2025

Factors affecting adoption of digital transformation among vehicle automotive firms in Kenya.

Kyalo, Catherine
Strathmore Business School
Strathmore University

FACTORS AFFECTING ADOPTION OF DIGITAL TRANSFORMATION AMONG VEHICLE AUTOMOTIVE FIRMS IN KENYA

CATHERINE KYALO

REG NO: 56712

A RESEARCH DISSERTATION SUBMITTED IN FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF STRATHMORE UNIVERSITY

MARCH 2025

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

Name of Candidate

Catherine N. Kyalo

Approval

The dissertation of Catherine N. Kyalo was approved by the following:

Name of Supervisor: Dr. Humphrey Njogu

School/Institute/Faculty: Strathmore University Business School.

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ABBREVIATIONS AND ACRYONMS

AAAM	African Association of Automotive Manufactures
AR	Augmented Reality
AVA	Associated Vehicles Assemblers Limited
BD	Big Data
CMMI	Capability Maturity Model Integration
DT	Digital Transformation
EAC	East Africa Community
GMEA	General Motors East Africa
GMK	General Motors Kenya
HRM	Human Resources Management
IEA	Isuzu East Africa
KAM	Kenya Association of Manufacturers
KVM	Kenya Vehicle Manufacturers
PL-SEM	Partial Least Squares Structural Equation Modeling
RBV	Resources Based View
SMEs	Small and Medium Enterprises
SPSS	Statistical Packages of Social Sciences
UK	United Kingdom
VUCA	Volatile, Unpredictable, Complex and Ambiguous

OPERATIONAL DEFINITION OF KEY TERMS

Adoption of Digital Transformation	Refers to enhanced business models, improved customer experience and operational efficiency Karltorp (2017).
Digital Resources Factors	Refers to digital capabilities, knowledge base and digital technologies investments Barney (1991).
Leadership Factors	Refers to inspiring vision, fostering innovation, enabling experimentation, and promoting collaboration (Kane, Palmer, , Phillips, , Kiron, & Buckley, 2018) .
Organization Factors	Refers to the culture, structures, processes, formal and informal relations among groups within a firm geared towards attaining a competitive advantage (Barney J. , 1991).

ABSTRACT

Digital transformation has been reshaping industries worldwide, with a growing emphasis on creating new business models for customized products and enhanced customer experiences. In the automotive sector, this study explores the effects of resource, leadership, and organizational factors on digital transformation adoption in Kenya. This study leverages Disruptive Innovation Theory and Resource based View (RBV) theory. Through descriptive research and stratified sampling, 306 respondents were surveyed, revealing effects of digital, leadership, and organizational factors on absorption of digital transformation in the motor vehicle industry. The study uncovered a significant positive correlation between digital resource factors and the industry's ability to absorb digital transformation. Moreover, the research highlighted the crucial role of leadership factors, demonstrating their statistically significant influence on the absorption of digital transformation. This supports the idea that organizational resources act as a competitive advantage, aiding in the adoption of appropriate business models. Additionally, the study emphasized the impact of organizational factors, revealing a consensus among participants regarding their effect on digital transformation absorption. Overall, the findings underscore the importance of digital resources, leadership, and organizational factors in driving successful digital transformation initiatives within Kenya's motor vehicle industry.

List of Keywords: Adoption of Digital Transformation, Digital Resources Factors, Leadership Factors, Organization Factors

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Manufacturing has acted as a global catalyst for high income economies enabling these countries to achieve rapid industrialization (Industrialization, 2022). The Kenyan government has set the Big 4 Agenda which prioritizes the manufacturing sector because of it's potential to significantly contribute to Kenya's Gross Domestic Product (GDP). In the year 2020, the sector recorded a GDP of 7.6 percent according to (Kenya National Bureau of Statistics, 2021). In particular, the automotive industry has been utilized as a pillar of macroeconomic growth and technological advancement. The core automotive industry (vehicle and parts makers) supports a wide range of business segments, including metal, steel, fuel, electronics, advertising, transportation, and warehousing (Kenya Association of Manufacturers, 2020).

Digital transformation has redefined operational excellence in the manufacturing industry by automating processes and work procedures to streamline operations, providing efficiency and reduce costs (Mazzone, 2014). Sumedha Chauhan in Ansong & Boateng (2019) states that digital technologies provide an environment for the upsurge of technology enabled enterprises. According to CGI (2016), digital transformation is leveraged upon to optimize, modernize, and automate. Globally, 91 percent of industrial companies are investing in digital factories, listing an expected efficiency gain of 12% over a span of five years (Geissbaue, Schrauf, Berttram, & Cheraghi, 2020).

In Kenya, slow technological upgradation was cited as a key challenge facing the automotive industry (Kenya Association of Manufacturers, 2020). Additionally, Were (2016) identifies

vehicle assembly as one of the weakest sub-sectors within the manufacturing sector in Kenya, citing use of outdated technologies, running outdated systems, and using obsolete machines as a key feature. Failure to incorporate new technology has been blamed to operational inefficiency and increased utilization of energy (Were, 2016). Further research shows that the manufacturing industry is facing low levels of digitization and a decreased impact of digitalization on productivity and growth in the sector (Cooke, 2018).

1.1.1 Adoption of Digital Transformation

According Mazzone, (2014) digital transformation is the process of continuously improving a business model, concept, system, or process of a firm through digital means. Moreover, digital transformation, according to Dyk and Belle (2019) is a process that modifies a company business model in order to eventually offer clients a range of tangible goods made possible by utilizing both new and existing digital technology.

Adoption of digital strategies such as digital twins, robots, 3D Computer Aided Design (CAD) models and big data analytics ensure “first time right designs”, zero defect manufacturing and demand driven Supply chain Geissbaue, et al., (2020). . Additionally, Ramey in Yarali (2021) notes that the last few years have seen organizations integrate the upcoming technologies including smart manufacturing to gain competitive advantage as they strive to increase their revenue and return on investment. The advent of new technologies has also necessitated businesses and competitors to adapt to stay competitive in the market (Yarali, 2021).

Evaluation of information technology adoption has demonstrated that in America, it has been adopted to enhance productivity and quality of decision making. Vial (2021) documented that digital transformation alluded that it enhances productivity but did not consider its contribution in

the long term. Similar, sentiments were echoed by Smith and Jones (2022) who argued that through cloud computing business agility is improved though they did not account for cybersecurity risks which are evidenced with cloud technological development. Johnson et al. (2023) averted that even though health care access is enhanced through improvement in patient outcomes there was lack of disclosure on cost implications. Further, Davis and White (2024) documented significant difference in access to digital platforms between rural communities though they never factored the role of government. In addition, Brown (2025) supported the contribution of IT adoption in small business enterprises but the study failed to account for financial barriers that may deter its adoption as well as levels of digital literacy.

In Asia, incorporation of information technology in business enterprises has been hailed as a source for economic development. Apriyantopo and Aprianingsih (2020) asserts that IT adoption is attributed to economic and social cultural aspects though they never elucidated the contribution of government policies. Ahmed and Elfaki (2020) documented that IT adoption enhances integration of green sustainable development but did not disclose on regulatory gaps that may be attributes to differentiation in adoption rates. Awang et al. (2020) alluded that economic growth disparities may be mitigated through promotion of ICT penetration in different regions. Sedik and Sun (2018) attributed digitalization to economic growth though they never factored in social economic inequalities. Elfaki and Ahmed (2014) demonstrated the role of IT's in conservation of environment as well as achievement of long-term effect on alleviation of unemployment.

Sub-Saharan African perspective has documented a myriad of barriers attributed to IT adoption though they have revealed some strides in its incorporation in business operations. Kalumendo (2023) associated IT adoption with leadership style and human capital development though they

never disclosed the role the government ought to play. Moyo and Musonda (2023) reported that organization readiness is association with IT adoption in manufacturing sector though they never evaluated the role of infrastructure. Olayemi (2022) argued that ICT adoption is linked to reduction in unemployment but they never explored gender disparities. Akinwale (2024) argued that ICT adoption enhanced SMEs performance while Asogu and Odhiambo (2021) linked it to rural-urban migration. In Kenya, IT has been adopted in education, procurement, SMEs and technology-based enterprises. De' and Kaugi (2023) asserted that IT adoption enhances teaching outcomes though the study was limited to urban schools. Wanyonyi and Muturi (2018) argued that IT enhances procurement efficiency though they never linked it to public-private partnership. Mugo (2017) associated positive performance amongst SMEs to IT adoption but they never evaluated the role of digital literacy.

1.1.2 Factors of Digital Transformation

Several empirical studies have explored the factors influencing IT adoption in Europe revealing critical insights while exposing notable research gaps. Yera et al. (2020) highlighted the role of digital literacy and internet purchasing frequency in e-Government adoption but presented a methodological gap by relying solely on secondary data without qualitative user insights. Almaiah and Al-Khasawneh (2022) identified perceived enjoyment and self-efficacy as key factors in educational IT adoption but failed to explore how institutional policies impact these factors, reflecting a knowledge evidence gap. Cruz-Jesus et al. (2021) provided a meta-analysis on digital transformation adoption but left a contextual gap by underrepresenting Eastern European countries. Zuiderwijk et al. (2022) explored AI adoption in public organizations, contributing to theory development but lacking empirical validation, resulting in both methodological and

conceptual gaps. Kwateng et al. (2020) examined mobile enterprise applications in Ghana, offering valuable insights but creating a contextual gap by limiting applicability to European regions.

Empirical studies on IT adoption in India reveal that key factors influencing adoption include perceived ease of use, perceived usefulness, trust, social influence, security concerns, and cultural aspects. Yadav et al. (2022) found that ease of use significantly impacted ICT adoption in rural areas, while a study on semi-rural women highlighted the importance of trust and social influence in adopting digital payments. Asir and Manohar (2023) showed that IoT adoption is shaped by security risks, trust, and cultural differences, while e-government services adoption is driven by ease of use, usefulness, and facilitating conditions. Singh et al. (2010) emphasized that perceived usefulness and cost were critical in 3G service adoption. These findings suggest that user-friendly interfaces, trust-building measures, and culturally tailored strategies are essential for enhancing IT adoption across sectors in India.

Moreover, financial structures, such as debt ratios and operational costs, significantly influence firms' willingness to adopt digital technologies, especially those seeking efficiency gains (European Investment Bank, 2022). In the manufacturing sector, technological readiness, organizational culture, and external pressures emerge as critical drivers of transformation (Ferreira et al., 2020). Small and medium-sized enterprises (SMEs) face multifaceted challenges, with a taxonomy of 354 influencing factors categorized into technological, organizational, and environmental dimensions (Bouncken & Schmitt, 2022). Public sector digitalization is shaped by income levels, governance models, and political stability, emphasizing the importance of context-specific strategies (López & Martín, 2023). Knowledge-intensive business services (KIBS) companies rely on innovation-oriented management and professional collaborations to navigate

digital change (Zhang & Liu, 2022). Meanwhile, micro, small, and medium enterprises (MSMEs) experience barriers related to technology, finance, and business culture at early digitalization stages, though these barriers diminish as firms progress in their transformation journey (García & Puerta, 2024). These studies collectively illustrate the diverse and dynamic nature of digital transformation, underscoring the need for tailored approaches across industries and organizational types.

According to Barney, (1996) a firm's resources a firm's resources include all assets, capabilities, competencies, firm attributes, information, or knowledge controlled by a firm that enable the firm to create and implement strategies that improve its efficiency and effectiveness. In this discussion, resource factors will be viewed in two categories: capital resources, which refer to technology investments made by a firm including a firm's plant, factory equipment, software like cloud technologies and hardware such as virtual servers. Substantial investment is required to lead a manufacturing facility through the digital transformation journey therefore, to achieve both short and long-term benefits, proper planning for the investment is required with a vision to reach a valuable goal. Additionally, solutions with a return on investment (ROI) should be selected and considered as proof-of-concept (Albukhitan, 2020). Low production volumes are cited as a challenge when implementing digitization, thus some organizations assume that the transition to digitization is not sufficiently profitable (Eluekezi & Tuncay, 2021). However, many companies agree that lack of competence, excessive digitization cost and insufficient benefits make it not worth investing in digitization (Schiffer & Wiendahl, 2019) .

The second category of focus will be human resources which refer to competence, expertise, experience, intelligence, and insights of the workforce within a firm (Barney J. , Firm Resources

and Sustained Competitive Advantage, 1991). According to Kane et al. (2017) hiring, retaining, and developing talent within the enterprise is essential for digital success but remains challenging for digitally maturing companies. A survey done in 2015 of 4500 professionals cited talent as being among the top 3 factors affecting successful implementation of digital transformative projects (El Sawy, Amsinck, Kræmmergaard, & Vinther, 2016). Albukhitan (2020) emphasizes that knowledge is a crucial component in integrating digital technologies into manufacturing. Simultaneously, it is crucial that the organization must have teams willing to implement innovative technologies, aware of required change and flexibility to implement (Eluekezi & Tuncay, 2021).

Leadership refers to the role played by leaders, executives, and management in attaining digital transformation (Eluekezi & Tuncay, 2021). El Sawy et. al (2016) defines digital leadership involves making the right decisions for the strategic success of digitalization within the enterprise and its business ecosystem. Selznick (1957) examined the relationship between institutional leadership and distinctive competence. He states that leaders in organizations do more than decision making and administration; leaders provide vision, identify and protect the firms' distinctive competencies (Selznick, 1957). Leaders must stay throughout the transformative efforts to foster strong governance, drive the change across the entire enterprise while redirecting activities and behaviors that go against the vision. Significantly, Westerman et. al (2014) notes that committed leadership is the catalyst that transforms technology into meaningful change by steering the transformation through strong top- down leadership. In addition, (Dyk & Belle, 2019) confirms that a lack of leadership that steers digital transformation by being directly involved while establishing direction, generating momentum, and ensuring follow-through within the enterprise are barriers to achieving digital transformation

Organization factors refer to the culture, structures, processes, formal and informal relations among groups within a firm geared towards attaining a competitive advantage (Barney J. , 1991). Fostering a culture that encourages employees to embrace risk-taking and creativity, innovating while creating a team-oriented work environment is paramount for digitally mature enterprises opportunities (Kane, Palmer, Phillips, & Kiron, Winning the digital war for talent, 2017). Changing organizational culture can be challenging during digital transformation. However, a trial-and-error approach can encourage experimentation with various technologies while promoting quick learning from mistakes and maintaining agility (Hess, Matt, Benlian, & Wiesböck, 2016). Executives in traditional corporate cultures face obstacles and reluctance to change, which must be eliminated to achieve a successful digital transformation. (Singh & Hess, 2017).

