1.79	1.12
Ross Stores, Inc.	9.27	6.24	0.96	0.69	3.49	4.27
The Gap, Inc.	4.09	0.69	0.77	0.45	2.3	-0.18
Dick's Sporting Goods, Inc.	3.17	10.64	0.84	0.86	1.74	12.55

Foot Locker, Inc.	6.93	5.1	1.9	0.51	4.26	6.75
Ulta Beauty, Inc	5.75	10.28	0.61	0.9	3.38	14.79
Bath & Body Works, Inc.	5.53	15.5	0.71	0.92	2.95	5.44
Signet Jewelers Limited	27.24	14.41	3.28	1.46	23.01	19.25
lululemon athletica inc.	12.51	15.9	1.28	1.02	1.96	8.04
Tapestry, Inc.	12.4	11.36	1.83	0.89	2.22	3.13
LVMH Moët Hennessy Louis Vuitton S.A.	11.42	16.11	0.84	0.91	2.46	6.04
Inditex, S.A.	8.64	20.31	0.65	1.74	0.53	0.99
H & M Hennes & Mauritz AB	4.02	8.26	0.67	5.18	0.11	0.24
Kering S.A.	21.59	15.76	0.79	0.89	25.61	31.27
JD Sports Fashion Plc	5.22	11.91	0.71	2.76	0.05	0.21
Hermès International SCA	24.26	36.07	1.03	1.24	15.16	36.48

Source: Morningstar.com/stocks.

Table C.1.1.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The TJX Companies, Inc.	28.89	28.5	11.12	9.79	7.27	6.76
Ross Stores, Inc.	28.95	27.53	14.49	12.33	9.64	9.11
The Gap, Inc.	38.26	39.81	9.33	4.86	5.35	1.54
Dick's Sporting Goods, Inc.	28.97	38.33	5.56	16.55	3.77	12.36
Foot Locker, Inc.	31.56	34.38	10.05	11.52	3.65	9.97
Ulta Beauty, Inc	35.63	39.03	13.35	15.03	9.44	11.42
Bath & Body Works, Inc.	39.26	48.91	13.68	25.49	7.78	16.91
Signet Jewelers Limited	35.02	39.92	5.08	11.52	7.78	9.4
lululemon athletica inc.	52.8	57.68	18.67	21.97	9.76	15.59
Tapestry, Inc.	65.54	69.57	11.41	17.59	6.76	12.81
LVMH Moët Hennessy Louis Vuitton S.A.	66.63	68.44	21.32	26.54	13.57	17.79
Inditex, S.A.	56.28	57.06	17.03	15.45	13.29	11.7
H & M Hennes & Mauritz AB	52.7	50.67	7.36	3.21	6.01	1.6

Kering S.A.	74.63	74.68	28.86	27.46	27.19	17.76
JD Sports Fashion Plc	48.45	49.14	9.77	11.84	7.34	4.32
Hermès International SCA	69.98	70.79	35	41.55	23.54	29.02

Source: Morningstar.com/stocks.

Table C.1.1.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**2018**	**2022**	**2018**	**2022**
The TJX Companies, Inc.	19.36	11.08	54	55.47
Ross Stores, Inc.	24.71	13.07	47.01	46.87
The Gap, Inc.	10.87	1.93	28.04	9.6
Dick's Sporting Goods, Inc.	7.83	18.1	16.71	68.45
Foot Locker, Inc.	7.28	11.77	10.86	29.72
Ulta Beauty, Inc	20.34	20.01	33.4	55.78
Bath & Body Works, Inc.	12.05	15.15	—	—
Signet Jewelers Limited	7.82	11.53	19.5	53.4
lululemon athletica inc.	14.15	21.37	17.5	36.81
Tapestry, Inc.	103	155.13	3.54	2.35
LVMH Moët Hennessy Louis Vuitton S.A.	8.9	10.84	20.78	27.55
Inditex, S.A.	16.9	11.72	25.7	21.44
H & M Hennes & Mauritz AB	11.23	1.97	21.4	6.44
Kering S.A.	15.83	11.12	34	26.43
JD Sports Fashion Plc	16.53	6.05	35.07	23.36
Hermès International SCA	19.73	21.51	26.65	30.83

Source: Morningstar.com/stocks.

Table C.1.1.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The TJX Companies, Inc.	56.05	54.14	6.51	6.74	7.52	3.45
Ross Stores, Inc.	57.33	50.2	6.37	7.27	6	3.23
The Gap, Inc.	71.35	99.48	5.12	3.67	5.85	2.42
Dick's Sporting Goods, Inc.	100.19	102.33	3.64	3.57	5.37	3.61
Foot Locker, Inc.	88.58	67.96	4.12	5.37	9.54	2.55
Ulta Beauty, Inc	98.31	92.51	3.71	3.95	5.36	3.52
Bath & Body Works, Inc.	55.56	89.82	6.57	4.06	4.48	2.36
Signet Jewelers Limited	212.45	158.86	1.72	2.3	7.35	4.17
lululemon athletica inc.	91.66	111.21	3.98	3.28	5.91	3.9
Tapestry, Inc.	103	155.13	3.54	2.35	7.46	3.34
LVMH Moët Hennessy Louis Vuitton S.A.	273.23	269.26	1.34	1.36	3.47	2.26
Inditex, S.A.	86.24	82.23	4.23	4.44	3.39	2.17
H & M Hennes & Mauritz AB	131	132.07	2.79	2.76	5.12	2.75
Kering S.A.	269.19	277.48	1.36	1.32	6.08	2.65
JD Sports Fashion Plc	92.49	75.56	3.95	4.83	10.32	3.4
Hermès International SCA	189.51	173.83	1.93	2.1	4.54	3.32

Source: Morningstar.com/stocks.

Table C.1.1.h
Ranking 2018 & 2022

Company	**2018**	**2022**
The TJX Companies, Inc.	11	12
Ross Stores, Inc.	4	9
The Gap, Inc.	12	14
Dick's Sporting Goods, Inc.	13	4

Foot Locker, Inc.	9	11
Ulta Beauty, Inc	8	6
Bath & Body Works, Inc.	6	3
Signet Jewelers Limited	10	7
lululemon athletica inc.	2	2
Tapestry, Inc.	5	10
LVMH Moët Hennessy Louis Vuitton S.A.	12	8
Inditex, S.A.	7	6
H & M Hennes & Mauritz AB	14	13
Kering S.A.	3	8
JD Sports Fashion Plc	6	5
Hermès International SCA	1	1

Source: Kota (2023).

Table C.1.1.i
Metrics ranking summary

Company	Revenue	Financial Health	Cash Flow	Operating Efficiency
	Rank	Rank	Rank	Rank
The TJX Companies, Inc.	11	12	12	6
Ross Stores, Inc.	10	7	11	4
The Gap, Inc.	14	13	13	13
Dick's Sporting Goods, Inc.	4	4	9	3
Foot Locker, Inc.	13	9	11	8
Ulta Beauty, Inc	6	11	7	3

Bath & Body Works, Inc.	13	2	6	2
Signet Jewelers Limited	7	8	2	10
lululemon athletica inc.	2	3	3	1
Tapestry, Inc.	9	10	10	5
LVMH Moët Hennessy Louis Vuitton S.A.	5	9	5	11
Inditex, S.A.	12	5	4	7
H & M Hennes & Mauritz AB	15	13	9	12
Kering S.A.	8	9	4	8
JD Sports Fashion Plc	1	6	8	9
Hermès International SCA	3	1	1	2

Source: Kota (2023).