Another Organization factor is the current set-up of many Information Technology (IT) functions which Urbach et al (2017) affirms that it lacks agility and the muscle to innovate by proactively identifying technological innovations and rapidly transforming them into marketable solutions. This is due to a lack of flexibility which confers on the department as rather reactive service providers since they do not have the necessary structures, processes, and abilities. The IT Function needs to be transformed by embracing new modes of internal organization, collaboration, and alignment with business departments. concepts like cross-functional digital teams and IT innovation management are key in switching to the new IT function of consultants, enablers, and innovators (Urbach, Drews, & Ross, 2017).

Strategy implementation processes defined as the enactment stage of an organization's strategic plan (Pearce, 2005) is a critical success factor in the digital transformation journey. Digital

transformation must be embarked upon with a digital Strategy. According to (Dyk & Belle, 2019) a significant barrier to digital transformation is the absence of a well-defined, cohesive digital strategy or plan. (Kane, Palmer, Phillips, & Kiron, 2017)suggest that digital future vision likely requires the organization to operate in radically different ways.

1.1.3 Automotive Industry in Kenya

When Volkswagen assembled the Bettle in Kenya during the 1960s, the country's automotive history began. Because of this, he gained notoriety in East Africa earlier than his contemporaries. Kenya Vehicle Manufacturers (KVM) ltd was a company founded by the Kenyan, Leland, and UK governments in 1974. General Motors Kenya (GMK) was founded in 1975 as a Even though GM started producing cars in Kenya around 1977, the country's government has collaborated with the automaker. GM used to be known as General Motors East Africa (GMEA), but in 2017 it changed to Isuzu East Africa (IEA). In 1975, Associated Vehicles Assemblers Limited (AVA) was founded. Even so, its activities only began in 1977. The first Kenyan automobile was produced under the Nyayo brand in the 1980s. This event was noteworthy as it marked the development of the first independently engineered car in Africa. In 2009, Mobius Motor was established and in 2019 Volkswagen re-entered Kenyan market and commenced assembling Polo Vivo in co-operation with DT Dobie, there main workshop is KVM (Kenya Association of Manufacturers, 2020).

The number of newly registered motor vehicles has been steadily increasing from 2016 at 90,176 units to 2019 at 109, 751 units. There was a decrease of 14.2 per cent to 94,128 units in 2020 (Kenya National Bureau of Statistics, 2021). Over 90% of new vehicle registrations in 2019 were imports, both used and new. Further analysis shows that of the locally sold vehicles, 53% were assembled domestically and 47% imported (Kenya Association of Manufacturers, 2020).

The East African Community loses over US$ 2.01 billion annually in foreign exchange due to motor vehicle imports (Kenya Association of Manufacturers, 2020). The elimination of the requirement for local content if a 25 percent penalty is paid has added to the automotive industry's inherent weakness, which has resulted in a sharp decline in the number of local parts manufacturers. As of the start of 2019, Kenya's car assembly facilities were only producing roughly 7,000 vehicles per shift, or 20% of the 34,000 vehicles that could be produced there in a single shift (Industrialization, 2022).

Although Kenya Automotive Industry is more developed as its peers. It faces challenges such as a shortage of skilled labor, limited research and development efforts, and insufficient long-term financial support that may hinder technological adoption. These have been mitigated through creation of corporate engagements with African Association of Automotive Manufactures (AAAM). This linkage is deemed as a source of competitive advantage for Kenya by positioning it as production and trading hub, integration of EAC into value chain and persuasion of market linkages with other stakeholders (Kenyan Association of Manufacturers, 2022). The production capacity in the automotive industry is not fully utilized with IEA recording 31%, followed by AVA at 29% and Trans Africa limited at 40% (Kenya Association of Manufacturers, 2020).

Empirical studies have consistently highlighted the transformative role of digital adoption in the motor vehicle manufacturing sector, enhancing operational efficiency, innovation capacity, and sustainability outcomes. Llopis-Albert et al. (2020) found that digital transformation positively influences business performance by supporting the adoption of electric vehicles and aligning operations with environmental regulations through advanced supply chain technologies. Wang et al. (2024) further demonstrated that digital supply chain transformation among electric vehicle manufacturers significantly enhances agile capability, innovation performance, and overall

enterprise outcomes. Zhang et al. (2022) emphasized that digital technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI) play a critical role in enabling remanufacturing and recycling practices, contributing to both economic and environmental sustainability. These findings collectively suggest that digital adoption not only optimizes manufacturing processes but also fosters sustainable and innovation-driven business models.

Despite these benefits, the empirical literature also highlights significant challenges associated with digital adoption. Ali et al. (2023) identified data privacy concerns and inadequate cybersecurity regulations as critical impediments to the adoption of autonomous vehicles in the automotive sector. Similarly, Wang et al. (2024) argued that the success of digital transformation depends on the alignment of digital technologies with cybersecurity frameworks and organizational readiness. These studies indicate that while digital adoption can drive operational and environmental benefits, its implementation requires a comprehensive approach that integrates technological, regulatory, and organizational dimensions. The synthesis of these studies suggests that motor vehicle manufacturers must adopt a systems-based approach to digital transformation, balancing technological innovation with cybersecurity risk management and sustainability objectives to achieve long-term competitive advantage.

1.2 Statement of the Problem

Digital transformation has been reshaping industries worldwide (Karltorp, 2017), notably, production of highly customized products with 91 percent of industrial companies investing in creating digital factories (Geissbaue, Schrauf, Berttram, & Cheraghi, 2020) while 98 percent expect to increase efficiency with digital technologies. Despite the global trends, the Kenyan automotive sector is unable to reap the benefits of digitalization. The sector is characterized by

slow technological advancement attributed to the absence of incentives. This cautious adoption of technologies to bolster digital transformation stands out as a prominent challenge encountered by assemblers in Kenya (Kenya Association of Manufacturers, 2020). Moreover, the lack of sufficient funding and motivations to support Research and Development has been recognized as a significant challenge for assemblers in Kenya. This approach significantly hampers the vehicle industry sector's capacity to fully exploit the advantages offered by digital transformation. Therefore, understanding the factors influencing adoption is key in addressing this challenge to ensure that the Kenyan assemblers reap the global benefits availed by leveraging technology.

Llopis-Albert et al. (2020) demonstrate how digital transformation, particularly through electric vehicle adoption, improves business performance using fuzzy-set qualitative comparative analysis (fsQCA). However, this study focuses on macro-level performance outcomes without exploring how digital technologies affect firm-level operational processes or employee capabilities, presenting a methodological gap in linking digital adoption to micro-level business functions. Wang et al. (2024) emphasize the positive relationship between digital supply chain transformation, agile capabilities, and enterprise performance in electric vehicle enterprises. While this study provides empirical evidence on the performance impact of digital adoption, it primarily captures short-term performance indicators, leaving a knowledge gap in understanding how long-term digital adoption strategies influence business sustainability and competitive advantage.

Zhang et al. (2022) explore the role of digital technologies, such as IoT and AI, in enabling remanufacturing and recycling practices, contributing to the circular economy. This study addresses the sustainability dimension of digital adoption but overlooks the economic trade-offs and technological complexities associated with integrating digital technologies into traditional

manufacturing processes, representing an empirical gap in understanding the cost-benefit dynamics of digital sustainability practices. Ali et al. (2023) investigate cybersecurity challenges in autonomous vehicle adoption, revealing critical regulatory and privacy barriers. However, the study focuses on technological impediments without addressing how organizational culture, leadership, and digital literacy influence cybersecurity readiness, highlighting a theoretical gap in linking organizational factors to digital risk management. Additionally, none of the reviewed studies fully explore how digital adoption unfolds in small and medium-sized enterprises (SMEs), particularly in emerging economies, representing a contextual gap that limits the generalizability of findings across different organizational sizes and market environments. This study therefore addressed these gaps by investigating how these resource factors, organizational factors, and leadership factors affect adoption of digital transformation in the Kenyan vehicle automotive industry.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to examine factors affecting the adoption of digital transformation in the Kenyan vehicle automotive industry.

1.3.2 Specific Objectives

i. To determine the effect of digital resource factors on adoption of digital transformation in vehicle automotive industry in Kenya
ii. To examine the effect of leadership factors on adoption of digital transformation in vehicle automotive industry in Kenya

iii. To find out the effect of Organizational factors on adoption of digital transformation in vehicle automotive industry in Kenya

1.4 Research Questions

i. What is the effect of digital resource factors on adoption of digital transformation in vehicle automotive industry in Kenya?
ii. What is the effect of leadership factors on adoption of digital transformation in vehicle automotive industry in Kenya?
iii. What is the effect of organizational factors on adoption of digital transformation in vehicle automotive industry in Kenya?

1.5 Significance of the Study

This study will be beneficial to executives of the automotive industry and in particular the vehicle assembly plants in identifying how various factors affect digital transformation adoption. The findings will further help the firms identify key barriers and success factors while navigating the current global technology trend in digital disruption.

Industry stakeholders and leaders will also find this study important to identify policy loopholes within the sector regarding digital transformation adoption and leverage the research to promote sustainable innovations. This study also gives a perspective of digitalization of the sector to global technology players while painting opportunities for collaboration and investment in the Kenyan automotive industry.

In addition, this study will close the existing gap as studies are minimal in this sector while contributing to the existing literature of primarily physical industries. This study will be of benefit

to both researchers and academicians who seek to explore and conduct further investigations in this area by providing basis for further research.

1.6 Scope of the study

The study examined factors that influenced the adoption of digital transformation in Kenya's automotive vehicle assembly lines. The theoretical framework was based on the Disruptive Innovation Theory and the Resource-Based View (RBV) model. Digital transformation was measured by the emergence of new business models that offered a competitive edge to businesses.

The geographical scope focused on major vehicle assembly plants in Kenya, particularly in industrial hubs such as Nairobi, Mombasa, Thika, and Nakuru. These regions represented key centers for automotive manufacturing in the country.

A descriptive research design was employed, with bias in quantitative data. Quantitative data was gathered through structured questionnaires targeting managerial and operational staff, while qualitative insights were obtained from document content analysis and evaluation of past empirical and theoretical literature in aspects under consideration.

1.7 Chapter Summary

In this chapter, the research delved into the introduction of the current state of the automotive arena in Kenya outlining imports of both used and new vehicles and slow technological upgradation as key challenges facing the sector. The study outlined digital transformation as a strategy changing the business model to provide customer value. In addition, the study highlighted factors affecting adoption of digital transformation such as resources factors like digital capabilities, Leadership factors and Organizational factors. In the research problem, this study noted the inadequacy of

studies about digital transformation in primary physical industries. Finally, the research objectives and questions were outlined.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review provides a concise examination and discussion of evidence in a particular area while extracting, synthesizing, and summarizing previous ideas from others' work (Bolderston, 2008). Anchored on the Disruptive innovation theory and Resource-based view (RBV) theory this chapter examined factors affecting adoption of digital transformation. The chapter covered empirical review as well as the conceptual framework illustrating the interrelation among the study variables.

2.2 Theoretical Review

This segment offers an overview of Disruptive Innovation theory supported by Resource based View (RBV) theory. The Disruptive Innovation theory, coined by Clayton Christensen, purports that disruptive technology opens up windows of opportunity for new products (Oroszi, 2020). Resource based theory contemplated in (1986) by Barney examined resources of the organizations to understand how organizations achieve sustainable competitive advantage (Madhani, 2010).

2.2.1 Disruptive Innovation Theory

Disruptive Innovation Theory (DIT), introduced by Christensen (1997), has become one of the most influential frameworks in understanding how small, resource-constrained firms challenge established market leaders. The theory originally sought to explain why successful incumbent firms often fail when confronted with simpler, lower-cost products from new entrants. It proposed that disruption occurs in two stages: first, entrants target low-end or underserved market segments

with inferior but affordable solutions, and second, they progressively improve their offerings until they displace incumbents in the mainstream market.

Christensen's early work was primarily built on qualitative, case-based research, particularly in the disk drive and mechanical excavator industries. His seminal study in *The Innovator's Dilemma* (1997) showed that smaller firms successfully disrupted market leaders by offering products that were initially inferior but served price-sensitive or overlooked customer segments. This pattern was corroborated by Christensen & Bower (1996), who found that incumbents' preference for sustaining innovations — which catered to their most profitable customers — made them vulnerable to disruptive entrants.

However, empirical validation of DIT across industries has yielded mixed results. For example, Danneels (2004) found that while disruptive innovations occurred in the typewriter industry, incumbents could sometimes respond effectively by launching their own disruptive products. Similarly, Yu & Hang (2010) conducted a meta-analysis of disruptive innovations across multiple sectors, revealing that only 60% of cases followed the low-end market entry trajectory predicted by Christensen. These studies suggest that the rigid two-step model may not universally apply.

Recent empirical work has further complicated the theory. King & Baatartogtokh (2015) analyzed 77 case studies and found that only 9% conformed fully to Christensen's model, while many disruptions occurred more rapidly or targeted mainstream markets from the outset. In emerging markets like Kenya, studies by van der Boor et al. (2014) demonstrated that M-Pesa's mobile money services disrupted traditional banking by addressing market failures and non-consumption rather than low-end customers a pattern not fully accounted for by the original theory. Similarly, Agwu & Murray (2022) found that digital platforms like Jumia in Nigeria leapfrogged traditional

retail channels, demonstrating that disruption in emerging markets often bypasses the low-end trajectory described by Christensen.

While Disruptive Innovation Theory remains one of the most influential frameworks in innovation literature, its empirical development highlights significant contextual limitations in the digital economy and emerging markets. The theory's core assumptions particularly the two-step market entry path and gradual performance improvements are increasingly misaligned with platform-based disruptions and Big Bang innovations. Moreover, its limited applicability to network effects, non-consumption markets, and digital ecosystems suggests that the theory requires substantial revision. The theory is relevant for the study since technological development has been incorporated in business enterprise with notable success thus the need to empirically evaluate the value contribution of digital factors on digital transformation adoption.

2.2.2 Resources Based View

RBV was first introduced by Barney (1991) who defined a firm's resources as all its possessions, skills, organizational procedures, firm characteristics, information, and knowledge that allow it to create and carry out plans that increase its efficacy and efficiency. Madhani (2010) posits that the variation in performance amongst firms is contingent upon the possession of distinctive inputs and capabilities. According to Madhani (2010), the firm's RBV theory acknowledges that characteristics pertaining to prior experiences, organizational culture, and competencies are essential for the organization's prosperity.

According to the resource-based view Barney (1991), a firm's capacity to create valuable, rare, hard-to-imitate, and non-substitutable resources is a sign of that capacity. According to Madhani (2010) resources that are difficult to buy or transfer, that call for a significant shift in organizational

culture or a protracted learning curve, and that are probably exclusive to the company will be harder for rivals to copy. This theory's proponents affirm that corporate strategy and diversification are driven by core competencies, and they emphasize that companies should diversify into industries that can capitalize on and improve their core competencies.

RBV enables managers and executives to comprehend the reasons behind the perception of competencies as a company's most valuable asset and the ways in which those competencies can be leveraged to enhance business performance. This theory's detractors argue that although internal resources are important, it's critical to examine how both internal and external factors affect attaining better organizational performance (Kiganda, 2022). Solesvik (2018) also argues that the RBV only applies to large firms. In addition, the dynamic capabilities perspective proposed by (Teece, 2007) notes that due to the dynamic nature of the market, a firm's resources must evolve over time to remain relevant in the dynamic global market.

Recent empirical studies have reinforced the role of digital transformation in enhancing firm performance within the automotive and manufacturing industries. Men et al. (2023) found that digital transformation positively influences product research and development (R&D) outcomes in the automotive sector, with digital technology innovation capabilities serving as a mediating factor. The study further highlighted that innovation ecological resources significantly moderate the relationship between digital transformation and technological innovation capabilities. Similarly, Zhang et al. (2023) explored how digital transformation impacts supply chain integration and operational performance in manufacturing enterprises, finding that digital transformation enhances supply chain processes, ultimately improving operational efficiency.

Moreover, Willie (2023) emphasized the strategic deployment of digital resources in securing competitive advantage, highlighting that the effective use of digital technologies fosters

organizational success. Komakech et al. (2025) identified technological expertise, innovative processes, and supply chain management as critical resources in manufacturing firms, which align with the RBV framework. Additionally, Kamasak and Palalar Alkan (2022) observed that marketing capabilities, including pricing and strategic implementation, significantly affect firm performance within the Turkish automotive sector.

The resource-based view informs this study's independent variables such as digital resources and leadership. According to the resource-based view, firms' resources such as competent workforce are viewed as underpinnings of sustained competitive advantage. In addition, RBV stipulates that the leader brings diverse viewpoints, competencies, and knowledge to the organization, thereby fostering shared understanding and strategic alignment of business processes. Therefore, by recognizing both digital and human resource factors as sources of sustained competitive advantage, this theory provides an analytical framework to examine these factors and their effect on adoption of digital transformation which has been identified as a prerequisite for competition, product quality and efficiency (Eluekezi & Tuncay, 2021).

2.3 Empirical Literature Review

2.3.1 Digital resource factors and Adoption of Digital Transformation

Dyk & Belle (2019) conducted research at a major African retailer with over 4,950 stores in 12 countries. In this qualitative study, twelve interviewees participated in semi-structure interviews. The interviewees offered diverse responses when asked whether the organization had the necessary technical skills to achieve digital transformation. Eight participants stated that technical skills wouldn't impede adoption, as the organization would work with external experts to tackle any technological issues. Others cited the fear of new technologies within staff as a challenge and the

need for new talent to upskill existing employees. Eluekezi & Tuncay (2021), also conducted a survey of 29 respondents from different manufacturing backgrounds. This research showed that creation of awareness among the workforce is more important than educational qualifications, innovative education, and intelligence.

However, a study by Lutfi et al. (2022). examined how technological and organizational factors affect big data adoption in Jordanian SMEs. They used partial least squares structural equation modeling (PLS-SEM) for the analysis. The findings revealed that obstacles to big data adoption among SMEs in Jordan include deficiencies in technological infrastructure, skilled personnel, and financial resources. As such, Lutfi, et al., (2022) observed that enterprises may not adopt big data without adequate capabilities and resources. In addition, a survey conducted by Eluekezi & Tuncay (2021) confirms that digital technology-based systems and infrastructures are of great necessity and must be invested in to achieve digital transformation. In addition, Dyk & Belle (2019) findings confirm that facilitation of cloud technologies would majorly impact the technology landscape and that would be key in achieving digital transformation. The twelve survey participants unanimously agreed that the adoption of cloud technologies would result in cost savings by substantially minimizing the expenses associated with on-premises hardware maintenance. Moreover, this would provide high speed and reduce low latency connectivity.

2.3.2 Leadership Factors and Adoption of Digital Transformation

Leadership factors involve leaders that instill vision and purpose, empowering individuals to think innovatively, fostering an environment for experimentation, and encouraging collaboration across boundaries. (Kane, Palmer, , Phillips, , Kiron, & Buckley, 2018). This is aligned to the MIT Sloan

Management Review and Deloitte global survey about leading in the digital era for more than 4,300 executives, managers, and analysts.

(Aziz, Rami, Razali, & Mahadi, 2020) studied the influence of leadership style towards technology acceptance in an organization. The study adopted quantitative research design and collected primary data through administration of 203 questionnaires. The study revealed positive statistically significant effect authentic leadership and technology acceptance in organizations in oil and gas in Malysia. The study may have considered reporting on diagnostic prior to regression analysis.

Mwita and Jonathan (2020) digital leadership and digital transformation. The study relied on descriptive research design and sourced primary data through use of questionnaires. Descriptive and inferential statistics were leveraged for data analysis. Exploratory and confirmatory factor analysis were incorporated too. Results of the study indicated that digital transformation was affected by inspirational role, innovation role, absorbing uncertainty role, adaptation role and visionary role. The study may have reported the structural equation models to indicate the regression weights on the respective contribution of the selected factors.

Seyal (2015) investigated the association between transformational leadership and technology adoption in numerous technical and vocational institutions in Brunei. The study followed a descriptive research methodology, with primary data acquired using questionnaires and data analyzed using correlation and regression analysis. Transformational leadership styles had an inverse statistically significant impact on technological development, but transactional leadership had an inverse statistically negligible effect. It's possible that the study used diagnostic testing before regression modeling.

Arumugam & Khazaei, (2022) studied the factors influencing digital technology adoption in the manufacturing sector and leadership effectiveness mediating factor. The study used a descriptive research design, primary data was collected through questionnaires, data was analyzed through exploratory analysis and control factors were used. The findings of research by Gudergan, et al., (2021) that senior managers are essential to the digital transformation because they have the power to directly or indirectly affect critical factors. The Capability Maturity Model Integration Process (CMMI) model was utilized to quantify digital maturity, and the maximum variation technique of deliberate sampling was employed in the research to select appropriate interviewees. The results of the 13 digital leaders' interviews who had reached digital maturity demonstrated the importance of leadership for DT. Because operational decisions must be matched strategically, leaders at all levels must consistently be involved. 48 in-depth interviews were carried out by the researcher founded on an empirical investigation of eight Finnish firms that operate in the service industry. (Larjovuori, Bordi, & Tammi, 2018) . Findings showed that the role of the leader was important in providing strategic vision and promoting the culture of experimentation, accepting “trial and error,” and developing agile practices. According to a research survey by Eluekezi & Tuncay (2021) results confirm that managerial capabilities play a big role and will greatly influence the transition to Digital. Administration support is critical in DT, as observed by El Sawy et al. (2016) who conducted a study based on the LEGO Bunch's decade-long journey and interactions with computerized transformation. El Sawy et al. (2016) found that the ideal administration must express its commitment to exploiting digitalization as a fundamental need for the endeavor. The viewpoint emphasizes that administration must provide learning opportunities for representatives to always develop underutilized aptitudes, either through preparation or job revolutions. Lutfi et al. (2022) did a study to investigate the impact of innovation and organizational components on

the appropriation of Big Data (BD) in Jordanian Small and Medium Enterprises (SMEs). Using PLS-SEM analysis, the researcher discovered that supervisors can influence subordinates through esteem communication and vision clarity. Furthermore, the study discovered that top-level management support can accelerate innovation learning and spread throughout the industry, playing an important role in the various stages of selection. Aikins The investigation used a subjective investigation approach to gather in-depth information from interviews with 16 people. This investigation revealed that without the support of increased choice levels, there will be no asset allocation. In addition, Aikins (2018) conducted a study in which 160 surveys were distributed to investigate the impact of preparation and improvement on employee performance. The findings of this study revealed that employee training and advancement is an important tool for equipping representatives with various skills and knowledge for effective task execution. Essentially, (Afza, ur Rehman, & Mehboob, Role of Leadership in Training and Development, 2010) state that administration is the basic perspective of Human Asset Administration (HRM), whose fundamental angle in planning human asset hones such as preparation and advancement, which is critical in bridging the gap between the Organization's current and desired state.

According to the study "Digital Transformation in the Automotive Industry" by (Albukhitan, 2020), one of the primary benefits of digital transformation is increased productivity, as development and design processes become faster and more informed with the help of AR and CAD models. In addition, sensors and machine connectivity are used to send vital maintenance data that can improve productivity by ensuring minimal downtime while preventing machines from faults and enhancing output. Finally, digital transformation has been deployed in assembly plant where hazardous tasks can be performed by robots (Albukhitan, 2020).

Digital transformation is an integration and technology application aimed at enhancing business management efficiency and creation of new values. Ha Viet Le, (2023) in Vietnam logistics industry digital transformation was affected by management, human resources, investment costs and digital transformation services. In Thailand, an examination on factors affecting digital transformation adoption in higher education found that strategy, process, product/service, people, data and technologies were associated with digital transformation adoption.

Several studies have been conducted on factors affecting adoption of digital transformation in other sectors. However, research has predominately focused on industries whose products can be completely digitized such as media, entertainment, and publishing, (Hanelt, Piccinini, Gregory, Hildebrandt, & Kolbe, 2015) . Unfortunately, there is lack of research about the factors affecting adoption of digital transformation in primarily physical industries Hanelt et. al (2015) such as assembly plants within the Automotive industry especially in Kenya.

2.3.3 Organization Factors and Adoption of Digital Transformation

Marcelo (2023) studied the effect of technology adoption on organization performance in Paraguayan enterprises. Marcelo carried out in different phases and 32 respondents participated in it. In an exploratory phase needs were idenifitied, in planning phase first performance measurement was examined, then implementation and post implementation evaluation phase. Comparative analysis was carried out to evaluate statistical differences between performance of those enterprises that had implemented system implementation. Further, there were notable improvements in administration and task processes that was evaluated through efficiency, accuracy and speed.

Eze, et al., (2020) assessed important success factors related to the service industry in Nigeria's adoption of digital marketing services. Interview guides were utilized to obtain qualitative primary data from 26 different enterprises that participated in the study. Data was analyzed using thematic analysis. The study's findings showed that the following factors were linked to the adoption of technology: organizational context (training level, service quality, customer satisfaction, and competition), functional capability, adaptive capability, and expandability (technogy context), and environmental context (degree of partnership, diversity of information, and collective understanding). Context of expectations: budget, diversification, business growth, and return on investment.

The results of Dyk & Belle, (2019) study in the South African retail sector demonstrated that company culture can influence adoption of digital transformation. A culture that is resistant to change can be a barrier to digital transformation (DT). Participants in this study noted that seasoned employees might view change as a career risk. Therefore, Dyk & Belle (2019) recommend that effectively managing the expectations of all employees is crucial before, throughout, and after initiating a digital transformation journey. In El Sawy, Amsinck, Kræmmergaard, & Vinther (2016) study, an organizational culture based on collaboration, experimentation, visibility, and transparency is key for successful digital transformation. Organizations must train employees to accept failures and have mechanisms for sharing and learning from them. Additionally, Eluekezi & Tuncay (2021) study also confirm that organization culture is an important aspect of DT and is mainly affected by it's the organizations readiness level. The readiness level encompasses the strategies of the organization, including the digital technologies to be employed.

According to the decade long study of the LEGO Group company by El Sawy, et al., (2016), the IT organization must be restructured to closely mesh with business units and partners to achieve its roles as a solution-taker, partner, and platform integrator. This can be achieved by close collaboration with functional areas to understand multiple business dimensions and digitally operationalize them. The research also recommended that appointing digital officers in business units shared solution finding and interaction of the IT organization with top management was key in providing transparency and information hence promoting the enterprise digital transformation. Haffke, et al. (2017) also conducted a study that utilized qualitative executive interview data from 19 European companies. These organizations had at least 250 workers, a minimum annual revenue of 50 million euros, and an internal IT department with at least 15 years of expertise. The study looked at the bimodal methodology that businesses may adopt to create an IT function that complements and drives their digital strategy.

In this research, the bimodal concept referred to 2 different modes that the IT function can operate in. The first mode represented a traditional approach to IT governance and projects with an emphasis on safety, accuracy, and risk averseness. The second mode emphasizes exploration, agility, and speed by multiple iterations to achieve business outcomes and customer satisfaction. Findings of this research were that the IT organizations required to integrate the second mode to promote IT agility, data and the experimental culture which is essential to achieve digital success.

2.4 Research Gaps

The studies available and presented in literature discuss the influence of various factors in the adoption of specific digital technologies that enable digital transformation. However, these studies fail to investigate the automotive industry in Kenya which is the specific context examined in this

study. Most of these studies such Dyk & Belle (2019), focus on the South African retail industry while Getoar (2019) and Lutfi, et al., (2022) focus on Slovenian and Jordanian industries respectively. This presents a gap which this research sought to fill. None of the preceding studies were centered solely on the effect of resource factors, leadership factors and organization factors on adoption of digital transformation in the automotive industry. Table 2.1 shows a summary of the gaps.