C1.2 Club, Wholesale

Table C.1.2.a
Club, Wholesale Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Metro AG	48	44	-4	24,620	24,277	1%	-8.80%
Costco	3	3	0	1,95,929	1,66,761	17%	10.50%
BJ's Wholesale club Holdings Inc.	72	64	-8	16,667	15,430	8%	6.20%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.2.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %**	**5 Yr. %**
Metro AG	3.19	-4.34	8.31	-3.84
Costco	14.12	11.96	18.05	13.65
BJ's Wholesale club Holdings Inc.	8.62	6.18	26.71	23.37

Source: Morningstar.com/stocks.

Table C.1.2.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Metro AG	0.88	0.77	0.28	0.29	0.84	1.31	9.78	—
Costco	1.02	1.02	0.45	0.42	0.51	0.43	27.69	45.11
BJ's Wholesale club Holdings Inc.	0.91	0.76	0.15	0.11	—	4.36	—	4.19

Source: Morningstar.com/stocks.

Table C.1.2.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Metro AG	1.53	2.25	1.31	-2	1	—
Costco	1.98	1.54	0.9	0.6	7.62	9.22
BJ's Wholesale club Holdings Inc.	0.57	3.05	1.44	1.19	—	3.7

Source: Morningstar.com/stocks.

Table C.1.2.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Metro AG	16.94	16.94	1.32	0.98	1.17	-1.12
Costco	13.01	12.15	3.16	3.43	2.21	2.58
BJ's Wholesale club Holdings Inc.	17.57	18.47	1.73	3.7	0.39	2.56

Source: Morningstar.com/stocks.

Table C.1.2.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**2018**	**2022**	**2018**	**2022**
Metro AG	2.22	-2.6	11.01	-16.02
Costco	8.12	9.47	26.59	30.59
BJ's Wholesale club Holdings Inc.	1.55	7.7	—	88.2

Source: Morningstar.com/stocks.

Table C.1.2.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Metro AG	38.42	32.63	9.5	11.19	4.86	5.22
Costco	30.93	29.4	11.8	12.41	7.48	8.44
BJ's Wholesale club Holdings Inc.	35.6	32.89	10.25	11.1	10.25	11.1

Source: Morningstar.com/stocks.

Table C.1.2.h
Ranking 2018 & 2022

Company	**2018**	**2022**
Metro AG	3	3
Costco	1	1
BJ's Wholesale club Holdings Inc.	2	2

Source: Kota (2023).

Table C.1.2.i
Metrics ranking summary

Company	**Revenue**	**Financial Health**	**Cash Flow**	**Operating Efficiency**
	Rank	**Rank**	**Rank**	**Rank**
Metro AG	2	2	3	3
Costco	1	1	2	1
BJ's Wholesale club Holdings Inc.	1	3	1	2

Source: Kota (2023).

C.1.3 Discount Retailers

Table C.1.3.a
Discount retailer Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Dollar General Corporation	33	32	-1	34,220	33,747	1%	9.30%
Dollar Tree Inc.	44	40	-4	26,321	25,509	3%	4.90%
Big Lots, Inc	199	173	-26	6,151	6,199	-1%	3.40%
Jerónimo Martins, SGPS, S.A.	47	49	2	24,697	21,988	12%	7.40%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.3.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %**	**5 Yr. %**
Dollar General Corporation	10.12	9.25	15.02	9.31
Dollar Tree Inc.	4.87	4.9	0.44	1.22
Big Lots, Inc	5.5	3.41	3.14	-0.67
Jerónimo Martins, SGPS, S.A.	10.85	9.3	11.69	11.29

Source: Morningstar.com/stocks.

Table C.1.3.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Dollar General Corporation	1.43	1.05	0.13	0.07	0.43	2.09	21.15	26.91
Dollar Tree Inc.	1.6	1.34	0.42	0.24	0.66	1.11	25.8	32.18
Big Lots, Inc	1.73	1.25	0.09	0.05	0.3	1.56	13.46	36.87
Jerónimo Martins, SGPS, S.A.	0.47	0.6	0.23	0.36	0.16	1.07	3.05	4.04

Source: Morningstar.com/stocks.