Table 2.1 Research Gaps

Author	Title of Research Work	Methodology Used	Findings	Research Gap
Dyk & Belle (2019)	Factors Influencing the Intended Adoption of Digital Transformation: A South African Case Study	Case study approach of SA retail industry	Company culture can significantly influence the success or failure of digital transformation. A culture that is resistant to change can be a barrier to DT. There were varied opinions on talent: some asserted that the organization's technical skills	The research was based on the South African retail industry while this research focuses on the vehicle automotive industry in Kenya

			shouldn't impede adoption, while others highlighted the necessity of upskilling current employees.	
Eluekezi & Tuncay (2021)	Factors affecting digital transformation in manufacturing companies	Quantitative research survey	Digital systems infrastructures are of great necessity and must be invested in to achieve digital transformation.	The research failed to investigate the ICT organization structure as an organizational factor that can affect digital transformation while this research addresses Organizational ICT structure
Liere-Netheler, Packmohr, & Vogelsang (2018)	Drivers of Digital Transformation in Manufacturing	Qualitative Research interviews with 16 participants.	Without the support of higher decision levels, there will be no allocation of resources.	This research was conducted in Germany Manufacturing sector while this research context is the automotive industry in Kenya.
Lutfi, et al., (2022)	Factors Influencing the Adoption of Big Data Analytics in the Digital Transformation Era: Case Study	Quantitative research survey 123 questionnaire	The study discovered that technology adoption and learning inside a business can be facilitated by top-level management assistance.	This study focused on Big Data Analytics which is one digital technology that can enable DT. This study focuses on enterprise-wide Digital transformation that takes advantage of the digital technologies.

	of Jordanian SMEs			
Guderg an, et al., (2021)	Digital Leadership - Which leadership dimensions contribute to digital transformation success?	Qualitative Research interviews with 13 digital leaders	Leadership is important for DT as strategic decisions need to find their counterpart at the operational level	The study investigated leadership in digital transformation and failed to investigate other factors such as resource factors and organizational factors. This research explored leadership, resource, and organizational factors.
Larjovu ori, Bordi, & Tammi (2018)	Digital Leadership - Which leadership dimensions contribute to digital transformation success?	Quantitative research employing surveys of marine and port administrators	The role of the leader was important in providing strategic vision and promoting the culture of experimentation	The research failed to investigate resource factors and organization factors in relation to digital transformation. While this research investigates these factors.
El Sawy, Amsinc k, Kræmm ergaard, & Vinther (2016)	How LEGO Built the Foundations and Enterprise Capabilities for Digital Leadership	Qualitative Research, interviews	An organizational culture based on collaboration, experimentation, visibility, and transparency is key for successful digital transformation. Management must create learning opportunities for employees to	The study focused on LEGO Group while this study focused on the automotive industry in Kenya.

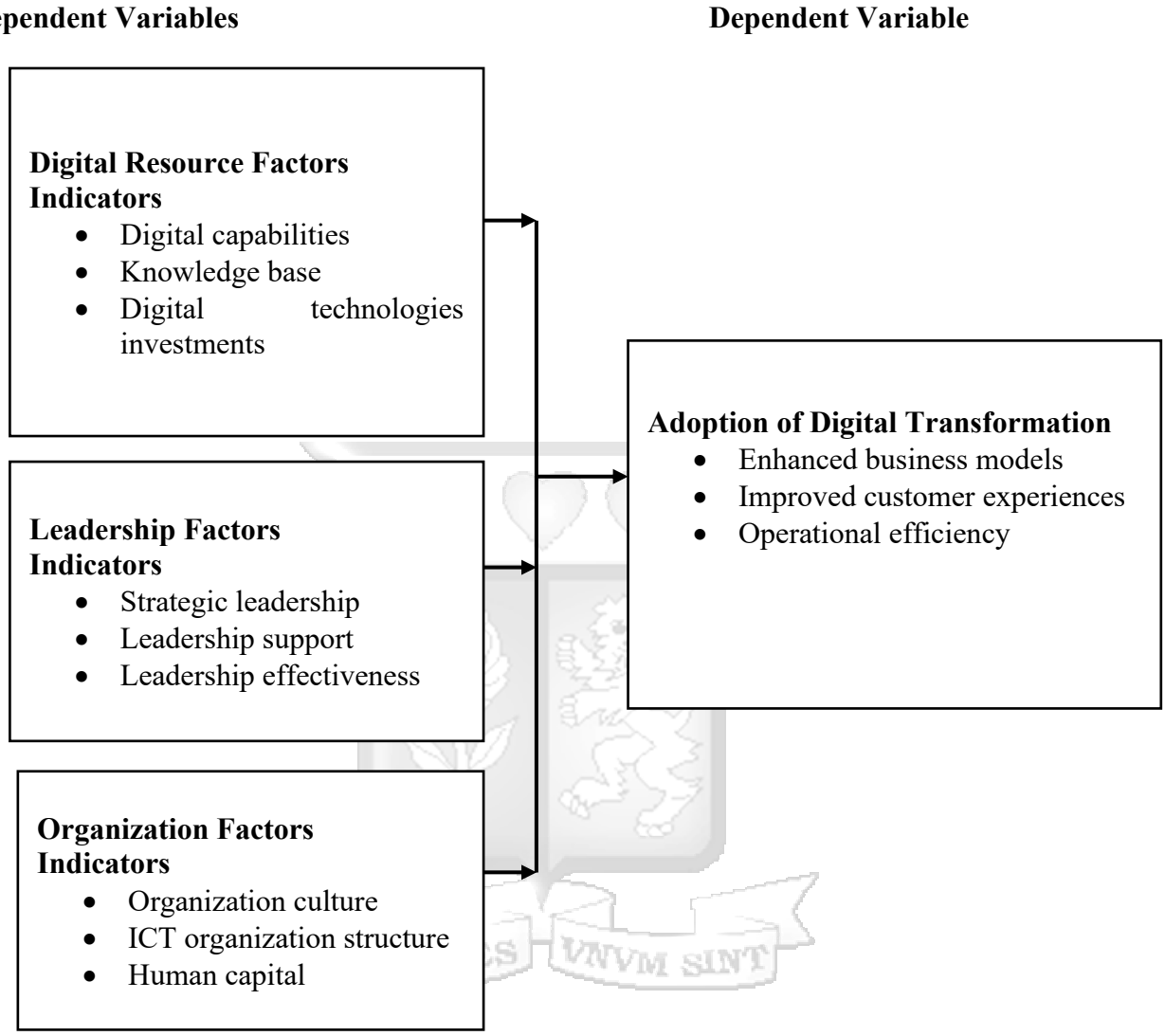
			constantly develop new skills either through trainings or job rotations.	
Haffke, Kalgovas, & Benlian (2017)	The Transformative Role of Bimodal IT in an Era of Digital Business	Qualitative Research semi structured interviews	IT organizations required to integrate the second mode of the bimodal IT approach to achieve agility, innovation and the experimental culture which is essential to achieve digital success.	The study failed to investigate the other factors such as resource factors and organizational factors in the adoption of digital transformation. This research investigates these other factors.
(Afza, ur Rehman, & Mehboob, Role of Leadership in Training and Development, 2010)	Role of Leadership in Training and Development	Quantitative research, questionnaires	Leadership is the imperative aspect of the Human Resource Management (HRM) whose main aspect is designing human resource practices such as training and development which is essential in bridging the gap between current and desired state of the Organization.	The study only focused on leadership roles in training and development but failed to investigate other leadership factors like strategy and vision setting. This study was also generally focused on organizational performance and not adoption of DT which is the focus of this study.

(Aikins, 2018)	Training and Development: An Effective Management Tool For Increased Performance	Quantitative research, 200 questionnaires	Employee training and development is a crucial tool for providing employees with the skills and information they need to do their responsibilities effectively.	This study investigated the effect of training and development on employee performance in Ghana. It does not focus on other factors such as resource and organization factors and their effect on adoption of digital transformation.

2.5 Conceptual Framework

Bryman (2016) describes a conceptual framework as the foundational elements of research theory, which facilitates elucidation of various constructs within research endeavors through visual representations and/or textual depictions, highlighting their interrelationships. The framework delineates the relevant variables being examined in the study, including independent, dependent, moderating, mediating, and control variables. (Bryman, 2016). Within this study, the independent variables comprised resource factors, leadership factors and organizational factors, this study investigated how these variables affect adoption of digital transformation in the vehicle automotive industry in Kenya.

Figure 2.1 Conceptual Framework



Source: Researcher (2022)

Table 2.2 Operationalization of Variables

Variable	Indicators	Source/Reference of the indicator	Measure ment	Data analysis
Digital Resource Factors	Digital Capabilities Company Knowledge base Digital Technologies investments	(Barney J. , Firm Resources and Sustained Competitive Advantage, 1991)	5-point Likert scale	Descriptive analysis and inferential analysis
Leadership Factors	Digital Strategy Communication Strategy Employee Training and Development Innovations support	(Aikins, 2018) (Afza, ur Rehman, & Mehboob, Role of Leadership in Training and Development, 2010) (Kane, Palmer, , Phillips, , Kiron, & Buckley, 2018)	5-point Likert scale	Descriptive analysis and inferential analysis
Organizational Factors	Collaborative Culture Experimental fail fast Culture Cross-Functional digital Teams Business unit digital officers Explorative and agile approaches	(Haffke, Kalgovas, & Benlian, 2017)	5-point Likert scale	Descriptive analysis and inferential analysis

Adoption of Digital Transformation	Enhanced business models Improved customer experience Operational efficiency Increased Revenue, Cost Savings, Increased Productivity	(Karltorp, 2017)	5-point Likert scale	Descriptive analysis and inferential analysis

Source: Researcher (2022)

2.6 Chapter Summary

In summary, this chapter provides a comprehensive review of the literature related to the adoption of the digital transformation in the automotive industry, emphasizing the role of digital, leadership, and organizational factors. It sets the foundation for the research and highlights the gaps that the study aims to address.

CHAPTER THREE

RESEARCH METHODLOGY

3.1 Introduction

This chapter covers research technique, which includes research philosophy, study design, population and sampling, data collecting and analysis, research quality, and ethical aspects in research.

3.2 Research Philosophy

Research philosophy serves as the foundational framework for knowledge development, driven by the imperative for research to address specific organizational needs (Sekaran, 2013). Within this context, Saunders et al. (2013a), Saunders et al. (2019), Saunders et al. (2019), and Saunders et al. (2014) emphasize that all studies, whether consciously or unconsciously, are rooted in assumptions. The term "research philosophy" encapsulates a set of presumptions and attitudes guiding knowledge growth. Scholars embark on a research project not only to solve specific business issues but also to advance their understanding of a subject. Research philosophy denotes a framework of beliefs and assumptions regarding the generation of knowledge within a specific field. (Saunders, Lewis, & Thornhill, 2019). According to Saunders, et. al (2019) positivism philosophy entails the systematic gathering of data concerning an observable social phenomenon, followed by the exploration of patterns and causal connections to generate novel generalizations. This philosophy promises unambiguous and accurate knowledge. The measurable and quantifiable nature of the data collected is important and the emotional neutrality of the researcher ensures nothing done to alter its substance (Saunders, Lewis, & Thornhill, 2019). The study was grounded

in the positive research paradigm which notes that the researcher must remain independent of the study they are conducting. In this context, researchers are detached from participants and data to avoid influencing findings.

The dominant choices within research philosophy encompass ontology, epistemology, and axiology. Ontology revolves around assumptions about the nature of reality. This philosophy seeks to comprehend the current existence in the human world and the knowledge that can be acquired. Naïve realism suggests that reality is best understood through appropriate methods. Structural realism posits that, although reality is defined by scientific theory, its underlying nature remains unchanged. Critical realism insists that reality is only captured through broader critical examination. Bounded relativism suggests that mentally constructed realities are expected to be equal in time and space. Relativism, on the other hand, posits that realities are multiple and intangible, conceived mentally (Saunders et al., 2013).

Epistemology, another crucial aspect of research philosophy, is based on knowledge constructs that are valid, acceptable, and effectively communicated to others (Saunders et al., 2019). In the context of business management, where heterogeneous knowledge sets can be linked to numerical and textual data, epistemology provides a range of methodological choices to respond to research questions. However, these choices are bound by specific assumptions, limitations, strengths, and the relevance of research findings. The primary concerns for epistemology are validity, scope, and method choice in accumulating knowledge, influencing how research is framed in the process of knowledge discovery (Saunders et al., 2019; Saunders et al., 2013).

Saunders et al. (2019) classified research philosophy into pragmatism, postmodernism, interpretivism, critical realism, and positivism. This study adopts epistemological pragmatism,

asserting that research should provide a practical understanding of real-world issues, such as the effect of product diversification on scaling in healthcare. Morgan (2014) argues that the application of epistemological pragmatism aids researchers in progressing beyond objective conceptualization to exploring and understanding the linkages between knowledge and its applicability. The current study adopted pragmatism.

3.3 Research Design

The research design provides an investigative framework and structure for arranging the study and its accompanying activities, including data creation and collecting to meet the research questions. A quantitative inquiry comprises collecting numerical data to determine the relationship between theory and observed social phenomena. (Bryman, 2016). The current study used a descriptive research strategy, which allowed for the use of quantitative methods to analyze the research data. Furthermore, the research design allows for the evaluation of study variables at a specified time with little investigator participation, enhancing impartiality in understanding the interactions among the variables. Furthermore, a descriptive study approach was used to statistically assess the link between the independent and dependent variables.

3.4 Target Population

Bryman (2016) refers to a population refers to the entirety of units from which a researcher intends to investigate. A unit of observation is the primary entity upon which the researcher aims to draw conclusions by the end of the study. (Grünbaum, 2007). For this study, the unit under analysis comprises the 3 key motor vehicle assemblers in Kenya. First is Isuzu East Africa Limited in Nairobi, Industrial Area, with a total number of 500 employees (Isuzu East Africa, 2023). Second, Associated Vehicle Assemblers (AVA), in Mombasa, which comprises 400 employees

(Associated Vehicle Assemblers, 2023) . Finally, Kenya Vehicle Manufacturers in Thika which has 400 employees (Kenya Vehicle Manufacturers, 2023). The unit of analysis was 1300 employees who were drawn from Isuzu East Africa, Associated Vehicle Assemblers and Kenya Vehicle Manufacturer as tabulated in table 3.1.