Table C.1.3.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Dollar General Corporation	4.92	5.25	0.75	0.75	3.57	6.73
Dollar Tree Inc.	3.95	1.55	0.51	0.31	4.41	4.58
Big Lots, Inc	1.75	0.54	0.48	0.19	4.2	1.5
Jerónimo Martins, SGPS, S.A.	0.74	4.76	0.32	2.05	0.27	2.1

Source: Morningstar.com/stocks.

Table C.1.3.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Dollar General Corporation	30.77	31.23	8.55	8.79	6.56	6.38
Dollar Tree Inc.	31.57	29.4	9.07	6.88	7.71	5.05
Big Lots, Inc	40.65	38.97	5.72	3.9	3.6	2.89
Jerónimo Martins, SGPS, S.A.	21.69	21	3.44	3.96	2.31	2.32

Source: Morningstar.com/stocks.

Table C.1.3.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**20182**	**2022**	**2018**	**2022**
Dollar General Corporation	12.72	8.72	26.69	40.94
Dollar Tree Inc.	10.7	6.26	27.27	17.7
Big Lots, Inc	11.65	4.46	28.76	15.56
Jerónimo Martins, SGPS, S.A.	6.12	5.31	22.49	25.6

Source: Morningstar.com/stocks.

Table C.1.3.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Dollar General Corporation	77.13	86.78	4.73	4.21	9.14	2.49
Dollar Tree Inc.	72.35	76.54	5.05	4.77	7.04	2.47
Big Lots, Inc	101	105.9	3.61	3.45	9.66	2.54
Jerónimo Martins, SGPS, S.A.	24.48	23.84	14.91	15.31	4.84	3.87

Source: Morningstar.com/stocks.

Table C.1.3.h
Ranking 2018 & 2022

Company	**2018**	**2022**
Dollar General Corporation	2	1
Dollar Tree Inc.	1	3
Big Lots, Inc	3	4
Jerónimo Martins, SGPS, S.A.	4	2

Source: Kota (2023).

Table C.1.3.i
Metrics ranking summary

Company	**Revenue**	**Financial Health**	**Cash Flow**	**Operating Efficiency**
	Rank	**Rank**	**Rank**	**Rank**
Dollar General Corporation	2	3	1	1
Dollar Tree Inc.	3	1	3	3
Big Lots, Inc	3	2	4	4
Jerónimo Martins, SGPS, S.A.	1	2	2	2

Source: Kota (2023).

C.1.4 Drug store/Pharmacy

Table C.1.4.a
Drug/Pharmacy retailer Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Walgreens Boots Alliance, Inc.	8	7	-1	1,22,045	1,17,705	4%	4.70%
CVS Health Corporation	11	11	0	1,00,105	91,198	10%	4.30%
Rite Aid Corporation	66	62	-4	17,495	16,365	7%	-8.20%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.4.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %2**	**5 Yr. %**
Walgreens Boots Alliance, Inc.	-1.02	2.34	-41.46	-29.12
CVS Health Corporation	7.89	11.78	10.29	11.06
Rite Aid Corporation	4.32	-5.64	-4.73	-32.85

Source: Morningstar.com/stocks.

Table C.1.4.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Walgreens Boots Alliance, Inc.	0.82	0.75	0.34	0.33	0.48	1.27	29.13	30.36
CVS Health Corporation	1.03	0.94	0.55	0.62	1.23	0.95	28.28	54.37
Rite Aid Corporation	1.37	1.18	0.67	0.47	2.11	53.97	15.46	8.47

Source: Morningstar.com/stocks.

Table C.1.4.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Walgreens Boots Alliance, Inc.	5.24	1.63	1.37	0.5	5.89	3.97
CVS Health Corporation	3.51	4.17	-11.49	3.24	4.22	14.69
Rite Aid Corporation	0.24	0.65	0.05	-0.29	0.15	2.92

Source: Morningstar.com/stocks.