Table 3.1 Target Population

	Number of employees	**Percentage**
Isuzu East Africa	500	38.6
Associated Vehicle Assemblers	400	30.7
Kenya Vehicle Manufacturer	400	30.7
Total	**1300**	**100**

Source (Association of Vehicle Manufacturers report, 2023)

3.5 Sample Size and Sampling Technique

Sample is the process of selecting a subset of the target population. In this study stratified sampling was applied to select respondents from Isuzu East Africa, Associated Vehicle Assemblers and Kenya Vehicle manufacturer. The study's sample size was determined using the Yamane formula, as depicted below, with the sample size for each company presented in Table 3.2.

n =sample size,

N = population size

e =level of precision (5%)

$$n = \frac{N}{1 + N(e)^2}$$

$$\frac{1300}{1 + 1300\ (0.05)^2} = 305.9$$

The sample size was 306.

Table 3.2 Sample Size

	Number of employees	Percentage
Isuzu East Africa	118	38.6
Associated Vehicle Assemblers	94	30.7
Kenya Vehicle Manufacturer	94	30.7
Total	**306**	**100**

3.6 Data Collection Instruments

The primary research data for this study were gathered using a structured research questionnaire. The survey was composed of closed-ended questions with multiple choice, single choice, and matrix questions using Likert scales with five points. This particular questionnaire style was chosen because it is appropriate for obtaining data from a sizable population and because it makes it easier to collect data in a methodical manner, which helps with data tabulation and interpretation. The Likert scale made it easier to quantify the strength of respondents' sentiments toward questions pertaining to the adoption of digital transformation as well as a number of other factors. In this study, a five-point Likert scale was used, with a score of 5 denoting strong agreement and a score of 1 denoting significant disagreement.

3.7 Data Collection Procedures

Data collection was conducted through a self-administered questionnaire distributed via Google Forms and, when feasible, through traditional physical means. Utilizing online questionnaires proved cost-effective and convenient as survey links could be shared directly with respondents' official email addresses, ensuring reliability. Online surveys offered ease and flexibility for

respondents to complete at their convenience, potentially enhancing response rates (Bryman, 2016). For respondents unreachable online, printed hardcopy questionnaires were distributed to solicit responses. The researcher and research assistant, initiated contact with respondents via phone to introduce the study's objectives. Subsequently, participants who agreed to participate received the survey link via email, ensuring the use of their official email addresses for reliability. Consistent follow-up was maintained with non-respondents one week after the questionnaire's initial distribution.

3.8 Research Quality

The pilot phase targeted respondents from motor vehicle body builders in Nakuru County. Cumulatively 31 respondents who constituted 10% of the sample were considered. Feedback from the preliminary survey was necessary to refine the measurement instrument and ascertain respondents' comprehension, comfort, and perception of the questions' relevance. Further, some questions were excluded from the questionnaire. The feedback helped the researcher in structuring the flow of the questions. Bryman (2016) emphasizes that pre-testing research instruments serves not only to validate the efficacy of survey questions but also to enhance the overall functionality of the research instrument.

3.8.1 Pilot Analysis

Prior to actualization of the study, piloting of the research tool was carried out to elucidate the likelihood of meeting desired study objectives. Validity was evaluated through peer review and expert opinion. Further, reliability was examined using Cronbach’s Alpha coefficient.

3.8.2 Validity of Research Instruments

Bryman (2016) elucidates that research validity assesses the degree to which the research design and resulting data enable the researcher to draw accurate conclusions. Internal validity pertains to the integrity of conclusions regarding the cause-effect relationship between variables. External validity addresses the generalizability of the study's findings (Bryman, 2016). Validity of the research tool was examined through discussion with supervisors and incorporation of examiners feedback after proposal presentation.

3.8.3 Reliability of Research Instruments

Saunders et al. (2019) the degree of uniformity of results presented by research instruments even after multiple trials is referred to as reliability. A measure's consistency is described by its reliability (Heale & Twycross, 2015). Internal consistency was measured using Cronbach's alpha. Reliability coefficient ranges from 0 to 1 and if the coefficient was greater than 0.7 then the research instrument was deemed to be reliable. An examination of reliability analysis depicts that the research questionnaire was reliable since all coefficients in Table 3.3 exceeded 0.7 with digital resource factors (0.840), leadership factors (0.797), organization factors (0.746) and adoption of digital transformation (0.944).

Table 3.3 Reliability Analysis

Variables	Number Items	Cronbach's Alpha	Comment
Digital resource factors	9	0.840	Accepted
Leadership Factors	9	0.797	Accepted
Organization Factors	9	0.746	Accepted
Adoption of Digital Transformation	9	0.944	Accepted

3.9 Data Analysis and Presentation

Saunders et al. (2019) acknowledges that data analysis aims to draw conclusions regarding the relationships among data variables, research questions, and objectives. Furthermore, it recognizes that certain findings may emerge unexpectedly during analysis, which are still valuable and thus warrant reporting. In this study, data analysis examined the effects of factors such as digital resources, leadership, and organization on adoption of digital transformation in motor vehicle assembly industry in Kenya. Data analysis was carried out through use of Statistical Packages for Social Scientists (SPSS version 25). The findings were presented in figures and tables.

Descriptive and inferential statistics were used to analyze the quantitative data that had been gathered. Measures of dispersion and central tendency were incorporated into descriptive statistics. The data relevant to digital resource factors, leadership factors, and organizational variables affecting the adoption of digital transformation in Kenya's motor vehicle industry were described and compared using the mode, median, and mean measures of central tendency. Standard deviation was employed in the investigation. Regression analysis and Spearman's rank correlation were examples of inferential statistics. The strength of the relationship between organizational, leadership, and digital resource characteristics and the adoption of digital transformation was shown by Spearman's rank correlation. Additionally, multiple linear regression was employed to ascertain the type of link that existed between digital resources, leadership and organization factors on adoption of digital transformation. The linear regression analysis was as shown:

$$Y= \alpha+\beta_1 X_1+ \beta_2 X_2+ \beta_3 X_3+ \varepsilon$$

Where:

Y = Adoption of Digital Transformation in motor vehicle assembly industry

X_1 = Digital resource factors

X_2 = leadership factors

X_3 = organization factors

β_1, β_2, and β_3 are regression coefficients of the independent variables

ε = variance errors component

α = the constant (Technology without support of leadership, digital resources and organization factors)

3.10 Diagnostic Test

Before regression analysis diagnostic tests were carried out. They included normality, linearity, multicollinearity and heteroskedasticity.

3.10.1 Normality Test

Normality tests assumed that the error term is normally distributed and if not, then there was need for data transformation. In this study normality was examined through use of histogram and if it was bell shaped then the error term was normally distributed otherwise there was need for log or inverse transformation or deletion of outliers in the data set (Saunders et al., 2019).

3.10.2 Multicollinearity Test

Multicollinearity is aimed at the degree of association among independent variables. Multicollinearity was evaluated through Variance Inflation Factors (VIF) and tolerance limits.

Presence of multicollinearity was indicated by VIF greater than 10 or tolerance limits less than 0.1 (Baltagi, 2005).

3.10.3 Heteroskedasticity Test

Heteroskedasticity is an assumption that the error term has uniform variance. It was examined through use of White test which states that the error term has uniform variance. If the null hypothesis was rejected then the regression model will be fitted using robust standard errors.

3.10.4 Linearity Test

Further, regression analysis assumes that there is a linear relationship between independent and dependent variables under examination. Linearity was examined through use of scatter plots. In addition, model goodness of fit will examine the appropriateness of fitting regression model in the dataset.

3.11 Ethical Considerations

The researcher received a university-stamped letter stating the goals and aim of the study in order to guarantee adherence to ethical standards specified in the university policy and guidelines. The goals and scope of the study were explained to respondents verbally, and they were asked for their agreement before they received the link to the questionnaire. The questionnaire did not ask for respondents' identities, including names of organizations, people, or contacts, in order to maintain secrecy. Google Forms, the online tool for collecting data, did not capture system data, such as the IP addresses of the respondents' computers. Access to identified respondents and necessary data was made possible by approval from Strathmore University and the National Commission for

Science, Technology, and Innovation (NACOSTI). Confidentiality was emphasized, with the information gathered being used only for instructional purposes.

All transcriptions made into the Strathmore University database will be password- and encryption-protected, and hard copies of the material will be kept safe in secured cabinets. Anonymized data will only be accessible to authorized workers or those directly working in the research field, protecting the privacy of the respondents. The information will be kept private and used only for educational reasons in an effort to increase the automotive assembly industry's adoption of digital transformation.

No information will be utilized without explicit permission from respondents.

3.12 Chapter Summary

This Chapter addressed the research technique, which included topics such as research philosophy, design, target population, sampling, data collecting, analysis, research quality, and ethical concerns. It discussed the adoption of a positivism philosophy for objective data collection and a descriptive research design for quantitative analysis. A stratified sampling approach with a sample size of 306 is outlined. Data was collected using structured questionnaires featuring Likert scales. Online and physical data collection methods were employed, with an emphasis on respondent engagement. Ethical safeguards include consent, confidentiality, and approvals from relevant authorities. The chapter concluded with an overview of data analysis techniques and diagnostic tests.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The results and discussions are presented in this chapter. The results are derived from primary data obtained by means of questionnaire administration and are subjected to descriptive and inferential statistical analysis. Response rate, reliability analysis, background data, descriptive statistics, exploratory factor analysis, correlation, and regression analysis are the order in which the chapter is organized.

4.2 Response Rate

Out of the 306 questionnaires issued, 280 were fully filled and returned. The response rate was 91.5% which was deemed as good since Kothari (2014) asserts that a response rate exceeding 60% in social sciences is deemed good.

Table 4.1: Response Rate

Questionnaire	Frequency	Percentage (%)
Returned	280	91.5
Non-returned	26	8
Total	**306**	**100**

4.3 Background Information

The study sought respondents background information, Table 4.2 indicates that majority 42.1% aged between 35 to 40 years, followed by 28.2% aged between 31 to 34 years, 17.9% aged 41 to 44 years. This indicates that majority of employees in motor vehicle industry are young thus they may easily incorporate information technology in their business operations. Regarding

respondents' gender 69.3% were male and 30.7% were female. This depicts that motor vehicle assembly plants in Kenya have more males. Concerning education qualifications, 55.4% were degree holders while 21.1% were diploma graduates, a clear indication that majority of employees had higher levels of formal education qualifications thus they would easily adopt digital transformation in their business operations. Concerning working experience majority 46.8% had worked for a period ranging from 6 to 10 years, followed by 30.4% who had worked for 1 to 5 years. Thus, it can be concluded that most respondents had industrial knowledge that may have allowed digital transformations in their business operations.

Table 4.2 Background Information

Variable		Frequency	Percent
Age	Below 30 years	23	8.2
	31 to 34 years	79	28.2
	35 to 40 years	118	42.1
	41 to 44 years	50	17.9
	45 to 50 years	10	3.6
Gender	Male	194	69.3
	Female	86	30.7
Education Qualifications	Secondary	2	0.7
	Diploma	59	21.1
	University	155	55.4
	Postgraduate	64	22.9
Working Experience	Less than 1 year	21	7.5
	1 to 5 years	85	30.4
	6 to 10 years	131	46.8
	Over 10 years	43	15.4
	Total	**280**	**100**

4.4 Descriptive Statistics

Descriptive statistics adopted in the study were mean, standard deviation and coefficient of variations (CV). These statistics were drawn from respondents rating on a five-point likert scale

on various aspects that were linked to digital resource factors, leadership, organization factors and adoption of digital transformation.

4.4.1 Descriptive Statistics on Digital Resource Factors

The first objective of the study aimed at examining the effect of digital resource factors on adoption of transformation in motor vehicles assembly industry in Kenya. The respondents were required to indicate their levels of agreement on a five-point Likert scale that ranging from strongly disagree, disagree, neutral, agree and strongly agree. Results in Table 4.3 depict that the majority mean 3.7 agreed that their organization has prioritized and invested in digital technologies and infrastructure. Thus, it can be inferred that motor vehicle industry in Kenya has invested in digital technologies and infrastructure. Majority mean = 3.8 and standard deviation 0.8 agreed that budgetary constraints significantly hinder the acquisition and implementation of new digital transformation. Thus, it can be inferred budget allocation has effect on absorption of digital transformation in motor vehicle industry in Kenya. Majority mean = 3.6 agreed that their organization has adequate personnel with digital transformation expertise or there is shortage of skills to implement and support new digital transformation initiatives. Thus, it can be inferred that digital transformation adoption in motor vehicle industry in Kenya is contingent to availability of required skills and availability of financial resources to compensate their skills.

Table 4.3 Descriptive Statistics on Digital resource factors

	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviatio	CV
The organization has prioritized and invested in digital technologies and infrastructure?	1.4	6.8	29	48	15	3.7	0.9	426.9
The organization has a clear and defined process for innovation and exploration, with dedicated resources and funding allocated for this purpose	2.1	6.4	42	38	12	3.5	0.9	406.7
The organization has adequate personnel with digital transformation expertise.	1.8	6.4	38	43	12	3.6	0.8	419.3
Hiring and retaining more digital transformation professionals is hampered by high compensation costs and competition among digitally adept experts compared to other staff members.	0.4	10	31	47	11	3.6	0.8	429.3
There is a lack of skills to implement and support new digital transformation technologies.	0.7	9.3	31	45	15	3.6	0.9	417.2
The organization relies on outside vendor support for digital transformation, so we don't need any internal staff for it.	2.1	8.2	35	43	12	3.6	0.9	400.2
Budget is a major constraint in the acquisition and implementation of new digital transformation.	0.7	7.5	18	59	15	3.8	0.8	469.8
The organization has in place a technical documented knowledge base of practices, processes, and procedures as drivers of digital transformation.	1.1	8.9	25	49	16	3.7	0.9	419.5
Awareness of value creation generated by adoption of digital technologies influences higher investment in digital transformation efforts	0.4	7.5	34	48	11	3.6	0.8	454.1
Overall average						**3.6**	**0.9**	**426.4**

SD- Strongly disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree, CV- Coefficient of variation.

4.4.2 Descriptive Statistics on Leadership Factors

The second objective assessed the effect of leadership factors on adoption of digital transformation in motor vehicle industry in Kenya. Results in Table 4.4 depicts that majority agreed that leadership factors have effect on absorption of digital transformation in motor vehicle industry in Kenya (mean = 3.7, standard deviation = 0.8 and coefficient of variations = 466%). Majority mean =3.9 agreed that high initial digital transformation training cost impedes internal capacity development. Thus, there is need for consolidation of digital transformation training costs so as to enhance its adoption. Majority mean = 3.8 either agreed that leadership has put adequate digital transformation targets which they monitor regularly, or leadership is involved in determining/refreshing the choice of technologies and tools the organization adopts for transformation efforts. Thus, there is need for organizations to devise measures aimed at consolidating odds of leadership involvement in choosing appropriate tools for ease digital transformation. Further, the majority agreed that either leadership has companywide communication on business digital vision or leadership advocates positive on measures aimed at influencing employee's attitudes towards embracing and been involved in digital transformation. Thus, there is need for adoption of communication channels that may influence adoption of digital transformation in motor vehicle industry.

Table 4.4 Descriptive Statistics on Leadership Factors

	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviatio	CV
Leadership has companywide communicated business digital vision.		9.6	18.2	62.1	10	3.7	0.8	483.8
Leadership has put adequate digital transformation targets which they monitor regularly.	1.4	8.9	21.8	48.9	18.9	3.8	0.9	410.7
Leadership sponsors training to promote ease of digital transformation efforts.		4.6	28.6	55.4	11.4	3.7	0.7	519.4
The leadership team positively advocates for and influences employees' attitudes towards embracing and being involved in digital transformation.		9.3	24.3	53.6	12.9	3.7	0.8	457.4
High digital transformation training cost impedes internal capacity development		7.5	20.4	50.4	21.8	3.9	0.8	459.5
Leadership is involved in determining/refreshing the choice of technologies and tools the organization adopts for transformation efforts.		7.9	20	59.6	12.5	3.8	0.8	492.2
Leadership is involved in the implementation and continuous monitoring of digital transformation efforts.		10.4	24.3	50.4	15	3.7	0.8	436.3
Leadership has set up ICT structures with HR strategies that determine the quality of new entrants into the organization.		8.9	27.9	46.1	17.1	3.7	0.9	434.9
Leaders within the organization are skilled in managing resistance to change, and do they have a track record of successfully navigating transformational change?	0.4	8.2	18.6	64.6	8.2	3.7	0.7	500.0
Overall average						**3.7**	**0.8**	**466.0**

SD- Strongly disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree, CV- Coefficient of variation.

4.4.3 Descriptive Statistics on Organization Factors

The third objective assessed the effect of organization factors on adoption of digital transformation in motor vehicle industry in Kenya. Results in Table 4.5 indicates that majority mean = 3.6 agreed that organization factors have effect on adoption of digital transformation in motor vehicle industry in Kenya. Thus, it can be implied that there is need for consideration of organization factors that are in support of absorption of digital transformation. The majority (mean = 3.7) either agreed that their organization encourages and rewards employees for taking calculated risks and trying new things even if they fail or their organizations resistance to change in an impediment to digital transformation efforts. Thus, there is need for motor vehicle assembly industry to create hygienic working environment and reward employee's contingent to their contribution in organization activities and projects. Further, to eradicate resistance associated with change there is need for consideration of participative approach in absorption of digital transformation.

In addition, majority mean =3.6 either agreed that their organization has a clear and defined change management process, including a plan for communication, training and support for employees during a change initiative or their organization regularly allocates resources and fundings for experimentation and prioritizes experimentation as a key component of its strategy. Thus, it can be deduced that the success of absorption of digital transformation in motor vehicle industry in Kenya is associated with clearly defined change process and availability of resources for experimentation prior to adoption of technology. It was either agreed (mean =3.7) that motor vehicle industry in Kenya has dedicated team of individuals who are responsible for bridging the gap between IT and the business and ensuring that IT solutions adopted meets business needs at unit and partner levels or IT department seen as a driver of innovation within the organization, with a mandate to identify and implement new solutions to support the needs of the business.

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Table 4.5 Descriptive Statistics on Organization Factors

	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviatio	CV
The organization encourages and rewards employees for taking calculated risks and trying new things, even if they fail.	0.4	6.8	30.4	48.2	14.3	3.7	0.8	455.0
The organization's resistance to change is an impediment to digital transformation efforts.		4.6	34.6	48.9	11.8	3.7	0.7	496.6
The organization has a defined change management process, including communication, training, and support for employees during a change initiative.		18.2	19.6	45.4	16.8	3.6	1.0	371.8
The organization regularly allocates resources and funding for experimentation and prioritizes experimentation as a key component of its strategy.	1.1	16.8	18.6	49.6	13.9	3.6	1.0	373.2
The organization has a culture of open communication and knowledge sharing	1.4	12.9	27.1	49.3	9.3	3.5	0.9	398.2
The organization encourages cross-functional teamwork and provides opportunities for employees to work on projects with colleagues from different departments	0.7	16.1	23.2	46.1	13.9	3.6	0.9	377.1
The organization has a dedicated team of individuals responsible for bridging the gap between IT and the business and ensuring that IT solutions meet the needs of the business units	1.1	8.9	19.6	65	5.4	3.7	0.8	479.0
Is the IT department seen as a driver of innovation within the organization, with a		6.4	21.4	63.9	8.2	3.7	0.7	535.8

mandate to identify and implement new solutions to support business								
The IT department has the necessary agility to quickly pivot and adjust its plans and strategies based on changing business needs	4.3	4.3	23.6	59.3	8.6	3.6	0.9	420.8
Overall average						**3.6**	**0.8**	**434.2**

SD- Strongly disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree, CV- Coefficient of variation.

4.4.4 Descriptive Statistics on Absorption of Digital Transformation

Descriptive statistics on absorption of digital transformation depicts that majority mean =3.6 either agreed that their organization has a clear and defined digital transformation strategy with defined goals and metrics for success. There was an agreement (mean = 3.5) that motor vehicle industry identifies and adopts new technologies and processes which enhance its business models and improve the customer experience or their learns from failure with regular post mortem discussions to identify what went wrong and desired future improvements.

Table 4.6 Descriptive Statistics on Absorption of Digital Transformation

	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Deviatio	CV
The organization has a clear and defined digital transformation strategy, with defined goals and metrics for success.	2.9	5	32.5	45.4	14.3	3.6	0.9	407.9
The organization identifies and adopts new technologies and processes which enhance business models and improves customer experience	3.2	15.4	26.4	43.6	11.4	3.5	1.0	348.5
The organization regularly evaluates the impact of its digital transformation initiatives and adjusts as necessary to ensure value creation.	3.2	9.3	38.9	44.6	3.9	3.4	0.8	405.0
The organization implements digital transformation to realize cost saving avenues.	3.2	28.2	22.5	39.6	6.4	3.2	1.0	312.4
The organization fosters a culture of innovation and continuous improvement, with regular reassessment of its business models and processes to ensure efficiency.	4.3	16.8	28.9	38.9	11.1	3.4	1.0	328.1
Leaders are skilled in driving digital transformation and value creation through	3.2	22.5	26.4	40	7.9	3.3	1.0	327.0

enhanced business models, improved customer experience, and operational efficiency.								
There is a defined process to measure increase in productivity as result of technological innovation in digital transformation.	3.2	8.2	41.8	40	6.8	3.4	0.9	396.0
The organization utilizes digital transformation to realize new revenue and income streams.	3.9	17.5	25	44.6	8.9	3.4	1.0	336.7
The organization learns from failure, with regular post-mortem discussions to identify what went wrong and how to improve in the future?	3.6	18.6	15	53.6	9.3	3.5	1.0	341.9
Overall average						**3.4**	**1.0**	**355.9**

SD- Strongly disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree, CV- Coefficient of variation.

4.5 Correlation Analysis

Correlation analysis was applied to examine the strength of the effect of digital resource factors, leadership factors and organization factors on absorption of digital transformation. Results in Table 4.7 indicate that there was a moderate positive and significant effect of digital resource factors on absorption of digital transformation (rho = 0.614, p value < 0.05). Leadership factors have statistically weak positive significant effect on absorption of digital transformation in motor vehicle industry in Kenya (rho = 0.393, p value < 0.05). Organization factors have weak positive statistically significant effect on absorption of digital transformation in motor vehicle industry in Kenya (rho = 0.446, p value < 0.05).

Table 4.7 Correlation Analysis

		Digital Transformation	Digital resource factors	Leadership Factors	Organization Factors
Digital Transformation	Pearson Correlation	1			
Digital resource factors	Pearson Correlation	.614**	1		
	Sig. (2-tailed)	0.000			
	N	280	280		
Leadership Factors	Pearson Correlation	.393**	.324**	1	
	Sig. (2-tailed)	0.000	0.000		
	N	280	280	280	
Organization Factors	Pearson Correlation	.446**	.409**	.438**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	280	280	280	280
** Correlation is significant at the 0.01 level (2-tailed).					

4.6 Diagnostic Tests

Regression analysis was anchored on several assumptions which were normality of error term, multicollinearity, heteroskedasticity and linearity tests. Graphical and statistical approaches were applied for examination of these assumptions.

4.6.1 Normality Test

Normality test in Figure 4.1 depicts that the error term was normally distributed with a mean of zero and standard deviation of 1 thus, there was no need for data transformation prior to fitting multiple regression model to elucidate the effect of digital, leadership and organization factors on absorption of digital transformation in motor vehicle manufacturing industry in Kenya.

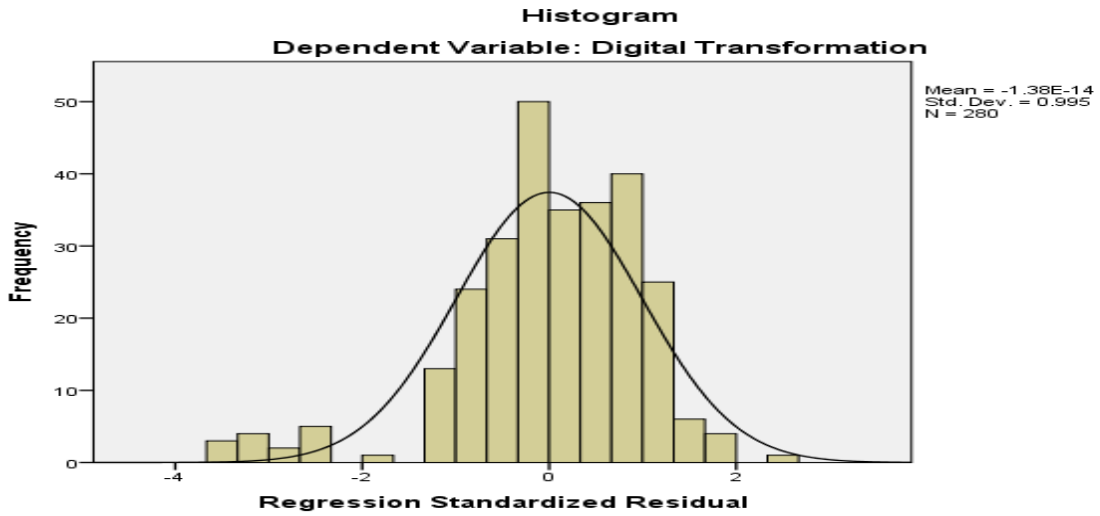

Figure 4.1 Normality Test

4.6.2 Multicollinearity Test

Multicollinearity test was carried out to examine the causality between predictors. Results in Table 4.8 depicts that none of the independent variables had variance inflation factors greater than 5. Thus, there was no multicollinearity and no need for model respectification. Consequently, multiple regression model was fitted to examine the effect of digital, leadership and organization factors on absorption of digital transformation in motor vehicle industry in Kenya.

Table 4.8 Multicollinearity Test

	Collinearity Statistics	
	Tolerance	**VIF**
Digital resource factors	0.807	1.239
Leadership Factors	0.783	1.278
Organization Factors	0.728	1.373

4.6.3 Heteroskedasticity Test

Heteroskedasticity is a condition in which the error term does not have uniform variance. It is hypothesized that the error ought to have uniform variance (homoscedastic). Results in Table 4.9

indicates that there was no uniform variance of the error term thus, robust standard errors were used while fitting multiple regression model on the effect of digital, leadership and organization factors on absorption of digital transformation in motor vehicle industry in Kenya.

Table 4.9 Heteroskedasticity Test

Chi square	P value
18.56	0.00

4.6.4 Linearity Test

Pictorial presentation in Figure 4.2 indicates that there was a positive effect of digital, leadership and organization factors on absorption of digital transformation in motor vehicle industry in Kenya.