Table C.1.4.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Walgreens Boots Alliance, Inc.	23.41	21.3	4.73	0.73	3.82	3.27
CVS Health Corporation	16.21	16.84	5.23	4.99	-0.31	1.29
Rite Aid Corporation	22.2	20.78	0.6	0.3	4.38	-2.19

Source: Morningstar.com/stocks.

Table C.1.4.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**2018**	**2022**	**2018**	**2022**
Walgreens Boots Alliance, Inc.	7.49	5.06	18.79	17.81
CVS Health Corporation	-0.41	1.8	-1.24	5.68
Rite Aid Corporation	9.17	-6.03	85.19	-150.79

Source: Morningstar.com/stocks.

Table C.1.4.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Walgreens Boots Alliance, Inc.	33.45	28.85	10.91	12.65	9.55	3.95
CVS Health Corporation	35.53	25.08	10.27	14.55	17.98	10.28
Rite Aid Corporation	50.52	35.86	7.22	10.18	11.69	6.18

Source: Morningstar.com/stocks.

Table C.1.4.h
Ranking 2018 & 2022

Company	2018	2022
Walgreens Boots Alliance, Inc.	1	2
CVS Health Corporation	2	1
Rite Aid Corporation	3	3

Source: Kota (2023).

Table C.1.4.i
Metrics ranking summary

Company	**Revenue**	**Financial Health**	**Cash Flow**	**Operating Efficiency**
	Rank	**Rank**	**Rank**	**Rank**
Walgreens Boots Alliance, Inc.	2	3	2	1
CVS Health Corporation	1	1	1	1
Rite Aid Corporation	2	2	3	2

Source: Kota (2023).

C.1.5 Electronics

Table C.1.5.a
Electronics retailer Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Best Buy Co, Inc.	22	20	-2	51,761	47,262	10%	5.60%
Ceconomy AG	45	46	1	25,527	23,310	10%	-0.50%
Curry's PLC	89	78	-11	13,777	13,624	1%	-0.40%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.5.b
3- and 5-year revenue performance

	Gross Margin		Operating Margin		Net Margin	
Name	**201814**	**202215**	**201816**	**202217**	**201818**	**202219**
Best Buy Co, Inc.	23.43	22.49	4.4	5.81	2.37	4.74
Ceconomy AG	10.56	8.77	1.81	0.91	-0.99	0.22
Curry's PLC	20.51	17.63	3.8	2.19	1.58	0.7

Source: Morningstar.com/stocks.

Table C.1.5.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**20182**	**20223**	**20184**	**20225**	**20186**	**20227**
Best Buy Co, Inc.	1.26	0.99	0.54	0.37	0.22	1.07	14.2	18.81
Ceconomy AG	0.91	0.91	0.51	0.38	0.42	3.01	1.3	1.64
Curry's PLC	0.95	0.79	0.49	0.29	0.13	0.45	3.7	2.62

Source: Morningstar.com/stocks.

Table C.1.5.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**20188**	**20229**	**201810**	**202211**	**201812**	**202213**
Best Buy Co, Inc.	3.45	4.86	1.45	1.02	5.48	5.29
Ceconomy AG	2.04	-0.12	-2.06	-0.52	1.24	1.13
Curry's PLC	1.19	2.91	0.75	4.15	0.22	0.38

Source: Morningstar.com/stocks.

Table C.1.5.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**201814**	**202215**	**201816**	**202217**	**201818**	**202219**
Best Buy Co, Inc.	23.43	22.49	4.4	5.81	2.37	4.74
Ceconomy AG	10.56	8.77	1.81	0.91	-0.99	0.22
Curry's PLC	20.51	17.63	3.8	2.19	1.58	0.7

Source: Morningstar.com/stocks.