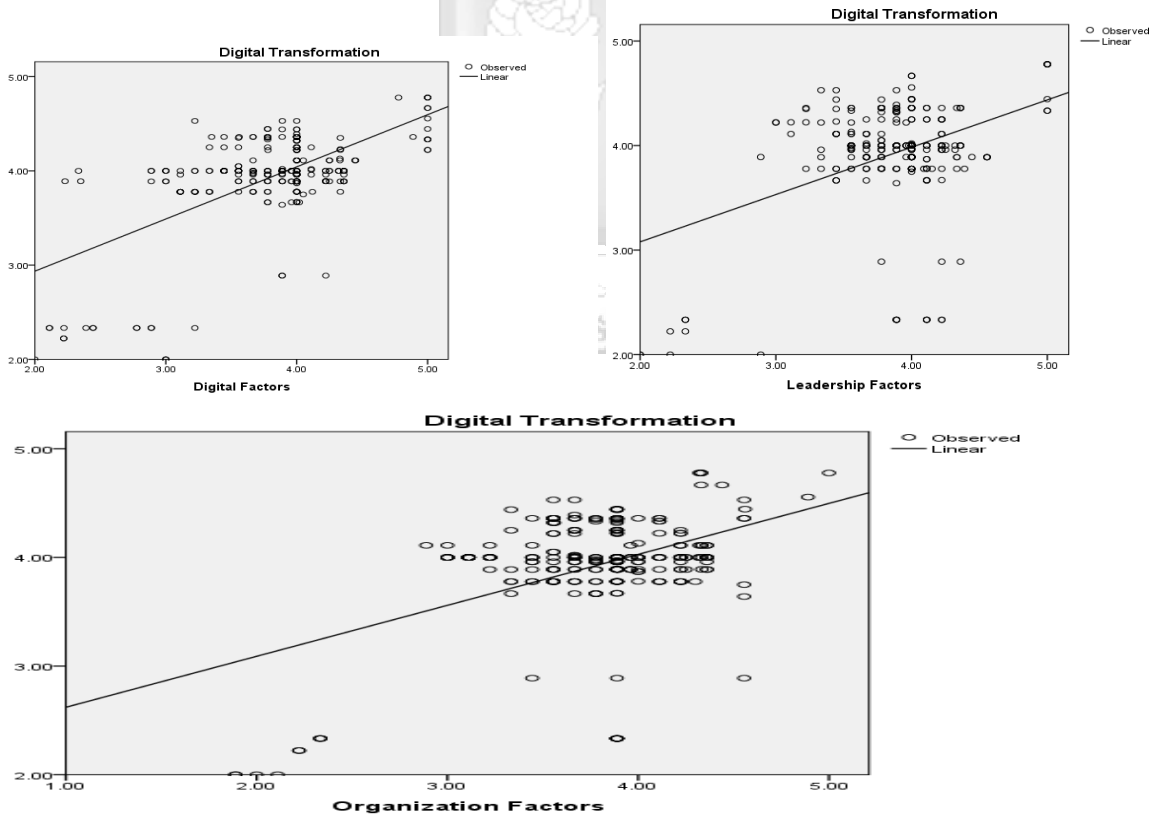

Figure 4.2 Linearity Test

4.7 Regression Analysis

4.7.1 Simple Linear Regression Analysis on Digital resource factors and Digital Transformation Adoption

The model summary shows that 37.7% of changes in digital transformation absorption are linked to digital resource factors, with the rest attributed to other excluded aspects. ANOVA results has an F statistic on 168.075 with a p value <0.05. This indicates that digital resource factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. Regression coefficients results depicts that there was a positive statistically significant effect of digital resource factors on absorption of digital transformation in motor vehicle industry in Kenya (β= 0.68, p value < 0.05). This implies that a unit increase in leadership factors increases absorption of digital transformation by 0.68 units.

Table 4.10 Simple Linear Regression on Digital Resource Factors and Digital Transformation Adoption

Digital resource factors	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf Interval]**		**Sig**
Digital Transformation	.68	.052	12.96	0.00	.577	.784	***
Constant	1.117	.208	5.38	0.00	.708	1.526	***
Mean dependent var	3.788		SD dependent var		0.551		
R-squared	0.377		Number of obs		280		
F-test	168.075		Prob > F		0.000		
Akaike crit. (AIC)	331.907		Bayesian crit. (BIC)		339.177		
*** p<.01, ** p<.05, * p<.1							

4.7.2 Simple Linear Regression Analysis on Leadership Factors and Digital Transformation Adoption

Model summary indicates that 15.5% of changes in absorption of digital transformation is associated with leadership factors while the rest of the percentage is attributed to other aspects

which are excluded from the model. ANOVA results have an F statistic on 50.998 with a p value <0.05. This indicates that leadership factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. Regression coefficients results depicts that there was a positive statistically significant effect of leadership factors on absorption of digital transformation in motor vehicle industry in Kenya (β= 0.341, p value < 0.05). This implies that a unit increase in leadership factors increases absorption of digital transformation by 0.341 units.

Table 4.11 Simple Regression on Leadership Factors and Digital Transformation Adoption

Digital transformation	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf Interval]**		**Sig**
Leadership factors	.341	.048	7.14	0.00	.247	.435	***
Constant	2.53	.189	13.38	0.00	2.158	2.902	***
Mean dependent var	3.870		SD dependent var			0.431	
R-squared	0.155		Number of obs			280	
F-test	50.998		Prob > F			0.000	
Akaike crit. (AIC)	279.621		Bayesian crit. (BIC)			286.890	
*** p<.01, ** p<.05, * p<.1							

4.7.3 Simple Regression on Organization Factors and Digital Transformation Adoption

Model summary indicates that 19.9% of changes in absorption of digital transformation is associated with organization factors while the remaining percentage is attributed to other aspects which are excluded from the model. ANOVA results has an F statistic on 69.155 with a p value <0.05. This indicates that organization factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. Regression coefficients results depicts that there was a positive statistically significant effect of organization factors on absorption of digital transformation in motor vehicle industry in Kenya (β= 0.424, p value < 0.05). This implies that a unit increase in organization factors increases absorption of digital transformation by 0.424 units.

Table 4.12 Simple Regression on Organization Factors and Digital Transformation Adoption

Digital Transformation	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]		Sig *** ***
Organization factors	.424	.051	8.32	0.00	.324	.525	
Constant	2.116	.202	10.49	0.00	1.719	2.513	

Mean dependent var	3.781	SD dependent var	0.473
R-squared	0.199	Number of obs	280
F-test	69.155	Prob > F	0.000
Akaike crit. (AIC)	315.834	Bayesian crit. (BIC)	323.104

*** *p<.01, ** p<.05, * p<.1*

4.7.4 Multiple Regression on Factors of Digital Transformation Adoption

Model summary indicates that 40.2% of changes in absorption of digital transformation is associated with organization, digital and leadership factors while the remaining percentage is attributed to other aspects which are excluded from the model. ANOVA results has an F statistic on 61.719 with a p value <0.05. This indicates that organization factors, digital resource factors and leadership factors has joint effect on absorption of digital transformation in motor vehicle industry in Kenya.

Regression coefficients show that digital resource elements have a beneficial impact on digital transformation in Kenya's motor vehicle sector (β= 0.443, $p < 0.05$). This suggests that a unit increase in digital resource factors, while maintaining constant leadership and organizational variables, enhances the absorption of digital transformation in the automobile sector by 0.443. Leadership variables have a substantial favorable impact on digital transformation in Kenya's motor vehicle sector ($\beta = 0.18$, $p < 0.05$). This suggests that a unit increase in leadership factors,

while maintaining constant digital resource and organisational factors, enhances the absorption of digital transformation in the automobile sector by 0.18.

Thirdly, organization factors have statistically positive significant effect on absorption of digital transformation in motor vehicle industry in Kenya (β= 0.186, p value < 0.05). This implies that a unit increase in organizational factors while holding constant digital resource factors and leadership factors increases absorption of digital transformation in motor vehicle industry by 0.186.

Table 4.13 Multiple Regression on Factors of Digital Transformation Adoption

Digital Transformation	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf Interval]**		**Sig**
Leadership factors	.065	.068	0.96	.34	-.069	.2	
Organization factors	.177	.064	2.76	.006	.051	.303	***
Digital resource factors	.583	.06	9.80	0.00	.466	.7	***
Constant	.577	.274	2.11	.036	.038	1.117	**

Mean dependent var	3.788	SD dependent var	0.551
R-squared	0.402	Number of obs	280
F-test	61.719	Prob > F	0.000
Akaike crit. (AIC)	324.575	Bayesian crit. (BIC)	339.114
*** p<.01, ** p<.05, * p<.1			

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The current chapter presents a summary of major findings, conclusions and recommendations which are drawn from the findings and discussions.

5.2 Summary of the Findings

5.2.1 Digital Factors and Digital Transformation

The first objective of the study assessed the effect of digital resource factors on absorption of digital transformation in motor vehicle industry in Kenya. Descriptive statistics indicated that majority mean = 3.7 agreed that digital resource factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. It was found that the majority agreed that their organization has prioritized and invested in digital technologies and infrastructure. Thus, it can be inferred that motor vehicle industry in Kenya has invested in digital technologies and infrastructure. The majority (mean = 3.8, standard deviation = 0.8) concurred that budget is a significant obstacle in the acquisition and execution of new digital transformations. Thus, budget allocation has an effect on the adoption of digital transformation in Kenya's motor vehicle industry. The majority (mean = 3.6) agreed that their organization has insufficient personnel with digital transformation expertise or an absence of capabilities for implementing and sustaining new technologies for digital transformation. Furthermore, correlation and regression analysis revealed a statistically significant beneficial effect (37.7%) of digital resource factors on the adoption of digital transformation in Kenya's automotive industry.

5.2.2 Leadership Factors and Digital Transformation

The second objective of the study examined the effect of leadership factors on absorption of digital transformation in motor vehicle industry in Kenya. Descriptive statistics and analysis indicated that Leadership factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. The majority (mean = 3.9) agree that the high cost of initial digital transformation training impedes the development of internal capabilities. Majority Mean: 3.8 Either agree that management has established appropriate digital transformation goals that they monitor on a regular basis, or management is actively involved in defining/updating the technologies and tools used by the organization in its transformation initiatives. Correlation and regression analyses showed that key factors significantly boosted digital transformation in Kenya's automotive industry.

5.2.3 Organization Factors and Digital Transformation

The third objective of the study examined the effect of organization factors on absorption of digital transformation in motor vehicle industry in Kenya. Descriptive statistics indicated that majority agreed that organization factors have effect on absorption of digital transformation in motor vehicle industry in Kenya. Majority mean =3.6 either agreed that their organization has a clear and defined change management process, including a plan for communication, training, and support for employees during a change initiative or their organization regularly allocates resources and fundings for experimentation and prioritizes experimentation as a key component of its strategy. It was either agreed (mean =3.7) that motor vehicle industry in Kenya has dedicated team of individuals who are responsible for bridging the gap between IT and the business and ensuring

that IT solutions adopted meets business needs at unit and partner levels or IT department seen as a driver of innovation within the organization, with a mandate to identify and implement new solutions to support the needs of the business. The study found a positive and statistically significant impact of organizational factors on digital transformation in Kenya's motor vehicle industry.

5.3 Discussion

The current study emanated from empirical, conceptual, methodological, and contextual gaps. Contextually dominant studies have been skewed toward different sectors with limited literature in the motor vehicle industry. Further, these studies have not been conclusive since there are those that had significant effect while others were not. Hence, the current study aimed at elucidating factors of absorption of digital transformation in motor vehicle industry in Kenya. The study was anchored on disruptive innovation theory and resource-based view. The study used a descriptive research design and collected primary data via questionnaires from respondents in Kenya's motor vehicle industry. The response rate was 91.5%.

5.3.1 Digital Factors and Digital Transformation

It was found that digital resource factors have positive statistically significant effect on absorption of digital transformation in motor vehicle industry in Kenya. The study conclusions concurred with (Dyk & Belle, 2019) who unveiled that possession of digital technical skills amongst African retail shops aided in achievement of digital transformation. The study called for adoption of strategies to eliminate hurdles that may be deterring incorporation of digitally supported operational platforms. This is only possible if respective organizations create a pool of talented employees. Eluekezi and Tuncay (2021) supported the need for creation and promotion of

awareness among corporate workforce which was only possible through formal and informally trained employees.

According to Lutfi et al., (2022) the adoption of technology among small and medium-sized enterprises in Jordan was inconsistent due to a lack of technological infrastructure, skilled labour, and financial resources necessary to integrate technology into business models. This is not the case in motor vehicle industry since there are capital intensive in their initial outlay though they may have limited human capital skills to operate and support digital based platforms.

From the lens of Disruptive Innovation Theory (Christensen, 1997), digital transformation acts as a disruptive force by shifting the competitive landscape, especially in industries historically resistant to digitalization. The positive relationship implies that organizations with greater digital transformation capacity are better equipped to leverage digital resources (e.g., data analytics, cloud infrastructure, automation) which are foundational to disruptive business models. Additionally, the R-squared value of 0.377 indicates that digital transformation explains 37.7% of the variance in digital resource factors. This finding suggests that digital transformation is not merely an incremental innovation but a disruptive enabler that reshapes how firms accumulate and deploy resources. The significant constant term (1.117, $p < 0.01$) further implies that even without full digital transformation, some level of digital resources exists within organizations potentially representing incumbent firms' initial inertia before adopting disruptive technologies. Aligning with Disruptive Innovation Theory, the results suggest that firms that embrace digital transformation are more likely to break away from traditional resource configurations, unlocking new value creation opportunities. This transformation potentially shifts the firm's trajectory from sustaining innovations (improvements in existing processes) toward disruptive innovations that redefine market boundaries.

5.3.2 Leadership Factors and Digital Transformation

The aim of this study is to investigate whether the driving factors have a statistically significant and positive impact on the adoption of digital transformation in Kenya's automotive industry. These findings support the resource-based viewpoint, which states that an organization's resources are a source of competitive advantage and help adopt the most appropriate business model. The results support Aziz et al. (2020) who argued that management styles in Malaysian oil and gas companies influence the adoption of technology in their organizations. The study supports Mwita and Jonathan (2020) who found that adoption of digital transformation was linked with inspirational role, innovation role, absorbing uncertainty role, adaptation role and visionary role. Thus, there is need for organization leadership to adopt the most optimal leadership model that would ensure an organization achieves its desired objectives.

Further, the study agreed with Seyal (2015) who documented that transformational leadership styles supported technological development. Though transactional leadership inversely affected technological development. Arumugam, et al. (2022)Emphasized the necessity of effective leadership as a prerequisite for digital transformation within the manufacturing sector. To optimize digital transformation there is need for enhancement of perceived usefulness of technologically supported platforms which is achievable through creation of reliable and harmonized communication platforms.

According to the Resource-Based View (RBV) (Barney, 1991), an organization's competitive advantage stems from the possession and strategic deployment of valuable, rare, inimitable, and non-substitutable (VRIN) resources. Leadership factors encompassing visionary leadership,

digital mindset, and top management commitment align with RBV by acting as intangible strategic resources that enable the organization to acquire, deploy, and reconfigure digital capabilities. The significant positive relationship between leadership factors and digital transformation suggests that leadership plays a catalytic role in mobilizing organizational resources to adopt digital technologies. This reinforces the RBV's emphasis on internal organizational capabilities rather than external market conditions as a key determinant of competitive advantage. The findings suggest that leadership acts as an organizational capability that bridges internal digital resources (data, technology infrastructure) with external digital transformation outcomes. This aligns with the dynamic capability's extension of RBV (Teece et al., 1997), where leadership becomes a higher-order resource that enables firms to sense, seize, and transform digital opportunities.