Table C.1.5.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**201820**	**202221**	**201822**	**202223**
Best Buy Co, Inc.	7.43	13.42	24.04	64.52
Ceconomy AG	-2.53	0.48	-31.29	9.1
Curry's PLC	2.26	1.03	5.31	2.91

Source: Morningstar.com/stocks.

Table C.1.5.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**201824**	**202225**	**20183**	**202227**	**201828**	**202229**
Best Buy Co, Inc.	56.96	52.66	6.41	6.93	17.88	10.59
Ceconomy AG	47.95	62.85	7.61	5.81	25.68	9.09
Curry's PLC	48.97	53.82	7.45	6.78	25.87	8.44

Source: Morningstar.com/stocks.

Table C.1.5.h
Ranking 2018 & 2022

Company	**2018**	**2022**
Best Buy Co, Inc.	1	1
Ceconomy AG	3	2
Curry's PLC	2	3

Source: Kota (2023).

Table C.1.5.i
Metrics ranking summary

Company	Revenue	Financial Health	Cash Flow	Operating Efficiency
	Rank	Rank	Rank	Rank
Best Buy Co, Inc.	1	1	1	1
Ceconomy AG	2	1	3	3
Curry's PLC	3	2	2	2

Source: Kota (2023).

C.1.6 Home Improvement

Table C.1.6.a
Home Improvement retailer Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
The Home Depot, Inc.	5	5	0	1,51,157	1,32,110	14%	9.80%
Kingfisher PLC	63	63	0	18,117	15,880	14%	3.40%
Lowe's Companies Inc.	12	12	0	96,250	89,597	7%	8.20%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.6.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	3 Yr. %	5 Yr. %	3 Yr. %	5 Yr. %
The Home Depot, Inc.	6.65	6.18	11.93	13.58
Kingfisher PLC	2.05	1.97	0.82	-0.21
Lowe's Companies Inc.	10.51	8.16	44.38	15.65

Source: Morningstar.com/stocks.

Table C.1.6.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Home Depot, Inc.	1.17	1.01	0.34	0.2	16.69	—	2.2	1
Kingfisher PLC	1.15	1.27	0.22	0.33	0.01	0.3	4.46	4.42
Lowe's Companies Inc.	1.06	1.02	0.06	0.06	2.65	17.09	6.92	5.57

Source: Morningstar.com/stocks.

Table C.1.6.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Home Depot, Inc.	10.04	9.27	1.17	0.85	8.18	11.36
Kingfisher PLC	-0.64	5.84	-0.15	0.91	0.1	0.64
Lowe's Companies Inc.	5.74	8.58	1.14	0.98	5.4	9.62

Source: Morningstar.com/stocks.

Table C.1.6.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Home Depot, Inc.	34.05	33.63	14.55	15.24	8.55	10.87
Kingfisher PLC	36.92	37.43	5.65	8.03	4.16	6.39
Lowe's Companies Inc.	34.11	33.3	9.6	12.56	5.01	8.74

Source: Morningstar.com/stocks.

Table C.1.6.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**2018**	**2022**	**2018**	**2022**
The Home Depot, Inc.	19.73	23.07	298.25	2,050.28
Kingfisher PLC	4.71	6.85	7.18	12.63
Lowe's Companies Inc.	9.86	18.41	55.84	—

Source: Morningstar.com/stocks.

Table C.1.6.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
The Home Depot, Inc.	6.57	6.58	5.26	5.19	4.59	4.89
Kingfisher PLC	120.99	115.88	3.02	3.15	2.83	2.67
Lowe's Companies Inc.	88.21	96.09	4.14	3.8	3.46	4.17

Source: Morningstar.com/stocks.

Table C.1.6.h
Ranking 2018 & 2022

Company	**2018**	**2022**
The Home Depot, Inc.	1	1
Kingfisher PLC	3	3
Lowe's Companies Inc.	2	2

Source: Kota (2023).

Table C.1.6.i
Metrics ranking summary

Company	**Revenue**	**Financial Health**	**Cash Flow**	**Operating Efficiency**
	Rank	**Rank**	**Rank**	**Rank**
The Home Depot, Inc.	2	2	1	1
Kingfisher PLC	3	1	2	3
Lowe's Companies Inc.	1	3	1	2

Source: Kota (2023).

C.1.7 No Store/Online

Table C.1.7.a
No Store/Online retailer Global ranking summary

Name	Rank 2023	Rank 2022	Change #	Revenue FY21	Revenue FY20	Change %	Revenue CAGR (FY16-21)
Amazon	2	2	0	2,39,150	2,13,573	12%	20.40%
Williams-Sonoma, Inc.	139	161	22	8,246	6,783	22%	10.20%
Zalando SE	101	122	21	12,241	9,097	35%	23.30%

Source: Global powers of Retailing report 2022 and 2023.

Table C.1.7.b
3- and 5-year revenue performance

	Revenue		Operating Income	
Name	**3 Yr. %**	**5 Yr. %**	**3 Yr. %2**	**5 Yr. %**
Amazon	29.59	26.36	77.18	75.55
Williams-Sonoma, Inc.	13.29	10.16	49.38	25.19
Zalando SE	16.86	18.17	-21.23	-15.37

Source: Morningstar.com/stocks.

Table C.1.7.c
Financial health summary

	Current Ratio		Quick Ratio		Debt Equity		Book Value/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Amazon	1.1	0.94	0.85	0.72	0.91	0.96	3.98	13.42
Williams-Sonoma, Inc.	1.62	1.31	0.48	0.55	0.25	0.64	14	21.44
Zalando SE	1.53	1.45	0.91	0.81	0	0.72	6.86	8.56

Source: Morningstar.com/stocks.

Table C.1.7.d
Cash Flow

	Cash Flow/Sales		Cash Flow/Net Income		Cash Flow/Share	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Amazon	7.43	-3.29	1.72		1.34	-2.58
Williams-Sonoma, Inc.	5.86	13.88	1.19	1.02	3.55	14.85
Zalando SE	-1.22	1.05	-1.28	6.45	-1.05	-0.17

Source: Morningstar.com/stocks.

Table C.1.7.e
Operating efficiency-Margins

	Gross Margin		Operating Margin		Net Margin	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Amazon	13.25	13.16	5.33	2.38	4.33	-0.53
Williams-Sonoma, Inc.	36.5	44.05	8.57	17.62	4.9	13.66
Zalando SE	42.33	39.2	2.21	0.78	0.95	0.16

Source: Morningstar.com/stocks.

Table C.1.7.f
Operating efficiency-Returns

	Return on Asset		Return on Equity	
Name	**2018**	**2022**	**2018**	**2022**
Amazon	6.85	-0.62	28.27	-1.92
Williams-Sonoma, Inc.	9.86	24.26	21.17	67.95
Zalando SE	1.65	0.23	3.33	0.76

Source: Morningstar.com/stocks.

Table C.1.7.g
Turnover

	Days Inventory		Inventory Turnover		Fixed Asset Turnover	
Name	**2018**	**2022**	**2018**	**2022**	**2018**	**2022**
Amazon	30.01	27.41	12.16	13.31	4.21	2.19
Williams-Sonoma, Inc.	110.73	89.1	3.3	4.1	5.7	4.11
Zalando SE	93.89	97.41	3.89	3.75	12.01	6.14

Source: Morningstar.com/stocks.

Table C.1.7.h
Ranking 2018 & 2022

Company	2018	2022
Amazon	1	3
Williams-Sonoma, Inc.	2	1
Zalando SE	3	2

Source: Kota (2023).

Table C.1.7.i
Metrics ranking summary

Company	Revenue	Financial Health	Cash Flow	Operating Efficiency
	Rank	Rank	Rank	Rank
Amazon	1	3	3	3
Williams-Sonoma, Inc.	2	2	1	1
Zalando SE	2	1	2	2

Source: Kota (2023).