5.2.3 Organization Factors and Digital Transformation

This objective elucidated that organization factors have statistically positive significant effect on absorption of digital transformation in motor vehicle industry in Kenya. The study findings agree with Eze, et al., (2020) indicated that technology adoption was attributed to functional capability, adaptive capaticity and expandability (technogy context), organization context (collective understanding, degree of partenership, diveristy of information) and environmental context (training level, service quality, customer satisfaction and competion). Expectancy context includes budget, business growth, diversity, and return on investment.

In El Sawy, Amsinck, Kræmmergaard, & Vinther (2016) argued that organizations must train employees to accept failures and have mechanisms for sharing and learning from them. Further, Eluekezi & Tuncay (2021) confirmed that organization culture is an important aspect of DT and

is mainly affected by it's the organization's readiness level. The readiness level encompasses the strategies of the organization, including the digital technologies to be employed.

The Resource-Based View (Barney, 1991) posits that firms achieve sustainable competitive advantage by leveraging internal resources that are valuable, rare, inimitable, and non-substitutable (VRIN). Organizational factors — such as organizational culture, structure, processes, and technological infrastructure — align with the RBV framework as intangible and tangible resources that support digital transformation. In this context, the positive coefficient (0.424) suggests that organizations with well-developed internal capabilities are better positioned to implement and sustain digital transformation processes. The results imply that organizational factors provide the resource base upon which digital technologies are adopted and integrated into business processes. From the RBV perspective, the study highlights that organizational factors represent internal dynamic capabilities that drive digital transformation. These capabilities serve as foundational resources that can be further developed to create a sustainable digital competitive advantage. Additionally, the moderate R-squared value (0.199) implies that while organizational factors play a critical role, other complementary resources (such as leadership and digital skills) must interact with organizational capabilities to yield more comprehensive digital transformation outcomes

5.3 Conclusion

From the foregoing findings the following conclusions can be drawn. Positive statistically significant effect of digital resource factors on absorption of digital transformation in motor vehicle industry in Kenya. Thus, it can be concluded that enhancement of digital capabilities, knowledge base and digital technologies investment enhances absorption of digital transformation in motor vehicle industry in Kenya.

Secondly, there was a positive statistically significant effect of leadership factors on absorption of digital transformation in motor vehicle industry in Kenya. Thus, it can be concluded that enhancement of strategic leadership, leadership support and leadership effectiveness in the motor vehicle industry in Kenya stimulates improvement of customer support and achievement of operational efficiency.

Thirdly, since there was a positive and statistically significant effect of organization factors on absorption of digital transformation in motor vehicle industry in Kenya. Then, it can be deduced that enhancement of organization culture, ICT organization structure and human capital stimulated achievement of operational efficiency and adoption of business models.

5.4 Recommendations

Since digital resource factors positively affected absorption of digital transformation in motor vehicle industry in Kenya. Then there is need for respective organizations to raise resources for digital technologies investment, definition and allocation of requisite resources that would support innovation and development of strategies that would not only attract competent human capital but also retain those who may support new digital transformation technologies.

The second objective depicted that leadership factors significantly affected absorption of digital transformation technologies in motor vehicle industry in Kenya. Thus, there is need for motor vehicle industry leadership to allocate resources strategically so as to support training and development of human capital that would support organization efforts for digital transformation. Further, leadership should deploy participative models that would enhance acceptance of leadership changes as the company seeks to pursue desired organization goals and objectives. The management should develop key development indicators that would guide in formulation,

monitoring and evaluation of strategic goals aimed at stimulating absorption of digital transformation.

The third objective indicated that organization factors have positive statistically significant effect on absorption of digital transformation in motor vehicle industry in Kenya. Since positive change in organization factors is associated with positive change in absorption of digital transformation in motor vehicle industry in Kenya. Then, there is need for management of respective motor vehicle industry players ought to develop measures for reward and recognition of employees who have made significant contribution in deployment and absorption of digital transformation. Further, there is need for creation of agile working opportunities that would support opportunities for exchange of ideas across different teams.

5.5 Suggestion for Further Studies

The current study was based on quantitative data there is need for adoption of qualitative data and consideration of data among small players in motor vehicle industry. Further, the current study adopted exploratory factor analysis, there is need for subsequent studies to adopt confirmatory factor analysis. Since the current study was limited to only leadership, digital and organizational factors there is need for subsequent empirical examination to broaden the conceptualization by considering other attributes more so to improve on the model explanatory power. In addition, future studies may consider longitudinal studies so as to examine short and long run effect of selected attributes on absorption of digital transformation.

5.6 Limitations of the Study

The current study relied on primary data that was collected through administration of questionnaires amongst 306 respondents. The study had to collect more than one questionnaire in respective motor vehicle companies an aspect that was associated with limited unit of observation. Though, it may have increased likelihood of drawing duplicated responses it increased the chances of achieving normality in the data set. The study was exposed to limited empirical literature review since majority of the studies were from heterogeneous sectors whose business models may not have similar digital transformation needs as compared to motor vehicle industry. This was mitigated through evaluation of consistency and mismatch of empirical findings from respective sectors. In addition, the study was exposed to methodological limitations since the choice of quantitative data alone may have limited ability to interrogate respondents especially when the responses were closed ended. Consequently, subsequent studies may consider deploying mixed research design and if possible, consolidate data through observations.

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VT OMNES
VNVM SINT

APPENDICES

Appendix I Letter of Introduction

Off Simatic Rd, Madaraka Estate,
P.O Box 56467-00200, Nairobi, Kenya
Cell +254 703 034 720, Twitter @StrathKenya
Email: info@ebs.ac.ke or visit www.ebs.strathmore.edu

Strathmore UNIVERSITY
BUSINESS SCHOOL

5th September 2023

To Whom It May Concern.

Dear Sir/ Madam.

RE: FACILITATION OF RESEARCH – CATHERINE NZULA KYALO

This is to introduce Catherine Kyalo who is a Master of Business Administration student at Strathmore University Business School, admission number MBA/56712/18. As part of our MBA Program, Catherine is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MBA course. To this effect, she would like to request for appropriate data from your organisation.

Catherine is undertaking a research paper on "Antecedents of Digital Transformation Adoption in the Motor Vehicle Assembly Industry in Kenya" The information obtained from your organization shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required.

Yours sincerely,

Alois Njenga.
Manager – MBA Programs.
Strathmore University Business School.

Catherine Kyalo

P.O Box

Nairobi

To Whom It May Concern

RE: Request to Collect Data on Factors of Digital Transformation Adoption in the Motor Vehicle Assembly Industry in Kenya

As a requirement on partial fulfilment on the award of a degree in Masters in business administration at Strathmore University. I humbly request for your participation in research titled "**Factors of Digital Transformation Adoption in the Motor Vehicle Assembly Industry in Kenya**". Your motor vehicle assembly company has been chosen for the study based. Consequently, I humbly request you to accord necessary support.

Being an academic study, information obtained will be purely for academic purposes. Utmost confidentiality will be adhered to and your identity will not be required to be indicated in data collection instrument.

Yours Sincerely,

Catherine Kyalo

MBA Student, Strathmore University, Business School.

Appendix II Questionnaire

Instructions: Answer the questions by ticking the appropriate choice in the checkbox.

Section 1: General Information

Respondent

1. **What is your age bracket? (Tick as appropriate)**
   - ☐ Below 30 years
   - ☐ 31 - 34 years
   - ☐ 35 – 40 years
   - ☐ 41 – 44 years
   - ☐ 45 – 50 years
   - ☐ Over 50 years
2. **What is your gender?**
   - ☐ Male
   - ☐ Female
3. **What is your education qualification?**
   - ☐ Secondary
   - ☐ Diploma level
   - ☐ University Degree
   - ☐ Postgraduate
4. **What is your working experience in the company?**
   - ☐ Less than 1 year
   - ☐ 1-5 years
   - ☐ 6-10 years
   - ☐ Over 10 years
5. **What is your current job department?**
   - ☐ Finance
   - ☐ Human Resource
   - ☐ Production
   - ☐ Information Technology

☐ Engineering

PART B: FACTORS AFFECTING ADOPTION OF DIGITAL TRANSFORMATION IN THE MOTOR VEHICLE ASSEMBLY INDUSTRY IN KENYA

Please indicate in the table with a tick (√) your level of agreement based on the below scale:

1= Strongly Disagree 2= Disagree 3= Neither Agree nor Disagree 4= Agree 5= Strongly Agree

Table 4 presents a Likert scale analysis of digital resource factors affecting the adoption of digital transformation in the motor vehicle assembly industry in Kenya.

No	Digital Resource Factors	1	2	3	4	5
1	The organization has prioritized and invested in digital technologies and infrastructure?					
2	The organization has a clear and defined process for innovation and exploration, with dedicated resources and funding allocated for this purpose					
3	The organization has adequate personnel with digital transformation expertise.					
4	High salary costs and competition for digital skilled experts relative to other staff hinder hiring and retaining of more digital transformation experts.					
5	There is a lack of skills to implement and support new digital transformation technologies.					
6	The organization does not have internal digital transformation staff as we rely on external vendor support, which is sufficient.					
7	Budget is a major constraint in the acquisition and implementation of new digital transformation.					

8	The organization has in place a technical documented knowledge base of practices, processes, and procedures as drivers of digital transformation.					
9	Awareness of value creation by generated by adoption of digital technologies influences higher investment in digital transformation efforts					

Table 1

Table 5 presents a Likert scale analysis of leadership factors affecting the adoption of digital transformation in the motor vehicle assembly industry in Kenya.

No	Leadership Factors	1	2	3	4	5
1	Leadership has a companywide communicated business digital vision.					
2	Leadership has put adequate digital transformation targets which they monitor regularly.					
3	Leadership sponsors trainings to promote ease of digital transformation efforts.					
4	The leadership team positively advocates for and influences employees' attitudes towards embracing and being involved in digital transformation.					
5	High digital transformation training cost impedes internal capacity development					
6	Leadership is involved in determining/refreshing the choice of technologies and tools the organization adopts for transformation efforts.					
7	Leadership is involved in the implementation and continuous monitoring of digital transformation efforts.					
8	Leadership has set up ICT structures with HR strategies that determine the quality of new entrants into the organization.					
9	Leaders within the organization are skilled in managing resistance to change, and do they have a track record of successfully navigating transformational change?					

Table 6 presents a Likert scale analysis of organization factors affecting the adoption of digital transformation in the motor vehicle assembly industry in Kenya.

No	Organization Factors	1	2	3	4	5
1	The organization encourages and rewards employees for taking calculated risks and trying new things, even if they fail.					
2	The organizations resistance to change is an impediment to digital transformation efforts.					
3	The organization has a clear and defined change management process, including a plan for communication, training, and support for employees during a change initiative.					
4	The organization regularly allocates resources and funding for experimentation and prioritizes experimentation as a key component of its strategy.					
5	The organization has a culture of open communication and knowledge sharing among its employees					
6	The organization encourages cross-functional teamwork and provides opportunities for employees to work on projects with colleagues from different departments					
7	The organization has a dedicated team of individuals responsible for bridging the gap between IT and the business and ensuring that IT solutions meet the needs of the business units and partners.					
8	Is the IT department seen as a driver of innovation within the organization, with a mandate to identify and implement new solutions to support the needs of the business.					
9	The IT department has the necessary agility to quickly pivot and adjust its plans and strategies based on changing business needs or market conditions.					

PART C: DIGITAL TRANSFORMATION IN THE MOTOR VEHICLE ASSEMBLY INDUSTRY IN KENYA

Please indicate in the table with a tick (√) your level of agreement based on the below scale:

1= Strongly Disagree 2= Disagree 3= Neither Agree nor Disagree 4= Agree 5= Strongly Agree

Table 7 presents a Likert scale analysis of organization adoption of digital transformation in the motor vehicle assembly industry in Kenya.

No	Adoption of digital transformation	1	2	3	4	5
1	The organization has a clear and defined digital transformation strategy, with defined goals and metrics for success.					
2	The organization identifies and adopts new technologies and processes which enhance its business models and improve the customer experience					
3	The organization regularly evaluates the impact of its digital transformation initiatives and adjusts as necessary to ensure maximum value creation.					
4	The organization implements digital transformation to realize cost saving avenues.					
5	The organization fosters a culture of innovation and continuous improvement, with regular reassessment of its business models and processes to ensure efficiency.					
6	Leaders are skilled in driving digital transformation and value creation through enhanced business models, improved customer experience, and operational efficiency.					
7	There is a defined process to measure increase in productivity as result of technological innovation in digital transformation.					

8.	The organization utilizes digital transformation to realize new revenue and income streams.					
9	The organization learns from failure, with regular post-mortem discussions to identify what went wrong and how to improve in the future?					

Appendix III List of Motor Vehicle Assemblers in Kenya

Company	**Location**	**Contact**
Associated Vehicle Assemblers Ltd (AVA)	Kwa Jomvu, Miritini, Mombasa	0111 039 460.
Kenya Vehicle Manufacturers	Garissa Road, Thika.	020 350 309
Isuzu East Africa	Enterprise Road, Off Mombasa Road	0800 724 724.
Nelion Trading Ltd	Refinery Place, Off Refinery Road, Changamwe.	0721 456 857, 0734 456 857.
Urysia Limited	Off Bunyala Road, Nairobi.	0202 023 395.
Honda Motor Co Ltd	Mombasa Road, Nairobi.	0718 111 111, 0788 101 112.
DT Dobie	Nairobi	0711 057 000, 020 760 4000.

Appendix IV: Ethics Review Approval

Strathmore UNIVERSITY

26th September 2023

Mrs Kyalo Catherine,
kyalo.catherine@strathmore.edu

Dear Mrs Kyalo,

RE: Antecedents of Digital Transformation Adoption in the Motor Vehicle Assembly Industry in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC1861/23.** The approval period is from **26th September 2023 to 25th September 2024.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

Appendix V: NACOSTI Research Licence

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 172621

Date of Issue: 07/October/2023

RESEARCH LICENSE

This is to Certify that Ms.. Catherine Kyalo of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Antecedents of Digital Transformation Adoption in the Motor Vehicle Assembly Industry in Kenya for the period ending : 07/October/2024.

License No: **NACOSTI/P/23/30254**

172621

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions